Punakaiki Rating District
2023-2026 Asset Management Plan

West Coast Regional Council

388 Main South Road
Greymouth
7805

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1.0 Purpose of this Document

The purpose of this document is to summarise the management philosophy that is applied to the Punakaiki Rating District including the infrastructure assets and services. This approach ensures that acceptable levels of service are provided in the most cost-effective manner and contribute to the achievement of the community outcomes identified in the West Coast Regional Council's Long-Term-Plan (LTP).

This AMP defines the objectives and performance standards of the Punakaiki Rating District for which the West Coast Regional Council bears the maintenance responsibility, including providing a basis upon which the effectiveness can be measured. The key purposes of this AMP are to:

- Provide a history of the Punakaiki protection scheme.
- Convey the long-term strategy for the management of the Punakaiki Rating District.
- Provide a tool to assist with management assets in a cost effective and sustainable manner.
- Manage the environmental, service delivery and financial risks of asset failure.
- Demonstrate that the service potential of the rivers and drainage assets is being maintained.

2.0 Asset Management Objectives

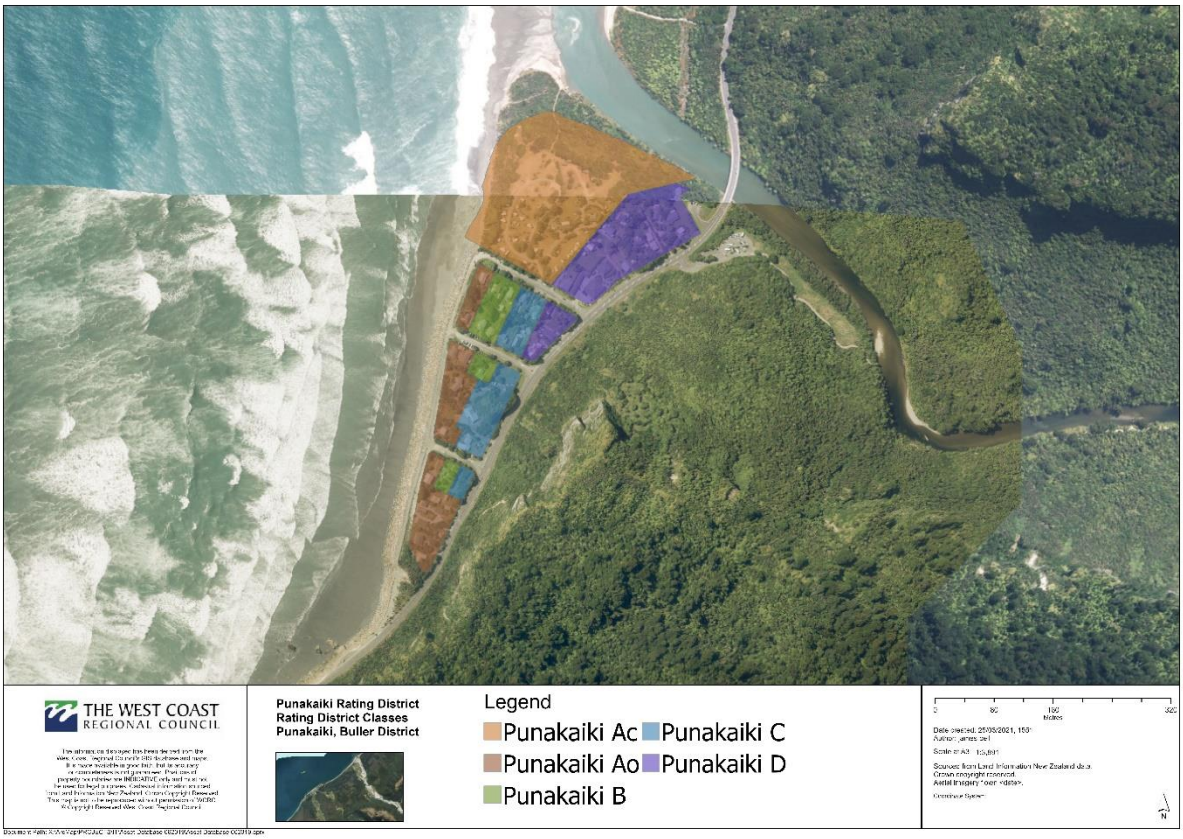
West Coast Regional Council recognises that the Punakaiki Asset Management Plan is the fundamental driver of erosion and inundation protection for the scheme. This AMP has been developed in accordance with the Local Government Act 2002, with the first AMP completed in 2003 with three yearly updates or earlier where information indicates a significant change from what is stated in the current AMP.

