



Government of **Western Australia**
Department of **Health**

Managing public health risks from wastewater conveyance, treatment and disposal in Western Australia

Consultation Paper

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Disclaimer

Although every care has been taken to ensure accuracy in the preparation of this paper, the information has been produced as general guidance for persons wishing to make submissions. The contents of this paper do not constitute legal advice or legal information and do not constitute Government policy. This paper should not be used as a substitute for a related Act or professional advice.

This document is intended to serve as the basis for further discussion with interested stakeholders.

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Executive summary

The creation of wastewater is an unavoidable part of everyday life. Wastewater contains harmful pathogens that can cause severe illness that can be potentially fatal if not properly treated and disposed. Traditionally, wastewater is managed by ensuring there is a distinct separation between humans and wastewater.

The health risks associated with the various stages of collection, treatment and disposal can vary greatly and are dependent on many factors, including whether the wastewater is removed offsite as part of a reticulated sewerage scheme or treated onsite with an onsite wastewater system. The higher level of risk associated with onsite wastewater systems requires additional consideration for the management of risks such as appropriately designed systems, correct siting and installation and ongoing maintenance.

Developments in technology have helped reduce public health risks by designing systems that can treat wastewater to a higher quality. These developments also increase sustainability by decreasing the reliance on fresh water supplies.

The Department of Health (DOH) must determine the best way to manage the health risks from wastewater in the future, including the ability to capture new technology as it is developed. This paper discusses the options for the regulation of wastewater management including:

- retaining the status quo and replicating as far as practicable the relevant provisions of the Health (MP) Act,
- deregulating the industry and repealing the current legislation associated with wastewater management, or
- developing a new risk based regulatory framework for wastewater management to address the public health risks and cover areas that are not currently regulated.

Community input is now sought on the measures for managing each of these proposals, and how they may impact on you. We welcome your input on this important issue.



How to make a submission

This document contains a series of questions related to the options presented. You do not have to comment on all of the questions and can provide feedback that may not be related to any of the questions.

Please explain the reasons behind your suggestions, and where possible use evidence such as statistics, cost estimates and examples of solutions.

Online survey

Complete the online survey, which may be accessed at

<https://consultation.health.wa.gov.au/environmental-health-directorate/292f90ae>

Written submissions

Submissions must be received by **5:00pm (WST), Friday 21 May 2021**. Late submissions unfortunately cannot be considered.

Written submission lodged by email (preferred) can be sent to publichealthact@health.wa.gov.au

Hard copies can be posted to:

Wastewater Regulation Review
Environmental Health Directorate
Department of Health
PO Box 8172
Perth Business Centre
WA 6849

Consultation on the management of wastewater

A Wastewater Working Group was formed to review the existing management of public health risks and ensure the views of local government enforcement agencies were heard. Local government plays a significant role in regulating wastewater in the state.

This paper is released to seek submissions and feedback from the wider community and other government agencies and stakeholders. Analysis of submissions will inform the development of final proposals.

List of definitions

Advanced Secondary Treatment System

A advanced secondary treatment system undertakes more advanced treatments such as aerobic and biologic treatment to decompose solids and disinfection. An advanced secondary treatment system is a wastewater treatment system which produces treated effluent to a secondary standard or higher, i.e. $\leq 10\text{mg/L}$ BOD₅, $\leq 10\text{mg/L}$ of TSS and ≤ 10 cfu/100mL of *E. coli*. (As defined in AS/NZS 1546.3).

Application Area

An area to which treated effluent is applied of which may include land application area.

Authorised Officer

A person who is authorised by virtue of designation under section 24 of the *Public Health Act 2016*.

Biosolids

Sewage sludge that has undergone further treatment to reduce disease causing pathogens and volatile organic matter significantly, resulting in a stabilised material suitable for beneficial use. Does not include industrial and food processing sludges.

Blackwater

Waste discharged from the human body, includes faeces, urine and other body fluids.

Decommission

Decommissioning may include:

- Emptying of the onsite wastewater system and
- Removal of the onsite wastewater system and/ or
- Backfilled with clean fill

Design Irrigation Rate

The loading rate that applies to the distribution of wastewater to the design area of an irrigation land application system, expressed in L/m²/day or mm/day

Design Loading Rate

The loading rate that applies to the distribution of effluent to the design area of

an absorption trench or bed or mound land application system, expressed in L/m²/day or mm/day and equivalent to the long term acceptance rate (LTAR) of the land application system reduced by a safety factor

Dwelling

A building or part of a building that is occupied or intended to be occupied for the purpose of human inhabitation or human activity.

Effluent

Liquid discharge from a wastewater treatment system (AS 1547:2012)

Fit for Purpose

Liquid or solid wastewater treated to specific quality standards for the designated beneficial use

Groundwater

The area of an aquifer in which all pores and fractures are saturated with water. Also known as water in the phreatic zone (Government Sewerage Policy).

Greywater

The waste from a bath, shower, basin, laundry and kitchen but excluding toilet and urinary wastes.

Land Application Area

The unencumbered area to which treated wastewater is distributed for further in-soil treatment and absorption or evaporation. This area is restricted to the distribution of treated wastewater (GSP)

Land application system

The system used to apply effluent from a wastewater system into or onto the soil for further in-soil treatment and absorption or evaporation. (As defined in AS/NZS1547)

Previously referred to as a receptacle for drainage (DOH, 1974).

Onsite wastewater system

A wastewater treatment and disposal or recycled water system that receives treats and applies wastewater to an application area located within the boundaries of the

freehold lot or survey strata within which wastewater was generated.

Permit to Use

A permit issued under Regulation 10 of the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* that permits an onsite wastewater system to be used.

Premises

An allotment of land including any building situated on it (AS 1546.3: 2017).

Primary Treatment Systems

The separation of suspended material from wastewater in septic tanks, primary settling chambers, or other structures, before effluent discharge to either a secondary treatment process, or to a land application system.

Recycled water

Wastewater that is treated to provide fit-for-purpose water quality for its intended beneficial use.

Responsible person

Any person or entity responsible for the installation, operation and / or management of a wastewater system, this may include but is not limited to an owner of premises, a strata company, real estate agent, scheme operator.

Reticulated sewerage scheme

A network of sewers and associated sewage treatment plant managed by a water service provider. Does not include *onsite wastewater systems*.

Sanitary conveniences

Includes urinals, water-closets, earth-closets, privies, sinks, baths, wash troughs, apparatus for the treatment of sewage, ash-pits, ash-tubs, or other receptacle for the deposit of ashes, faecal matter, or refuse, and all similar conveniences.

Secondary Treatment System

A secondary treatment system undertakes more advanced treatments such as aerobic and biologic treatment to decompose solids and disinfection. Secondary treatment systems previously known as Aerobic Treatment Unit or ATU (DOH, 1974) is a

wastewater treatment system which produces treated effluent of secondary standard, i.e. ≤ 20 mg/L of Biochemical Oxygen Demand (BOD), ≤ 30 mg/L of Total Suspended Solids (TSS) and ≤ 10 cfu/100 mL of Escherichia (E) coli on 90% of samples. (As defined in AS/NZS 1546.3)

Sewage

Any kind of faecal matter or urine, and any waste composed wholly or in part of liquid. This does not include trade waste.

n includes greywater and trade waste.

Single dwelling

Means a dwelling that is occupied or intended to be occupied for the purpose of human habitation and that is the only dwelling on that lot.

Soil absorption Zone

The area of soil that is required to filter, isolate and absorb wastewater microorganisms, nutrients and particles (As defined in AS/NZS 1547:2012)

Suitably Qualified Person

A suitably qualified person is defined as a person who has acquired through a combination of training, qualifications or experience the knowledge and skills to carry out a task.

Tertiary Treatment System

A wastewater treatment system that treats wastewater to a standard better than an Advanced Secondary Treatment System. Tertiary Treatment Systems use advanced methodologies for treatment including but not limited to air and biological process as well as membrane and Ultraviolet (UV) disinfection treatments.

Trade waste

Any wastewater, discharged from a business or industry, aside from that which comes from staff amenities or office facilities.

Wastewater

Sewage and trade waste, does not include

stormwater, surface water or ground water of a type that is ordinarily drained from land as part of the provision of a drainage service. **Wastewater overflow**

Is the overflow, discharge, or spillage of wastewater into/onto a water body, recreational waterway, land area, building etc, from a wastewater treatment plant (WWTP), sewer line, sewerage pump station, evaporation pond, sewage receptacle, or any other wastewater transporting or receiving receptacle.

Wastewater product

Any product or by-product produced from or during the treatment of wastewater that is fit for its intended purpose.

Water Service Provider

As defined in the Water Services Act, a water service provider is someone who provides one or more of the following services:

- Water supply services (potable and non-potable)
- Sewerage services
- Irrigation services
- Drainage services

List of Abbreviations

AS/NZS 1546.1	Australian/New Zealand Standard 1546.1: Septic Tanks
AS/NZS 1546.2	Australian/New Zealand Standard 1546.2: Waterless composting toilets
AS/NZS 1546.3	Australian/New Zealand Standard 1546.3: Secondary Treatment Systems
AS/NZS 1546.4	Australian/New Zealand Standard 1546.4: Domestic greywater Treatment Systems
AS/NZS 1547	Australian/New Zealand Standard 1547: On-site domestic wastewater management
BOD	Biological Oxygen Demand
Building Regulations	<i>Building Regulations 2012</i>
CHO	Chief Health Officer
COP	Code of Practice
DMIRS	Department of Mines, Industry Regulation and Safety
DOH	Department of Health
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
EHO	Environmental Health Officer
EP Act	<i>Environmental Protection Act 1986</i>
EP	Equivalent Persons
ERA	Economic Regulation Authority
Greywater COP	Code of Practice for the Reuse of Greywater in Western Australia 2010
GSP	Government Sewerage Policy
Health (MP) Act	<i>Health (Miscellaneous Provisions) Act 1911</i>
JASANZ	Joint Accreditation System of Australia and New Zealand
Public Health Act	<i>Public Health Act 2016</i>
RMP	Risk Management Plan
SSE	Site and Soil Evaluation
STS	Secondary Treatment System Formally known as Aerobic Treatment Unit (ATU)
WA	Western Australia
WAPC	Western Australia Planning Commission
Water Services Act	<i>Water Services Act 2012</i>

Introduction

The adequate provision of sanitary conveniences and management of wastewater conveyance, treatment, disposal and recycling is important to avoid human exposure to pathogens contained in wastewater and to prevent transmission of diseases. Legislation has been in place in Western Australia (WA) for over 100 years ensuring that all wastewater generated is dealt with in such a way that contamination of water sources and the built environment does not occur and public health risk from wastewater is minimised.

The Department of Health (DOH) is reviewing the existing [*Health \(Miscellaneous Provisions\) Act 1911*](#) (Health (MP) Act) and its subsidiary wastewater regulations as part of the implementation of the *Public Health Act 2016* (Public Health Act) to assess how well these have been working and to determine if legislated wastewater management requirements are needed in the future.

Objectives

The DOH proposes to establish new regulations under the Public Health Act to manage the public health risks associated with wastewater conveyance, treatment, disposal and recycling. In comparison to the current prescriptive provisions in the current Health (MP) Act, the Public Health Act introduces a more proactive and risk-based approach to the management of public health risks.

The principal objectives of the proposed wastewater regulations are to:

- Protect the public health in WA, in relation to how wastewater is managed.
- Create consistent and clear state-wide regulations for the management of public health risks associated with wastewater.
- Align with the relevant Australian Standards and national guidelines associated with wastewater management and recycling.
- Align with the legislation administered by other regulatory agencies where appropriate, to decrease the regulatory burden on industry and members of the public.

To achieve this, the proposed regulations will address three (3) key areas:

1. Reticulated and non-reticulated sewerage schemes.
2. Onsite wastewater systems.
3. Wastewater recycling.

This consultation paper describes features of the current legislation in relation to wastewater conveyance, treatment and disposal in Western Australia and examines how this is regulated in comparable jurisdictions in Australia and presents several future regulatory options. The third key area of wastewater recycling will be addressed in a separate discussion paper.

Part One: Regulating wastewater conveyance, treatment and disposal

Chapter 1 Regulatory options investigated

As provisions of the Health (MP) Act and its subsidiary legislation will be repealed as part of the transition to the Public Health Act, the DOH is considering three (3) options for managing public health risks associated with wastewater conveyance, treatment, disposal and reuse. These are:

1. **Retain the status quo.** That is, to replicate (as far as practicable) the relevant provisions of the Health (MP) Act and its subsidiary legislation in new regulations made under the Public Health Act. The existing codes adopted in the Wastewater Regulations will then be adopted in the new regulations.
2. **Deregulate the wastewater industry and repeal the current legislation associated with wastewater management.** That is, to repeal without replacement the relevant provisions of the Health (MP) Act and its subsidiary legislation and adopted codes associated with wastewater management without replacement.
3. **Develop new public health regulations for wastewater management** under the Public Health Act, which align with its principles and establish the necessary compliance requirements and processes using the mechanisms provided in the Public Health Act. Existing or new codes of practice may be developed and adopted in the new regulations.

Option 1, replicating the current regulations in the new regulations made under the Public Health Act, will not result in any improvements in how the public health risks associated with wastewater management are managed or provide a modern framework for regulating the risks.

There are significant hazards associated with wastewater conveyance, treatment and disposal that can impact on public health.

Option 2 - repeal of all current legislation associated with wastewater management without replacement will result in an inability to manage this high risk public health activity effectively.

The DOH is proposing to progress Option 3 to develop new public health regulations for wastewater conveyance, treatment and disposal under the Public Health Act. New regulations can address areas which are not currently captured in the current regulations, such as the treatment of greywater and trade waste, and provide an opportunity to remove outdated regulations which are no longer relevant. The regulations can also be written in a manner which allows for the introduction of emerging technologies for treatment of wastewater

New regulations will align Western Australia with other Australian states that already reference Australian Standards and the other areas of water management such as drinking water and recycled water that use national risk-based frameworks.

The proposed regulations would incorporate the areas of improvement that have been identified in this paper and align with the risk-based approach of the Public Health Act. This would enable the necessary regulatory processes and risk mitigation measures to be implemented in a more efficient and flexible manner.

For some particular activities, where there is no Australian Standard available and the activity is of a particularly high risk to the public, the DOH has suggested proposals which are more prescriptive.

This paper discusses the proposed regulations in further detail.

Questions for consultation*

5. Please indicate your preferred option for managing public health risks associated with wastewater conveyance, treatment and disposal?
Option 1: Maintain the status quo
Option 2: Deregulate the wastewater industry. Wastewater service providers will be allowed to self-regulate and will only be bound by the general public health duty provisions of the Public Health Act.
Option 3: Develop new public health regulations and supporting documentation for wastewater management under the Public Health Act.
6. Why is this your preferred option?
7. Should the new regulations mandate compliance with the relevant Australian Standards?
Yes / No
Please expand on your reasoning

*Note Questions 1 to 4 in the online consultation survey will be related to stakeholder details.

Part Two: Current situation

Wastewater management and public health

Wastewater contains harmful pathogens that can cause severe illness that can be potentially fatal if not properly treated. The most common route of exposure is via ingestion when a person comes into direct contact with wastewater. Exposure to wastewater can occur within premises but can also occur at community level if contamination of community water supplies occurs.

Traditionally, wastewater is managed by ensuring there is a distinct separation between humans and wastewater by safely conveying wastewater away from the point where it is collected. If a property is connected to a reticulated sewerage scheme, the wastewater from the premises is conveyed off the lot through a network of sewers for treatment at a centralised wastewater treatment system. After treatment, it is safely disposed to the environment or re-used. Where reticulated sewerage is not available, onsite wastewater systems are used to treat and dispose of, or reuse, the wastewater on the lot.

With the increasing stress on water resources brought about by climate change and population growth in WA, there is a push to decrease the demand of fresh water supplies and tap into alternative water sources such as recycled water. The Department of Health (DOH) considers developing regulations for recycling and re-use of wastewater a priority and, while it is not discussed in this paper, a separate paper will be developed.

Current health legislation

The Health (MP) Act is currently the principal legislation that sets out the mandatory health requirements for wastewater management in WA. These requirements are set out in Part IV, Divisions 1 to 4 and cover reticulated sewerage schemes, onsite wastewater treatment systems and sanitary conveniences.

Reticulated sewerage schemes

Part IV, Division 1 of the Health (MP) Act sets out the process and powers associated with the establishment and operation of sewerage and drainage schemes. Division 2 sets out the

requirements for premises to connect to sewerage and drainage schemes when they become available and empowers the owner of the sewer to connect private premises to their sewer and to recover the cost of the connection. There are also provisions to protect the sewers and to ensure the continuity of the service provision. Division 3 sets out the provisions and administrative requirements placed on a local government or sewerage service provider when disposing of sewage that is collected via their sewer.

Onsite wastewater systems

Where sewerage schemes are unavailable, Division 4 of the Health (MP) Act empowers the local government to require the provision of an onsite wastewater system. The requirements associated with onsite wastewater systems are specified in the [Health \(Treatment of Sewage and Disposal of Effluent and Liquid Waste\) Regulations 1974 \(Wastewater Regulations\)](#). The Health (MP) Act requires all *apparatus for the treatment of sewage* to be approved by the Chief Health Officer (CHO).

The Wastewater Regulations set out the approvals process for the construction, installation, use and operation of onsite wastewater systems. They also detail the specific design, sizing and construction/manufacturing requirements for primary treatment systems and the various receptacles for drainage.

Two Codes of Practice (COP) have been adopted by the Wastewater Regulations to include secondary treatment and greywater reuse systems that are not specifically covered:

1. [Code of Practice for the Design, Manufacture, Installation and Operation of Aerobic Treatment Units \(ATU's\)](#) and
2. [Code of Practice for the Reuse of Greywater in Western Australia 2010](#).

In addition, the DOH has published the [Code of Practice for Product Approval of Onsite Wastewater Systems](#) to set out the CHO's requirements for the design, certification and manufacturing and approval of onsite wastewater systems.

The third COP provides guidance in relation to product approval and represents the preferred future direction of the DOH.

Sanitary conveniences

Part IV, Division 4 of the Health (MP) Act sets out the requirements for the provision of sanitary conveniences. There are four (4) regulations made under the Health (MP) Act that detail the requirements for the provision of sanitary conveniences. These regulations are also being reviewed as part of the implementation of the Public Health Act and are subject to separate discussion papers. As such, these regulations will not be considered any further in this paper.

Issues with the current legislation

The transition to the new legislative framework presents an opportunity to improve and modernise various aspects of the current legislation.

Prescriptive regulatory requirements vs risk based regulatory requirements

The current health legislation uses a prescriptive approach to manage the public health risks associated with wastewater. Although prescriptive regulations may be easier to administer, they are inflexible when dealing with new and emerging public health risks. While prescriptive

legislation makes it easier to assess compliance, enforcement is restricted to what is prescribed under the regulations.

The existing wastewater regulations also lack flexibility to account for newer and more innovative solutions and technologies used in onsite wastewater management. The site and soil assessment criteria prescribed in the Wastewater Regulations also overlooks some critical aspects that can impact on the adequate disposal of wastewater on more complex sites.

The Public Health Act is modern legislation that adopts a risk-based approach to the regulation of public health. This approach enables public health risks to be managed in a more holistic manner. The flexibility of the Public Health Act also reduces any unnecessary regulatory burden to industry by requiring risk mitigation measures to be proportionate to the public health risk associated with the premises or activity.

Australian Standards for onsite wastewater systems

There are currently a series of Australian Standards for the design, commissioning, performance and compliance testing of commonly used onsite wastewater systems. These Australian Standards are widely adopted nationally and form the national benchmark for onsite systems:

- *AS/NZS 1546.1 – Septic tanks*
- *AS/NZS 1546.2 – Waterless composting toilets*
- *AS/NZS 1546.3 – Secondary treatment systems*
- *AS/NZS 1546.4 – Domestic greywater treatment systems*

The standards enable a common certification program to be consistently applied across the different states and jurisdictions. This also enables products to be certified by independent certifying bodies that are nationally accredited under the Joint Accreditation System of Australia and New Zealand (JASANZ).

