



Aparima Rating District

Infrastructural Asset Management Plan

Adopted by Council on 30 July 2021

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1.0 Executive Summary

This Infrastructural Asset Management Plan is one of a series being developed by the Southland Regional Council with regard to the defences against water beneficially owned and maintained by Environment Southland. Environment Southland is the brand name for the Southland Regional Council.

An Asset Management Plan is a statement of how an asset (or group of assets) is to be managed. It sets out the management policies and philosophies of the asset owner, the long-term programmes for maintenance and monitoring the performance of the assets and strategies for funding these requirements.

The overall objectives which this asset management plan sets out to achieve are:

- to ensure that the assets are managed in a consistent, efficient and sustainable manner;
- to ensure the long-term performance, and maintain the value, of the assets and the effective delivery of service to a standard and cost agreed with the community;
- to assist Environment Southland in meeting legislative long-term financial planning requirements.

The assets covered by the plans are identified defences against water consisting of:

- stopbanking;
- culvert and headwall structures;
- dams;

noting that not all plans will include all three.

The key elements of this plan consist of:

- an inventory of assets within the rating district covered by this plan;
- technical information relating to those assets and their service level;
- the physical and financial systems for the management of the assets;
- the democratic process for establishing service level.

There are five critical factors influencing the outcome of the development of this Asset Management Plan:

1. Part 6 of the Local Government Amendment Act 2002 requires Environment Southland to develop long-term financial strategies and funding streams. This process is being undertaken concurrently with the development of this plan. The results of the process, with the proposed principles being promoted by Environment Southland, are shown within Appendix 9.1, financial forecasts;
2. customer focus and awareness of the need for participation and consultation with the beneficiaries must be maintained. The process of consultation and agreement with the community, with regard to this plan and the Local Government Act proposals will determine a satisfactory or otherwise conclusion to the processes;
3. the acceptance of the principle that the lifecycle of these assets is not finite. Maintenance and repairs will be undertaken as required to avoid decline in service potential (agreed level of service);

4. Asset Management Plans are living documents which commit both Environment Southland and the relevant rating district into the future. In the case of the Aparima Rating District, there is no present indication by either party of a desire for a disposal or decommissioning of the assets. The commitment to a formal monitoring process relating to level of service, design capacity etc is integral to the continuing benefits provided by the assets and the desire for such by the community;
5. the formation of an information system, full database and asset register is the key to effective management of infrastructural assets.

2.0 Introduction

2.1 Background

Purpose of the plan

The purpose of this plan is to document the management and maintenance requirements for the assets which Environment Southland manages within the Aparima Rating District.

The plan also assists Environment Southland in its long-term financial planning as required by the Local Government Act 2002.

Relationship with other planning documents

- **Long-term Plan (LTP)**

Environment Southland's LTP process will set the framework for the translation of long-term customer demands or expectations into the delivery of appropriate services, taking into account environmental, social and economic factors for a period of 10 years. From this process the necessary levels of service can be determined.

A key component of the Long-term Plan is the Infrastructure Strategy, which covers a 30-year period. Asset management plans are a key element feeding into this strategy, as they determine the costs involved in managing Environment Southland's substantial infrastructural assets.

- **Annual Plan**

This document reflects priorities developed in the LTP process and delivers the defined levels of service by providing firm direction for a 12-month period and indicative direction for an additional two years. The Annual Plan contains appropriate, auditable performance measures in terms of quality, quantity, timeliness and cost against which service delivery can be measured.

- **Regional Policy Statement and Regional Plans**

The Regional Policy Statement (RPS) provides for the integrated management of the natural and physical resources of the region and establishes the framework within which Environment Southland will operate. The RPS contains methods of implementation, including the preparation of regional plans to assist Environment Southland to carry out its functions. Methods of implementation of the RPS and Regional Plans include the provision of works and services and also rules which seek to minimise the adverse environmental effects of activities, including works and services.

- ***District Plans***

Prepared by territorial authorities, district plans also contain rules which seek to minimise the adverse environmental effects of activities, including works and services.

- ***Funding Policy***

The Funding Policy represents decisions made on how revenue will be obtained for the management of the assets. It is important to know the amount, timing and type (capital, maintenance, renewal) of likely expenditure, as this influences the funding source.

- ***Other Planning Documents***

There are a number of other planning documents, including management plans and strategies, prepared by Environment Southland and other agencies, which must be considered when works and services are being provided. These include Iwi Management Plans, strategies under the Biosecurity Act, Conservation Management Strategies and National Park Management Plans.

- ***Assets covered***

The assets covered by this plan are defences against water and are assets beneficially owned by Environment Southland on behalf of the community consisting of:

- stopbanking (including culverts less than or equal to 1200 mm diameter);
- headwall structures and culverts greater than 1200 mm diameter.

- ***Key stakeholders engaged in the Plan***

- Occupants
- Ratepayers
- Tangata whenua – to cover cultural interests in the catchment and advise on Te Mana o Te Wai
- Sector representation
 - Catchment Liaison Committee
 - Territorial authorities
 - Wallace Takitimu Community Board
 - Federated Farmers
 - Fish and Game New Zealand, Southland Region
- Utility providers
- Crown agencies

2.2 *Goals and Objectives of Asset Ownership*

Reasons and justification for asset ownership

For historical reasons associated with flood events in Southland, a network of assets has been established in consultation with the community affected by those flood events.

