

Cook Islands
Sanitation (Wastewater Management) Policy 2016

Compiled by:
Infrastructure Cook Islands
in collaboration with our partner agencies and key stakeholders

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Contents

Abbreviations	1
1 Introduction	2
2 Vision	2
3 Purpose	2
4 Scope and timeframe	2
5 Context	3
5.1 Background.....	3
5.2 Links to National Sustainable Development Plan 2016-2020	4
6 Principles	4
7 Objectives and policies	5
7.1 Protecting public health and water quality	5
7.2 Integrated approach with public, community and individual responsibilities.....	6
8 Roles and responsibilities	7
9 Implementation arrangements.....	7
10 Monitoring, evaluation and reporting	7
Definitions	9
References	12
Appendix 1: Stakeholders consulted	13

Abbreviations

The following abbreviations are used in this document:

AS/NZS 1546.1:2008	Australian / New Zealand Standard - AS/NZS 1546.1:2008 On-site domestic wastewater treatment units. Part 1 Septic tanks
AS/NZS 1547:2012	Australian / New Zealand Standard - AS/NZS 1547:2012 On-site domestic wastewater management
ICI	(Ministry of) Infrastructure Cook Islands
MMR	Ministry of Marine Resources
MoH	Ministry of Health
NES	National Environment Service
NSDP	National Sustainable Development Plan 2016-2020
TP58	Auckland Council, Technical Publication No. 58 On-site Wastewater Systems: Design and Management Manual 2004
WATSAN	Water, Waste and Sanitation Division of Infrastructure Cook Islands

1 Introduction

The management of wastewater is a matter that needs to be addressed because of its potential impact on human health and the environment. The Cook Islands faces some particular pressures due to increasing development mainly associated with tourism. This Sanitation (Wastewater Management) Policy establishes a broad framework, recognising that strategies will need to be developed to set out in more detail the actions required.

This policy identifies the vision, purpose, scope and timeframe. It then addresses the context, giving some background to the issues, and identifying how this policy links to the National Sustainable Development Plan 2016-2020. The policy outlines four principles that need to be taken into account, and sets out the objectives and policies which seek to achieve the policy vision. The policy then covers: roles and responsibilities; implementation arrangements; monitoring, evaluation and reporting.

2 Vision

The vision of this policy is:

“Wastewater treatment systems in the Cook Islands are sustainable and economically viable, safeguarding the health of the environment and communities taking into account the effects of climate change.”

3 Purpose

The purpose of this policy is to provide a high-level framework for wastewater management in the Cook Islands. This policy is one of a suite of documents (including strategies, a work plan, and a master plan) which will provide for and enable the development of wastewater management in a way that contributes to sustainable development.

4 Scope and timeframe

The scope of this policy is primarily related to:

- Safe collection, treatment and disposal of wastewater to an approved standard for:
 - Domestic residential homes
 - Commercial facilities including tourist accommodation
 - Community and public buildings
- The promotion of appropriate practices for wastewater management.

The term ‘sanitation’ can extend to cover cleanliness, hygiene, and the environmentally sound collection and disposal of liquid and solid wastes. However this policy focuses on wastewater management.

This policy does not address surface water runoff or animal waste from domestic or commercial farming. However it is recognised that there is a need to develop a policy framework to address these issues. Surface water runoff in particular can affect the operation of wastewater treatment systems.

The timeframe for this policy is ten years i.e. 2016 to 2026. There will be an interim review every four years. A full review will occur at the end of the ten year period, or earlier if required.

The policy applies across the whole of the Cook Islands. However some of the more specific aspects of the policy, i.e. the references to compliance with the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014, do not apply beyond Rarotonga and Aitutaki, until such time as the regulations are extended to apply to other islands¹.

5 Context

5.1 Background

Sustainable management of water and sanitation is one of the national goals (i.e. Goal 4) for the Government of the Cook Islands, as mandated in “The Cook Islands – Te Kaveinga Nui” National Sustainable Development Plan (NSDP) 2016-2020.

The consumption of water and the generation of human wastes are such common place aspects of human life that planning for the appropriate provision of related systems, services and solutions is often overlooked. Worldwide evidence indicates that failure to ensure an adequate supply of safe water or to appropriately manage wastewater is a major contributing factor to disease transmission, ill health and damage to the environment.