Australian standard *AS/NZS 1547 – On-site domestic wastewater management* (AS/NZS 1547). sets out performance objectives, requirements and criteria for managing onsite water treatment systems. The AS/NZS 1547 incorporates a risk management approach to onsite wastewater management designed to achieve sustainable and effective onsite wastewater management.

Any new regulations should consider formally adopting the relevant Australian Standards for onsite wastewater systems and aligning with the JASANZ accreditation framework. This will reduce the potential for contradiction in regulatory approvals across jurisdictions and reduce the administrative burden for both regulatory agencies and manufacturers. As the Australian Standards are regularly updated, the regulations will remain up to date with advancements in onsite wastewater system technologies. Additionally, adoption of the Australian Standards will benefit onsite wastewater system owners by allowing them to have confidence that their system will perform reliably and in accordance with a national standard.

Overlap with legislation administered by other regulatory agencies

There are currently a number of pieces of legislation associated with wastewater management that are administered by other state government agencies, some of which overlap with the Health (MP) Act and its subsidiary regulations. New regulations provide an opportunity to create new and modern regulation which will reduce the public health risks in areas that are not already regulated under the [Water Services Act 2012](#) (Water Services Act).

Water services legislation

The Water Services Act is administered by the Department of Water and Environmental Regulation (DWER). The Water Services Act stipulates the requirements and processes for the establishment of a sewerage service and, when approved, provides the necessary powers to the service provider to deliver the sewerage service.

Part IV of the Health (MP) Act also stipulates a regulatory process for the approval of sewerage schemes. Recent changes by the Economic Regulation Authority (ERA) require sewerage scheme operators who have a licence under the Water Services Act to enter into a Memorandum of Understanding (MOU) with the DOH and meet the health-related requirements set out in that MOU. However, there are a number of sewerage scheme providers who are exempt from requiring a licence and as such are not subject to any health-related requirements. These sewerage scheme operators are local governments who run sewerage services with less than 1,000 customer connections, however recently a non-local government scheme operator has been granted an exemption to hold a licence.

Building Act 2011

The *Building Act 2011* (Building Act) is administered by the Department of Mines, Industry Regulation and Safety (DMIRS). Building developers must ensure that new buildings comply with the standards prescribed in the National Construction Code. The standards set out the design requirements for buildings which includes the provision of sanitary conveniences and its ventilation, lighting and location within the premises.

There is some overlap between the health regulations and the building standards which has caused some confusion for Local Governments who are required to consider both pieces of legislation when assessing building compliance.

Environmental legislation

The [Environmental Protection Act 1986](#) (EP Act) administered by DWER has a number of requirements related to the discharge of prescribed liquid wastes (of which wastewater is one). A facility generating or treating more than 20kL/day of prescribed sewage is subject to the *EP Act*. Depending on the volume of liquid waste generated or treated, licensing and/or registration is required for construction and operation of a premise.

The focus of the EP Act is the protection of the environment and does not explicitly address risks to human health. Any new regulations should consider the residual public health risks of any wastewater systems that are licensed by DWER and determine what further controls are needed in the public health regulations.

State planning policies and guidelines

As part of development planning, the Department of Planning, Lands and Heritage (DPLH) assesses proposed developments to ensure that lots do not become overdeveloped and that all the necessary requirements under their legislation and planning policies are met.

The [Government Sewerage Policy](#) (GSP) was jointly prepared by DPLH, DOH and DWER to provide guidance for development proposals for lots not connected to a reticulated sewerage scheme. The policy establishes the WA Government's position on the provision of reticulated sewerage in the State for the rezoning, structure planning, subdivision and development of land.

The DPLH through the Western Australian Planning Commission (WAPC) refers development/subdivision applications to the advisory agencies, which includes the DOH, for comment and review. The policy allows for the provision of onsite wastewater systems based on site conditions and lot size. However, if the site conditions are unsuitable, the DOH will recommend against the approval for the development and require a connection to a reticulated sewerage scheme. The GSP is not intended for single lot developments.

The GSP (DPLH 2019) will be included in the State Planning Policy 2.9: Water Resources (SPP 2.9) currently in draft.

Plumbing Legislation

The [*Plumbers Licensing and Plumbing Standards Regulations 2000*](#) (the Plumbers Regulations) stipulate that only licensed persons can undertake drainage plumbing work. Drainage plumbing work is work that involves the underground pipes and other fittings used or intended to be used for the carrying of wastewater. A person does not need to have a plumber's licence to install an onsite wastewater system.

Environmental health impacts from wastewater contamination – case studies

There are several case studies of failures of management of wastewater conveyance, treatment and disposal. Regulating wastewater systems, and their installation and management, provides the opportunity to minimise public health risk and seeks to reduce the chances of failures like the following occurring. Internationally there have been large outbreaks of gastroenteritis arising from leaking sewage contaminating drinking water supplies. Western Australia has only had one major event of sewage overflow contaminating the environment.

Western Australia

In 2015, about 3.5 million litres of wastewater overflowed from a pump station into a drain to the Safety Bay beach area in Perth. As a result, authorities advised the public not to go into the water or fish in the area. Tidal currents, wave motion and ocean swells ensured the wastewater dispersed quickly and no adverse health events were reported. ([ABC News](#))

Australia

Between 22 January and 4 April 1997, 467 hepatitis A cases were reported to the NSW Health Department. One third of cases reported eating oysters from the Wallis Lake area. Hepatitis A virus was subsequently identified in oyster samples taken from the lake. The cause of the contamination was attributed to the wastewater disposal on and around the lake by boats, caravans, camping areas and inadequately maintained septic tanks in a nearby town. ([Conaty et al. 2000](#))

In Australia, more than 50 cross-connections between recycled water supply pipework and drinking water supply pipework were discovered at Rouse Hill before commissioning in 2001. This includes one single event which was reported to have affected 82 properties. Comparable events have also occurred at Sydney Olympic Park and Pimpama-Commera. ([Hambly et al. 2012](#))

International

In 2012, a total of 53 cases of acute gastroenteritis were reported over a 1-month period by patrons who stayed and/or dined at a hotel or neighbouring resort in New Zealand. The outbreak was attributed to the sewage contamination of the hotel's drinking water bore located downstream from the wastewater disposal field and a private house septic tank. ([Jack, Bell & Hewitt 2013](#))

In 2006, an outbreak of acute gastroenteritis occurred at a ski resort in southern New Zealand affecting 218 staff and patrons. Investigations identified the source of the outbreak to be the drinking water supply that was contaminated with sewage from a blocked septic tank that was overflowing at the resort. ([Hewitt et al. 2007](#))

In 1995, 108 persons who dined at a restaurant at the Yukon Territory of Canada contracted viral gastroenteritis. The date of illness onset spanned over 17 days. The environmental investigation concluded that the well where the restaurant sourced its water from was contaminated with sewage from a septic pit. The tracer fluorescein was visually detected in the well about 24 hours after being flushed into the septic pit. ([Beller et al. 1997](#))

In 2010, 27000 people in Osterstund, Sweden became ill after a waterborne outbreak of cryptosporidiosis. One of the contributing factors to the sudden increase in cryptosporidium oocysts in the water body where the drinking water was sourced from was due to wastewater leaking. The wastewater from an apartment building reached the storm water system that finally discharged into the water body. ([Widerstrom et al. 2014](#))

In 2007, a cross-connection of the wastewater pipework and drinking water supply pipework occurred in Nokia City, Finland. The contamination resulted in an outbreak where 8451 cases of gastroenteritis were reported with nearly 200 persons requiring hospitalisation. It took over 3 months to rectify the issues and make the drinking water supply safe again. ([Miettinen et al. 2011](#))

Legislation in other jurisdictions in Australia

A summary of the legislative requirements for reticulated sewerage schemes and onsite wastewater systems in other jurisdictions in Australia is provided in Figures 1 and 2.

Figure 1 – Reticulated Sewerage Schemes

Figure 2 – Onsite wastewater systems

The management of wastewater differs between Australian states. In the eastern states various plumbing codes regulate the installation of onsite wastewater systems. In Western Australia, the *Plumbers Licensing and Plumbing Standards Regulations 2000* covers the installation of the pipework up to the onsite wastewater system but does not include the installation of the systems.

Several jurisdictions adopt the relevant Australian Standards in codes of practice. New regulations will provide an opportunity to align with other jurisdictions and align the management of wastewater with drinking water and recycled water, both of which have national frameworks.

Figure 1: Legislative requirements for reticulated sewerage systems in other states and territories

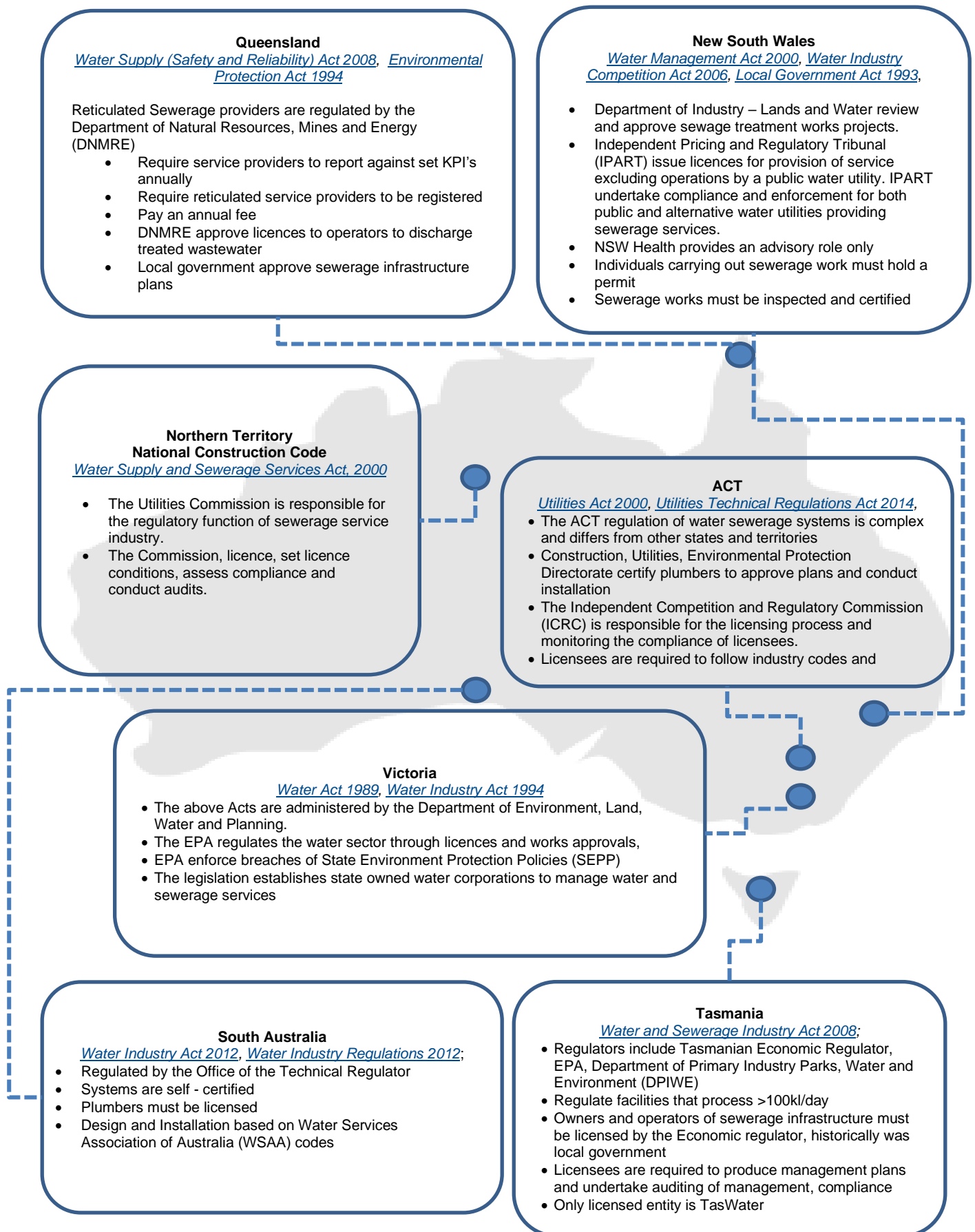
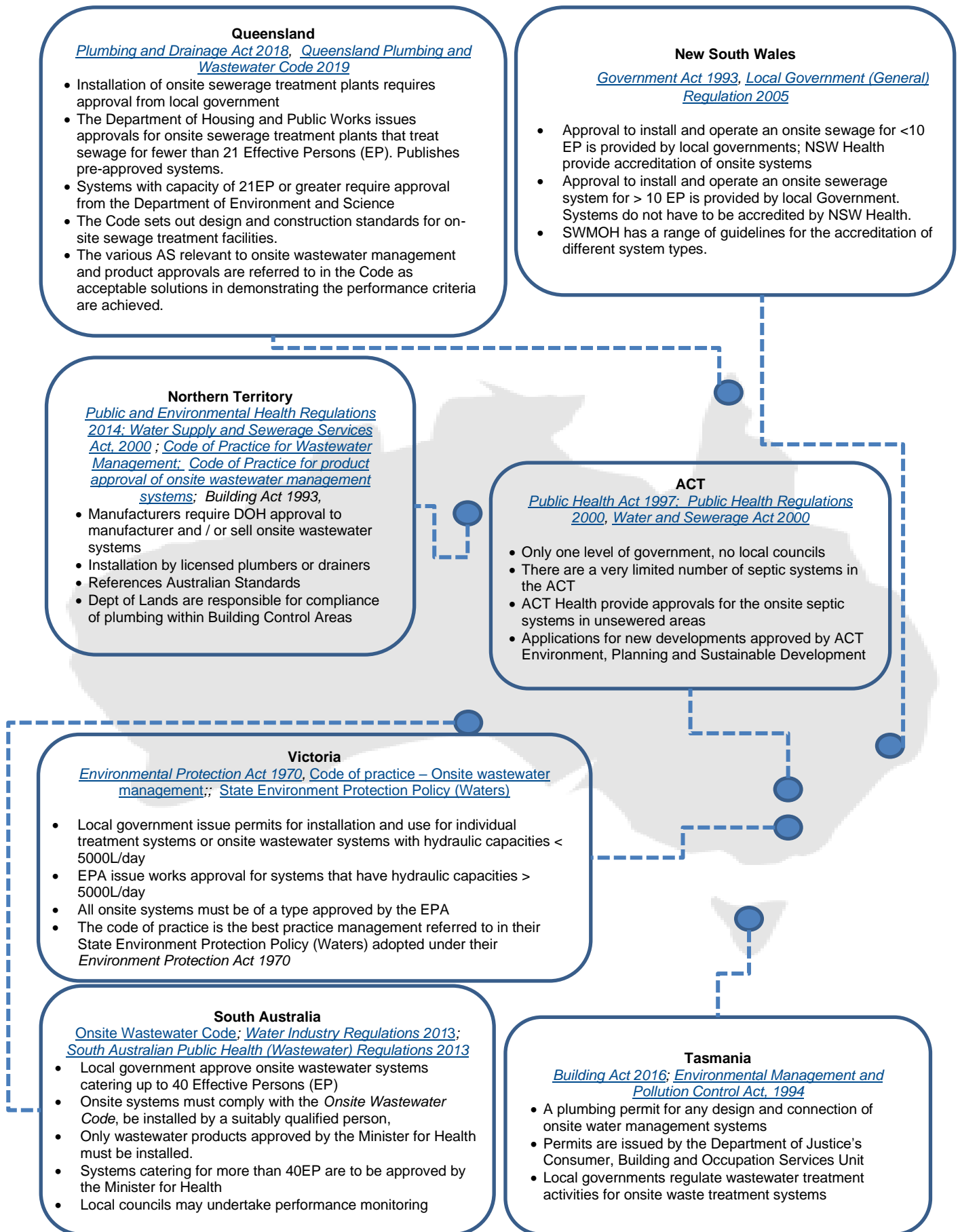


Figure 2: Legislative requirements for onsite wastewater systems in other states and territories



Chapter 2 Proposed Regulatory Requirements

The proposed regulations will set out requirements to manage public health risks associated with wastewater conveyance, treatment and disposal. They will also align with other regulations associated with wastewater management that are currently administered by other government agencies, including the *Water Services Act 2012*, *Building Act 2011*, *Environmental Protection Act 1986* and the *Plumbers Licensing and Plumbing Standards Regulations 2000*.

The four (4) principal objectives of the proposed regulations are to:

- protect public health in WA, in relation to how wastewater is managed.
- create a consistent and clear state-wide regulatory framework for the management of public health risks associated with wastewater.
- align with the relevant Australian Standards and national guidelines associated with wastewater management.
- align with the legislation administered by other regulatory agencies to decrease the regulatory burden on industry and members of the public.

The proposed changes to the current legislation will ensure that the public health risks associated with wastewater conveyance, treatment, disposal and recycling continue to be managed while allowing flexibility to manage new and emerging risks and technologies.

This discussion paper details the key benefits and costs of the proposed changes and how they may impact the industry, businesses, the community and enforcement agencies. The DOH is seeking feedback on the proposed regulatory requirements with a number of questions put forward for consideration.

The DOH proposes that the following activities associated with the conveyance, treatment, disposal and recycling of wastewater be captured by the regulations:

- Provisions for management of wastewater.
- Provision and operation of reticulated sewerage schemes.
- Design, installation, use, maintenance and decommissioning of onsite wastewater systems.
- Management of alternative technologies.
- The use and supply of wastewater products.

The allowable end uses of wastewater, along with the supply of recycled water will be covered in a separate discussion paper.

It should be noted that unlike the Health (MP) Act, the Public Health Act binds the Crown and therefore all aspects of wastewater conveyance, treatment, disposal and reuse will be applicable to assets belonging to the State government or being undertaken on crown land.

Proposals 2.1 to 2.6 relate to the general expectations and requirements for wastewater systems.

Proposal 2.1 Definitions and application

The DOH proposes the following definitions to capture trade waste from commercial or industrial activity within the new regulations (Table 1). Currently trade waste streams are managed as sewage. Defining trade waste as a wastewater stream will provide a means for management of

risks associated with this waste stream. These definitions are consistent with other policies in Western Australia.

Table 1 Defining Wastewater

Term	Definition
Sewage	Any kind of faecal matter or urine, and any waste composed wholly or in part of liquid. Does not include trade waste
Trade Waste	Any wastewater, discharged from a business or industry, aside from that which comes from staff amenities or office facilities
Wastewater	Sewage and trade waste does not include stormwater, surface water or ground water of a type that is ordinarily drained from land as part of the provision of a drainage service.
Recycled water	Wastewater that is treated to provide fit-for-purpose water quality for its intended beneficial use
Wastewater products	Any product or by-product produced from or during the treatment of wastewater that is fit for its intended purpose

Questions for consultation

8. Do you support defining wastewater to include both trade waste and sewage?
9. If no, how should trade waste be managed?
10. Do you support the creation and definition of the new term 'Wastewater product'?
11. If not, how should the beneficial use wastewater be defined?

Proposal 2.2 Require all wastewater to be dealt with in a safe and effective manner

The DOH proposes that the new regulations declare that:

- the conveyance, treatment, disposal or reuse of wastewater must be conducted in a safe and effective manner, and
- anyone who undertakes the conveyance, treatment, disposal or reuse of wastewater must maintain the structural components of a wastewater system in good working order.

This proposal is intended to ensure that wastewater is dealt with appropriately and to ensure there is the ability for authorised officers to require action in the case of wastewater overflows and other instances of wastewater mismanagement.