In order to fulfil the outcomes, vision, goals and objectives of these assets, the West Coast Regional Council have adopted a systematic approach to the long-term management of its assets and services on the Punakaiki Rating District by preparing this AMP.

West Coast Regional Council is committed to best appropriate practice asset management in order to achieve the following key objectives:

- Meet the service expectations of the Punakaiki community.
- Ensure maintenance activities achieve efficient results with optimal benefits.
- Demonstrate Council's approach to managing risk and meeting growth requirements towards a sustainable future.
- Comply with all statutory requirements.

3.0 Punakaiki Rating District



4.0 Punakaiki Rating District Background

As a result of concerns expressed at the continued deterioration of the existing "sacrificial protection bund" erected by the Buller District Council on the Punakaiki Foreshore, the Punakaiki Management Group convened a meeting on 11 February 2004 at Punakaiki.

The meeting comprising of representatives from: the Buller District Council, the West Coast Regional Council, the Punakaiki Management Group, the ratepayers, Electronet Services, the Department of Conservation and Transit NZ discussed the issues and decided to approach the West Coast Regional Council to prepare preliminary designs, costings and a rating mechanism in order to facilitate discussions with local ratepayers to determine the future direction of the protection of the Punakaiki Township area.

The Council's first proposal, incorporating a rock armoured seawall, situated along the eroding foreshore area from the State Highway in the south to 240 metres north of Owen Street (the Camping Ground area), a distance of 980 metres, was presented to a special public meeting at Punakaiki June 2004. This proposal was estimated to cost in the vicinity of $800,000 (G.S.T. Exclusive).

The ratepayers' share would be approximately $581,700.

A capital value – based rating district was suggested as a possible funding initiative.

A questionnaire was consequently sent out to all ratepayers in the area, seeking support, or otherwise of the proposal and the funding option preferred in the situation where a special rating district was set up and the proposed works proceed. The result of the questionnaire was that 18 were against, 14 for and 6 failed to respond.

As a result of the questionnaire indicated that more ratepayers were opposed to the proposal and no further work was carried out in the interim.

Severe storms further eroded the Punakaiki Township sea frontage over the next 6 months, initiating urgent remedial action.

Council in April 2005 instructed staff to urgently reappraise the situation and as a result a modified proposal including a reduction in length, a reduction in height and the use of rock from the Strongman Mine area was drawn up.

The new reduced proposal covered an area from the southern end of Dickinson Parade in the south to Owen Street in the north. The reduced height allowed for the "topping up" by 1 metre, if required, in the future.

The revised design and rock source resulted in a 41% reduction in ratepayer cost from $581,700 to an estimated $342,000.

A proposed rating differential of 100: 60: 20 (Class A: Class B: Class C) was promoted as being a fairer ratio, considering ratepayers' perception of the reflection of the erosion threat weightings.

A major storm event occurred in the period 27 – 31 May 2005, resulting in further increased serious erosion of the foreshore area.

As a result of the questionnaire, out of a possible 39 properties 78.13% of valid votes cast were in favour. The 10 year Loan Option was the preferred method of funding the initial capital works. As a result, the Punakaiki Rating District was set up and adopted by Council on 9 August 2005. The work was carried out by Ferguson Industrial Division Ltd and was completed at a final cost of $434,472.