Recent reviews have clearly identified issues with and risks to public health and receiving environments as a result of sub-optimal wastewater management. For example, concentrations of nutrients and pathogens in some of the stream and lagoon areas on Rarotonga have at times been found to exceed recommended levels for human health. These findings highlight the urgent need for the Government to work at implementing viable and sustainable wastewater management solutions that meet immediate and future health and environmental needs and are in synergy with aspirations for the economic growth, social development, and overall wellbeing of the country and its people.

Tourism in the Cook Islands accounts for most of the country’s GDP. The ever-increasing growth in tourism has contributed towards continued development, which has put pressure on existing water and wastewater infrastructure and services. This pressure leads to increased threats to and detrimental effects on receiving streams, groundwater and lagoons. This in turn increases risks to public health and ecology and ultimately could threaten the economic growth and prosperity of the country. Appropriate management of wastewater is therefore essential to the Cook Islands economy, and the health of its people and visitors and the environment.

The primary focus of this policy is on the safe management of wastewater from residential units (including tourist accommodation) and work places with a view to protecting, restoring and improving the state of the lagoons around the islands. This process will be aided by the use of appropriate treatment systems and disposal methods as required under the Public Health (Sewage and Waste Water Treatment and Disposal) Regulations 2014.

This policy replaces the Cook Islands Sanitation Policy 2014 which needed updating to reflect changes in the public health regulations. This 2016 policy is based on the previous policy but has been structured using a more current policy format.

¹ The regulations took effect for Rarotonga and Aitutaki from the date of commencement. However the regulations state that no permit or certificate is required to be issued under these regulations for a sewage system on any other island, until approved standards are applied to the specific island to regulate any matter provided for in these regulations.

5.2 Links to National Sustainable Development Plan 2016-2020

The National Vision, as set out in the National Sustainable Development Plan 2016-2020 (NSDP) is:

“To enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment”

The NSDP sets sixteen national development goals. Goal 4 is of most direct relevance to this policy. It states as follows:

"4. Sustainable management of water and sanitation"

Goal 4 is further described in the NSDP as follows:

"Water and sanitation are basic necessities for our health, economy and environment. With the impacts of climate change and the inherent limited fresh water reserves, preserving and managing fresh water is a key development issue. Sanitation has become a major national issue, particularly with increased development in Rarotonga and Aitutaki. The inadequate management of human and animal waste and other wastewater poses a significant environmental, economic and health risk to the country."

The NSDP identifies Indicator 4.2 to measure progress towards the sanitation part of this goal. This indicator tracks the percentage of properties using sanitation systems that meet approved standards. The NSDP describes the indicator as follows:

This indicator looks at the proportion of the properties (both commercial and residential) that are using approved sanitation systems. With the increased density of development, inadequate sanitation systems are posing a significant threat to our environment, the economy and public health. Monitoring of this issue is crucial to track efficacy of our efforts across the country to ensure sanitation systems meet approved standards."

Other NSDP goals of particular relevance are:

"5. Build resilient infrastructure and ICT to improve our standard of living"

"11. Promote sustainable land use, management of terrestrial ecosystems, and protect biodiversity"

"12. Sustainable management of the oceans, lagoons and marine resources"

Goals 11 and 12 have been noted because of the adverse effects that poor wastewater management practices can have on the natural environment.

6 Principles

The following principles are integral to the development of this policy and need to be taken into account in its implementation:

1. Consistency with well proven appropriate practice

The design and implementation of wastewater treatment systems will comply with well proven practice appropriate to the Cook Islands.

2. Precautionary principle

When an activity may lead to unacceptable but scientifically uncertain harm to human health or the environment, actions will be taken to avoid or diminish that harm without having to await the completion of further scientific research.

3. Integrated, collaborative and transparent approach

The Government will work in an integrated, collaborative and transparent manner with communities, businesses and other stakeholders to implement this policy.

4. Community and individual responsibility and participation

Communities and individuals will be encouraged and, where necessary, required to participate in improving and maintaining wastewater treatment systems by implementing appropriate practice and complying with relevant standards to protect and improve public health and the environment.