Questions for consultation

12. Do you agree that the new regulations should declare the conveyance, treatment, disposal or reuse of wastewater must be conducted in a safe and effective manner?
13. Do you agree that the new regulations should declare anyone who undertakes the conveyance, treatment, disposal or reuse of wastewater must maintain the onsite wastewater system in good working order?
14. Are there any other declarations you believe should be included?



Proposal 2.3 Require premises to connect to a reticulated sewerage scheme when available

The DOH is proposing that premises where wastewater is generated will be required to connect to a reticulated sewerage scheme if one is available.

A reticulated sewerage network collects wastewater and transfers it to a facility for treatment and either disposal or reuse. Connection to a reticulated sewerage scheme is preferred because it:

- reduces public health risks by minimising the risk of exposure to wastewater,
- places less burden on homeowners,
- allows for higher population density,
- reduces the potential for environmental contamination impacts, and
- allows for water reuse options to be considered and implemented which is essential for sustainable water use.

Currently the Health (MP) Act allows a local government to require premises located within 91 m of a sewer to connect to the sewer if the local governments believe the sewer has the capacity to deal with the wastewater.

The DOH propose that the regulation is amended to require premises located within a 'reasonable distance' of a sewer to connect to a sewerage scheme if the sewerage network has the capacity to accept the wastewater.

In situations where a reticulated sewerage scheme becomes available to premises that has historically used an onsite wastewater system, the DOH proposes the property be required to connect to the scheme within six months of the scheme being provided.

Questions for consultation

15. Do you agree that all premises should be required to dispose of wastewater by connection to a reticulated sewerage scheme if one is available?
16. Do you agree that if premises located within a 'reasonable distance' of a sewer and the operator of that sewerage network indicates that the network has the capacity to accept that additional wastewater, then the appropriate enforcement agency can require the premises to connect to the sewer?
If not, what should the requirement be?
17. Do you agree that where a reticulated sewerage scheme is provided after a premises has been constructed, and the reticulated sewerage scheme operator deems that it is viable, then the premises must connect to the scheme within 6 months of the scheme being provided?
If not, how should this situation be managed?
18. Should anyone be exempt from these requirements?

Proposal 2.4 Require premises to install an appropriate onsite wastewater system where a reticulated sewage scheme is unavailable

The DOH is proposing that where premises cannot connect to a reticulated sewerage scheme, the premises must connect to an appropriate onsite wastewater system.

An appropriate system must be capable of treating all the wastewater that is produced on site. Some sites may require an onsite system that treats sewage only, whereas other sites may require a system which can treat sewage and/or trade waste.

Questions for consultation

19. Do you agree that if a reticulated sewerage scheme is not available, an appropriate onsite wastewater system must be installed?

Proposal 2.5 Required notification and response to wastewater overflow events

The DOH is proposing that certain types of wastewater overflow events will be reportable, and the responsible person must:

- Respond to the overflow in a timely manner.
- Notify the relevant agencies.
- Notify and assist any persons affected by the overflow.
- Ensure that the area affected is remediated effectively.
- Undertake any testing or other response activities if directed to by the DOH.

The DOH is also proposing in the event of a wastewater overflow, the responsible person must complete investigations and remedial actions and seek closure of the event within a prescribed timeframe agreed upon with the DOH. The DOH is considering whether this proposal should be included in new regulation or in a Code of Practice that is called up in regulation.



Currently, there are powers provided by the Health (MP) Act to require any person or entity responsible for a wastewater overflow to contain the situation and to remediate impacted areas. There is no requirement to report an overflow event to the DOH.

There are various events that can cause a wastewater overflow. Such events include:

- Wastewater system / pumping / plumbing system failure and blockages.
- Overloading of onsite wastewater systems.
- Human error, excavation/construction damage of sewer pipes, power outages.
- Extreme weather events.

The DOH is proposing that certain overflow events are classified as a ‘reportable overflow event’. The DOH is proposing that the events are detailed in a schedule in new regulation and the process for reporting an overflow event and any other requirements are provided in a Code of Practice. It is proposed that the Wastewater Overflow Response Procedures be amended to a Code of Practice and the reportable overflow events are taken from this document. The proposed overflow events are provided in Table 2. Inclusion of reportable events in the new regulations places the onus on the responsible person to report an overflow event and would provide the DOH with the authority to take action if the responsible person has failed to notify the relevant authority.

Table 2 Situations where a wastewater overflow is a reportable event

Wastewater Overflow (WVO) Specific Discharge into:
<ul style="list-style-type: none"> • Residential/Commercial/Public Building • Swimming pools
<ul style="list-style-type: none"> • Ground (road verge, public open space, front/backyard etc.)*
<ul style="list-style-type: none"> • Unlined basin with no outlet • Piped drainage system (contained in pipe and retrievable by tanker)
<ul style="list-style-type: none"> • Watercourse i.e. river, creek, tributary, ocean (Discharge is flowing or ponding) • Lake (Natural & ornamental), wetland, marsh, swamp • Basin with outlet and wastewater cannot be retrieved (may have flowed downstream) • Dry watercourse, open drain or natural creek*

*If quantity of wastewater is sufficient that it has pooled or ponded and can be pumped out.

Additional guidance material from the DOH “[Interim guidance for the notification and risk management of sewage overflows into buildings](#)” is available and would be retained going forward.

Questions for consultation

20. Should there be a mandatory requirement to report overflow events?
21. Do you agree that the reportable events should be:
 - a. provided in a schedule in new regulation?
 - b. listed in a Code of Practice?
22. Do you agree the Wastewater Overflow Procedures should be called up in new regulation as a Code of Practice?
23. Do you agree that the regulations should require that the responsible person of a system which overflowed:
 - a. respond to the overflow in a timely manner?
 - b. notify the relevant agencies (identified in their risk management plan) where the overflow is a reportable overflow?
 - c. notify and assist any persons affected by the overflow?
24. What reporting time frames would be appropriate?
25. Do you agree with the events listed in Table 2?

Proposal 2.6 Remediation and testing after an overflow event

The DOH proposes that the new regulations specify that in the event of a wastewater overflow the responsible person must:

- Undertake any testing or other response activities if directed to by the appropriate enforcement agency.
- Have remediation work substantiated by the appropriate enforcement agency.

The objective for testing after remedial works is to provide assurance the public health risk has been reduced to an acceptable level. An outline of the remediation activities undertaken, and the associated testing results must be submitted to the enforcement agency to show the effectiveness of the remediation.



Questions for consultation

26. Do you agree that the regulations or a Code of Practice should require that the owner of a wastewater system that has overflowed do the following:
 - a. Ensure that the area affected is remediated to the satisfaction of the enforcement agency
 - b. Undertake any testing or other response activities if directed to by the appropriate enforcement agency

27. If no, how should wastewater overflows be managed?

Chapter 3 Proposed regulations for reticulated sewerage schemes

The following section relates to reticulated sewerage schemes. For the purpose of the proposed regulations, a reticulated sewerage scheme is “a network of sewers and associated sewage treatment system managed by a water service provider.”

Proposal 3.1 Managing the public health risks from sewerage schemes

With the introduction of the Public Health Act and the development of new regulations the DOH needs to ensure the management of the public health risks arising from the operation of sewerage schemes continues to be managed effectively. Currently, these schemes are required to seek approval from the Governor under the Health (MP) Act, and they are also required to obtain a licence under the Water Services Act.

Most of the oversight of sewerage schemes is provided under the Water Services Act. Once licensed, a scheme:

- is required to meet a set of licencing conditions,
- has the capacity to charge a fee to connect to the scheme,
- is required to have an asset management system,
- must have arrangements in place for a supplier of last resort, and
- is subject to annual reporting and two yearly auditing.

The Economic Regulation Authority (ERA) also consult with the DOH to identify the public health risks associated with each scheme and these are addressed in the licensing conditions. In 2015, the Minister for Water granted a Class Exemption for small local government water service providers with less than 1,000 customer connections.

The exemptions were granted based on the following:

- the risk of abuse of monopoly of power in the provision of water services is low
- the public health and environmental aspects of these water services are regulated under the Health (MP) Act and the EP Act respectively, and
- the exemption will reduce the regulatory and compliance costs associated with water services licensing including –
 - administrative costs to the service provider of licensing i.e. license fees, annual regulatory reporting costs, the costs of operational audits and asset management system reviews every two to three years, and
 - costs to government for enforcing and administering water services licences.

When stage 5 of the Public Health Act is enacted, a number of provisions from the Health (MP) Act will be repealed including Part IV of the Act which addresses sanitary provisions.

The class exemptions granted under the Water Services Act to local governments are reliant on the provisions in the Health (MP) Act to manage public health risks. Going forward, how these risks will be managed will need to be considered in the new regulations.

A review by the DOH in 2016 found several issues related to wastewater schemes. The issues included ad hoc arrangements (e.g. connection of residential premises to a mining firm's scheme), confusion over ownership (schemes being handed over to local governments without formal transfer arrangements) and connections being added to local government schemes that have not gone through any approval process. The review highlighted concerns from the ERA about asset management and financial capabilities and sustainability of schemes managed by some local governments. Three schemes operated by local government were considered to be a sufficient risk to be licensed under the Water Services Act. It should also be noted that additional wastewater schemes operated by independent operators have been granted exemptions, for example, the Edna May Operations Pty Ltd in Westonia.

New regulations need to consider how to address the public health risks for these schemes that will have no other oversight once provisions in the Health (MP) Act are repealed.

The DOH is considering the following options for managing the public health risks for those schemes that have been granted an exemption from the operation of the Water Services Act:

1. Declare the operation of a sewage scheme as a prescribed public health risk activity and require sewerage schemes to hold a registration.
2. Declare the operation of a sewage scheme as a prescribed public health risk activity and not require a registration and include regulations in respect to specific items such as those proposed in Sections 3.2 and 3.3 or
3. Do **NOT** declare the operation of a sewerage scheme a public health risk activity, require scheme operators to notify the DOH that they operate a sewerage scheme and use the general public health duty to manage the public health risks.

Each option provides the DOH with different mechanisms for minimising public health risks, compliance and enforcement.

Table 3 Options for the management of sewerage schemes, the potential impacts of each option and the enforcement powers associated with each option.

Table 3 Options for the management of sewerage schemes

	What does this look like	Impacts	Enforcement
<p>Option 1</p> <p>Public health risk activity with registration</p>	<ul style="list-style-type: none"> • Conditions can be placed on registration e.g audits, develop and implement risk management plans (RMP) • Becomes an offence if scheme operator does not comply with conditions • Registration can be revoked to prevent further operation • Regulations may prescribe offences in relation to an activity and provide modified penalties for which an infringement notice may be issued. 	<ul style="list-style-type: none"> • Additional resources required for DOH to develop and maintain a registration system, this would include a reporting platform and human resources. • DOH required to maintain a list of registered public health activities and premises. • Potential financial and administrative burden on scheme operators • Potential administrative burden on DOH. 	<p>Strong enforcement powers.</p> <p>Pro-active requirements to measure standards, for example, measurement of performance against a RMP.</p> <p>Failure to meet any of the conditions is an offence which can be prosecuted.</p> <p>The general public health duty still applies.</p>
<p>Option 2</p> <p>Declare public health risk activity without registration requirement</p>	<ul style="list-style-type: none"> • If an activity is declared a public health risk activity, the Act allows for certain things to be required to prevent, assess or manage the public health risk. • These include notifying the authority of changes in activities. • Balanced approach for managing public health risks. Proactively manage higher risk situations, while reactively managing incidents. • Some requirements can be undertaken without the necessity of a complaint or concern trigger <p>The regulations can require:</p>	<ul style="list-style-type: none"> • No significant financial or administrative burden on the DOH 	<p>More enforcement options than using the just general public health duty e.g. can include requirements for notifying incidents etc.</p> <p>Provides some additional compliance requirements for operators.</p> <p>If an activity is declared a public health risk it can be specified as a serious public health risk or a material public health risk. This provides additional enforcement tools.</p> <p>The general public health duty still applies.</p>

	What does this look like	Impacts	Enforcement
	<ul style="list-style-type: none"> • preparation, implementation and monitoring of RMPs • reporting on RMPs • specified criteria and parameters for monitoring • the provision of specific information 		
Option 3 Use general public health duty	<ul style="list-style-type: none"> • Self-regulation • Reliant on risks being appropriately addressed through Water Services Act • The general public health duty allows authorised officers to act to protect public health in a broad range of circumstances, including responding to new and emerging threats as well as known issues • Response is reactive. Action can only be taken if there is a suspicion there of a public health risk such as; <ul style="list-style-type: none"> ○ an overflow event ○ odour emissions ○ illness from exposure to wastewater, or ○ complaint from public. 	<ul style="list-style-type: none"> • No significant financial or administrative burden on the DOH • Potential for residual public health risks 	Improvement notices can be issued by DOH, however there is no power to charge a scheme operator. The only offence that can be brought against an operator is non-compliance of an improvement notice.

Option 1

Part 8 of the Public Health Act sets out the requirements for registrable and licensable public health risk activities. Through the registration and licensing framework in the Public Health Act, the appropriate enforcement agency will be able to require the person /entity carrying out a prescribed public health risk activity to put in place the necessary management measures to mitigate the public health risks associated with the activity.

When a public health risk activity has been declared a registrable activity, the Public Health Act empowers the enforcement agency to:

- Set out any conditions to which the registration is subject to (Section 68(6)(b)).
- Charge an annual or other fee in relation to the registration (Section 70.)
- Require any changes to the registrable activity to be approved (Section 73(3)).
- Be notified of any proposed alteration of the premises (Section 73(1)(c)).
- Be notified of the cessation of the registrable activity (Section 73(1)(a)).
- Suspend or cancel the registration (Section 71).
- Enter or inspect the premises where the registrable activity is carried on (Section 240(1)(a)(i)).
- Issue improvement notices and enforcement orders (Part 14).

Registration of a scheme would enable the DOH to identify and manage public health risks associated with all sewage schemes, not just those captured under another Act. There are approximately 19 schemes that are exempt from holding a licence under the Water Services Act. Schemes licensed under the Water Services Act could be granted an exemption from registration. A registration may set certain conditions for operation such as developing and implementing a RMP and setting auditing requirements which can mitigate public health risks. It is proposed that registration would be required prior to commencement of operations.

If registration is the preferred option, the DOH is proposing that under s 67 of the Public Health Act exemptions would be granted to sewerage schemes that are required to be licensed under the Water Services Act.

Application for registration or an amendment of a registration will be required in the following situations:

- installation of any new scheme which is granted an exemption under the Water Services Act.
- when an amendment or upgrade to a registered scheme is made in a way that will impact the expected quality outcomes.
- when the scheme starts to generate a volume of treated wastewater that is higher than their maximum allowed volume.
- when there is a change in disposal/ end use of treated effluent.
- when the end use is reuse and there is an extension, increase or decrease of that reuse scheme.

While this is a new proposal, registration could be a small one off fee or subject to a small annual fee to minimise the financial impacts.

Option 2

If Option 2 is the preferred option, operating a sewerage scheme would be declared a public health risk activity. Declaring an activity as a public health risk activity allows for the creation of regulations, which in turn provides additional tools for compliance. The objective of this proposal is to manage the public health risks associated with sewerage schemes that are not currently subject to regulatory oversight (i.e. those who are granted an exemption to hold a licence under the Water Services Act).

It is proposed that additional regulation would require the preparation and implementation of Risk Management Plans (Section 3.3) and auditing requirements (Section 3.2).

Option 3

Option 3 proposes using the general duty of care with the Public Health Act to manage the public health risk associated with sewerage schemes. The role of the enforcement agency would be to provide guidance to scheme operators and scheme operators self-regulate. There are provisions under the Public Health Act for an enforcement agency to act if a scheme operator fails to comply with the general public health duty, however, the enforcement tools are more limited and reactive.

If this proposal is adopted, the DOH would develop guidance material to prepare RMPs. Under this proposal the DOH would have no power to assess or approve RMPs.

Questions for consultation

28. Please select your preferred option for managing wastewater schemes?
 - a. OPTION 1: Declare the operation of a sewage scheme as a prescribed public health risk activity and require sewerage schemes to hold a registration with the DOH.
 - b. OPTION 2: Declare the operation of a sewage scheme as a prescribed public health risk activity and not require a registration and include regulations in respect to specific items such as those proposed in Sections 2.2 and 2.5 or
 - c. OPTION 3: Do **NOT** declare the operation of a sewerage scheme a public health risk activity, require scheme operators to notify the DOH that they operate a wastewater treatment scheme and use the general public health duty to manage the public health risks.

29. If registration is the preferred option, which wastewater schemes should be registered with the DOH?
 - a. All sewerage schemes
 - b. Only schemes which have received an exemption to be licenced under the Water Services Act
 - c. Other, please explain

30. If registration is the preferred option, should the regulations state that an amendment to a registration is required in the following circumstances:
 - a. When an amendment or upgrade of the treatment system is made in a way that will impact the expected quality outcomes
 - b. When the scheme starts to generate volumes of treated wastewater that is higher than their maximum allowed volume.
 - c. When there is a change in disposal/ end use of treated effluent
 - d. When the end use is reuse and there is an extension, increase or decrease of that reuse scheme.

31. If Option 2 is the preferred option, should the regulations include the following requirements for wastewater schemes:
 - a. Preparation, implementation RMPs?
 - b. A requirement to be audited
 - c. Other, please describe

32. If Option 2 is the preferred option, should the regulations define a wastewater scheme so that it captures:
 - a. All sewerage schemes
 - b. Only those schemes that are not licensed under another Act
 - c. Other. Please describe

Proposal 3.2 Sewerage schemes are audited

Wastewater schemes are required to hold a licence under the Water Services Act. Licensed schemes are audited biennially. Audits are conducted to assess the effectiveness of measures to meet certain conditions, to ensure compliance with standards or guidance and identify areas of improvements. Under the Water Services Act, the ERA sets the scope of the audit and selects an auditor with the relevant skills to conduct it. In addition to the requirements set out in the Water Services Act, schemes that service more than 400 connections are required to enter into a MoU with the DOH. The MoU sets out several binding protocols that are agreed upon between the two parties, these include but are not limited to Emergency Management protocols and Sewerage Services and Recycled Water (non-potable) Quality Risk Management protocols. The MoU also includes an agreement for the scheme operator to conduct an audit to determine whether they are meeting their obligations set out in the MoU. Compliance with these obligations are assessed in the audits.

The public health risks associated with wastewater schemes are therefore adequately addressed through licensing and MoU's. When the Health (MP) Act is repealed, the residual risk lies with those schemes that have been granted exemptions from licensing (Proposal 3.1). There are 19 local government schemes that are not subject to licensing and are currently not subject to audits. This is a new proposal that would affect a small group of wastewater scheme operators. The DOH considers that the reduction in public health risk outweighs the impost to scheme operators.

The DOH is proposing that if Option 1 is the preferred option, new regulations would be created, and auditing would be a requirement of registration. If Option 2 is the preferred management option, the DOH is proposing the new regulations would include a requirement for schemes to be audited.

Further details such as types, scope and who can conduct an audit are discussed in the sections below.

Proposal 3.2.1 Types of auditing of sewerage schemes

Auditing of schemes provides some assurance that the appropriate measures are in place to mitigate public health risks and that risks are being managed.

The DOH is proposing two types of audits. An internal audit conducted by the scheme operators and an external audit conducted by an independent auditor.

Internal audits

The DOH is proposing an internal audit be conducted every two years. An internal audit will help the scheme operator ensure it has the proper controls, governance and risk management processes in place. The DOH is further proposing the use of an audit tool based on the DOH [Recycling Schemes Internal Audit checklist](#) and [Audit Score Guide](#) (Appendix 1). The checklist enables a systematic assessment of a wastewater scheme. The proposed content of an internal audit would consider:

- management responsibility
- document and data control
- sampling
- treatment and storage
- inspection procedures and maintenance of assets,
- risk communication and event notifications,
- corrective and preventative action and
- training

The tools are not onerous and could be conducted by several people associated with the wastewater scheme such as an Occupational Health and Safety Representative, an engineer or a local government officer. The internal audits would be reviewed as part of the external audit and provide public health risks are being mitigated effectively. The DOH also proposes to provide training in the use of the tools and interpretation of the scoring and improvement actions.

