Port Stephens Council
On-site Sewage Management Guidelines

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1. PURPOSE

The purpose of these guidelines is to assist with the delivery and implementation of on-site sewage management in the Port Stephens local government area. The guidelines expand on the overall on-site sewage management policy and are based on the science and findings of the development assessment framework (DAF).

2. LEGISLATION AND GUIDELINES

This section contains an outline of legislation, guidelines, standards and investigations that must be considered by Port Stephens Council in the regulation of new and existing on-site sewage management systems.

Table 1.1: Applicable Legislation

Legislation	Relevance or Purpose to On-site Sewage Management
Local Government Act, 1993	Legislative instrument applicable to all activities and functions relevant to on-site sewage management systems
Local Government (General) Regulation, 2005	Sets standards and conditions for assessment, installation and operation of on-site sewage management systems
Hunter Water (special areas) Regulation, 2015	Defines drinking water catchment areas and conditions relating to sewage disposal within these special areas.
Environmental Planning and Assessment Act, 1979	Legislative instrument governing the Local Environmental Plan (LEP) and Development Control Plan (DCP)
Local Environment Plan (as amended from time-to-time)	The LEP is a statutory instrument that sets out the land use zones and broad development controls for development within the local government area (LGA)
Development Control Plan (as amended from time-to-time)	The Development Control Plan (DCP) is a suite of documents that provide practical information to support development that retains and enhances the natural and heritage values of the Port Stephens LGA. The DCP applies to all land zoned under the LEP.
State Environmental Planning Policies (as amended from time-to-time)	SEPP14 – coastal wetlands SEPP62 – sustainable aquaculture (part3a) SEPP71 – coastal protection (part 4(15))

Table 1.2: Applicable Standards, Guidelines and Reports

Standard/guideline/other document	Purpose
Environment and Health Protection Guidelines – On-site Sewage Management for Single Households	Guidelines compiled to assist councils in regulating small to medium on-site sewage management systems.
Various State Government Department Guidelines and Technical Notes	Use of Effluent by Irrigation (Dept. OEH)
	Use and Disposal of Biosolid Products (Dept. OEH)
	NSW Health, Advisory Note 3 – May 2006 Destruction, Removal or Reuse Of Septic Tanks, Collection Wells, Aerated Wastewater Treatment Systems and other Sewage Management Facility Vessels
Australian standards	**AS/NZ 1546** A set of standards prescribing performance requirements and performance criteria for septic tanks and treatment systems. They specify technical means of compliance and provide test specifications that enable septic tanks to be manufactured to comply with the performance requirements and criteria. **AS/NZ 1547: 2012 – on-site domestic waste water management** A reference document providing procedures, guidance and information covering site and soil assessment, treatment systems and disposal areas.
Broad Scale Study of On-site Effluent Disposal Suitability in the Port Stephens Council LGA, Martens and Associates, 1999	Port Stephens Council commissioned the above study to be carried out by Martens and Associates early in 1999. This study was completed in May 1999 and provided council with: 1. A study report summarising all investigations, field auditing and sampling programs, modelling and recommendations. 2. Land capability or 'suitability' map(s) for on-site effluent disposal in the Port

	Stephens LGA. 3. A GIS dataset of relevant factors of consideration for on-site wastewater disposal in the Port Stephens LGA. 4. Recommendations regarding suitable systems, system sizes based on ESD principles and required management protocols for each of the identified capability classes. 5. Recommendations for the management of on-site wastewater disposal in existing unsewered rural and urban residential areas where allotment density exceed critical densities as defined by the modelling exercises and where existing systems are failing. The document has been used by council in the assessment of proposed development in unsewered areas.

Table 1.2 con't: Applicable Standards, Guidelines and Reports

Standard/guideline/other document	Purpose
Port Stephens Council On-site Sewage Management Technical Manual, BMT WBM, March 2011	The main objectives of the study were: • Review methodologies adopted in the broad scale study (1999). • Produce revised land capability maps. • Identify sustainable system densities and minimum allotment sizes/ • Provide a technical/scientific justification for restricting unsewered development. • Produce a framework for assessing and classifying land according to risk.
Port Stephens Council On-site Sewage Development Assessment Framework (DAF), BMT WBM, Revision 4, 24/3/2015	The framework by which all new and replacement on-site sewage management systems are assessed. The document also defines criteria and standards relating to treatment systems and disposal areas.
NSW Health accreditation for domestic On-site Sewage Treatment Devices	NSW health is responsible for accrediting human waste treatment or storage devices that are intended to receive domestic wastewater or human waste. Accreditation is mandatory for commercially manufactured units and for commercially distributed standard designs of the types specified in the regulations.