7 Objectives and policies

7.1 Protecting public health and water quality

Objective 1

1. Ensure that wastewater is managed in a manner which protects public health and the environment and has regard to the local context.

Policies

- 1.1 Require all on-site wastewater treatment systems to comply with the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 and Standards where these apply and any relevant succeeding legislation.
- 1.2 Where septic tank systems are determined to be part of an acceptable on-site wastewater treatment system:
 - a. Require septic tanks for new developments to comply with AS/NZS 1546.1:2008, and AS/NZS 1547:2012 and TP58
 - b. Require existing septic tanks that do not comply to be upgraded or replaced to meet the standard in (a) above
 - c. Require septic tanks to be de-sludged in accordance with the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 and any relevant succeeding legislation.
- 1.3 Design and construct wastewater treatment systems in a manner which:
 - a. Recognises local environmental and socio-economic conditions, cultural values and operational capability
 - b. Builds local capacity to achieve sustainable outcomes.
- 1.4 Promote the health of micro flora in septic tanks by encouraging the use of non-toxic phosphate-free cleaning products and considering the introduction of levies or taxes on harmful germicides (such as harsh detergents, disinfectants, toilet cleaners and bleaches).

Explanation of Objective 1 and Policies

The outcome sought by Objective 1 is that public health and the environment is protected, and that wastewater management is appropriate to the local context. The protection of public health and the environment is essential to achieving the policy vision which includes

'safeguarding the health of the environment and communities'. The recognition in Objective 1 of the local context is consistent with the references in the policy vision to being 'sustainable and economically viable', 'the health of communities' as well as 'taking into account the effects of climate change'. Policies 1.1, 1.2 and 1.4 give effect to Objective 1 by identifying regulations, standards and practices designed to achieve effective wastewater management thereby protecting public health and the environment. Policy 1.3 gives effect to the objective by outlining the aspects of the local context to be taken into account when designing and managing wastewater treatment systems.

7.2 Integrated approach with public, community and individual responsibilities

Objective 2

2. Ensure an integrated approach to wastewater management which recognises and clarifies public, community and individual responsibilities.

Policies

- 2.1 Ensure owners are aware of their responsibility for the maintenance and upgrade of their on-site wastewater treatment systems.
- 2.2 Encourage public awareness programmes which support the development and implementation of sound appropriate practice in wastewater management.
- 2.3 Consult with stakeholders, including landowners and communities, and recognise and respect traditional values, when planning, designing and developing new or upgraded publicly owned centralised wastewater treatment systems or projects to upgrade onsite systems.
- 2.4 Apportion the costs associated with any publicly owned centralised wastewater treatment system as follows:
 - a. The Government, in the first instance, will bear the costs for installation subject to long term cost recovery
 - b. Property owners will bear the costs of installing and maintaining connections to the system
 - c. Connected property owners will share in the costs of operating and maintaining the system.
- 2.5 Require new and existing development to connect to publicly owned centralised wastewater treatment systems where such a system is available.

Explanation of Objective 2 and Policies

The outcome sought by Objective 2 is an integrating approach, recognising and clarifying public, community and individual responsibilities. This recognises that achieving the vision involves all these parties particularly in ensuring that environmental and public health standards are met, and the approach is sustainable and economically viable. Public, community and individual responsibilities are, at times, different for on-site systems than centralised systems. Policy 2.1 gives effect to the objective by recognised that owners need to be informed of their responsibilities for on-site wastewater systems. Policy 2.2 recognises the role of public awareness programmes in promoting sound appropriate practice. Policy 2.3 recognises the need to consult with stakeholders when planning, designing and developing wastewater treatment projects. Policies 2.4 and 2.5 give effect to the Objective by clarifying approaches, costs and responsibilities associated with publicly owned centralised wastewater treatment systems.

8 Roles and responsibilities

The following table summarises the roles of the key government agencies with responsibilities relating to this policy.