External audits

The DOH is proposing an external audit be undertaken every 5 years. An external audit would be used to confirm the results of internal audits, identify whether recommendations have been implemented and identify methods for improvement. The proposed scope of the audit would vary and be dependent on the size and the risk associated with the wastewater scheme. Audit scope is discussed in section 3.2.3 The DOH is proposing an external audit would be undertaken by an independent auditor engaged by the scheme operator (Section 3.2.2). Independent auditors are discussed in the following section.

An external audit would be submitted to the DOH for review.

Proposal 3.2.2 Independent Auditors

If the requirement for scheme operators to conduct an audit is adopted in regulation, the DOH is proposing that a scheme operator engage an independent auditor of their choice to conduct the external audit.

The qualifications and experience of an auditor will determine the quality of the audit. The qualifications of an auditor may vary depending on the type of audit required for example, operational audits or asset management audits. Auditors are required to operate in a recognised framework such as the International Standards Organisation (ISO) management and the Auditing and Assurance Standards (ASAE) framework. Considerations for this proposal took into account:

- who should engage the auditor and
- who should set the scope of the audit

In contrast to the process undertaken by the ERA, who appoint an auditor to conduct audits on licensed wastewater schemes, this proposal provides the scheme operator with some flexibility. Wastewater schemes operated by local governments could engage an auditor through the [Common Use Agreement \(CUA\)](#) or identify suitably skilled auditors used by the ERA to conduct audits on licensed wastewater operators. While the ERA no longer publishes a list of approved auditors, audit reports are published on the ERA website.

If the DOH were to replicate the ERA process, the DOH would be responsible for appointing the auditors, requiring additional resources and would also take away the flexibility for scheme operators to negotiate the costs of conducting an audit.

As there are an array of relevant qualifications an auditor may hold, the DOH is proposing that the regulations do not state specific qualifications. However, they will provide guidance material to help scheme operators to identify an auditor with the appropriate skills.

Proposal 3.2.3 Audit Scope

The DOH is proposing that the scope of an audit would be set in guidance material and not new regulation. The proposed framework would follow the [Australian Sewerage Quality Management Guidelines](#) (Appendix 2). The Sewage Quality Management Framework identifies 12 management principles (elements) and clearly defines each element and how it should be measured.

The 12 elements include:

1. Commitment to sewage quality management
2. Assessment of hazards
3. Risk assessment and control
4. Operational monitoring and control
5. Verification monitoring
6. Management of incidents and emergencies
7. Employee awareness and training
8. Stakeholder management
9. Research and development

10. Documentation and reporting
11. Evaluation and audit
12. Review and continual improvement

An audit would review how the wastewater scheme operator was addressing these elements. The DOH is proposing the regulations state that an external audit report is provided to DOH within 3 months of the scheduled audit.

Questions for consultation

33. Do you agree that new regulation for audits should capture only those wastewater sewerage schemes who hold an exemption under the Water Services Act?
34. If the preferred management option requires an audit of a wastewater scheme, should schemes be required to conduct:
 - a. Internal audits
 - b. External audits
35. If you agree internal audits are required, do you agree that internal audits should be undertaken every two (2) years?
36. If you agree external audits are required, do you agree that external audits should be undertaken every five (5) years?
37. Should the regulations require submission of an external audit report to the DOH within 3 months of it being conducted?
38. If an audit of a wastewater scheme were a requirement of new regulation, do you agree the wastewater scheme operator should appoint the auditor? Please explain your answer?
39. Do you agree that the DOH provide guidance material to assist wastewater schemes operator to select an appropriate auditor?
40. Do you agree the scope of an audit should follow the Australian Sewerage Quality Management Guidelines? If not what framework should be used?

Proposal 3.3 Risk management requirements for registerable schemes

The DOH is proposing that if Option 1 is the preferred management option, creation and implementation of a risk management plan would be a requirement of registration. If Option 2 is the preferred management option, the DOH is proposing new regulation be created to require schemes to develop and implement a RMP. The DOH proposes applying this to wastewater scheme operators who are exempt from holding a licence under the Water Services Act.

A RMP demonstrates that scheme operators have a good understanding of the risks associated with their operation and the appropriate actions are in place to mitigate these risks. It is a living document that can be reviewed and updated to address risks as they arise.

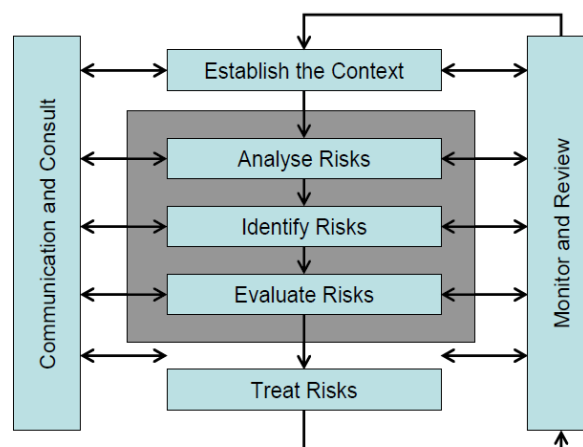
There are a number of frameworks available for developing a RMP, therefore the scope of a RMP will not be regulated. The DOH will however provide guidance material to support wastewater scheme operators.

In general a RMP should:

- Define the approach taken to identify hazards and establish a consistent method for the assessment of risk (e.g. one of the frameworks mentioned below)
- Determine the risk level for each hazard and hazardous event
- Evaluate uncertainty about each risk, consider the control measures needed, and document priorities for risk treatment
- Describe and review standard operating procedures and
- Review effectiveness of risk management strategies

Figure 3 outlines the general risk assessment process.

Figure 3 Overview of a risk management process (Source AS/NZ4360)



An example, Element 3 of the Australian Sewage Quality Management Guidelines discusses the management and control of risks for schemes, it provides guidance on how to identify

risks, how to determine risk levels for each hazard and how to assess appropriate control measures. Frameworks for assessing risks include:

- ISO
- AS/NZS 4360:2004
- Risk matrices detailed in the [Australian Guidelines for Water Recycling \(2006\)](#)

These frameworks are adaptable and scale a RMP to the sewerage scheme's risk profile.

The DOH will not approve or review a RMP prior to implementation, however, it may be used as evidence to show the scheme is meeting their general public health duty should the need arise. While it will not be a regulatory requirement, a RMP would be reviewed during internal and external audits (Proposal 3.2).

The DOH is proposing that a RMP be provided to the DOH by the holder of the registration if they are requested to do so. The audit process will assess whether operators of schemes have implemented their risk management plans and whether the RMPs are sufficient to manage the public health risks. If an external audit indicates that the scheme operator is not managing risks appropriately, the DOH will have the authority to take corrective action.

The cost of developing a risk management plan would be proportionate to the level of risk from the business and therefore, lower for low-risk schemes. The costs could vary from a few thousand dollars to tens of thousands of dollars, dependent on the size and complexity of the scheme along with the proponent's understanding of the scheme.

Questions for consultation

41. If Option 1 is the proposed management option: Do you agree that the regulations require sewerage schemes operators must develop and implement a risk management plan as part of their registration?
42. If Option 2 is the proposed management option: Do you agree that the regulations state sewerage schemes operators must develop and implement a risk management plan?
43. Do you agree that a Risk Management Plan must be provided to the DOH by the responsible person if they are requested to do so?
44. Do you support the proposal that the wastewater scheme operator can determine the framework used to develop a RMP? Please explain.
45. If you do not support the above, should the DOH develop a template that would be provided as guidance material or a Code of Practice?

Proposal 3.4 Use of Wastewater products

The options available for sewerage scheme operators for wastewater products use include:

- Reuse or the creation of other wastewater products.
- Giving/selling wastewater or wastewater products to another person/entity for disposal or reuse.

If Option 1 is the preferred management option (Table 3), the DOH is proposing that how a wastewater product is used is approved as part of the registration process. Should a sewerage scheme operator wish to change the use of a wastewater product, they will have to apply to the CHO for a registration amendment.

Where reuse of a wastewater product, including the provision to a third party for reuse is proposed, additional information will be required. Details on end use will be discussed in a separate discussion paper for Recycling Wastewater Products.

Questions for consultation

If Option 1 is the preferred management option:

46. Do you agree that how wastewater products are to be used should be part of a wastewater registration under the Public Health Act?
47. Do you agree with the following statement? "Should a sewerage scheme operator wish to change how a wastewater product is used they will be required to apply to have their registration amended."
48. Do you think how wastewater products is used should be determined using a risk based approach or a prescriptive approach such as a predetermined set of water criteria?

Chapter 4 Proposed regulations for onsite wastewater systems general requirements

Onsite wastewater systems are designed to capture, treat and dispose of or reuse wastewater generated within the same lot boundary where the system is located.

Onsite systems use a multi-step process;

- capture of wastewater,
- treatment. Examples include septic tanks, biological filter systems, aerated treatment systems and composting toilets, and
- disposal. Examples include evapotranspiration absorption beds, absorption trenches (leach drains), subsurface and surface irrigation and mound systems.

Different systems treat wastewater to different standards and are often referred to by how the wastewater is treated, i.e. primary, secondary and tertiary treatment system. These definitions align with *AS1547 On-site Domestic Wastewater Management*.

A primary treatment system undertakes minimal treatment of wastewater which is separated into solid and liquid streams and the products when disposed of still contains contaminants. An example of a primary treatment system is a septic tank or a composting toilet.

A secondary treatment system undertakes more advanced treatments including aerobic and biologic treatment to decompose solids and disinfection. Wastewater can also be disinfected further with chlorine. A secondary treatment system removes biodegradable organics, volatile organics and some nitrogen and phosphorus. An example of a secondary treatment system is an aerated treatment system. Products from a secondary treatment system are generally suitable for irrigation purposes.

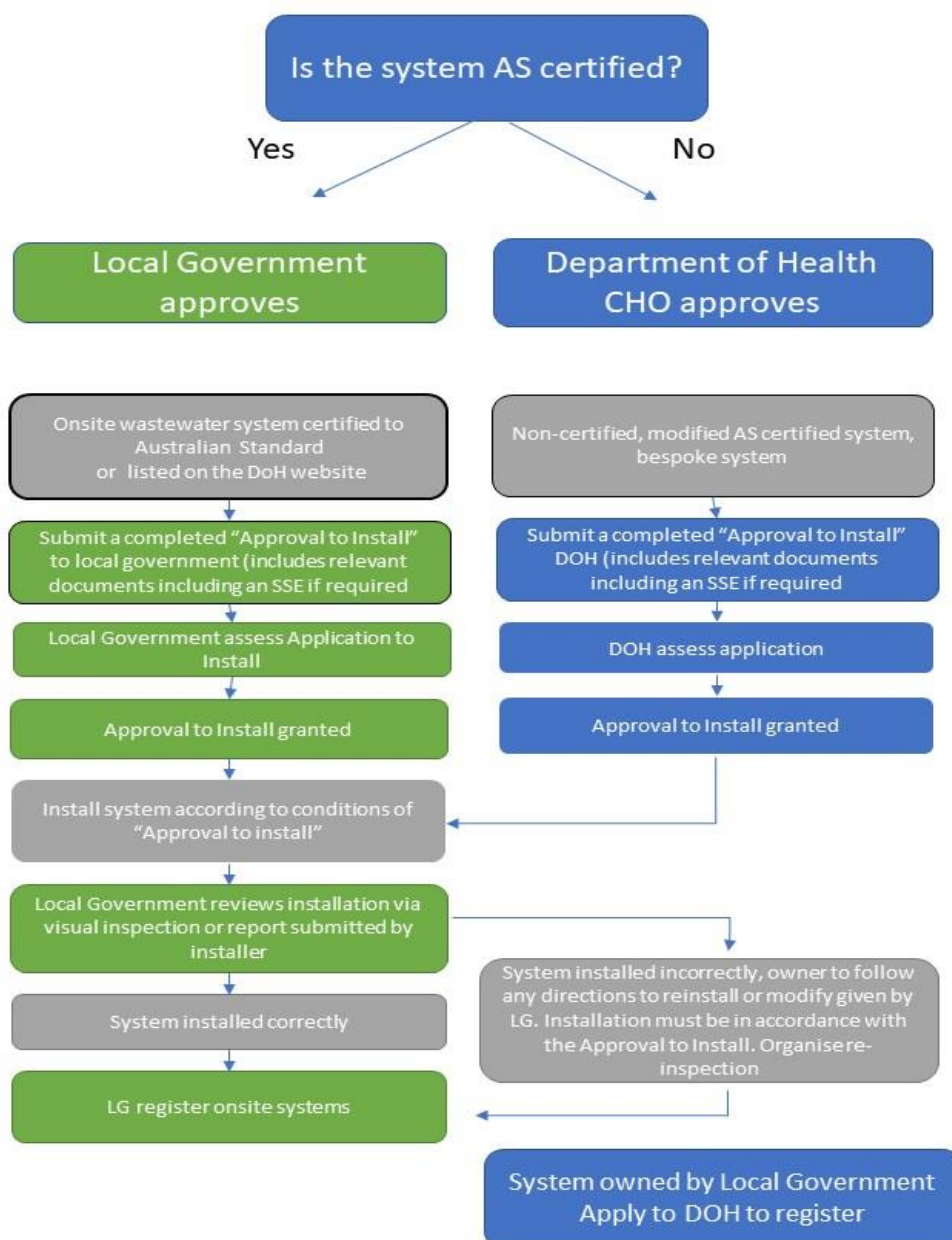
A tertiary treatment system is a further advanced treatment system and can combine multiple methods of treatment to remove the hazardous components of wastewater. A tertiary treatment system uses filtration, membrane filtration and is often combined with coagulation, sedimentation, filtration and disinfection. Tertiary treatment removes more nitrogen and phosphorus, dissolved solids and heavy metals than primary or secondary treatment systems. Products from a tertiary treatment system potentially have more application options as there is a lower health risk.

When installing an onsite wastewater system, the size and type of the system, siting, service and maintenance requirements all need to be considered.

The regulations will provide general requirements related to onsite wastewater systems including their design and treatment capabilities to ensure that all systems installed will adequately treat the wastewater to a level that is suitable for the proposed end use and will not pose a risk to human health.

The overall process for system approvals, installations and permission to use are outlined in Figure 4. These are described in more detail throughout the discussion paper.

Figure 4 Process for installing an onsite wastewater system



The following section discusses the general requirements for an onsite wastewater system.

Proposal 4.1 Overarching governance of onsite wastewater systems

If regulation is the preferred option, the DOH is proposing to include in the new regulations a requirement for local government to have in place “a system of governance” for the ongoing management of onsite wastewater systems. The proposal would require local governments to develop policies and procedures for the overarching management of all onsite wastewater systems within their local government area with a goal to minimise public health risks. For instance, local governments must develop procedures to implement management systems for compliance and enforcement of secondary treatment systems’ maintenance programs within their district.

Questions for consultation

49. If regulation is the preferred option, do you agree the regulations should require local government to have in place “a system of governance” for the management of onsite wastewater systems?

Proposal 4.2 Power to prescribe training standards

The DOH is proposing that if new regulations are the preferred option, they provide the CHO the power to prescribe minimum training and skills requirements for operating and maintaining wastewater systems. The purpose of this proposal is to ensure operators competencies for installation and servicing will respond to future advancements in technology where specialist knowledge may be required.

Questions for consultation

50. If regulation is the preferred option, do you agree the regulations give the CHO the power to prescribe minimum training and skills requirements for operating and maintaining onsite wastewater systems?

Proposal 4.3 General requirements for onsite wastewater systems

There are two approaches the regulations can take to address the general requirements for installing an onsite wastewater system; a risk based approach or a prescriptive approach. The DOH proposes to develop risk based regulations which are outcome based. If new regulation is the preferred option. the DOH is proposing they include the following general requirements for managing health risks:

1. Wastewater must be contained within the lot boundary where it is generated.
2. An onsite wastewater system must not pose a public health risk to anyone within the boundary of the lot or on neighbouring properties and the community.
3. The location and operation of an onsite wastewater system must not cause damage or impact buildings or structures on the premises on which the system is sited or to neighbouring properties.
4. Any building or structure must not be constructed around or above an onsite wastewater system so that the effective operation of the system is not compromised.
5. The location and operation of an onsite wastewater system must not cause contamination of groundwater or surface water.
6. An onsite wastewater system is fit for purpose.
7. An onsite wastewater system must be maintained so that it is fit for purpose.

While the DOH is proposing that generated wastewater is treated and disposed of or reused within the same lot boundary in some instances it may go offsite for example if the system is connected to a STED scheme or the system is approved as a temporary system. Temporary systems (holding tanks) are discussed in Proposal 4.4.3.

Questions for consultation

51. If regulation is the preferred option, do you agree they should require:
 - a. Wastewater must be contained within the lot boundary where it is generated.
 - b. An onsite wastewater system must not pose a public health risk to anyone within the boundary of the lot and neighbouring properties.
 - c. The location and operation of an onsite wastewater system must not cause damage or impact buildings or structures on the premises on which the system is sited or to neighbouring properties.
 - d. Any building or structure must not be constructed around or above an onsite wastewater system unless otherwise approved.
 - e. The location and operation of an onsite wastewater system must not cause contamination of groundwater or surface water.
 - f. An onsite wastewater system is fit for purpose.
 - g. An onsite wastewater system must be maintained so that it is fit for purpose.

52. Are there any other minimum requirements the DOH should consider? Please state the requirement and provide detail on why it should be included.

Proposal 4.3.1 Minimum Siting Requirements

Placing an onsite wastewater system in an appropriate location will reduce potential public health risks by reducing the potential for people to come into contact with wastewater or contamination of areas of environmental value. The *Health (Treatment of Sewerage and Disposal) Regulations 1974* (the Regulations) currently provide minimum siting requirements to reduce the public health risks for septic tanks, soak wells and other receptacles for drainage. The distances provided are historic values and are not based on scientific literature. The Government Sewerage Policy (GSP) provides minimum siting requirements for strategic plans, regional and local planning schemes, structure plans, subdivision applications and development applications (not single residential lots). The siting requirements were principally developed to protect environmental values and as such are very conservative. The setback distances in the current GSP have some inconsistencies with the Regulations. Developing new regulations provides the DOH an opportunity to provide consistent application of policies across agencies. It is understood the GSP is to be incorporated into State Planning Policy 2.9 which is currently under review.

Along with setback distances, siting of an onsite wastewater system should also be determined using an evaluation of site and soil conditions. *AS/NZ1547: 2012* outlines vertical and horizontal setback distances for various site features and details how to conduct a site and soil evaluation (SSE). Adoption of relevant Australian Standards would provide consistency with other areas of onsite wastewater regulation which reference Australian Standards, for example, design of onsite systems and site and soil evaluations. An advantage of applying an Australian standard is that it has been developed using a rigorous scientific process.

Examples of minimum siting requirements include:

- requirements for minimum vertical separation to groundwater, bedrock and impervious soils,
- requirements for a minimum absorptive zone,
- requirements for minimum horizontal setbacks to buildings, structures, neighbouring properties and drinking water sources, and
- requirements that land application areas should be located away from water resources and groundwater.

The DOH is therefore seeking feedback on setting minimum siting requirements for onsite wastewater systems. Further discussion on conducting site and soil evaluations is provided in Proposal 4.5.4.

Questions for consultation

53. Do you agree that minimum siting requirements should be required for the location of onsite wastewater systems?
54. Do you agree that minimum siting requirements should be required for the location of land application systems?
55. Should the DOH set prescriptive minimum siting distances in the regulation or a Code of Practice or should minimum siting requirements follow the risk based approach provided in *AS1547*? Please explain your response.
56. Should the DOH consider other literature for setting minimum siting distances? Please provide detail and explain why.