A retrospective resource consent was applied for by the Buller District Council to carry out the construction of the works. This covered the area plus a possible extension to the north to protect the Camping Ground in the future if required.

In 2017, due to severe erosion along the frontage of the Camping Ground that was threatening the camp's effluent disposal field, the 210m long northern extension of the seawall was completed.

5.0 Description of Assets

Asset	Quantity	Unit	Rate
Rock	39,906	Tonne	$69.00
Rubble	3,179		$37.00
Fill	17,210	m^3	$64.00
Top Course	320		$73.71
Bedding gravel	9,100		$25.34
Filter fabric	13,260	m^2	$12.68
Asset Value			$4,394,895.00
On-costs (15%)			$659,234.25
Resource Consents (2%)			$101,082.59
Replacement Cost			**$5,155,211.84**
Depreciating Assets			
Culverts			$1,313.76
All Assets Replacement Cost			**$5,156,525.60**
As at 1 July 2023			

5.2 Asset Map

THE WEST COAST REGIONAL COUNCIL

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Punakaiki Rating District
Asset Map
Punakaiki, Buller Region

Legend

Asset_Points AssetSubtype
- Pipe (3)

Asset_Lines AssetSubtype
- Riprap (1)
- Seawall (1)

0 25 50 100
Metres

Date created: 03/03/2021, 1554
Author: james.bell

Scale at A3: 1:1,800

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Aerial imagery flown <date>.

Coordinate System:

Document Path: X:\ArcMap\PROJECTS\TA\Asset Database 062019\Asset Database 062019.aprx

6.0 Existing Standard

The seawall built in 2005 has been designed to handle the historically observed tidal fluctuations and surge patterns of the Tasman Sea in the vicinity. The scheme structures will be maintained to the dimensions that they were originally constructed.

A seawall fixes the position of the land sea boundary and provides some protection to the land behind from severe inland flooding from major storms and large waves. The main functional elements of a seawall are the elevation of the structure to minimise overtopping, and the armoured face to minimise erosion. The weight and shape of the structure provides the required stability.

6.1 Service Level

The Levels of Service represented in this AMP are described and aligned with community values including affordability, quality, safety, community engagement, reliability and sustainability. The scheme structures will be maintained to the dimensions that they were originally constructed.

Councils in New Zealand will generally adopt one of three methods for determining the level of service provided by a scheme:

- Agreeing on a scope of physical works with the community without reference to a target capacity or return period (low risk schemes)
- Providing physical works with a level of performance provided in terms of a target capacity (medium risk schemes)
- Providing physical works with a level of performance in terms of a target return period (high risk schemes)

Each of the three methods for determining the level of service may be suitable for a given scheme, provided that communities understand event likelihood, scheme and property vulnerability, potential consequences, and residual risk.

Where council staff have recommended physical works or analysis that did not proceed due to community resistance to cost, then councils are only able to track their service delivery through measures around maintenance works programmes or a general description of asset condition.

The objective of the Punakaiki Rating District is to reduce erosion on the coastal frontage of the Punakaiki Township between the southern end of Dickinson Parade and the Punakaiki Beach Camp in the north over a distance of 650 metres.

6.2 Maintenance Programme

An annual maintenance report is prepared each year in consultation with the Punakaiki Rating District to adoption by the Council for inclusion in its annual budgets.

In preparing the annual maintenance report the following will be considered:

- An inspection to identify works requiring immediate repair.
- Works anticipated as being required given a ‘normal’ season.
- Flexibility to meet unbudgeted damages.

An annual report will be presented to the Rating District outlining the condition of the scheme assets and maintenance works and expenditure required for the coming financial year.

6.3 Damage and Risk Exposure

Erosion works are constructed in a very high energy environment with the purpose of resisting and absorbing some of that energy. It is considered that no matter what the standard of maintenance carried, it is likely that damage will occur from time to time.