Agency	Roles in relation to this policy
Infrastructure Cook Islands - WATSAN Division	Implementation lead Monitoring and evaluation
Ministry of Health (MoH) - Public Health Division	Regulation and enforcement Monitoring and evaluation
Ministry of Marine Resources (MMR)	Water Quality Monitoring Programme
National Environment Service (NES)	Natural resources and land use management including environment impact assessments Monitoring, regulation and enforcement

9 Implementation arrangements

The implementation of this policy will be led by the WATSAN Division in the first instance. Once the sanitation upgrade programme is completed the responsibility may transfer to MOH or a subsequent authority.

The development of operational guidelines implementing this policy lies within the work plans of the WATSAN Division, in collaboration with MoH - Public Health Division, MMR and NES.

MoH is responsible for administering and enforcing the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014.

10 Monitoring, evaluation and reporting

The monitoring and evaluation framework that supports the NSDP includes relevant indicators to measure the implementation of this policy. For the NSDP, Indicator 4.2 measures the percentage of properties using sanitation systems that meet approved standards, and Indicator 12.4 measures lagoon water quality.

Regular monitoring of stream and lagoon water quality will continue. The activities associated with this policy will be monitored through:

- Divisional Quarterly reports
- Statistical and Annual reports.

Progress towards the key targets set out below will be evaluated one year after the date for implementation. Following the first evaluation, progress will be evaluated as part of the four yearly interim review of the policy referred to in Section 4 Scope and timeframe.

Key targets and indicators

The following targets and indicators have been identified as critical to meeting objectives and policies of this policy:

Target or indicator	Date	Responsibility
Develop the Sanitation (Wastewater Management) Strategy and Master Plan for Rarotonga and Aitutaki	By 2017	ICI - WATSAN
Develop the Sanitation (Wastewater Management) Strategy and Master Plan for Te Pa Enuā	By 2018	ICI - WATSAN
Ensure that 40% of all on-site wastewater treatment systems for private dwellings in the Lagoon Protection Zone (LPZ) bordered by lagoons for Rarotonga and Aitutaki comply with Public Health (Sewage Treatment and Disposal) Regulations 2014 or subsequent revisions	By 2025	MoH
Ensure that all commercial facilities in Rarotonga and Aitutaki including tourist accommodation (three units / bedrooms and above) meet the standards set by WATSAN and the MoH Warrant of Fitness programme under the Public Health (Sewage Treatment and Disposal) Regulations 2014	By 2025	ICI - WATSAN & MoH

Definitions

This section defines some key terms as used in this document.

Blackwater	Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states: 'Blackwater means waste and sewage discharged from the human body either directly to a dry-vault or through a water closet (flush toilet) or urinal'
Centralised wastewater treatment system	Means the collection of wastewater from homes and commercial facilities, that consists of collection sewers with a centralised treatment and disposal/reuse facility, away from its source or the community.
Commercial facility	Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states: 'Commercial facility means— (a) any building, office or place in which 2 or more persons are engaged, or in which one or more persons are employed (directly or indirectly) in preparing or manufacturing goods for trade or sale, and includes any building, office or place in which work such that is ordinarily performed in a commercial facility is carried out, but does not include any building in the course of erection, nor any temporary workshop or shed for workmen engaged in the erection of a building; (b) hotels, resorts and any premises where guests are permitted to stay for one or more nights, which are not deemed by the Board ² to be ordinary residential premises; (c) a restaurant or other class of premises where food is sold to customers for consumption of the premises, and any tourism related facility; (d) any other type of premises which are prescribed as a commercial facility under any approved standard.'
De-sludging	Removal of the accumulated sludge and scum from the septic tank.
Effluent	Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states: 'Effluent means the liquid discharge from a septic tank or other treatment unit'
Greywater	Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states:

² Board is a defined in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014.