The assets are constructed on either private or public land with no title having been sought over the assets by either this Council and its predecessor or the landowner. Affected landowners and those receiving benefit accept that the assets are providing community as well as individual benefit. Rating districts provide representation for these landowners and maintenance programmes are agreed annually between Environment Southland and the rating district representatives.

The desire by the community to fund the maintenance of the assets through classified or differential rating systems has resulted in beneficial ownership of the assets by Environment Southland.

Environment Southland's consultative process to date indicates that there is a strong desire by the community for this activity to continue.

2.3 Plan Framework

Key elements of the plan

The key elements of this plan consist of:

- an inventory of assets within the rating district covered by this plan;
- technical information relating to those assets and their service level;
- the physical and financial systems for the management of the assets;
- the democratic process for establishing service level.

2.4 Basic and Advanced Asset Management

Outline basic to advanced approach

This first cycle of asset management plan preparation is formalising the management process presently in place for Council assets. All known information relating to the assets is being collated within the key elements as outlined in Section 2.3 above.

This process allows for the preparation of long-term financial forecasting (Appendix 9.1), the identification of the assets (asset register - location, standards, specification etc) and an ability for the community to work with Environment Southland in determining desired service levels.

Sophistication/limitations of this Infrastructure Asset Management Plan

The majority of Environment Southland's assets are of recent construction and to date, there has been limited testing and/or monitoring of both recent and historic assets in terms of:

- flood events for which the assets were installed;
- physical changes relating to the river systems upon which the assets are installed e.g. bed aggradation and/or degradation affecting capacity;
- measurement other than visual, with regard to asset condition;
- historical expenditure requirements other than total system expenditure.

These limitations must be recognised when using this Plan.

In order to better define future service levels and funding requirements for those service levels, a significant commitment is required under Section 8.0, Plan Improvement Programme.

This commitment relates to the obtaining of information, both physical and financial, to allow for community decision making in terms of future service level. Section 8.0 timetables the actions required for confirmation or otherwise of the assumptions made in the preparation of this plan with regard to standards, capacity, level of service and funding requirements.

3.0 Levels of Service

3.1 Customer Research and Expectations

All assets covered by this plan have been established following consultation with the community which is receiving the level of service being provided.

On an annual basis an independent committee of ratepayers, named the Aparima Catchment Liaison Committee, is appointed through a process of public notice of meeting and election from ratepayers present at that meeting. Environment Southland works with this committee of ratepayers in confirming and adopting a work programme associated with the assets and their maintenance requirements.

Environment Southland places a reliance on this group, as representatives of the rating district, in establishing and confirming the level of service required of the assets by the community.

The Committee meets formally with Environment Southland on an annual basis as a minimum and will meet on other occasions as issues are identified by either of the parties.

3.2 Strategic and Corporate Goals

The Vision for Environment Southland is:

“A thriving Southland – te taurikura o Murihiku”

Our Mission:

Working with the community to enhance Southland’s environment.

Our Outcomes:

The outcomes below are high level targets, strongly based in our organisational values, which rely on achieving a number of shifts and practices in the way we operate. Each of our programmes will demonstrate linkage to one or more outcomes.

By 2028:

- Managed access to quality natural resources;
- Diverse opportunities to make a living;
- Communities empowered and resilient;
- Communities expressing their diversity.

3.3 Legislative Requirements

There is no legislation prescribing any specific levels of service or standards for the assets which are covered by this management plan.

The Resource Management Act 1991 imposes responsibilities on Environment Southland to minimise effects of natural hazards.

The residual portions of the Soil Conservation and Rivers Control Act 1941 impose duties on Regional Councils to minimise and prevent damage from flooding and erosion. Regional councils are empowered to fund such works by rates, capital contributions or loans, principally under the Local Government (Rating) Act 2002.

Prudent financial planning under the Local Government Act 2002 requires the preparation of long-term plans for management of assets. Councils have been encouraged by the Office of the Auditor General to prepare asset management plans.

The Infrastructure Strategy, as required by Section 101B, Local Government Act 2002, will help Environment Southland and the community make informed decisions in the next 3-10 years, to position the region to deal with the major decisions and investments required for the following 10 to 30 years. Infrastructure Strategy 2021-2051 (June 2021) outlines the key issues and options that Southland faces in the next 30 years.

3.4 Current Levels of Service

The assets were designed and constructed to a level of service agreed upon with the community (see Section 6.0).

The community will be consulted prior to the adoption of this asset management plan.

See Section 3.1 for a description of the process.

3.5 Desired Levels of Service

Environment Southland is not aware of any contrary view or desire for change to the current level of service being provided by the assets within this plan.

Climate variability and change has been identified and discussed in Environment Southland's LTP 2021-2031 and the 2021 Infrastructure Strategy, which set out guidelines for possible effects and identifies potential risks of potential events and considers how community adaption to climate change will be managed. Climate change advice for the Southland region has been produced in a 2018 report by NIWA¹.