The maximum damage potential must be considered to be the total loss of the wall in a major event because it is not possible to determine return periods for coastal storms.

Seawalls are constructed in a very high energy environment with the purpose of resisting and absorbing some of that energy, whilst fixing the land sea boundary. Depending on the volume of sand build up or depletion in front of the seawall, it is considered that no matter what the standard of maintenance carried, it is likely that damage will occur from time to time.

An assessment of maximum damage potential (seawall only) was estimated as below:

Event size (AEP)	Value	Damage ratio	Damage exposure	Prudent Reserve	Prudent reserve contribution
10%	$5,155,212	5%	$257,761	$257,761	100%
5%	$5,155,212	10%	$515,521	$360,865	70%
2%	$5,155,212	20%	$1,031,042	$515,521	50%

It has been deemed, within reason, that all Rating Districts have a prudent reserve target balance that contributes to at least 100% of the damage exposure for a 10% AEP event, 70% for a 5% AEP event and 50% for a 2% AEP event. These percentages define what is an appropriate and acceptable level of risk for Council and the community.

6.4 Prudent Reserve

Why do we need a prudent reserve?

- Minimise the financial impact of unplanned works, such as those caused by weather events
- Ensure the rating district is able to contribute funding that is sustainable and affordable
- Ensure Council's debt level is managed, and that borrowing is still available when required
- Ensure the debt levels of the rating district do not exceed the ability to fund the repayments

This target balance for the 'prudent reserve' for this rating district is $200,000 as agreed by council. This prudent reserve is immediately available. It is likely the current reserve will only cover a portion of the actual cost of the potential damage that could occur.

If an event were to occur and the prudent reserve does not cover the full repair and rebuild cost of the assets, it is understood by the community that the remaining costs will be paid by loan or the rating district accounts will be in overdraft. In the instance of extreme weather events, NEMA funding and the Councils private insurance will be accessed for cost recovery if the criteria are met. The West Coast Regional Council's insurance policy has a $400,000 excess. 40% of eligible rebuild costs will be met by this policy.

Below are the key criteria that needs to be met to access the NEMA funding, which can cover up to 60% of eligible rebuild costs

The provisions for government financial support to local authorities apply whether or not a state of emergency is, or has been, in force

Government assistance will not normally be available for assets which receive a subsidy from any other source, unless:

- *the local authority has adequately protected itself through asset and risk management including mitigation, where appropriate, and the proper maintenance of infrastructure assets, or*
- *the local authority has made sound financial provisions (such as the provision of reserve funds, effective insurance or participation in a mutual assistance scheme with other local authorities) to a level sufficient to ensure that the local authority could reasonably be expected to meet its obligation to provide for its own recovery*

Threshold

Threshold for reimbursement; As with other response claims, Government policy is to reimburse 60 percent of the combined eligible costs (response and essential infrastructure costs), above the following thresholds:

- *0.0075 percent of the net capital value of the city council, district council or unitary authority involved*
- *0.002 percent of the net capital value of unitary authorities where the assets in question are of a type that ordinarily are managed by regional councils, or*
- *0.002 percent of net capital value in the case of regional councils*

7.0 Funding

7.1 Maintenance

Maintenance is funded by targeted rates, the level of rating being determined each year in the Annual Plan process. This involves:

a) Preparation of an annual works programme and corresponding budget.
b) Adoption of the annual works programme and budget.
c) Discussion of the works report and budget with the ratepayers.
d) Adoption of final budget in the Council's Annual Plan.

The aim of maintenance is to ensure the infrastructure assets are kept at a standard where they can always perform to their service level. Where rock is required to be placed on an existing infrastructure under direct attack from the sea, the protection required to maintain the existing infrastructure at its same service potential would be charged to the scheme maintenance account.

Capital works are generally defined as works which increase the service level of the scheme. Such work would include increasing the design standard or the area covered by a scheme and works to increase security or performance of an erosion control system or structure over and above that identified in the asset plan.