3. EXISTING CONDITIONS

Port Stephens Council has an area of approximately 977 square km and extends from the coast with Newcastle Council to the South and Great Lakes Council to the North, inland to the west where it is bordered by Maitland and Dungog Council areas. The LGA includes a variety of landscapes from the port, beaches, extensive estuaries, river and sand dune systems, volcanic outcrops and a large rural hinterland.

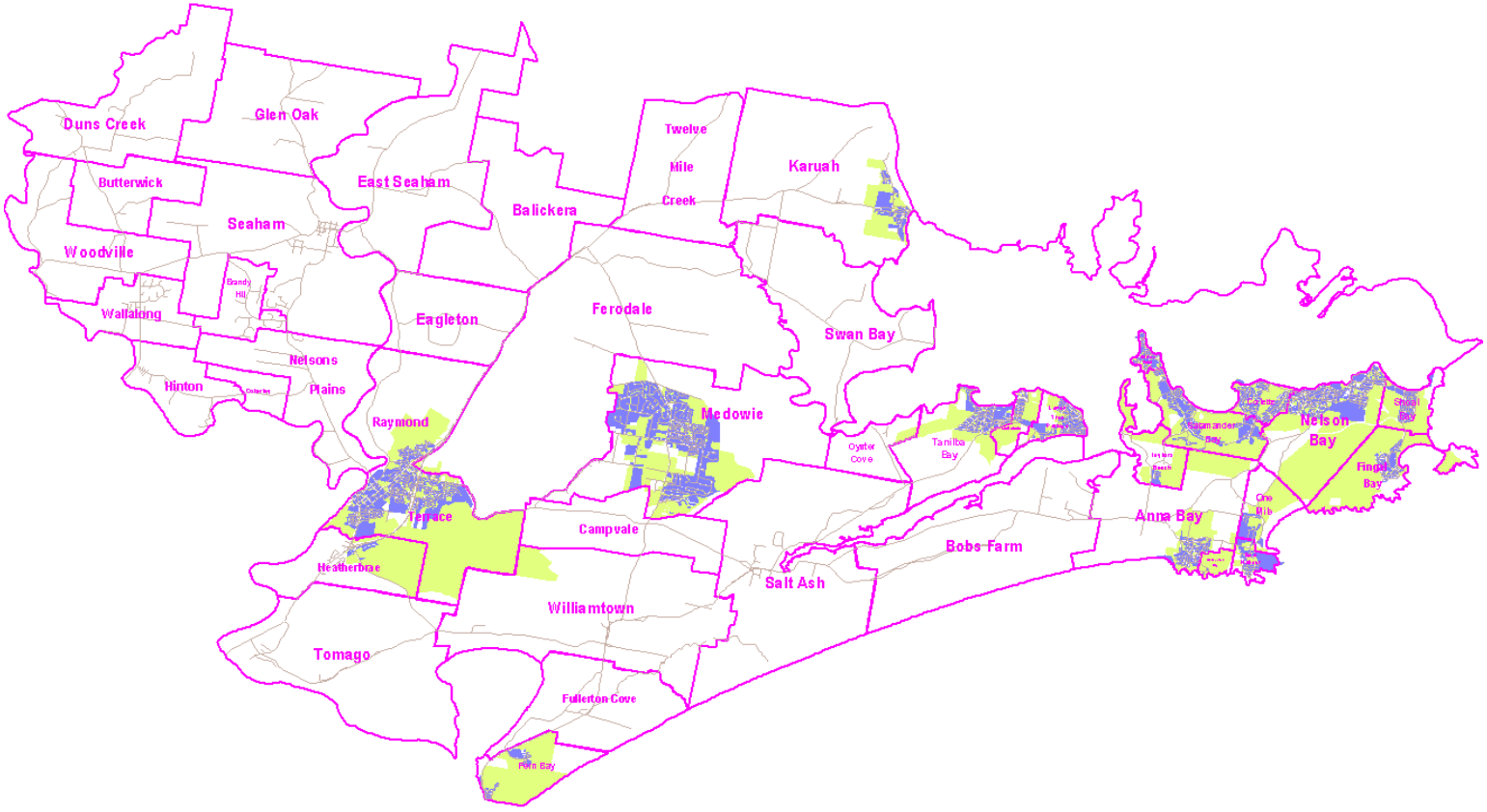
The potential impact of on-site sewage management systems on water quality is of particular relevance in the Port Stephens council area where development has taken place around a variety of waterways. The region's rapidly expanding tourist industry relies upon clean lakes and beaches for swimming, diving, boating and fishing, as does the local oyster and aquaculture industry for commercial production. The area serves as a catchment for the Hunter, Paterson, Karuah and Williams Rivers, and the water storage areas of Grahamstown Dam and the Tomago and Tomaree aquifers. The area is the source for Port Stephens residents' water supply, much of the domestic supply for the city of Newcastle and also supplies the regions' agricultural industry with water to irrigate and water stock.