Building Community Resilience (August 2016) a report prepared by NZ Society of Local Government Managers provides a framework to "enable people to survive, adapt and thrive in the face of shocks and chronic stresses" will support the community desires.

As noted in Section 3.4, the level of service was established through a consultative process and in Section 3.1 a formal process exists for continuing consultation relating to the level of service.

3.6 Gap Analysis

As noted in Sections 3.4 and 3.5, Environment Southland is not aware of any desire for change to the current level of service. Consequently, no analysis relating to change of level of service has been carried out.

4.0 Growth Forecasts

As noted in Section 3.4, the current level of service is considered to be appropriate.

As there is no indication of any growth in demand, and the renewal accounting approach has been adopted, no capital expenditure is anticipated.

There are no foreseeable changes in technology which are considered likely to impact significantly on the way the work is undertaken.

¹ Southland climate changes impact assessment. NIWA, August 2018.

5.0 Asset Management Systems

5.1 Accounting Systems

5.1.1 Computer Systems

The accounting system used by Environment Southland is:

- Authority, which is a fully integrated system incorporating general ledger, job costing and fixed assets;
- TM1, which is a budget and reporting system (Fusion5).

The general ledger is structured to report each rating district separately. In many cases, this is also broken down further into different sections of the district.

5.1.2 Treatment of Expenditure

Renewal accounting has been adopted for Environment Southland's infrastructural assets. This means that the cost of maintaining the service potential of the assets is treated as an expense, and costs are only capitalised where the service potential of the asset is enhanced above design specifications. Depreciation is charged on large culverts and structures.

Council has completed construction of its major infrastructural asset schemes, and no further expenditure is expected in this area.

5.1.3 Standards and Guidelines

Environment Southland is required to comply with the following accounting standards/guidelines:

- standards of the Institute of Chartered Accountants of Australia and New Zealand, including NZ IAS16 (International Standards 16) Accounting for Property, Plant and Equipment;
- guidelines issued by the Office of the Auditor General.

5.2 Asset Management Systems

Asset management is primarily achieved through a programme of physical inspections of assets, with work being done in response to this on an "as required" basis.

Historical data is available on the construction specifications, and is summarised in the detailed Infrastructural Asset Register.

5.3 Information Flow Requirements and Processes

Key information for asset management decisions is provided by a formal inspection process carried out by appropriately experienced Southland Regional Council staff or by contractors. The process is:

- rural assets inspected annually;
- urban assets inspected three monthly;

Inspection records are prepared, appropriately actioned and stored on relevant job files.

Action requirements identified by inspection records are prioritised and programmed by Catchment Management staff and implemented within annual works programmes.

The community can report directly to staff and elected representatives on concerns they have identified with the asset's integrity. Asset inspections result from these concerns and where necessary maintenance works are carried out. This enhances the formal process of inspection in allowing for issues arising between inspections to be actioned.

Improvement to the process is being implemented by:

- a more rigorous monitoring of action requirements determined from the inspection reports; and
- the cyclic assessment of the assets as identified by the asset management plan for reviewing physical and design standard compliance.

Asset data is stored in a SQL database on ES servers which are backed up each night. Catchment staff update the asset data and create related defect and condition assessment records in the field with ArcGIS field apps, Collector and Survey123. The records are reviewed and managed by office staff with ArcGIS Enterprise, an internal web application.

5.4 Standards and Guidelines

Physical attributes of the assets generally consist of the cross-sectional shape, height, vegetative cover and structural integrity.

These attributes are assessed visually during formal inspection for defects which are reported and actioned.

Construction standards in terms of the required attributes are identified within scheme plans and contract documents noted in the accompanying Asset Register for all assets where this data has been identified.

6.0 Lifecycle Management Plan

6.1 Physical Parameters

The Aparima Flood Alleviation Scheme is designed to protect rural and urban land in the Aparima Rating District from flood waters up to January 1984 levels.

The rural protection standard design is to contain a January 1984 flood discharge in the main channel of the Aparima River with no freeboard. The urban protection standard design, for Otatau Town, is to contain a January 1984 flood discharge, 350 cumecs with 0.5 metres of freeboard. The flood discharge was assessed as 1530 cumecs at the Yellow Bluffs Bridge for a then 1 in 100 year return period flood (ref Aparima River Flood Alleviation Scheme Phase 2 Submission for Approval in Principle).

Construction work on the flood alleviation scheme, rural and urban, spanned a three-year period from 1987 to 1989.

The details of the scheme stopbanks including location, design shape, height etc are recorded on Council plans as identified in the appended Asset Inventory.

Note that with regard to the Asset Inventory, culverts with a diameter less than or equal to 1200 mm are considered as an integral part of the stopbank. Culverts with a diameter greater than 1200 mm are listed as separate assets.

Stopbanking at Main Street over the Otautau Stream, Otautau Town is not continuous. Flood levels greater than 5.20 metres on the Otautau footbridge will require Main Street to be sandbagged on both banks to fill the gap.