7.2 Damage Repairs

Routine damage repairs are funded by a combination of:

a) Carrying out work as scheduled in annual works programme.
b) Reprioritising works identified in the annual works programme.
c) Use of financial reserves.

Major damage repairs would be funded by loans raised by the Council and repaid by targeted rating over a number of years.

7.3 Financial Reserves

Financial reserves are held within the rating district account to provide the following:

a) Meet the costs of unscheduled works.
b) Enable an immediate response to flood damage repairs.
c) Prevent major fluctuation in rating levels annually.

The levels of financial reserves held in the rating account are determined by the estimated damage exposure and the likely need for un-programmed works.

7.4 Depreciation

The bulk of WCRC's assets comprise bulk formation of excavation, fill and heavy rock protection. These assets are considered to have an infinite Useful Life (UL) with a strategy to maintain in perpetuity. The predominant mechanisms for deterioration are slumping and or storm or flood event damage. In these circumstances the performance and level of service is brought back to specification by remedial and / or emergency works from operational and maintenance budgets. Otherwise, these assets do exist in perpetuity.

From 2023 WCRC have recognized the difference between operational and maintenance expenditure (typically to remediate after an event) and capital expenditure that improves performance or level of service, or reduces risk. The former are not capitalised, the latter are capitalised and are added to the asset register and valuation.

Assets with an infinite Useful Life do not depreciate, so these assets are valued separately as non-depreciating.

Asset components in this category include:

- Excavation
- Cleanout (of natural water courses for utilisation as drains)
- Fill
- Rock protection
- Top course, differentiated from normal road assets in that life and deterioration mechanisms are the same as for the stopbanks they traverse
- Bedding gravel and filter fabric noting that even if fabric deteriorates it would not be replaced unless the stopbank itself was being replaced, or it was being replaced as part of an event remedy operation and maintenance.

Around 3.4%, by replacement cost value, of WCRC's assets are of a nature that will deteriorate, have a limited useful Life, and hence are depreciating. These include:

- Culverts and associated assets

- Constructed assets such as concrete flood walls in Greymouth
- Miscellaneous assets.

8.0 Performance Measures

The following procedures may be adopted to ensure the adequacy of maintenance.

Period	Procedure	Performance Measure
Annually	Produce annual works report for the rating district assets to include type of work to be undertaken, quantities, location and costs.	No reports of stopbanks or erosion protection works requiring repairs without an agreed programme of remedial work in progress. Asset maintenance is current as per level of service.
	Organise contracts for agreed scheme work, oversee contract completion and report to Council.	
	Report on works undertaken during the previous financial period to the rating district ratepayers and Council.	
Triennially	Re-measure cross section river profiles to determine whether the riverbed is stable, or aggrading, and to identify management issues or options.	Report to Council and ratepayers on revaluation of assets and the Plan review.
	Revaluation of the asset schedule to include any additional rock placed on stopbanks and bank protection works over the three year period.	
	Review this Asset Management Plan	
10-yearly	Flood modelling will be undertaken to identify a range of level of services.	Report to council and ratepayers.

8.1 AMP Review and Monitoring

This plan is a living document, which is relevant and integral to daily activity. To ensure the plan remains useful and relevant the following on-going process of AMP monitoring and review activity will be undertaken:

- Formal adoption of the AMP by the West Coast Regional Council.
- Review and formally adopt Levels of Service to comply with the Rating District committee
- Revise this AMP three yearly prior to Long Term Plan (LTP) to incorporate and document changes to works programmes and outcome of service level reviews.
- Quality assurance audits of asset management information to ensure the integrity and cost effectiveness of data collected.
- Peer review and external audits will be undertaken to assess the effectiveness with which this plan meets corporate objectives. Periodic internal audits will be undertaken to assess the adequacy of asset management processes, systems and data and external audits will be undertaken to measure asset management and performance against ‘best practice’.