Table 2.1: Locality Guide for Onsite Sewage Management Systems in Port Stephens

Localities in Port Stephens containing on-site sewage management systems		
High reliance	**Moderate reliance**	**Low reliance**
Balickera	Anna Bay	Fern Bay
Bobs Farm	Medowie	Karuah
Brandy Hill	Taylors Beach	One Mile
Butterwick		Raymond Terrace
Campvale		Tomaree Peninsula
Duns Creek		
Eagleton		
East Seaham		
Ferodale		
Glen Oak		
Heatherbrae		
Hinton		
Nelsons Plains		
Osterley		
Oyster Cove		
Salt Ash		
Swan Bay		
Tomago		
Twelve Mile Creek		
Wallalong		
Williamtown		
Woodville		

MAP 1: SEWERED AREAS IN THE PORT STEPHENS LOCAL GOVERNMENT AREA
(HUNTER WATER CORPORATION DATA, JAN 2009)

Purple: Parcels with provision of sewer service (Hunter Water Corporation).
Yellow: Parcels within 75m of sewer service.



4. OPERATIONAL FRAMEWORK

This section of the guideline sets out the processes for the issuing of Approvals to Operate, new system installations and the classification and inspection of on-site sewage management systems. The operational guideline is designed to provide an effective approvals and monitoring framework for on-site sewage management in the Port Stephens LGA. The approach taken is based on the principles of protection and enhancement of public health and the environment through the cooperative management of on-site systems by all stakeholders**.**

A. DEVELOPMENT ASSESSMENT FRAMEWORK (DAF)

In 1998 Port Stephens Council, using a monetary grant from the NSW Government, engaged a consultant to undertake a comprehensive study relating to on-site sewage management in the PSC LGA. The resulting document titled *Broad Scale Study of On-site Effluent Disposal in the Port Stephens Council LGA, NSW* (Martens and Associates, 1999) was used to assist in development of the OSMS program.

Being that the initial study took place over ten years ago there have been many improvements in scientific knowledge and technologies relating to the design of on-site sewage management systems and in environmental assessment procedures. As a consequence in 2009 Council engaged consultants BMT WBM Pty Ltd (Newcastle) to undertake a comprehensive review of the "Broad Scale Study".

The project aims were to:

- Undertake a background review and develop objectives through:

  - Data collection and background review
  - Field visits and discussion with Council
  - Review the 1999 Broad Scale Study
  - Refine mapping and modelling methodology

- Develop revised land capability maps through:

  - Development of land capability assessment logic
  - GIS analysis and creation of land capability map
  - Apply land capability to Council guideline

- Develop sustainable system densities and allotment sizes through:

  - Building on-site system water quality models
  - Calibrating models with available data
  - Developing and run indicative system densities and lot size scenarios

- Prepare project outputs:

  - Technical manual - This document provides the technical basis for:

    - On-site sewage management hazard mapping
    - Minimum allotment size
    - Maximum lot density
    - Rationale for acceptable solution tables
    - DAF design procedure, and
    - Cumulative impact assessment procedures

  - Development assessment framework (DAF) - This document provides Council officers, applicants, consultants and installers the necessary information to undertake an appropriate level of site and environmental investigation, system design selection and sizing and system installation.

Both the DAF and technical manual are separate documents that are called up by this guideline. The technical manual provides the technical and scientific basis for the DAF.

A review of the DAF was finalised in 2016 that has resulted in the following changes to the current version (**Table 3.1**).

Table 3.1: Proposed Addenda to the Port Stephens DAF

DAF Section	Element	Change	Reason
Page VI	Fact sheet	Added paragraph spelling out legislative approval requirements. (Section 68 vs POEO vs WICA)	LMCC recommendation.
Page IX	How to use this document	New section added clarifying the process for altering hazard class	Provide clarity and limits to potential for alteration.
Whole DAF		References to ASNZS1547:2000 have been updated to 2012	
1.2.1	Site and soil pro-forma	Text to allow consultants to develop own pro-forma subject to approval by council (must be consistent with DAF)	Some consultants wanted to use their own templates etc but happy to make equivalent
1.3, Table 1-5, Table 1-6 and 1.3.2	High Hazard LAA sizing	We propose adoption of consistent sizing procedure to other councils (see attached) rather than monthly water balance.	Climate adjustment factors are adequate representation of climatic constraints and limit ability of consultants to fiddle the numbers.