Stopbanking at Main Street, approximately 200 metres south of the Nantwich Street intersection, Otautau town is not continuous. Discharges in excess of 1250 cumecs (4.25 m Yellow Bluffs Bridge gauge board) will require Main Street to be sandbagged to fill the gap.

The responsibility of sandbagging Main Street is with the local authority (Southland District Council)

The stopbanks known as Kempthorne and Others at Opio was designed in 1975 for a discharge of 20,000 cusecs (566 cumecs). At this time, this stopbanks was to protect against the largest known flood, October 1913 size event. Job 840 was completed and forms part of the Aparima Flood Protection Scheme.

6.2 Asset Capacity/Performance

The hydraulic design capacity for the Aparima River has been assessed at 1530 cumecs at the Yellow Bluffs Bridge and 400 cumecs for the Otautau Stream. Backwater curves were used to determine the design water levels in the main channels for the Otautau Stream and the Aparima River.

No performance checks have been made since the construction of the stopbanks on the Aparima River or on the Otautau Stream.

The largest recorded flow in the Aparima River at Yellow Bluffs since the completion of the flood protection scheme was in November 1999. The measured flow was 675 cumecs equating to approximately 45 percent of the design capacity.

6.3 Asset Condition

Based upon:

- the formal inspection programme in place for the assets;
- the policy of undertaking maintenance and repairs as required to avoid decline in service potential;
- the identification of any decline in service potential in any given year is addressed in that year.

This plan assumes that the assets are in a condition to provide the service potential for which they were designed.

Environment Southland has no information to indicate otherwise.

As a part of asset management improvement, the level of service shall be monitored in terms of design capacity through the formalised process identified within Section 8, Plan Improvement Programme.

6.4 Asset Valuation

The Aparima flood alleviation scheme has been valued on the basis of Financial Reporting Standard Number 3.

6.5 Historical Data

Since the completion of the stopbank protection in 1989, there has been two medium to large size flood event in February 1994 and November 1999. The flood protection scheme performed without any problems and only minor edge protection damage was recorded.

6.6 Routine Maintenance Plan

Routine maintenance is the regular ongoing, day-to-day work necessary to keep assets operating.

As noted in Sections 6.3 and 6.7, maintenance and repairs are undertaken as required to avoid any decline in service potential. The identification of decline in service potential in any given year is addressed in that year.

All maintenance and repairs allow for the standards and specifications as identified within scheme plans and contract documents noted in the accompanying Asset Register to be met.

Based on the knowledge available to Environment Southland at this time, forecast maintenance needs are seen as reasonably constant over time (see Section 7.4 and Appendix 9.1). Requirements arising from major damage events will be covered by insurance, rating district funds (reserves, credit balances) and/or if necessary borrowing, either internal or external.

The adoption of renewal accounting for asset management, where service potential decline in any one year is addressed in that year, means that there is no provision for deferred maintenance.

The funding strategy for maintenance is based on historical trends with expected revenues and expenses set out in Appendix 9.1.

6.7 Renewal/Replacement Plan

The asset management plans of Environment Southland are based on renewal accounting because:

- an asset management plan is designed to enable the asset service potential to be maintained to agreed levels;
- based on the best information available all assets are having the desired service potential maintained;
- over the next 20-year period, based on the information available, no major works are planned and expenditure levels are forecast to remain relatively constant with the allowance for one culvert failure at year 10;
- major expenditure resulting from damage events will be addressed by reserves and insurances.

6.8 Creation/Acquisition/Augmentation Plan

Over the next 20 years, based on the information available to Environment Southland, no capital works are planned.

6.9 Disposal Plan

Over the next 20 years, based on the information available to Environment Southland, no disposal or decommissioning of assets is planned.

7.0 Financial Summary

7.1 Financial Forecasts

Appendix 9.1 sets out the expected operational revenues and expenses for the next 30 years.
Note: No capital expenditure is expected nor included in the financial table. The information is based on historical trends.

7.2 Funding Strategy

The expenditure is expected to be funded as per the spreadsheet in Appendix 9.1.

7.3 Valuation Forecasts

Asset values are not expected to change significantly in the foreseeable future, as Council intends to maintain the assets under a renewal accounting regime. No deferred maintenance or capital expenditure is expected.

7.4 Key Assumptions

The following key assumptions have been made in the preparation of the financial forecasts:

- Nil inflation rate, but will be adjusted with the LTP confirmation;
- interest on Rating District funds is at 1% and will apply from the 2021/22 year, but will be adjusted with the LTP confirmation;
- level of work required is reasonably constant over time;
- any major damage events will be covered by insurance and rating district funds;
- costs are based on the 2021/22 budget, and are funded in accordance with the funding policy;
- policy adopted of increasing and/or maintaining individual rating district's reserves and working capital balances is determined by Council Policy.

7.5 Rating District Adjustment

The Aparima Rating District was reduced in size in 2001 by the separation of the Waimatuku area into a separate Rating District. A lump sum contribution is made annually from the Waimatuku Rating District in recognition of the benefits from the stopbanking on the left bank of the Aparima River at Bayswater.