Proposal 4.3.2 Onsite wastewater system design approvals

The DOH is proposing that onsite wastewater systems should be certified against the Australian Standards for onsite wastewater systems and this requirement is formalised in the new legislation. This is consistent with the current requirements set out in the DOH's [Code of Practice for Product Approval of Onsite Wastewater Systems](#) (October 2013).

The relevant Australian Standards for certification are:

- *AS/NZS 1546.1 – Septic tanks*
- *AS/NZS 1546.2 – Waterless composting toilets*
- *AS/NZS 1546.3 – Secondary treatment systems*
- *AS/NZS 1546.4 – Domestic greywater treatment systems*

Certification to Australian Standards is undertaken by a body accredited by the Joint Accreditation System of Australia and New Zealand (JASANZ). Certification provides assurance that products will meet design and performance requirements. All other States and Territories in Australia require wastewater products to be certified by a JASANZ accredited body, therefore any certification for products obtained in other States and

Territories will be accepted in WA. The relevant sections of the Australian Standards will be made accessible by the DOH.

A list of approved onsite wastewater systems is currently published by the DOH and the DOH is proposing to continue this practice. Systems are currently required to be compliant with the Australian Standards, however, bespoke systems and non-certified systems have historically also been considered for approval. The DOH is proposing that modified AS certified systems must be certified by JASANZ to receive a product approval. Designers proposing to install a bespoke system will continue to apply to the CHO to have the system approved. Approvals for bespoke systems will be granted on a case by case basis and may be listed on the DOH website.

Onsite wastewater treatment technologies change over time and innovation in the wastewater industry is constantly evolving. The DOH is proposing that systems which use alternate technologies may be used instead of a conventional onsite wastewater system. The DOH is open to alternative designs and bespoke solutions. Applicants proposing alternative designs or new technologies will need to provide evidence that their system will meet treatment expectations for the proposed end use. In addition, applicants with bespoke or modified systems may have additional conditions, such as sampling and servicing requirements, placed on them to ensure that the system is working as expected.

It should be noted that the DOH is proposing that concrete septic tanks will not require certification against AS/NZS 1546.1. A person or company will be required to submit the design to the DOH to approve for use. Approvals for any existing products will be retained.

Questions for consultation

57. Do you agree that onsite wastewater system designs should be in line with Australian Standards?
58. Do you agree that all onsite wastewater system products should be certified by a certified body/company that is accredited by JASANZ? If not, please explain why.
59. Do you agree that a product that has a certification by a JASANZ certified body should be automatically added to the DOH's list of approved systems?
60. Do you agree with the proposal that a dwelling may be serviced by a system using:
 - a. Alternative technologies rather than an onsite wastewater system? If no, please explain your answer.
 - b. A bespoke system? If no, please explain your answer
 - c. A modified Australian certified system? If no, please explain your answer
61. Do you agree that all alternative designs or new technologies will need to apply to the CHO to get their design approved?
62. Do you agree that alternative designs or new technologies should provide evidence that the system will meet treatment requirements for the proposed end use and may be subject to additional conditions to ensure the system is fit for purpose once installed?
If not, how should alternative technologies be managed?

Proposal 4.3.3 Approval of Land Application Systems

The DOH is proposing that all land application systems (LAS) require approval from the CHO. The correct design of land application systems is just as important as the design of the treatment system to ensure that the risks to public health and potential for contact with wastewater is minimised. This is a continuation of existing requirements in the Wastewater Regulations.

There are two distinct parts for the design of LAS. The first part is the design of the structural components and the second part is the design requirements for installation which are dependent on individual site conditions.

A LAS must have a product approval from the DOH. The approval forms part of the Approval to Install and is discussed further in Proposal 4.4.1.

Questions for consultation

63. Do you agree with the proposal that the design of a land application system is approved by the CHO?
64. If not, how should land application systems be managed?

Proposal 4.4 Installation, modification and decommission requirements

The correct installation of an onsite wastewater system is important to make sure the system works as expected, treats wastewater to the required quality and is at low risk of failure. To identify if an installation is performed correctly the DOH is considering requiring:

- an approval to install prior to installation,
- an SSE in some situations (Proposal 4.5.5), and
- installation by licensed installers (Proposal 4.7).

In some circumstances it may be necessary to install a temporary onsite wastewater system. In general, these systems temporarily store wastewater before it is sent off site for treatment. Temporary systems will be required to follow the same approval process as a permanent onsite wastewater system. Additional requirements for temporary onsite wastewater systems are detailed in Proposal 4.4.3

Proposal 4.4.1 Approval to install

The DOH is proposing that all systems require an “approval to install” prior to commencing installation. An approval to install would be granted by local government if the system type is on the list of approved DOH systems, if it is not listed, approval to install will be required from the DOH. Currently the *Health (Treatments of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* allow local government to approve construction or installation of an apparatus for a single dwelling or for buildings that produce less than 540 litres of sewage per day.

An approval to install would be granted when the proponent can show that the onsite wastewater system is fit for the proposed purpose. It is anticipated that proof will be required in the form of the following:

- details of the system design and DOH approval number
- details of the expected volume of wastewater and quality of water post treatment
- details of the land application system, including proposed end use/disposal method
- a certified evaluation of site conditions which proves the site can deal with the expected volume of wastewater (if required see Section 4.5)
- scaled plans showing the proposed location of the system including details on:
 - the proposed setback from buildings and neighbouring properties
 - the distance from drinking water supplies

An application should also include:

- the distance to groundwater, bedrock and impermeable soils
- the adsorption zone.

The evidence provided will be used to determine whether a system meets the general requirements for an onsite wastewater system and that wastewater will not adversely impact public health and the surrounding environment.

The approving authority may then register the system if installation is compliant with the approval to install. Registration is discussed in Section 4.4.2.

Questions for consultation

65. Do you support the proposal that an approval to install is required prior to the installation of the onsite wastewater system? If no, please explain why.
66. Do you agree that applicants should have to provide evidence that a system is fit for purpose as summarised above?
67. In addition to the information described above, should an application to install include:
 - a. the person installing and their qualifications
 - b. how the wastewater product will be disposed or reused
68. Are there any additional details that should be required?

Proposal 4.4.2 Approval to use an onsite wastewater system

The DOH proposes that all onsite wastewater systems must be approved for use by local government, this may be through a registration or a permit to use. In accordance with the Act, the CHO will perform all the functions of a local government in any place that is not within the boundaries of a local government district or where the system is owned by a local government. An applicant would need to notify local government on completion of installation. The enforcement agency will determine that a system has been installed as per the approval to install and issue a registration or a permit to use.

If the system is not compliant with approval conditions or not fit for purpose, the authorised officer must advise the owner of the system of the corrective works that are necessary and arrange for the system to be re-inspected.

Registration or a permit to use will indicate the onsite wastewater system is suitable for use and the dwelling is habitable. In order to minimise the regulatory burden on local government with the transition to the new legislation, the DOH also proposes that any existing onsite wastewater system with a Permit to Use issued under the existing Wastewater Regulations be automatically eligible for registration under the new regulations if this is the preferred option.

The DOH is proposing that the application for a registration / permit to use includes a submission of a service agreement (where required), a servicing schedule and a requirement to submit service reports in set time frames. This is discussed further in Proposal 4.6.1. The registration requirements for temporary onsite systems are outlined in Proposal 4.4.

It is proposed that the use of the wastewater products be specified in the registration. Should a system owner wish to change the end use they will need to apply to have their registration amended.

Questions for consultation

69. Should separate registrations be required for separate systems located at the same site? Please provide your reasoning.
70. What conditions should be included as part of a registration?
 - a. A service agreement with a registered service project?
 - b. A set servicing schedule
 - c. Time frames for notification or reporting of servicing?
 - d. The end use of the wastewater product
 - e. Other conditions as set out by the relevant authority?
71. Do you agree with the following proposal: Any existing onsite wastewater system with a Permit to Use issued under the Wastewater Regulations be automatically eligible to be registered under the new regulations?
72. Do you agree that if the owner of the system proposes to change the end use of the wastewater product then they will have to apply to have their registration amended?
73. Do you agree that the local government authority should be the prescribed enforcement agency for registration of this public health activity? Please explain.
74. Should local government be authorised to inspect systems to determine that a system is still fit for purpose after registration?

Proposal 4.4.3 Temporary Onsite Wastewater systems

In some circumstances it may not be possible to install a permanent onsite wastewater system. Some examples may include new projects or mine sites where temporary facilities are required. In these instances, a temporary onsite wastewater system will need to be installed.

The DOH is proposing that a temporary onsite storage system may only be installed when it is not possible to connect to sewer or it is not feasible to install a permanent onsite wastewater system. The DOH further proposes that a temporary onsite system may only be approved for use for a maximum of 12 months. The DOH is also proposing that extensions may be granted but it would be on a case by case basis.

A temporary system is a holding tank that stores wastewater until it is transported from site to a licensed treatment facility. Temporary onsite wastewater systems will be required to go through the same process as other onsite wastewater systems and will need to:

- obtain a design approval (certification to a relevant Australian Standard) (Proposal 4.3.1),
- apply for an Approval to Install (Proposal 4.4.1), and
- be registered (Proposal 4.4.2) if this is the preferred option.

Temporary onsite systems present a higher risk to public health as wastewater is left in situ creating more opportunity for overflow and public exposure if not managed properly. A higher level of management is therefore required for temporary systems than a permanent

onsite wastewater system. The current regulations (Part 7, s50(b)) set out a range of additional conditions for the management of temporary onsite wastewater systems, which include approval requirements for design, siting and operation. While the intent is not to replicate the existing regulations in new regulation, the DOH is proposing that the following additional operational requirements are set out in the regulations:

- The responsible person shall not permit the temporary system to overflow or adversely affect amenity.
- The responsible person will have appropriate controls in place to minimise the risk of an overflow event.
- A risk management plan must be developed for the operation and maintenance of a temporary onsite wastewater system.
- A proponent must comply with the requirements set out in their risk management plan.

The DOH will provide a template to assist with developing a risk management plan. A RMP for a temporary onsite wastewater system would be scale able to the risk of the system, the content would however be quite different to one required for a scheme. It is proposed a RMP would be expected to address the following risks associated temporary onsite waste system:

- Capacity vs usage
- Service agreements
- Service contingency plans
- Pumping schedules
- Venting and odour control
- Alarm or overflow warning systems
- Bunding or other measures to prevent spillage to ground.

This should achieve a similar outcome in respect to minimising risks but is also flexible to account for different systems, site conditions, operational requirements and management arrangements.

Questions for consultation

75. Should temporary onsite wastewater systems go through the same approval process as other onsite wastewater systems?
76. When should a temporary onsite wastewater system be approved:
 - a. When it is not possible to connect to a reticulated sewer
 - b. When it is not feasible to install a permanent onsite wastewater system
 - c. Both A and B
 - d. Should not require an approval
77. What do you consider an appropriate timeframe for operating a temporary onsite system?
78. Do you agree with the following proposals put forward by the DOH:
 - a. The responsible person shall not permit the holding tank to overflow or become offensive.
 - b. The responsible person will have appropriate controls in place to minimise the risk of an overflow event.
 - c. A proponent must comply with the requirements set out in their risk management plan
79. Should the regulations provide prescriptive requirements for operating a temporary onsite wastewater system? Please describe.

Proposal 4.4.4 Exemptions from Registration

The Public Health Act provides that a person or entity prescribed by the regulations, can be exempted from the requirement to be registered to carry on a registrable activity. Currently the only situation the DOH envisages where an exemption may be granted is where a system is needed on a short term/temporary basis while work is being done on the regular system of treatment and disposal. The DOH proposes that the regulations allow the local government to exempt a person from having to hold a registration for their onsite wastewater system.

It is envisioned that the granting of an exemption would be a rare and potentially temporary occurrence. Prior to granting an exemption to an onsite wastewater system, due regard would need to be given to the following:

- the reason that an exemption is being sought,
- who would be affected by the granting of an exemption,
- the potential impacts on the operation of the system, and
- how the public health risks associated with the public health risk activity will be managed.

This will provide flexibility to account for specific situations where the registration requirements will be unduly onerous for the system owner and the public health risk is not significant enough to impose this requirement.

In addition, the *Environmental Protection Act 1986* (EP Act) currently regulates some types of premises that generate trade wastes. Prescribed premises under the EP Act require a

works approval and licence for the discharge of the trade waste back into the environment. Such premises are often contained in an occupational setting and are not accessible to the general public.

The public health risks associated with such settings are low and the risks are already managed as part of their workplace safety general duties. As such, the DOH proposes that any onsite wastewater system within premises that holds a current licence issued under the EP Act AND is solely used to treat and dispose of trade waste (Category 61, (EP Act 1986)) (not reuse) be exempt from the regulatory requirements detailed in this chapter. It is felt that in these situations any residual public health risks can be managed via the general public health duty provisions of the Public Health Act.

Questions for consultation

80. Do you agree that the local government should be able to exempt any person from the requirement to hold a registration for their onsite wastewater treatment system? Please explain why.
81. Do you agree with the proposal to exempt onsite trade waste systems within prescribed premises that are licensed under the EP Act from the regulatory requirements detailed in Chapter 6 and for any public health risks to be managed using the general public health duty provisions of the Public Health Act? Please explain why.

Proposal 4.4.5 Modifications to onsite wastewater systems

Modifying a system can alter how well the system performs. It is important that if changes to a system are made, or when the requirements at a site change, activity/use of premises change or wastewater volume increase, the relevant authorities are made aware of these changes to ensure the system remains fit for purpose and does not pose a risk to the public.

The DOH is proposing that if the quality or quantity of the wastewater change from those stated in the 'Approval to Install' an owner would need to report them to the relevant enforcement agency to determine if a system is still fit for purpose. Considerations may include but are not limited to:

- an increase in the expected volume of wastewater to be treated,
- increased occupancy on the site,
- an increase in the number of occupied dwellings, and
- a change in the quality or type of wastewater to be processed.

The DOH is also proposing that the regulations require the appropriate enforcement agency must be notified of any proposed modifications to an onsite wastewater system, this does not include replacing like for like components within the treatment train.

Should the modification of a system be significant such as a change in the land application system, a change in how a wastewater product is used or an expansion of an onsite wastewater system, a new approval to install will be required.

The DOH is further proposing that the regulations require that any modification of a system must be conducted by a licensed installer. The requirements to be recognised as an installer are discussed further Section 4.9. The current regulations state that only “authorised technicians” can conduct maintenance on a secondary wastewater treatment system. This proposal extends that requirement to the servicing of all onsite wastewater systems, this would not apply to emptying a septic tank. The DOH proposes that a technician could be authorised to maintain several different system types.

Questions for consultation

82. Do you agree that all modifications to systems should only be done by an authorised service technician? If not, why not?
83. Do you agree that the appropriate enforcement agency needs to be notified of the proposed modifications? If not, why not?
84. Do you agree that in situations where the modification is significant then a new approval to install and/ or registration is required? If not, why not?

Proposal 4.4.6 Decommissioning an onsite wastewater system

The DOH is proposing that any onsite wastewater system that is not in use and is not intended to be used must be decommissioned.

Decommissioning may include:

- emptying of the onsite wastewater system,
- removal of the onsite wastewater system, and/ or
- backfilled with clean fill.

The DOH is proposing that decommissioning a system must be conducted by either suitably qualified installers or licensed plumbers. This is in line with Proposal 4.9 to set minimum qualifications for persons installing and servicing onsite wastewater systems.

The DOH further proposes that decommissioning must occur in the following situations:

- A building is to be constructed above an existing system that is no longer in operation. Decommissioning must occur before building works commence.
- Reticulated sewerage is provided and connection to the reticulated sewerage system has occurred.

Decommissioning must occur within 60 days from the day on which the change in use occurred. If a site connects to a scheme and the ownership of the site changes prior to decommissioning, the entity who had ownership of the site at the time connection occurred is responsible for decommissioning.

The DOH also proposes that within 28 days of system decommissioning the person who undertook the decommissioning is to inform the appropriate enforcement agency and provide information to enable an assessment on whether the onsite wastewater system has been decommissioned appropriately.

The DOH also proposes the enforcement agency can take enforcement action if a system has not been decommissioned in a satisfactory manner.

Questions for consultation

85. Do you agree that a system can be decommissioned by either a licensed installer or a licensed plumber?
86. Do you agree that decommissioning of a system should take place in the following situations?
 - a. A building is to be constructed above the apparatus
 - b. Reticulated sewerage is provided and connection to the reticulated sewerage system has occurred
87. Are there any other situations where decommissioning occur?
88. What activities should be required as part of decommissioning?
 - a. Empty the onsite wastewater system
 - b. Removal of the onsite wastewater system
 - c. Backfill the area with clean fill
 - d. Other, please describe

Proposal 4.4.7 Wastewater products from systems which use alternative technologies

New technologies are emerging providing a broader range of treatment options. These systems may reduce water usage or generate a wastewater product that is significantly different to other primary treatment systems such as ash from an incinerator toilet. The end product produced by alternative technologies can have a lower health risk profile, but it is dependent on how the systems are used and maintained. Alternative technologies have historically been approved for use by the DOH, however, there was no specific guidance on the reuse of their generated products.

If regulation is the preferred option, the DOH is proposing that a wastewater product produced by an onsite wastewater system that use alternative technologies is regulated in the same way as other primary treatment systems.

Questions for consultation

89. If regulation is the preferred option do you agree with the proposal that the wastewater products from toilets using alternative technologies are regulated the same as other primary treatment systems?
90. If you disagree, how should wastewater products from an onsite wastewater system using alternative technology be regulated? Please explain.

Proposal 4.5 Additional system design requirements (Technical)

As described in Proposal 4.3.3 the second part of designing a land application system is the design of the installation which is dependent on individual site conditions. The additional information is required to ensure a system is fit for purpose and appropriate for the site. To determine whether a system is fit for purpose, a proponent will need to provide the following information:

- the volume of wastewater generated,
- the design loading rate or infiltration rate of the soil,
- the size of the land application system required to handle the volume of wastewater
- the properties of the site, and
- the soil properties which will determine how the treated effluent will move through the soil.

The amount of wastewater a system will treat and discharge, is determined by a flow rate, design load rates and the size of the land application system. The projected flow rate is used to determine the required size of a treatment system and an appropriate land application system (LAS). The design loading rate is the rate at which effluent is distributed to the LAS. The LAS must be capable of coping with the expected volume of effluent produced by the treatment system and be able to distribute the effluent evenly over the entire application area. The flow rate and the design loading rate are used in the calculations to determine an appropriate size for a land application system.

Unlike the component design, these requirements are set out in AS1547. The DOH is proposing that the following sections would be outlined in a Code of Practice which is called up in new regulation. The DOH is also proposing that the regulations should adopt the Australian Standard, the following sections outlines the foundations for the calculations for a land application system from the Australian Standard.

Questions for consultation

91. Do you agree that additional system design requirements are outlined in a Code of Practice which is called up in new regulation?

Proposal 4.5.1 Calculation of flow rates

The DOH proposes that the regulations reference AS/NZS 1547:2012 flow rates to calculate the size of an onsite wastewater treatment system. The flow rates proposed are taken from *Onsite domestic wastewater management* (Table H1 and Table H2 for residential properties and the flow rates from Table H4 for commercial properties). The DOH cannot replicate the tables at this time because of copyright restrictions. The Australian Standards will be made accessible at the Department of Health should this proposal be supported.

The use of the Australian Standard provides a more flexible approach than the current method detailed in the regulations and provides a more accurate projection of predicted flow rates.

The DOH also proposes alternative sizing and treatment requirements be allowed for systems which use alternative technologies such as waterless toilets, for example flow rates based on the handbasin, shower, bath and laundry are 90L/ person / day (Table H2 from AS/NZS 1547). An example of the flow rate for a house on reticulated water supply is 150 L/person/day (DOH, 2013). This is consistent with the current regulations.