	<p>'Greywater' means the domestic sewage from baths, spas, showers, basins, laundries and kitchen sinks and dishwashers and other sinks, but which is not blackwater'</p>
Lagoon Protection Zone	<p>Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states:</p> <p>'Lagoon Protection Zone' comprises an area defined in approved standards where high standards of on-site sewage treatment and disposal are required'</p>
On-site wastewater treatment system	<p>The collection, treatment, and disposal /reuse of wastewater from an individual home or commercial facility on the same property as it is generated.</p>
Sanitation	<p>Sanitation generally refers to the provision of facilities and services for the safe disposal of sewage for the purposes of protecting human health and the environment.</p>
Septage	<p>Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states:</p> <p>'Septage' means the solid material that has settled out of liquid in a sewage system'</p>
Sewage	<p>Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states:</p> <p>'Sewage' means any wastewater, including all faecal matter, urine, household, institutional and commercial sewage that contains human waste (including blackwater and greywater), but does not include storm water'</p>
Sewage sludge	<p>Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states:</p> <p>'Sewage sludge' includes any solid, semi-solid, or liquid residue removed during the treatment of sewage (including solids removed during primary, secondary or advanced sewage treatment, portable toilet pumping, scum, septage, and sewage sludge products), but does not include grit, screenings or ash generated during incineration of sewage sludge'</p>
Sewage treatment	<p>Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states:</p> <p>'Sewage treatment' includes the treatment of all sewage, effluent, septage or sludge by whatever means'</p>

Septic tank	A buried, watertight tank designed to receive and partially treat raw wastewater by allowing solids separation from the liquid phase and the decomposition of the retained organic matter by anaerobic bacteria, forming dissolved fatty acids and gases. Settleable solids settle to the bottom, forming a sludge layer and grease and other light materials float to the top, forming a scum layer. Tanks are normally vented to enable release of the gases generated during liquefaction of the solids.
Sewage system	Means the same as in the Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 which states: ' Sewage system means any system designed to treat sewage and includes septic tanks, digester tanks, aeration tanks, and the associated in-soil treatment'
Sewerage	The network of collection drains and pump stations that carry domestic wastewater or effluent away from the properties of origin for off-site treatment.
Wastewater	The contaminated water produced from activities in dwellings, institutions, or commercial or public facilities, consisting of all waterborne waste, greywater or blackwater. It does not include storm water.
Wastewater treatment systems	Means systems which collect, treat, dispose of, or reuse, wastewater.

References

WATSAN (2014). Cook Islands Sanitation Policy 2014

Auckland Council (2004). *Technical Publication No. 58 (TP58) On-site Wastewater Systems: Design and Management Manual 2004*, Auckland, New Zealand

Appendix 1: Stakeholders consulted

A consultation draft of this policy was circulated to the following stakeholders for comment:

- Chamber of Commerce
- Cook Islands Plumbers & Drainlayers Association
- Cook Islands Building Supplies
- Cook Islands Investment Corporation
- Cook Islands Tourism Corporation
- Cook Islands Tourism Industry Council
- Crown Law Office
- Europe Union
- House of Ariki
- Island Governments - Aitutaki, Atiu, Mitiaro, Mauke, Mangaia, Manihiki, Palmerston, Penrhyn, Pukapuka/Nassau, Rakahanga
- JW Estall & Sons Ltd (de-sludging contractor)
- Koutu Nui
- Ministry of Agriculture
- Ministry of Education
- Ministry of Finance and Economic Management
- Ministry of Finance and Economic Management - Development Coordination Division
- Ministry of Health
- Ministry of Health - Public Health Division
- Ministry of Internal Affairs
- Ministry of Marine Resources
- Muri Environment Care
- National Council for Women
- National Environment Service
- NZ High Commissioner
- Office of the Prime Minister
- Office of the Prime Minister - Central Policy and Planning Office
- Office of the Prime Minister - Climate Change Cook Islands
- Office of the Prime Minister - Pa Enea Division
- Office of the Public Services Commission
- PTS Plumbing Ltd
- Rarotonga Plumbing Contractors Ltd
- Te Ipukarea Society
- T-S Waste Disposal (de-sludging contractor)

The WATSAN Division of Infrastructure Cook Islands acknowledges the feedback received from the following groups to the consultation draft of this policy:

- Koutu Nui
- Te Ipukarea Society
- Crown Law Office
- Ministry of Health
- Ministry of Health - Public Health Division
- Ministry of Agriculture
- National Environment Service
- Office of the Prime Minister - Climate Change Cook Islands
- Office of the Prime Minister - Pa Enea Division
- New Zealand High Commission
- European External Action Service - Apia (European Union)