8.0 Plan Improvement Programme

8.1 Performance Measures

- Consult with ratepayers and/or their elected representatives on levels of service required/requested.
- Reach agreement with rating district.

8.2 Improvement Programme

Infrastructural asset maintenance has to date been based on repair of notified damage to assets and annual physical inspections by Council staff. There is no reason to believe that assets are not maintained in original condition. However, a review of present service levels is required to allow communities to assess their adequacy and, if changes are to be made, to understand the physical and financial commitment involved.

As significant resources are required to complete reviews, prioritisation of effort is necessary. The prioritisation proposed is based on a risk assessment of discrete portions of the assets. While the asset management plans were prepared on a catchment basis the discrete portions were analysed because of the varying types of risk contained in each catchment.

The first of these reviews have been completed in July 2001 and no adjustments are required to the improvement programme.

8.3 Monitoring and Review Procedures

- Updated technical data.
- New survey sections, hydrology data, longitudinal sections of stopbank.
- Updated photographic information.
- Review level of service ratepayers etc all benefices.
- Review level of financial commitment.

9.0 Appendices

9.1 Financial Forecasts

9.2 Inventory of Assets

9.3 Non Southland Regional Council Defences against Water

9.4 Map of Aparima Rating District

9.5 Reserves and Insurances Policy

Appendix 9.1 – Aparima Rating District - Financial Forecasts

Financial Forecasts of Annual Operating and Capital Expenditure 2021-2051

Aparima Rating District

	Year 1 2021/2022	Year 2 2022/2023	Year 3 2023/2024	Year 4 2024/2025	Year 5 2025/2026	Year 6 2026/2027	Year 7 2027/2028	Year 8 2028/2029	Year 9 2029/2030	Year 10 2030/2031	Years 11-15 2031/2036	Years 16-20 2036/2041	Years 21-25 2041/2046	Years 26-30 2046/2051
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Funding Sources														
Separate Rates	285	293	301	310	318	326	334	342	350	357	1,918	2,159	2,431	2,737
Interest on Rating District Funds	6	6	6	6	6	6	6	6	6	6	30	30	30	30
General Funds	105	109	112	116	119	123	126	130	133	136	731	823	926	1,043
	<u>396</u>	<u>408</u>	<u>420</u>	<u>432</u>	<u>443</u>	<u>454</u>	<u>466</u>	<u>477</u>	<u>489</u>	<u>499</u>	<u>2,678</u>	<u>3,012</u>	<u>3,387</u>	<u>3,810</u>
Operating and Capital Expenditure														
Personnel and Direct Costs	71	74	76	78	81	83	85	87	89	91	481	528	580	638
Cost of Works	316	294	303	311	320	328	336	344	353	360	1,936	2,180	2,454	2,763
Transfer to Reserves (Surplus)	-39	-9	-10	-10	-10	-11	-11	-11	-11	-12	-64	-73	-82	-92
Depreciation	3	3	3	3	3	3	3	3	3	3	15	15	15	15
Overheads	45	47	48	49	51	52	53	55	56	57	307	345	389	438
	<u>396</u>	<u>408</u>	<u>420</u>	<u>432</u>	<u>443</u>	<u>454</u>	<u>466</u>	<u>477</u>	<u>489</u>	<u>499</u>	<u>2,674</u>	<u>2,996</u>	<u>3,357</u>	<u>3,762</u>

Notes

1. Costs included here are the costs of the River Management function relating to this rating district. They include the costs of managing the scheme. Only a portion of River Management costs (estimated at 15% of the River Management function) directly relate to maintenance of the flood protection assets (stopbanks etc). The rest is for costs associated with the scheme such as channel maintenance. Costs of the land drainage function are not included, nor are the costs of gravel monitoring.

2. Years 11-30 have had inflation applied by individual years, with the figures shown being the sum of the 5 year group.

Assumptions

Inflation rates are as per the 20 year average of Sept 2020 BERL "Planning and regulation" and "Water and environmental" (Table 4.15) adjustment percentages as applied in the Long-term Plan apart from Personnel and Direct costs which apply the BERL "All salary and wage rates-local government sector" adjustor (Table 7.8).

Interest on Rating District funds is at 1% and will apply from the 2021/2022 year.

Level of work required is reasonably constant over time.

Any major damage events will be covered by insurance and rating district funds.

Costs are based on the 2021/2022 budget, and are funded in accordance with the Revenue and Financing Policy.

Policy adopted of increasing and/or maintaining individual rating district's reserves and working capital balances determined by Council's "Reserves Expenditure Policy".