Questions for consultation

92. Do you agree the regulations should reference the design flow rates from AS/NZS 1547?
93. Do you agree with the proposal that a per person, per day flow rate is used?
94. If not, how should the design flow rates should be estimated? Please provide evidence for your suggestion.
95. Do you agree that in situations where a system which uses alternative technologies or does not include sewage, the flow rates sizing of an onsite wastewater system can be based on a lower flow rate? Please explain your answer.

Proposal 4.5.2 Calculation of Design Load Rates (Infiltration rates)

The DOH proposes that the design loading rate (infiltration rate) for various soil types is taken from Table L1 of AS/NZS 1547 – *On-site domestic wastewater management*. Owing to the absence of another standardised, scientifically researched list of infiltration rates the DOH believes that adopting the numbers in AS/NZS 1547 will align WA with the rest of Australia and provides design loading rates for a wider variety of soil types than provided in the current regulations.

The Australian Standard provides a range of design loading rates depending on the soil structure and expected effluent quality. The DOH will provide guidance on how to interpret the table and what design loading rate to use in what situation. Due to copyright the DOH cannot replicate the table in this discussion paper. Should this proposal be supported, the Australian Standard will be made accessible by the DOH.

Questions for consultation

96. Do you agree that the regulations should refer to the design loading rate (infiltration rate) for various soil types using Table L1 of AS/NZS 1547?
97. If not, what design loading rates should the DOH reference? Please provide the evidence for your answer.

Proposal 4.5.3 Calculating Size of Land Application Systems

The DOH is proposing to reference the AS/NZS1547 L4.2 to calculate the size of land application systems. As with flow rates and infiltration rates, the use of the Australian Standard provides a consistent scientifically researched approach and aligns Western Australia with other states. The AS acknowledges it uses a conservative approach with sizing, but this enables interpretation over a wide spectrum of soil types. It is also scientifically robust which provides greater confidence in the system being appropriate for the site and should outweigh the infrequent conservatism.

The formula used by AS/NZS 1547 to calculate the length of a LAS is:

$$L = \frac{Q}{(DLR \times W)}$$

Where:

- L = Length (m) of the land application system
- Q = design daily flow (L/day)
- DLR = design loading rate (mm/day)
- W = width (m)

The current regulations require residential installations to operate as an alternating system, i.e. two leach drains are installed and only one is operational at a time. The operation is switched annually. AS1547 requires all leach drains to be in operation at the same time.

The current regulations calculate leach drain length using measurements for the base and two times the effective depth of the aggregate / drain in contrast to AS1547 which uses only the base measurement as sidewall infiltration is already included in the DLR of soils. AS1547 also allows the width of the drain to be increased by adding aggregate to increase infiltrative capacity of the soil.

Questions for consultation

98. Do you agree with the proposal to reference the formula from AS1547 to determine the size of the land application system?
99. If you do not agree with this calculation what calculation should be referenced? Please provide evidence for your suggestion.

Proposal 4.5.4 Site and soil evaluations

Site and soil evaluations (SSE) are used to inform the design of an onsite wastewater system and to identify site specific risks. Currently there is no requirement in the regulations to undertake a SSE. A SSE should provide enough information to determine whether a lot, a development area or subdivision is suitable for on-site wastewater systems. It should also provide enough information to evaluate risks which might compromise the long term effectiveness of an onsite wastewater system and to evaluate health risks stemming from contamination of ground or surface water. The DOH is proposing that the requirements of a site and soil evaluation are provided in a Code of Practice which is called up in regulation.

Consideration was given to a SSE for a premises with a single dwelling (Proposal 4.5.4.1), premises with more than one dwelling (Proposal 4.5.4.2), the content of a SSE (Proposal 4.5.4.3) and who can conduct a SSE (Proposal 4.5.4.4)

Questions for consultation

100. Do you agree that the requirements for a site and soil evaluation are provided in a Code of Practice which is called up in regulation?



Proposal 4.5.4.1 Site and soil evaluations for a lot with a single dwelling

The DOH is proposing that a SSE will not be required in an application for an onsite wastewater system for a lot with a single dwelling, unless the enforcement agency requests one.

The costs of getting a SSE can be expensive. Generally, premises with a single dwelling will have gone through many stages of development approval (structure planning, subdivision etc) and as part of that process will have undertaken multiple investigations to determine drainage and geotechnical requirements etc. It is likely that a local government authorising officer will have enough site knowledge through their work experience to understand the site conditions for the system and determine whether the proposed onsite wastewater treatment is appropriate for the site.

This is because:

- It is likely that the local government has received site and soil information for the site as part of previous work undertaken for the structure plan or subdivision approval.
- It is likely that there will be site and soil information for other lots that are within an acceptable distance of the lot in question.

If the approving agency is not satisfied that they have enough information, then they can request a SSE. Details on the requirements of a SSE is provided in Proposal 4.5.4.3. This proposal is less onerous for owners of premises with a single dwelling. This is consistent with current guidance in the GSP.

Questions for consultation

101. Do you support the proposal that a SSE is not required as part of an Application to Install for premises with a lot with a single dwelling, unless the approving agency requests one? If not, how do you think it should be managed?

Proposal 4.5.4.2 Site and soil evaluations for premises other than a single dwelling

The DOH is proposing that SSEs will be required as part of an application to install for all premises with more than a single dwelling unless the approving agency does not consider it to be necessary. This is consistent with current guidance in the GSP and the DOH *Guidance on Site and Soil evaluation for on-site sewage management*. This proposal will formalise the existing practice which will provide clarity for owners, developers and installers on the requirements and will also provide consistency for approving authorities.

The management of wastewater for lots with more than a single dwelling is more complex than lots with a single dwelling. There are potentially different wastewater streams (sewage and trade waste), larger volumes of wastewater, additional structures which may reduce the space available to site an onsite wastewater system and larger lot sizes with greater variability in site and soil conditions across the lot. An accurate SSE is therefore an important component assessing the appropriateness of an onsite wastewater system and the associated risk.

The DOH is also proposing that under certain circumstances an exemption to provide a SSE can be requested from the approving authority. An example of when a SSE would not be required is when there is enough existing information to design the onsite wastewater system, for example when investigations have been undertaken at the development planning stage for a subdivision or commercial development.

The cost of a SSE for premises with more than one dwelling can vary significantly and is dependent on many factors, including the level of public health risk and how much information is already available to the owner and local government. It is likely that many properties will have enough information from the planning process to reduce the overall cost of an evaluation. While a property owner may apply for an exemption it will only be granted in instances where the authorising officer has advised they have sufficient information to assess an application.

Questions for consultation

102. If adopted, should proposed regulations state premises with a single dwelling will not be required to submit a SSE with an application to install unless requested by the approving agency?
103. If adopted, should proposed regulations state a SSE will be required for all lots other than those with a single dwelling, unless the approving agency considers it has enough information to assess the application to install?
104. If adopted, should an owner be able to request an exemption where there is enough information already available for the site and soil conditions on site to assess in an Application to Install?

Proposal 4.5.4.3 Content of Site and Soil Evaluations

The Australian Standards (AS1547) provides a risk-based methodology for conducting a SSE.

The DOH currently provides supporting material for conducting a SSE. The webpage provides a template for conducting a SSE and refers to the content of AS 1547. The Australian Standard uses a risk- based approach to determine the scale and level of detail required for a SSE so that it is proportionate to the level of risk associated with the scale and nature of the development and the physical and environmental conditions of the site.

The DOH is proposing to keep this arrangement going forward.

Questions for consultation

105. Should the DOH maintain the status quo and provide guidance material for conducting an SSE?
106. Which of the following options do you agree with:
 - a. A SSE should be conducted in accordance with AS/NZS 1547 or
 - b. The scale and intensity of a SSE should be determined by the agency approving the application to install.
 - c. Other, please outline what a SSE should be based on and why?

Proposal 4.5.4.4 Persons undertaking Site and Soil Evaluations

It is acknowledged that SSEs can be complex and require specialist training to conduct.

The DOH is proposing that a SSE must be conducted by a suitably qualified person. Individual landowners or developers are responsible for engaging the suitably qualified person.

As described in AS/NZS 1547 Section 3.3 a site and soil assessor may include:

- environmental engineers
- soil scientists or
- land capability assessors

The current practice is for authorised officers or DOH to review and assess and sometimes conduct the site and soil evaluation as part of the existing permit to install process. This places unrealistic expectations on authorised officers to endorse site and soil evaluations where they may not have the relevant experience or training. Requiring a suitably qualified person to conduct the SSE places the liability for providing an accurate SSE on the suitably qualified person.

The DOH will continue to provide training to authorised officers on how to review a SSE. An authorised officer can refuse to approve an application to install if they have concerns about the completeness or accuracy of a SSE and can request the applicant provide an updated SSE or provide third party certification that the SSE is complete and accurate.

Questions for consultation

107. Who should be able to conduct a SSE for an Application to Install?
 - a. Environmental engineer / soil scientist / land capability assessor
 - b. Other
108. If other, what qualifications and/ or experience should a suitably qualified person hold?

Proposal 4.6 Ongoing requirements for onsite wastewater systems

Producing a wastewater product of a known quality is addressed by having the right system design and correct installation. The ongoing quality of the wastewater product is determined by how well the system is maintained and serviced. The new regulations will require that a system must be fit for purpose, that is, the system is designed to treat the type of wastewater for which it has been nominated and it will produce a wastewater product of a known quality. The quality of the wastewater product required will depend on the end use set out in the registration application. A poorly functioning system may increase the level of contaminants in the wastewater product potentially increasing human exposure if the product is applied to a land application system. To ensure the public health risks are managed appropriately the DOH is proposing the ongoing servicing and maintenance of onsite wastewater systems will be provided in a Code of Practice that is called up in regulation.

Questions for consultation

109. Do you agree the ongoing requirements for managing onsite wastewater systems should be provided in a Code of Practice that is called up in regulation?

Proposal 4.6.1 Servicing: schedules, requirements and reporting

Currently, all service technicians are required to provide a full-service report to the appropriate enforcement agency every time they undertake a service. Some systems such as Secondary Treatment Systems require servicing three or four times a year. This is creating a large volume of work for enforcement agencies with limited benefit. There is also a broad range of onsite systems available, with each brand and type having their own servicing requirements. The variety in the servicing schedules make it difficult for authorised officers to enforce compliance to service schedules. To reduce the amount of reports local governments are receiving

The DOH is proposing that when a technician services a system, they must:

- notify the appropriate local government of the service and provide the system's registration number and the date/time that the service occurred

and if a technician has concern there is an issue with an onsite system a full service report must also be submitted. Concern of an issue would include:

- a risk that the system may fail or pose a risk to public health in the near future or
- there are ongoing problems which affect the system's ability to deal with wastewater that occur for two or more services in a row.

The DOH is also proposing that the notification of a service or notification of an issue would need to be within a prescribed time from the scheduled date of service.

The DOH proposes that local government may recover the costs from owners for managing service schedules and service reports, for example if they are required to issue reminder notices.

The DOH proposes that servicing will need to be undertaken by a licenced service technician (Section 4.10). The aim of this proposal is to reduce the time local government spends

dealing with service reports, this will provide local governments more time to manage the servicing schedules.

Questions for consultation

110. Do you agree with the proposal that as part of the product approval the DOH will set the servicing schedule?
111. How do you think the servicing requirements should be assigned?
 - a. By individual system, resulting in different servicing schedules for each system registered.
 - b. Require that all secondary treatment systems are serviced on the same schedule (either every 3 months, every 6 months or annually).
 - c. Another way?
112. Do you agree that a service technician should have to immediately report their concerns to the appropriate local government in the following situations?
 - a. When they have concerns about the state of the system.
 - b. When there is a risk that the system may fail or pose a risk to public health in the near future.
 - c. When there are ongoing problems which affect the system's ability to deal with wastewater that occur for 2 or more services in a row.
 - d. When an owner refuses to service a system.
113. Are there any additional situations where immediate reporting should be required?
114. Do you agree with the proposal that after every service the service technician notifies the appropriate local government of the system's registration number and the date/time that the service occurred?
115. If not, what information should be provided to local governments after every service?
116. Do you agree that a service technician should submit a service report if they have concerns about the performance of a system?

Proposal 4.6.2 Testing requirements

The DOH is considering the feasibility of testing treated wastewater from installed onsite wastewater systems, particularly secondary treatment systems at a NATA accredited laboratory. Testing is a pre-emptive measure which provides evidence a system is continuing to perform as expected rather than depending on visual or olfactory signs that a system is failing. Testing of wastewater products is not currently occurring, therefore there is no information available to determine if the systems continue to work as expected after being installed or if quality outcomes change over time.

The DOH is proposing that authorised officers may request testing if they suspect that a system is no longer fit for purpose. Results would be sent to the local government to retain with the registration and servicing details. The DOH further proposes that if testing has previously been requested, results would need to be made available during inspections and auditing. The DOH proposes that if testing indicates that a system is no longer performing as expected an authorised officer could require that the owner of a system must take steps

to return the system to a state where it is fit for purpose, this could include the ability to request further tests or implement a testing regime as part of their registration if an owner has a system which consistently underperforms.

This is a new requirement and the costs would be borne by system owners. An estimate for sampling and analytical costs for a basic water suite would be approximately \$500 for a single sample (ARL). The potential impact on owners would be minimal if testing was only required on suspicion of a system no longer being fit for purpose. However, the costs could be more prohibitive if an ongoing testing regime was implemented. The overall cost of testing, and servicing or amending the system to make it fit for purpose would be lower than the cost of clean-up if a system failed. By ensuring a system is properly maintained the public health risk also remains low.

Questions for consultation

117. Should the regulations allow for an authorised officer to require testing of the treated water quality from an onsite water system at a NATA accredited laboratory?
- a. If yes, under what circumstances could an authorised officer request testing?
 - b. If no, please provide your rationale.
118. Should the regulations allow for an authorised officer to require testing of the treated water quality from an onsite water system after installation?
119. Who should bear the cost of sampling ? - Please provide your rationale

Proposal 4.6.3 Scheduled testing requirements

The DOH seeks feedback on whether an onsite product should be subject to scheduled testing. For example, the regulations could require that testing is undertaken every two years as part of the servicing contract to demonstrate that a system is still fit for purpose. The results would be compared to the expected performance criteria provided in the application to install. If the water quality indicates the system is no longer functioning to the expected criteria the authority would have the ability to take action in the form of an improvement or infringement notice.

As per section 4.6.2 the costs would be borne by the owners of the onsite wastewater system. This proposal places an additional burden on the approving agency as they would be required to retain sampling results for all onsite systems they have approved and would need to implement a system to identify if an owner was not complying with their testing schedule. This does however provide a proactive approach to the management of onsite wastewater systems

Questions for consultation

- 120. Should the regulations require scheduled testing of treated wastewater from onsite wastewater systems?
- 121. Should this be a requirement of registration?
- 122. Should the testing results be submitted to the approving authority or retained by the owner of the system? Please explain why.

Proposal 4.7 Prescribe the appropriate enforcement agency

Table 4 outlines the roles of the appropriate enforcement agencies. These are based on the proposals presented in this paper. The DOH has responsibility for product approvals, they will also provide the approval to install for non-approved (systems which are not AS compliant).

Table 4 Proposed enforcement agencies and their role

Local Government	Chief Health Officer / Department of Health
<ul style="list-style-type: none"> • Approve and issue an 'Approval to Install' for systems certified to Australian Standards or on the list of approved systems on the DOH website (residential and commercial). • Issue registration and set registration conditions for all onsite wastewater systems (former 'Permit to Use') • Checking compliance with 'Approval to Install' requirements issued by the DOH • Checking compliance with registration conditions, such as servicing and maintenance requirements • Take any enforcement action to resolve non-compliance issues 	<ul style="list-style-type: none"> • DOH will consider applications for 'Bespoke ' systems* • DOH will provide approval for AS certified and non-certified systems and maintain the list of approved systems on the website.

*There is an expectation system will be certified to Australian Standards.

Questions for consultation

- 123. Do you agree with the roles of each of the enforcement agencies described in Table 4?
- 124. If not, please provide details on who should be the appropriate enforcement agency.

Proposal 4.8 Premises which contain more than a single dwelling

The DOH is considering how the public health risks should be managed when there is more than a single dwelling on the premises. Premises can have multiple buildings which may be a combination of dwellings and / or commercial / industrial buildings. For example, premises may contain a home, a home with a granny flat, a home and a farm stay with multiple dwellings or a caravan park. Alternatively, premises could hold a dwelling along with a commercial / industrial building, for example a winery or a bakery. While the volume and streams of wastewater may vary, the public health risks will be adequately addressed if the onsite system is 'fit for purpose'.

The requirements for installing and maintaining an onsite wastewater system have been set out in earlier sections of Chapter 4. These requirements have been proposed to manage the public health risks appropriately. The 'Application to Install' (Proposal 4.4.1) assesses the maximum occupancy and the volume and the type of wastewater a proposed system must treat. Proposal 4.4.5 proposes that any modifications to a site such as increased occupancy or any change in the type of wastewater produced must be reported to the appropriate agency so they can determine whether an onsite wastewater system is still fit for purpose.

The DOH considers that with these measures in place the public health risks are adequately addressed, regardless of how many buildings are on site or the type of buildings, and therefore no additional regulation is required to manage the public health risks. If changes to a premises are to occur, such as the addition of new buildings which would alter the occupancy rate, or changes which would alter the volume or type of trade waste produced, the owner / entity of the premises will need to notify the appropriate agency of the proposed changes and if the existing onsite system is not capable of handling the volume or type of waste water proposed, the owner / entity will be required to install an additional onsite system or modify the existing system. This will also require the owner / entity to go through the Application to Install process again to determine whether the system or systems are fit for the proposed purpose.

Questions for consultation

125. How should wastewater be managed on a lot with more than a single dwelling?
- Through separate onsite wastewater systems for each building?
 - Require a separate onsite wastewater system for each wastewater stream?
 - With one system, the design is fit for that purpose?
 - At the discretion of the local government?
 - No specific regulation?

Please provide your reasoning for your answer.

Proposal 4.9 Requirements for onsite wastewater system installers and service technicians

The DOH is proposing that a person who installs or services onsite wastewater systems has minimum qualifications along with relevant experience. The current regulations have requirements for those servicing On-site secondary Wastewater Treatment Systems, these are set by the CHO. There are no requirements for those who install onsite wastewater systems under the Public Health Act 2016 or under the [Plumbers Licensing and Plumbing Standards Regulations 2000](#). This differs to other jurisdictions where the installation of onsite systems is regulated under various plumbing legislation and requires a licensed plumber to do the installations. In Western Australia, a plumbing licence is only required for the installation of the pipework that connects to the onsite wastewater system.

The DOH has become aware that there have been issues with the installation of some onsite systems, with systems failing to work or not working as proposed after installation. The DOH considers that the public health risks associated with poor installation can be managed by a system of regulating onsite wastewater system installers. The DOH is seeking feedback on how this should be managed.

Proposal 4.9.1 Require minimum qualifications and experience for installation of an onsite wastewater system

The qualifications and experience required for an installer could be managed by requiring a person be licenced. The requirements for becoming a licensed person would be stated in guidance material published by the DOH and a register would be listed on the DOH website. This is the same as the current process for authorised service technicians. Local government or owners of a property can check a license number to ensure that a suitably qualified person is installing a system. An advantage of having a licencing system is that a licence can be revoked if work is not conducted to a set standard. There would need to be oversight of a licencing system to ensure licensees were conducting work appropriately. This would require additional resources from the DOH in terms of personnel to assess licences and compliance with licences.

This system would provide local government with some assurance that an installer had the appropriate skills to install an onsite wastewater system.