Appendix 9.2 – Inventory of Assets

Name of Facility	Section	Distance	Bank	Plan No	Completed	Monitoring
Gummies Bush to Dunrobin	Fairfax – Otautau	30720 m	Left	A110/1-2	February 1988	Visual annual
Gummies Bush to Dunrobin	Wreys Bush - Opio	4650 m	Right	A114/6-7	January 1990	Visual annual
Gummies Bush to Dunrobin	Fairfax – Otautau	7202 m	Right	A110/3-5	May 1988	Visual annual
Gummies Bush to Dunrobin	Gummies Bush to Thornbury	8181 m	Left	A107/1-3	March 1980	Visual annual
Thornbury Town	Thornbury Town	615 m	Left	A107/3A	August 1985	Visual annual
Gummies Bush to Dunrobin	Wreys Bush - Opio	6562 m	Left	A114/1-5	February 1990	Visual annual
Gummies Bush to Dunrobin	Drummond - Groyne	0	Left	A92/1-2	1978	Visual annual
Gummies Bush to Dunrobin	Opio Kempthorne & Others	1470 m	Right	A77/1-4	1976	Visual annual
Gummies Bush to Dunrobin	Opio Kempthorne & Others	1045 m	Left	A77/1-4	1976	Visual annual
Gummies Bush to Dunrobin	Otautau - Wreys Bush	12734 m	Left	A111/22-27	April 1989	Visual annual
Gummies Bush to Dunrobin	Gummies Bush to Thornbury	8745 m	Right	A107/4-7	January 1990	Visual annual
Otautau Town	Otautau Stream Town	2645 m	Left	A109/1	May 1988	3 monthly
Otautau Town	Otautau Stream Town	3083 m	Right	A109/2-2A	May 1988	3 monthly

Culverts and Structures

Name	Map Reference	Job No	Plan No	Location	Designer	Type of construction	Monitoring	Maintenance	Date of construction	Historic Total cost
Fleck's	E46:308229	J 864/3	A107/3	L/B U/S Gummies Bush Bridge	SRC	Wood stave culvert 1800 mm diameter	Visual annual	As and when required	1989	\$12,000
Sharp's	D46:279211	J 864/3	A107/1	L/B U/S Gummies Bush Bridge	SRC	Wood stave culvert 1500 mm diameter	Visual annual	As and when required	1989	\$11,000
Low's	D46:258435	J 864/3	A111/23	L/B U/S Yellow Bluffs Bridge	SRC	Wood stave culvert 1500 mm diameter	Visual annual	As and when required	1989	\$11,000
Anderson's	D46:289229	J 864/3	A107/6	R/B U/S Gummies Bush Bridge	SRC	Wood stave culvert 1500 mm diameter	Visual annual	As and when required	1989	\$11,000
Irving's	D45:281462	J 864/3	A111/33	R/B U/S Yellow Bluffs	SRC	Wood stave culvert 2400 mm diameter	Visual annual	As and when required	1989	\$14,000

Appendix 9.3 – Non-Southland Regional Council Defences against Water

Appendix 9.3 lists the defences against water that Environment Southland is aware of within the catchment but **are not maintained by Environment Southland**.

These defences against water may have been funded and constructed by Environment Southland, or its predecessor the Southland Catchment Board, Government departments or private landowners. Environment Southland has not assumed beneficial ownership of these defences against water and has not included them in its asset register because they are not included in Council's rating district maintenance programme and have not been classified for rating purposes as providing community benefit.

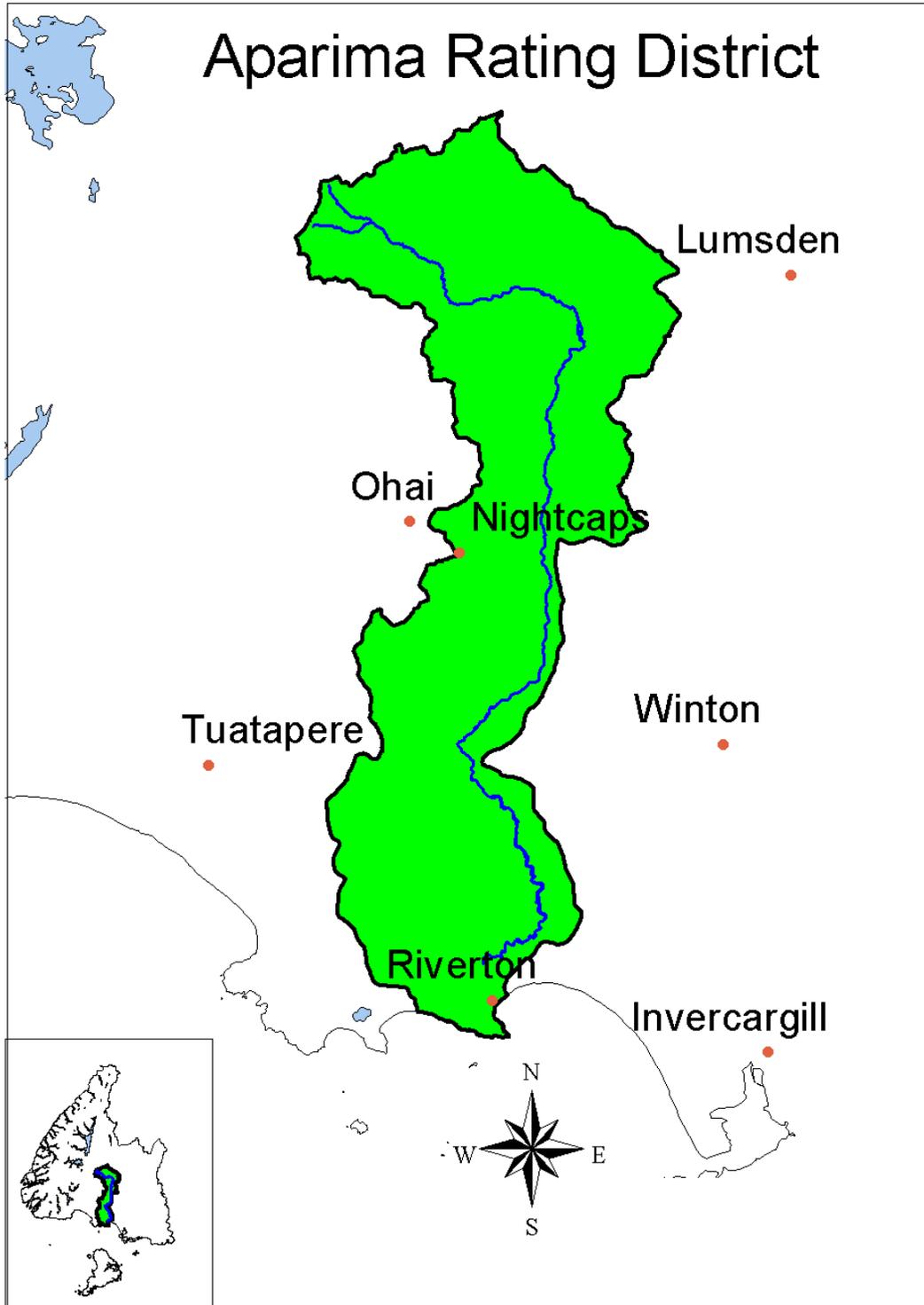
Whereas every attempt has been made to identify defences against water for inclusion within this Appendix 9.3, the list cannot be guaranteed as to completeness.