The DOH is also proposing that the person who is installing an onsite wastewater system is listed on either the application to install or on the registration. This enables individual installers to be identified if a system failure occurs. While it is the responsibility of the owner to remediate after a system failure, the information can be used by local government to identify whether any one installer is consistently installing systems that fail.

Similar to the requirements for a service technician, the requirements to become a licensed installer could include:

- evidence of number of years' experience (minimum 1 year) which may include:
 - years accredited, or
 - years under the employment of a manufacturer/distributor, or
 - years under the supervision of a licenced installer; or other such equivalent experience in installation, and

- supporting documentation about work undertaken
- completion of a recognised training course (set by the DOH).

Specialisation

The electrical industry has a system where licensed electricians can specialise and hold tickets for conducting different types of work, e.g. air conditioning, high voltage work or solar inspections. The DOH is seeking feedback on whether a similar system could be introduced for technicians. This system would require technicians hold a ticket in a specialised area, with each ticket requiring additional qualifications and experience. A similar system could be introduced for onsite system installers, where a person could obtain tickets for a range of specialisations, for example, septic tanks, greywater systems, ATUs, secondary treatment systems in commercial or residential settings. A specialised ticketing system would require a fee to enable management of the system.

Questions for consultation

126. If regulation is the preferred option, should new regulations require that a person installing an onsite wastewater system be:
 - a. Licenced
 - b. An authorised person
 - c. No specialised training or experience required
 - d. Other, please provide your reasoning
127. Should a person /entity be able to obtain an exemption from holding a license? If yes, please provide examples and say why.
128. Should there be different qualifications and experience for installing the different onsite wastewater systems (“specialised tickets”)?
129. What tickets would you propose?
130. Who do you consider would be the appropriate authority to issue a license?
131. What evidence and training requirements should a licenced or authorised installer be required to undertake and provide to the appropriate authority?

Proposal 4.9.2 Minimum requirements for onsite wastewater systems service technicians

Different types of onsite wastewater systems require different levels of maintenance and servicing. When used correctly, primary treatment systems require very minimal maintenance and will only require desludging every 2-5 years. However, advance treatment systems such as secondary treatment systems and domestic greywater treatment systems will require regular servicing for it to be operating at optimal levels. The health risks associated with advance treatment system failures are also significantly higher when compared to primary treatment systems as the wastewater product has a broader range of applications.

As secondary treatment systems and domestic greywater treatment systems are more complex in design, the service person will be required to have the relevant technical competencies and be sufficiently trained to undertake the work safely. Relevant experience and training will provide confidence that onsite wastewater systems are serviced correctly. Currently servicing can only be carried out by an authorised person.

The DOH proposes it keep the current situation in the new regulations and include the types and classes of advance treatment systems that must be serviced by qualified service persons. These classes include:

- *AS 1546.3 – Onsite domestic wastewater treatment units – Secondary treatment systems.*
- *AS 1546.4 – Onsite domestic wastewater treatment units – Domestic greywater treatment systems.*
- Any other type / class of advance treatment system deemed necessary by the CHO.

In addition, the DOH proposes to expand the current requirement to include commercial lots and multi-unit dwellings as the current requirement for service technicians only applies to single residential lots.

The DOH would like to seek feedback on whether a licensing system should be implemented in place of the above proposal. This would require a person to hold a licence to service an onsite wastewater system. This proposal is consistent with the proposal to licence installers. It would also enable work completed by a technician to be identified through a licence number.

As with installers, the DOH proposes that DOH is prescribed as the appropriate enforcement agency. A register of all authorised service technicians would be maintained by the DOH.

It is further proposed that any service person currently authorised by the CHO will be automatically eligible to hold a licence under the new regulations.

To become an authorised person or hold a license, a service technician will be required to provide evidence that they have the relevant experience. The current [requirements](#), which will be maintained in the new regulations are:

- evidence of number of years' experience (minimum 1 year) which may include:
 - years accredited, or
 - years under the employment of a manufacturer/distributor, or
 - years under the supervision of a licenced technician; or other such equivalent experience in servicing, and
- supporting documentation about work undertaken.

In order to achieve this, the service technician will need to provide evidence of their competencies.

Questions for consultation

132. Do you agree that certain types of onsite wastewater treatment systems should only be serviced by a qualified service person?
133. If yes, do you agree with the system types listed above? Are there any other types of systems that should be considered?
134. Should a service technician:
 - a. Hold a licence
 - b. Be an authorised person
 - c. Other
135. Should a person / entity be able to obtain an exemption from holding a license? If yes, please provide examples and say why.
136. Do you agree that the DOH should be the appropriate agency to manage service technicians? If no, who?
137. Do you agree with the evidence that a technician will need to provide to the DOH as part of their application?

Proposal 4.9.3 Training Requirements for service technicians

The DOH proposes technicians would be required to undertake training to become an authorised person or a licenced technician.

The training proposed would be part of a recognised Australian Onsite Wastewater Treatment Systems training course on servicing and maintenance of Onsite Wastewater Treatment Systems or Successful completion of NWPTRT061 and NWPGEN008 units, which are part of the Certificate II in Water Industry Operations (NWP20115) or Certificate II in Remote Area Essential Service (UEE21311). The training is consistent with current requirements.

Questions for consultation

138. Do you agree that service technicians should be required to undertake training?
139. Do you agree with the proposed training requirements?
140. If not, what training (if any) should a licensed service technician be required to undertake?

Proposal 4.10 Referenced standards and guidance material

The DOH publishes Codes of Practice, guidelines and web pages to support the existing regulations for managing onsite wastewater systems. The key documents are listed below:

Codes of Practice

- [Code of Practice for the Design, Manufacture, installation and Operation of Aerobic Treatment Units](#)
- [Code of Practice for Product Approval of Onsite Wastewater Systems in Western Australia](#)

Guidelines

- [Best practice guidance for reducing health risks for workers handling sewage, biosolids or recycled water.](#)
- [Guidance note for independent third party engineering verification](#)
- [Guidance on Site and Soil Evaluation for Onsite Sewage Management](#)

Webpages

- [Certification for installation of wastewater treatment systems](#)
- [Guidance on applying for approval of installation of a commercial onsite wastewater system](#)
- [Guidance for serving wastewater systems](#)
- [Becoming an authorised service technician for domestic on-site wastewater systems](#)
- [Primary Treatment Systems](#)
- [Manufacturing wastewater systems](#)
- [Decommissioning wastewater systems](#)

As discussed in the relevant proposals (Proposal 4.3, 4.5 and 4.6) the DOH is proposing that Codes of Practice are developed to reflect the outcome of the regulatory review and these Codes of Practice are called up in new regulation. Furthermore, the DOH is proposing that where appropriate guidance material will also be updated to reflect the outcomes of the review.

Questions for consultation

141. Do you agree with providing key requirements for onsite wastewater systems in Codes of Practice and then providing additional guidance material on how to meet and interpret those requirements?

Proposal implications

In this section, the key benefits and potential costs associated with the proposed changes in the regulations will be discussed. Feedback and opinion from the community, industry and enforcement agencies will provide a more holistic view on the practicalities, relevance and impact of the proposed changes. This is to ensure that the benefits brought about by the proposed changes are not outweighed by the costs. The feedback received will also provide the DOH with valuable information on what resources, tools and support needs to be developed and provided to implement the regulations effectively.

Impact on the community

The proposed regulations will benefit the community in the following areas:

- Improvement in the management of public health risks associated with the conveyance, treatment, disposal of wastewater. The new regulatory framework is based on a risk management framework and aligns with national standards and best practice.
- A robust approval framework for onsite wastewater system products that ensures that the products meet national standards and carry the necessary certification.
- Streamlining of the approvals process for onsite wastewater system installations which will result in faster processing times.
- Introduction of a more comprehensive site and soil assessment criteria that will minimise the risk of onsite wastewater system failures.

The proposed regulations might have undesirable consequences (costs) to the community in the following areas:

- There is the potential for an increase in the initial purchase cost of onsite wastewater systems should the manufacturer choose to pass on any increase in product manufacturing and/or certification costs. However, the increase in the initial purchase cost of the product will be offset by having a more reliable product that is more cost effective in the long term. The majority of states already require onsite systems to be certified to Australian Standard and certification is valid across states. Therefore, it is considered that the impact of this proposal is minimal.
- The costs associated with SSEs are likely to be minimal or non-existent for owners of premises with a single dwelling, however the impacts maybe greater for those premises with more than a single dwelling. The DOH considers that a SSE is a necessity for understanding the public health risks for complex lots and the potential cost impost is outweighed by the mitigation of risks.

Questions for consultation

142. Do you agree with the listed benefits of the proposed regulatory framework to the community? Please provide any further comments that you have, including any other benefits that were not listed.

143. Do you agree with the listed costs of the proposed regulatory framework to the community? Please provide any further comments that you have, including any other costs that were not listed.

Industry and businesses

The proposed regulatory framework will benefit the industry and businesses in the following areas:

Sewerage scheme operators

- Increased flexibility in the proposed approval process that considers any existing requirements under the Water Services Act. The proposed regulations will reduce or avoid unnecessary duplications in compliance requirements.

- For sewerage scheme operators that are exempt from the licensing requirements under the Water Services Act, the new regulations will provide the necessary powers to operate the sewerage scheme effectively.
- Risk-based regulations provide the flexibility to scale the compliance requirements according to the risk and size of the sewerage scheme.

Other areas of the wastewater industry and businesses

- Alignment with Australian Standards and national best practice will streamline the approvals process for the certification of onsite wastewater systems.
- Streamlining of the approvals process for onsite wastewater system installations will result in faster processing times.
- The proposed regulations offer increased flexibility to cater for innovation and new technologies.
- Clearer and more consistent direction to industry by formalising current recommendations and policies in regulations.

The costs of the proposed regulatory framework on industry and businesses are as follows:

- Although minimal, there are additional regulatory requirements on sewerage scheme operators that may be introduced in the proposed regulations. These include developing RMPs and auditing requirements on the safety and operation of the scheme. The DOH will work with the sewerage scheme operators to ensure the transition to the new regulatory framework is managed to minimise the impact on the service provider and its operations.

Questions for consultation

144. Do you agree with the mentioned benefits of the proposed regulations to industry and businesses? Please provide any further comments that you have, including any other benefits that were not listed.

145. Do you agree with the listed costs of the proposed regulations to industry and businesses? Please provide any further comments that you have, including any other costs that were not listed.

Enforcement agencies

The proposed regulations will benefit the enforcement agencies in the following areas:

- Streamlining of the approvals process for onsite wastewater system installations will reduce administrative burden on local governments and DOH/CHO. The assessment process is consistent with the current process with the responsibility for the assessment and approval of complex onsite wastewater systems remaining with the CHO. The proposed approvals process will minimise double handling of applications between the local government and CHO.
- Ability for local governments to recover any cost associated with the administration of the regulatory requirements.
- Improved ability to enforce the necessary requirements to manage public health risks associated with the conveyance, treatment, and disposal of wastewater.

- Local governments will no longer have a requirement to conduct SSE on behalf of applicants. Placing the responsibility for good quality SSE on the owner of the system.

The costs on enforcement agencies are as follows:

- As the proposed new regulations are different from the existing legislation, local government personnel will need to be ready with their administrative processes and personnel to cater for the changes. The DOH will provide guidance and support to local governments to assist in the transition to the new regulations under the Public Health Act.
- The DOH may require additional resources to create a database for registration of schemes and to register the existing schemes, however once established the workload of maintaining registrations would be minimal.
- Both the DOH and local government may incur additional costs related to Proposals 2.5 and 2.6 which require reporting of overflow events. The cost to both authorities would be minimal. While there is currently no formal requirement for reporting, both authorities currently receive complaints from the public and become involved in investigation. The benefits arise from the reduction in the public health risk by taking a pro-active approach and placing the onus of reporting on the responsible person for the system.

Questions for consultation

146. Do you agree referencing the Australian Standards will provide consistency for authorising agencies?
147. Do you agree with the mentioned benefits of the proposed regulations to enforcement agencies? Please provide any further comments that you have, including any other benefits that were not listed.
148. Do you agree with the listed costs of the proposed regulations to enforcement agencies? Please provide any further comments that you have, including any other costs that were not listed.
149. Are there other support enforcement agencies you would like to see provided?

General question:

Questions for consultation

150. Please provide any further comments you have on the proposed regulations that have not been specifically addressed in this discussion paper?

Next Steps

The information gathered from this consultation will be used in the development of the new regulations. Your input is crucial as it will assist in identifying the areas of the regulations that need further consideration.

After analysis of all submissions, a determination of which option to adopt will be made. The results and findings of the consultation will be presented in a consultation summary report and submitted to the Minister for Health to seek support for the preferred option.

The consultation summary report will be made available on the Department of Health website. Please note, that your feedback forms part of a public consultation process and the Government may quote from your comments in future publications. If you prefer your name and organisation to remain confidential, please indicate that in your submission. As submissions made in response to this paper will be subject to Freedom of Information requests, please do not include any personal or confidential information that you do not wish to become available to the public.

The consultation and feedback process will be open until Friday 21 May 2021.

Please direct any feedback to publichealthact@health.wa.gov.au.

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Appendix 1: Proposed Audit tools

The DOH is proposing that internal audits are conducted by sewerage schemes (Proposal 3.2.1). The DOH will provide support material to assist sewerage scheme operators based on the Recycling Scheme Internal Audit Checklist and the Audit Score Guide.

Appendix 2: Australian Sewage Quality Management Guidelines

Appendix F of the Australian Sewage Quality Management Guidelines outlines the 12 management elements and describes the components that should be measured during an audit.

RECYCLING SCHEMES INTERNAL AUDIT CHECKLIST TEMPLATE

SCHEME NAME:	SCHEME APPROVAL No
AUDITOR:	AUDIT DATE:
AUDIT PERIOD: The audit covered the period from XX to XX inclusive	PREVIOUS AUDIT DATE:

Key Documents Examined

- Department of Health (DOH) correspondence (Ref, date)
- Correspondence to DOH (Ref, date)
- Water Recycling Approval No
- Recycled Water Quality Management Plan (RWQMP)
- Process Control Table (PCT)
- Recycled Water Supply Agreement (RWSA) / Memorandum of Understanding (MOU)
- Department of Environment Regulation (DER) Licence No (if applicable)
- Other_____

Key Personnel Interviewed

Name:
Position:
Contact details:

Name:
Position:
Contact details:

Questions	Score	Findings / Comments
1. MANAGEMENT RESPONSIBILITY (Quality Policy, Organisation, Management Review) 1.1. Is the End User or delegated representative aware of the Guidelines for the Non-Potable Uses of Recycled Water in WA, and its associated Standards? 1.2. Is the End User or delegated representative aware of the DOH conditions of approval for the scheme?		
2. DOCUMENT AND DATA CONTROL		

RECYCLING SCHEMES INTERNAL AUDIT CHECKLIST TEMPLATE

Questions	Score	Findings / Comments
<p>(Document Approval and Issue, Document Changes / Modifications)</p> <p>2.1. Sights complete RWQMP manual.</p> <p>2.2. Sight Operations and Maintenance manuals.</p> <p>2.3. Is the RWSA/MOU between the Supplier and the End User current?</p> <p>2.4. Are all changes and extensions to the recycling scheme included in the DOH Approval?</p> <p>2.5. Sight Economic Regulation Authority (ERA) Licence if applicable for single entity schemes</p> <p>2.6. Sight complaints register</p> <p>2.7. Sight Annual Report documentation</p>		
<p>3. REUSE SCHEME SAMPLING</p> <p>3.1. Is sampling taken from locations that are representative of irrigated areas?</p> <p>3.2. Are the correct recycled water quality parameters being monitored as per DOH approval?</p> <p>3.3. Is recycled water quality recorded at the required frequency as per DOH approval?</p> <p>3.4. Are correct sample codes used?</p> <p>3.5. Are all recycled water samples analysed in a NATA registered laboratory or in a laboratory and by a method approved by the DOH?</p> <p>3.6. Are sample results being forwarded to DOH?</p>		
<p>4. REUSE SCHEME TREATMENT, STORAGE AND IRRIGATION</p> <p>4.1. Are all irrigated areas, storage assets and treatment facilities clearly designated with signs in accordance with AS1319 –</p>		

RECYCLING SCHEMES INTERNAL AUDIT CHECKLIST TEMPLATE

Questions	Score	Findings / Comments
<p>1994 Safety Signs for the Occupational Environment?</p> <p>4.2. Are all above-ground recycled water fittings readily identifiable and distinguishable from potable water piping on the same site following AS/NZ 3500 – National Plumbing and Drainage – Water Services?</p> <p>4.3. Are pipes clearly identifiable and coloured purple in accordance with AS 2700S:2011(P12)?</p> <p>4.4. Are outlets labelled, coloured purple and fitted with suitable locks?</p> <p>4.5. Are appropriate physical barriers in place to prevent the public from accessing irrigation areas?</p> <p>4.6. Are there any sensitive areas within the irrigation zone?</p> <p>4.7. Do chlorinated or UV treated schemes have as a minimum a fail-safe system?</p> <p>4.8. Are all chlorination assets fitted with alarms (if required)?</p>		
<p>5. INSPECTION PROCEDURES AND MAINTENANCE OF ASSETS</p> <p>5.1. Are all storage facilities maintained as required?</p> <p>5.2. Are all relevant assets calibrated at a frequency to ensure reliability of measurement?</p> <p>5.3. Are there regular inspections to ensure ponding and runoff does not occur?</p> <p>5.4. Are there regular inspections to ensure sensitive areas are not being sprayed with recycled water?</p> <p>5.5. Are there regular inspections to ensure spray drift is minimised?</p> <p>5.6. Irrigation times are checked periodically.</p>		

RECYCLING SCHEMES INTERNAL AUDIT CHECKLIST TEMPLATE

Questions	Score	Findings / Comments
5.7. Warning signs are reviewed periodically.		
6. CORRECTIVE & PREVENTATIVE ACTION 6.1. Has DOH been notified of any cessation of supply (as required)? 6.2. Are corrective actions being taken and recorded should water quality parameters be exceeded? 6.3. Has DOH been notified within 24 hours of becoming aware of any sewage spill in a quantity that has pooled or ponded & can be pumped out as per the Wastewater Overflow Procedures (2013)? 6.4. Has DOH been notified within 24 hours of becoming aware of any algal bloom event? 6.5. Have all required improvements stated in previous audits and DOH correspondence been completed (or a suitable action plan been put in place)? 6.6. Has the End User notified DOH once improvement actions have been completed in the requested timeframe (Company file allocated)?		
7. TRAINING 7.1. Is sampling conducted in accordance with the DOH "Standard Recycled Water Sampling Technique"? 7.2. Have groundskeeper/operator personnel been sufficiently trained in sampling of recycled water? 7.3. Have groundskeeper/operator personnel been sufficiently trained in the operating and maintenance of reuse infrastructure? 7.4. Are there appropriate induction documents to be provided to new employees (etc.) for the reuse scheme sites? 7.5. Are staff competent in all OHS requirements for operating		

RECYCLING SCHEMES INTERNAL AUDIT CHECKLIST TEMPLATE

Questions	Score	Findings / Comments
chlorinators (if applicable)?		
<p>8. OTHER (not scored)</p> <p><i>Please provide any additional comments...</i></p> <p>8.1. Do water quality parameters at the supplier outlet meet limits as agreed upon in the RWSA/MOU?</p> <p>8.2. Has the Recipient received water quality results from the supplier as agreed in the RWSA/MOU?</p> <p>8.3. Is there any evidence that storage ponds etc. require desludging (at irrigation site or storage site)?</p> <p>8.4. Does the disposal rate meet legislative requirements?</p> <p>8.5. Any other comments regarding the design of the system?</p> <p>8.6. Any other comments regarding the condition of plant, equipment or infrastructure?</p> <p>8.7. Additional comments...</p>		

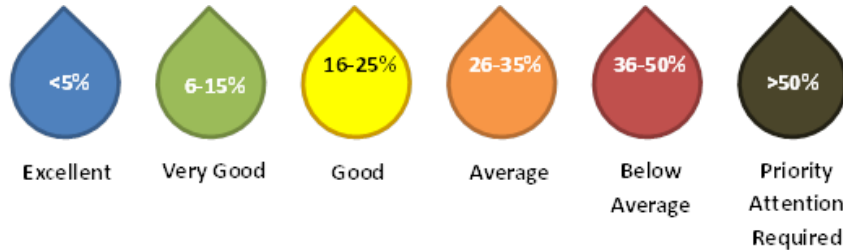
RECYCLING SCHEMES INTERNAL AUDIT CHECKLIST TEMPLATE

PROCEDURES FOR MANAGING AUDITS

The normal internal auditing schedule is every two years and external audit is every five years.