The only defences against water intended to be covered by Environment Southland's asset management plans are those listed in Appendix 9.2, Inventory of Assets.

River/Stream	Description	Start about Map Reference	End about Map Reference
Aparima River	Non continuous stopbanks and spoil banks downstream of the Gummies Bush Bridge	D46: 260212 Riverton-Otautau Road Bridge	D46:264191 Jacobs River Estuary
Aparima River	Non continuous stopbanks and spoil banks upstream of the Thornbury Township	E46:311245 Gropers Bush-Thornbury Road Bridge	D46:288328 Fairfax-Isla Bank Road Bridge
Bayswater Drain	Non-continuous spoil banks	D45:238420 Aparima River at Yellow Bluffs	E45:338519 Below S.H 96 Bridge
Etalvale Station	Stopbank	E44:328761 Aparima River confluence	E44:325764 Wreys Bush-Mossburn Road
Hamilton Burn	Non-continuous stopbanks and spoil banks	E44:355801 Aparima River confluence	E44:315893 At junction with Braxton Burn
Pourakino Stopbanks	Stopbank system and non-continuous stopbanks and spoil banks	D46:210214 Centre Road Bridge	D46:212290 Ermedale Road Bridge
Taylor's Creek	Tide gate structure and stopbank	D46:209205 Site at Pourakino River	Site specific
Waimatuku Stream and tributaries	Non continuous stopbanks and spoil banks	E46:368180 Rance Road	E46:301391 Outlet from Bayswater Peat Bog
Otautau Main Street *	Non-continuous stopbanks sandbagging required	D46:240391 South of Nanwich Street Southern end of town	
Otautau Stream – Otautau *	Non-continuous stopbanks sandbagging required	D45:234401 Main Street over the Otautau Stream	

* See Section 6.1

Appendix 9.4 - Map of Aparima Rating District



Appendix 9.5 - Reserves and Insurance Policy

3.0 Reserves Expenditure Policy

3.1 *Policy for Repairs to Flood Protection Infrastructure from Damage caused by Floods and other Natural Disasters* (adopted by Council June 2005)

“Council will continue the commitment to the long-term risk management regime that requires annual works programmes for the separate rating districts aimed at maintaining all assets at their desired service level standard, as set out in the respective asset management plans, and to provide sources of funds for works that make good against loss and/or damage to those assets.

To achieve this:

3.1.1 Council adopts a risk management strategy of:

- obtaining/maintaining commercial insurance cover for dams, structures and culverts at the level of cover specified through Council’s Asset Register;
- obtaining/maintaining insurance cover for separate rating district flood protection scheme stopbanks at the level of cover specified through Council’s Asset Register, with the insurable replacement value updated annually by the Consumer Price Index;
- establishing, increasing and/or maintaining separate rating district disaster reserve balances and separate rating district working capital balances totalling \$5M;
- upon establishing that balance, reviewing the need to build these reserves to a balance of \$10.45M;

3.1.2 Council retains the Regional Disaster Damage Reserve and the policies relating to its purpose and use;

3.1.3 until the relevant reserve has reached the required levels, each rating district will contribute on an annual basis to their Separate Rating District Disaster Reserve, a sum equal to the commercial insurance premium for stopbanks that applied in the 2004/05 financial year (inflation-proofed through the Consumers Price Index), less that district’s share of the LAPP premium implemented 2005/06, along with any additional sum identified in their annual budget from time to time (note that separate rating district reserves are for disasters within that catchment, but in widespread flood events there is provision for loans to be made from one catchment’s funds to another);