SCORING CRITERIA

Scoring is based on risk to public health and level of compliance with DOH conditions of approval. For more information please see the Internal Audit Scoring Guide for Low Exposure Risk Recycled Water Schemes. A successful audit is considered to be an audit in which both Administration and Operational sections score <36%.



When an audit is unsuccessful, the auditing intensifies to yearly, until 2 successful audits are obtained. This period of auditing is called the Intensified Auditing Program or Period. This is to be noted and followed up by the officer participating in the unsuccessful audit.

New premises are to be audited every year for 2 years (Initial Auditing Period)

UNSUCCESSFUL AND CAR FOLLOW-UP PROCEDURES:

1. If audit is unsuccessful, a follow-up audit (Intensified Auditing Program) is to be scheduled for next year.
 - Nominate date of follow-up audit:
2. Close-out of current CARs (all CARs are to be followed up).
 - Nominate close-out follow-up date(s) at audit.
 - Note follow-up date in diary (arrange notification) including contact phone number and company contact person:
3. Record audit results (i.e. Reuse database in computer).
4. If audit is **successful**, note on file cover **Folio and Officer Action Date for BRING-UP** (at least 1 month prior to audit)
5. Maintain record of audit and audit performance of company in your personal diary.

CAR: Configuration Audit Review

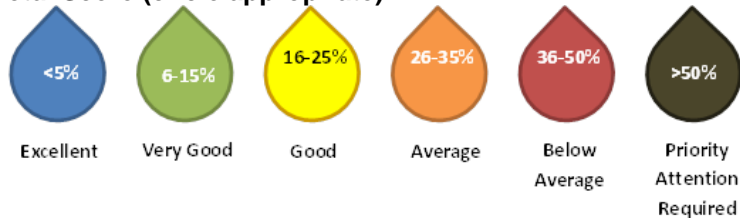
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RECYCLING SCHEMES INTERNAL AUDIT CHECKLIST TEMPLATE

KEY AUDIT RESULTS SUMMARY AND RECOMMENDATIONS

Audit Assessment Summary – Administration					
Assessment area	Audit Score			Score from previous assessment (n/a for initial assessment)	Current qualitative assessment and recommendations (Excellent, good, below average, etc.)
	Points received	Points Possible	Score %		
1. Management Responsibilities		8			
2. Document and Data Control		28			
6. Corrective & Preventative Action		36			
7. Training		17			
Total Score		89			
Audit Assessment Summary - Operations					
Assessment area	Audit Score			Score from previous assessment (n/a for initial assessment)	Current qualitative assessment and recommendations (Excellent, good, below average, etc.)
	Points received	Points Possible	Score %		
3. Reuse Scheme Sampling		24			
4. Reuse Scheme Treatment, Storage and Irrigation		65			
5. Inspection Procedures and Maintenance of Assets		33			
Total Score		122			

Total Score (circle appropriate):



RECYCLING SCHEMES INTERNAL AUDIT CHECKLIST TEMPLATE

POST AUDIT IMPLEMENTATION PLAN

Reference	Non-Compliance/ Controls Improvement	Auditor's Recommendation	Management Action	Person Responsible	Target date for Completion

Appendix F Evidence guide for water utilities

Element	Components	Measure	Supporting Records
1. Commitment to sewage quality management	1.1 Policies	1.1.1 The Utility has an approved framework and objectives for sewage quality management	Adoption of 12 elements in the ASQMG or similar (e.g. Integrated Management System or Environmental Management System)
		1.1.2 The Utility has an executive endorsed sewage quality management policy which considers, as a minimum, the following inputs: trade waste, inflow/infiltration, domestic input, chemical dosing (if applicable)	Policy document approved by senior management. This may be embedded in existing policies such as Environmental policy
	1.2 Regulatory and formal requirements	1.2.1 The Utility has a process for identifying and documenting regulatory and formal requirements relevant to quality management inputs.	Customer contract, customer charter, legislation, regulation, by-law DG Code compliance
		1.2.2 The Utility has a process to allocate and document quality management responsibilities	Delegation handbook, Asset Management Plans, Trade Waste Policy, Operational Plans
	1.3 Engaging stakeholders	1.3.1 The Utility has a process for determining the identity and role of stakeholders in relation to sewage quality management	Communiqués and internal policy position statements identifying stakeholder roles in sewage quality management
	1.4 Initial investigations	1.4.1 The Utility should acquire baseline data for the sewage system through research and investigative monitoring	Broad based routine monitoring results covering seasonal events - 12 months wherever possible
2. Assessment of hazards	2.1 Describing the sewage system	2.1.1 The Utility has assembled suitably qualified people to describe and document the sewage system and identify all process steps, sources and system components that affect sewage quality and product quality specifications	System flow diagram, system plan, GIS with key nodes and Trade Waste discharges, hydraulic model (e.g. SCAPs)
	2.2 Setting specifications for sewage quality	2.2.1 The Utility should determine system capacity of the system to accept particular sewage hazards using the 5 key objectives	Document the 5 key objectives across the sewage system
	2.3 Assessing the sewage system	2.3.1 The Utility has identified and collated sewage quality data and undertaken a quality and quantity analysis against system capability based on sewage quality management objectives and product quality specifications	Sewage quality database, interface sampling data

Element	Components	Measure	Supporting Records
		2.3.2 The Utility has identified unacceptable high loads, hazards and threats to the sewage source management objectives	Incident reports (IMS) / investigations, data report recommendations, procedure
	2.4 Identifying hazards and hazardous events	2.4.1 The Utility has defined the approach and methodology to be used for hazard identification and risk assessment	Hazard identification and Risk assessment procedure based on AS/NZS 4360:2004
		2.4.2 The Utility has identified and documented hazards relevant to each component of the sewage system based on the sewage quality management objectives and product quality specifications	Documented hazards (chemical, physical, radiological) for sewage quality
		2.4.3 The Utility has determined the level of risk for each major hazard	Risk assessment worksheet and procedure Preventative measures & prerequisite programs are taken into account
		2.4.4 The Utility has identified key areas of risks and prepared a risk management plan	Risk Management Plan documented with priorities assigned to risk areas
		2.4.5 The Utility has identified and documented the major areas of uncertainty or assumption for each hazard and relevant actions	Risk management plan
3. Risk assessment and control	3.1 Assessing risk	3.1.1 The Utility has identified and documented the preventive measures and prerequisite programs in place from source to sewage treatment plant for each significant hazard or hazardous event	Documented preventative measures for each process step and each identified hazard Register of prerequisite programs
	3.2 Risk acceptability and treatment	3.2.1 The Utility has evaluated uncertainty about each risk and considered the extra control measures needed	Documented priorities for risk treatment
		3.2.2 The Utility has a process for capturing contingencies identified during the risk assessment process are formalised into contingency plans	HIDRA
	3.3 Review of risk management effectiveness	3.3.1 The Utility has reviewed the risk assessment for alignment with its corporate risk assessments	Membership of the risk assessment team as documented in the plan, review of risk management plan
	3.4 Control measures	3.4.1 The Utility has undertaken an assessment of adequacy of control and preventative measures and the level of acceptable residual risk	Control and preventative measure review document
	3.5 Supporting programs	3.5.1 The Utility should identify existing external programs of support and compile a register of key programs and link them to specific sewage system process steps	Documented key external programs such as those specific to local or state government areas, including plans for economic development, environmental licensing and development approvals, drinking water, treatment quality or catchment management plans

Element	Components	Measure	Supporting Records
4. Operational monitoring and control	4.1 Operating monitoring program	4.1.1 The Utility will monitor all operations relevant to quality Management against operational plan commitments	Operational monitoring plan identifies system performance monitoring
		4.1.2 Critical Control Points (CCPs) The Utility has a documented method to determine the process steps that are CCPs	Documented CCP flowchart/decision tree
		4.1.3 The Utility has a register of CCP's and associated alert and critical limits	Documented CCP register with associated limits
	4.2 Control points	4.2.1 The Utility must have a documented corrective action for a breach of a critical or alert limit	Documented CCP corrective action plan or procedures
		4.2.2 Quality Control Points (QCPs) The Utility has a documented method to determine the process steps that are QCPs	Documented QCP register with associated limits
		4.2.3 The Utility has a register of QCP's and associated alert and critical limits	Documented QCP corrective action plan or procedures
	4.3 Corrective and preventive actions	4.3.1 The Utility has documented corrective actions procedures to respond to breaches of operational plan commitments, including communications protocols	Corrective action procedures
	4.4 Equipment Capability and Maintenance	4.4.1 The Utility has all equipment relating to operational plan commitments identified in a management system	Asset management database
		4.4.2 The Utility has documented procedures and processes for maintenance, calibration and verification of performance of equipment relating to the operational plan	Calibration certificates, Maintenance records, Plan signed off by a suitably qualified person
5. Verification monitoring	5.1 Sewage quality monitoring program	5.1.1 The Utility has a monitoring plan that monitors all identified hazards in relation to the 5 key objectives and the product quality specifications	Documentation linking sewage system monitoring and objectives monitoring Biosolids, recycled water, asset condition, odour, reject stream, effluent, headspace monitoring, interface monitoring
		5.1.2 The Utility has a process for determining of frequency of sampling, sampling locations and type of sample	Monitoring plan linkage to hazard analysis, GIS maps, statistical analysis
	5.2 Short-term evaluation of data	5.2.2 The Utility has a documented procedure for evaluation and assessment of monitoring data related to 5 key objectives and product quality specifications	Evaluation plan
		5.2.3 The Utility has an established process for periodic reporting of results of sewage system monitoring program	Monitoring plan results report
		5.2.3 The utility has assessed monitoring data reliability	Validation process

Element	Components	Measure	Supporting Records
	5.3 Corrective and preventive actions	5.3.1 The Utility has procedures for documenting non-conformance and corrective action requests	Process map of corrective action process, records of non conformances
		5.3.2 The Utility has communication procedures for alerts and notifications from verification monitoring documentation	Evidence of communication plan, records of correspondence
6. Management of incidents and emergencies	6.1 Incident and emergency response protocols	6.1.1 The Utility has identified potential incident scenarios and responsibility for response	Incident Management System, mock incident scenario plan
		6.1.2 The Utility has documented procedures and response plans for all incident and emergency scenarios	Incident and Emergency Response Plan
		6.1.3 The Utility conducts mock incidents to ensure appropriate response / equipment / procedures / debrief	Training records, incident management system records for mock incidents, records of improvement actions from mock incidents
		6.1.4 The Utility has documented investigation procedures for all incidents / emergencies & revise procedures where necessary	Incident Management System, procedure review process
		6.1.5 The Utility reviews and revises document procedures where necessary	New version document, procedure review process
		6.1.6 The Utility has a system to keep all employees informed during an incident or emergency	Emergency Response Communications Plan
	6.2 Communication	6.2.1 The Utility has clearly defined protocols for internal and external communications during incidents and emergencies that include contact lists of key people, agencies and businesses	Incident and Emergency Management Plan or communication protocol/procedure
		6.2.2 The Utility has a means to ensure that key contacts or alternatives can be reached at all times	Incident and Emergency Management Plan document, incident response roster
		6.2.3 The Utility has a process to check the currency and effectiveness of its emergency contact systems	Incident and Emergency Management Plan document review process
		6.2.4 The Utility has a predefined process for public and media communications during incidents and emergencies	Incident of emergency response plan includes communications process
		6.2.5 The Utility has trained media liaison officers that are nominated as the responsible officers for interactions with the media during incidents and emergencies	Human resource plan, delegations procedures, incident response roster
		6.2.6 The Utility has a mechanism to ensure that operational staff do not talk directly to the media during or after quality incidents and emergencies	Incident and Emergency Response Media Protocols

Element	Components	Measure	Supporting Records
		6.2.7 The Utility has a process for public and media notifications for all foreseeable events and consequences	Emergency Response Communications Plan
	6.3 Incident reporting	6.3.1 The Utility has a process to ensure any incidents are reported and employees are aware of the process	Incident and Emergency Management Plan or communication protocol/procedure
7. Employee awareness and training	7.1 Employee awareness and involvement	7.1.1 All relevant Utility employees and contractors have participated in an awareness program for the sewage quality management program	QA procedure
		7.1.2 The Utility has a mechanism in place to provide regular updates to all relevant employees and contractors on progress against objectives and achievement of key steps in the management program	Communication plan, audit/review schedule
		7.1.3 The Utility has prepared information that is specific to particular roles so that all employees and contractors can identify how they contribute to sewage quality management	Position descriptions, contractor role statements
		7.1.4 The utility has communicated responsibilities for relevant aspects of sewage source management to both new and existing staff and contractors	Skills matrix, position descriptions, organisational chart and organisation wide information
	7.2 Employee training	7.2.1 The Utility has a process for the induction and training of employees including contractors to ensure they are aware of the impact of their actions on sewage quality management	Induction procedure, Training records of courses, in house training, on the job experience, mentor programs, demonstrations, seminars, conferences
		7.2.2 The Utility has a process for assessing and maintaining appropriate experience, skills, competencies and qualifications of all employees including contractors	Induction, training records by accredited training agencies e.g. NWP07
		7.2.3 The Utility has identified training needs relating to sewage source management and have an adequately resourced training & assessment program	Development plans, training program
		7.2.4 The Utility maintains records of employee training requirements and the currency of training in relation to the management of sewage sources	Training records
8. Stakeholder management	8.1 Customer and stakeholder awareness and involvement	8.1.1 The Utility has strategies & processes for consulting with the customers and other stakeholders to establish needs and expectations with respect to sewage quality	Community consultation policy, stakeholder management plans
	8.2 Communication with stakeholders	8.2.1 The Utility has a process for active two-way communication with customers that includes education about sewage source quality management and promotes an awareness of their obligations about sewage quality management	Customer Communication Plan, records of complaints and follow up with customers, database

Element	Components	Measure	Supporting Records
		8.2.2 The Utility has a process for providing information to stakeholders on the benefits of sewage quality management	Stakeholder Communication Plans
	9.1 Investigative studies, research and development	9.1.1 The Utility has identified programs for increased understanding of sewage system and impacts on the 5 key objectives	Improvement Plan approved by Senior Management, R&D program
		9.1.2 The Utility has a documented process for capturing identified improvements to the system	Documented Improvement Plan and review process
	9.2 Equipment design and capability	9.2.1 The Utility has a documented validation process for design of new equipment	Documented validation process (for CCP/QCP) WSAA pre-treatment register
10. Documentation and reporting	10.1 Managing documentation and records	10.1.1 The Utility has a process for documenting, recording and readily retrieving information relevant to all aspects of sewage quality management	Document management system as part of QA system
		10.1.2 The Utility has ensured that documents and records are readily accessible to employees and are in a form tailored to the location and mode of use	Audit report
		10.1.3 The Utility has a document control process that includes a system for version control that ensures that current versions are those that are in use and obsolete documents are no longer available or used	Review document, review schedule
		10.1.4 The Utility has a process for systematically managing its records related to sewage quality management and a supporting process to train staff to use that system	Document management Procedure, Training records
		10.1.5 The Utility has a process for reviewing, and revising as necessary, documentation relating to sewage quality management	QA Procedure
	10.2 Reporting to internal and external stakeholders	10.2.1 The Utility has a process for effective reporting relating to sewage quality management both internally and externally	QA reporting procedure
		10.2.2 The Utility has a process for making a comprehensive annual report readily discoverable and available to consumers, regulators and stakeholders describing relevant aspects of sewage quality management	Annual performance review report, audit reports, report schedule
11. Evaluation and audit	11.1 Long-term evaluation of data	11.1.1 The Utility has a process for collecting and evaluating quality data to test for trends, associations and non-conformances and uses the findings to improve its processes	Process documentation
		11.1.2 The Utility has a process for collecting and evaluating operational feedback to test for trends and associations and uses the findings to improve its processes	Establishment of trend analysis system
		11.1.3 The Utility maintains an accessible, comprehensive and up to date database of sewage quality data	Existence of sewage quality database

Element	Components	Measure	Supporting Records
	11.2 Validation processes	11.2.1 The Utility has a documented process for validating that the sewage system will ensure that the 5 Key Objectives are met	Procedure for validation, documented validation step as part of risk assessment
		11.2.2 The Utility has established triggers for validating that control measures are effective to meet the 5 Key objectives	Documented trigger points as part of risk assessment such as new significant trade waste source, new chemical dosing system etc
		11.2.3 The Utility has evaluated scientific and available information as part of the validation process	Validation evidence including literature review, WSAA Network, R&D
	11.3 Audit of sewage quality management system	11.3.1 The Utility has a process for reporting the results of its evaluation of long-term data	Audit procedure
		11.3.2 Audit programs implemented in accordance with documented audit process	Audit schedule
		11.3.3 The Utility staff perform internal audits to check the full implementation of the sewage quality management system	Internal audit plan
		11.3.4 The Utility's peer reviewers undertake audits of the implementation of its sewage quality management system	Peer review plan
		11.3.5 The Utility's independent reviewers undertake audits of the implementation of its sewage quality management system	Audit plan and schedule
		11.3.6 The Utility has a process for communicating the key sewage quality management audit findings to those that can use the findings to improve sewage quality management	Stakeholder meeting minutes
		11.3.7 Information required to be communicated to regulators is identified and mechanisms for communication is documented	Regulator impact statement, stakeholder plan, QA reporting procedure
		11.3.8 Reporting is undertaken in accordance with documented procedure	Annual regulatory report
12. Review and continual Improvement	12.1 Review by senior executives/managers	12.1.1 Senior executives review the effectiveness of the sewage quality management systems to ensure that they continue to meet business needs and the needs of end users, regulators and other stakeholders	Report, minutes of meetings
		12.1.2 Senior executives review the suitability of the recycled water quality policy taking into consideration changes in internal agency structure and the external operating environment	Reports, minutes of meetings
		12.1.3 Documented process detailing how the organisation evaluates the need for improvement	Document / procedure

Element	Components	Measure	Supporting Records
		12.1.4 The Utility has a process for programming capital, operational and procedural improvements following senior executive review of sewage quality management performance	Record of documentation
	12.2 Plan for improving sewage quality management	12.2.1 The Utility has a sewage quality management improvement plan endorsed by the senior executive that consolidates and prioritises capital and operational sewage source quality improvement actions	Improvement plan with activity completion dates and responsible officers signed by senior executive
		12.2.2 The Utility has a process to update the sewage quality management improvement plan based on risk assessment findings, sewage source quality non-conformances, critical limit exceedances, incident and emergency reports and audit outcomes	Procedure updates, employee training needs identified, capital works program
		12.2.3 The Utility has a process for communicating the identified responsibilities for the actions identified within its sewage quality management improvement plan including liaising with stakeholders where responsibilities for actions which lie outside the agency	Corrective Action Plans, Communication Plans, minutes of stakeholder meetings
		12.2.4 The Utility has a process for reviewing the actions within its sewage quality management improvement plan to keep track of progress and to make sure that the actions have been effective in practice	Minutes of meetings, documented review process, evidence of meetings
		12.2.5. The senior executive reports progress against actions in the sewage quality management improvement plan to all relevant employees/stakeholders	Minutes of meetings, agenda items

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