3.1.4 existing Separate Rating District Disaster Reserve funds are amalgamated in investment funds held with investment managers. Any expenditure from individual rating district funds will be funded from realisation of the investment funds. Any agreed expenditure in excess of individual rating district funds will also be funded from investments but represented by an internal loan asset;

3.1.5 each separate rating district will continue to accumulate annual surpluses within their district’s balances, being working capital;

3.1.6 the separate rating district disaster reserves and working capital balances will attract interest on balances on an annual basis;

- 3.1.7 deductibles resulting from a claim on commercial insurance for dams, structures and culverts and/or stopbanks, will be allocated to those catchment rating districts making the claims on a pro-rata claim amount basis;
- 3.1.8 district working capital reserves will be used as first call, up to 75% of the balance available, for the cost of uninsured asset repairs before a claim on that district's balance of the Separate Rating District Disaster Reserve will be eligible. District working capital will be 100% expended before that district can "borrow" from other district's balance within the Separate Rating District Disaster Reserve;
- 3.1.9 river event repair must be equal to at least 75% of the district's annual separate rate to qualify for a claim on that district's portion of the Separate Rating District Disaster Reserve to be considered by Council;
- 3.1.10 river event repair requirements in excess of that district's share of the reserve balance are eligible for application to Council for access to the balance of the Separate Rating District Disaster Reserves;
- 3.1.11 in any one event, applications to Council will include:
- identification of the qualifying event or disaster and the agreed costs and level of funding involved;
 - detail of the standard of repair – to pre-disaster condition and/or relocation and/or betterment;
 - discussion of the community vs individual benefits and consequently any cost share arrangement between the ratepayer/landowner, catchment ratepayer and general ratepayer (*Note: It would be unrealistic for claimants to demand or expect general fund input to repairs when those repairs are being funded through drawdown of reserves. Under the Council's funding policy, the Separate Rating District Disaster Reserve is built with a 30% general fund contribution*);
 - the priority of works;
 - the ability of ratepayers to pay to restore reserve balances;
 - proposals for the method of replenishment of funds used including timeframes and funding methods;
 - recognition that interest on the Separate Rating District Disaster Reserves drawn in excess of the separate rating district's balance will be charged at the same rate as interest is credited to the reserve;
- 3.1.12 the priority for works resulting from river events will be in the order of community benefit works before individual benefit works."

3.2 Policy in respect of the Regional Disaster Damage Reserve
(adopted by Council December 1995)

"The Reserve may be available for funding recovery from regional disasters:

- where a regional or local civil defence emergency is declared, or
- which are:
 - sudden and catastrophic;
 - beyond the scope of normal response processes;
 - beyond usual human experience;
 - the cause of excessive damage;
 - the cause of widespread social upheaval.

Possible regional disaster damage could ensue from:

- river events;
- climate change and climatic events;
- civil defence emergency situations of flood, earthquake or land movement;
- tsunami;
- oil spills;
- coastal environmental events;
- ecological events;
- animal health events, e.g. foot and mouth, Bovine Tb;
- social and economic events;
- chemical or technological disasters.

3.2.1 Each year at the time the general rate is set Environment Southland will consider the level of allocation from rates to the Regional Disaster Damage Reserve.

3.2.2 Except in emergencies this reserve is to be drawn upon only after specific Council approval following the consideration of a detailed report.

3.2.3 The following principles will be applied when considering the use of the reserve:

- (a) the Regional Disaster Damage Reserve will be used as a fund of last resort;
- (b) the reserve will be used for repair or replacement after damage to Southland Regional Council assets or assets for which Environment Southland agrees it has a financial responsibility;
- (c) where event repairs qualify for a claim on a district disaster reserve, the claim on that reserve will be matched on a dollar for dollar basis by the Regional Disaster Damage Reserve.
- (d) any events excluded by the criteria can be included on a case by case basis by Environment Southland at the particular time.

3.2.4 General criteria to be considered for possible use of funds from the Regional Disaster Damage Reserve will include whether:

- (a) Environment Southland has a statutory responsibility to assist;
- (b) the request comes from individuals, a community or the region;
- (c) there is existing insurance coverage;
- (d) the policies in 3.1 should be addressed prior to this section;
- (e) Government funds are able to be accessed;
- (f) other funding sources are more appropriate and available;
- (g) immediate/emergency action is warranted;
- (h) payment should be in the form of grants, subsidies or loans;
- (i) any agreement should be sought to protect Council's interests;
- (j) other claims are pending or potential.

- 3.2.5 Funding criteria to be considered for possible use of funds from the Regional Disaster Damage Reserve will include:
- (a) reference to financial policies on investment levels when considering how funds should be distributed and restored;
 - (b) detailed provision for restoration of investment funds, should this be required;
 - (c) reference to whether services are reduced to cut costs on specific and/or general rates are increased, to offset reduced investment returns as a consequence of a draw on the reserve.”