DAF Section	Element	Change	Reason
1.4.2	Very High Hazard LAA sizing	A new hydraulic sizing target for daily water balance modelling is proposed.	Work undertaken since 2009 and particularly recently for Victorian EPA confirms a volumetric surcharge target is more appropriate for OSMS rather than a frequency based criterion.
Table 2-1, 2-3, 2-5	Checklists for Low, Med and High hazard	Add footnote to confirm all proposals for new lots in HWC areas must complete a CIA (to confirm water quality protection) however <4000m2 useable land not accepted under any circumstances.	Requirement to ensure adequate protection measures for drinking water quality within HWC catchments
2.1 Table 2-1	Sizing of LAAs	We propose adoption of consistent sizing procedure to other councils (see attached) rather than monthly water balance.	See above for 1.3
Section 2	CIA requirements	The minimum standards for CIA have now been placed in a discreet section and referred to under each hazard class.	Avoids the need to repeat the CIA process four times.
Section 2	CIA procedures	CIA procedures streamlined. Standard and Detailed CIA still required but Standard CIA procedure now comprises a set of processes that can be undertaken using Excel alone in addition to freely available online published (NSW govt endorsed) material.	Previous simple CIA was too complex and clunky. New Standard CIA is more consistent with water quality impact procedures for stormwater (e.g. SCA).
Section 2	CIA procedures – hydraulic minimum standard	A new hydraulic sizing target for daily water balance modelling is proposed.	Work undertaken since 2009 and particularly recently for Victorian EPA confirms a volumetric surcharge target is more appropriate for OSMS rather than a frequency based criterion.

DAF Section	Element	Change	Reason
2.4, Table 2-7 and section 2.4.4	CIA requirements for VHH	Now only require detailed CIA where useable land is <4000m2 and/or standard setbacks not achieved.	Consistent with other councils. Daily modelling already required to size LAAs. Very rare occurrence anyway as most VHH lots don't have capacity to subdivide into lots with >4000 useable land.
2.5	Consolidation of lots	Add paragraph requiring any lot consolidation proposal within HWC catchments to follow the VHH procedure.	Consistent with DSC. Provides a catch for proposals where consolidated lots are still highly constrained and small.
2.5	LAA sizing	Make consistent with above discussion on LAA sizing equation.	
2.7	CIA procedures	New table added providing clearer decision advice on when a standard or detailed CIA is required.	Consistent with other DAFs based on lessons learned. Considers setbacks and useable land in a risk based approach.
2.7	CIA procedures	Single DAF section setting out minimum standards for CIA under new structure.	Consistent with other DAFs and streamlined approach.
3.1, Table 3-1	Non-domestic CIA	Remove requirement for Simple CIA for non-domestic <10 kL/day systems.	Consistent with other DAFs, based on typical Low/Medium <10 kL applications received to date.
3.1, Table 3-1	Non-domestic CIA	Requirement for mandatory CIA added where property is within HWC catchment.	Consistent with DSC.
3.2 Table 3-5	Non-domestic CIA (10-100 kL/day)	Reduced CIA requirement to Standard.	Consistency

DAF Section	Element	Change	Reason
3.2.2	LAA sizing for 10-100 kL/day	A new hydraulic sizing target for daily water balance modelling is proposed.	Work undertaken since 2009 and particularly recently for Victorian EPA confirms a volumetric surcharge target is more appropriate for OSMS rather than a frequency based criterion.
6.2	Wastewater generation	Added statement about studies being counted as bedrooms at council's discretion.	Consistency
6.3	Treatment systems	Added subsections on types of non-standard treatment systems developed for GTCC.	Consistency
6.3.10	Acid sulphate soils	Added section on implications of ASS (at request of LMCC).	Consistency
6.4.3	Sizing of LAAs	Added section explaining the simplified sizing method (more detail in Tech Man).	Consistency. See above.
6.4.4	Reserve Areas	Added clarification on requirements for reserve areas.	Consistency
6.4.7	Vegetation	Clarification on recommended vegetation types (from GTCC)	Consistency
6.9	Buffers	Amended to make consistent with AS1547:2012 and to trigger risk based need for detailed modelling where buffers clearly not met.	Update + captures a missing element of the DAF V1 where single lot applications failed to meet buffers.

The DAF shall be used to determine investigation level, system applicability and minimum site and environment assessment requirements for the installation of new and the replacement of existing systems and in the assessment of applications for the subdivision of land in unsewered areas.

The basis for the DAF is the classification of land into four risk categories (low, medium, high and very high) according to defined topographical, environmental, soil and climate factors. The more constrained the property the higher the hazard class. The level of assessment required for development applications is a function of the

hazard class identified for the property. The higher the hazard class the greater the level of assessment required.

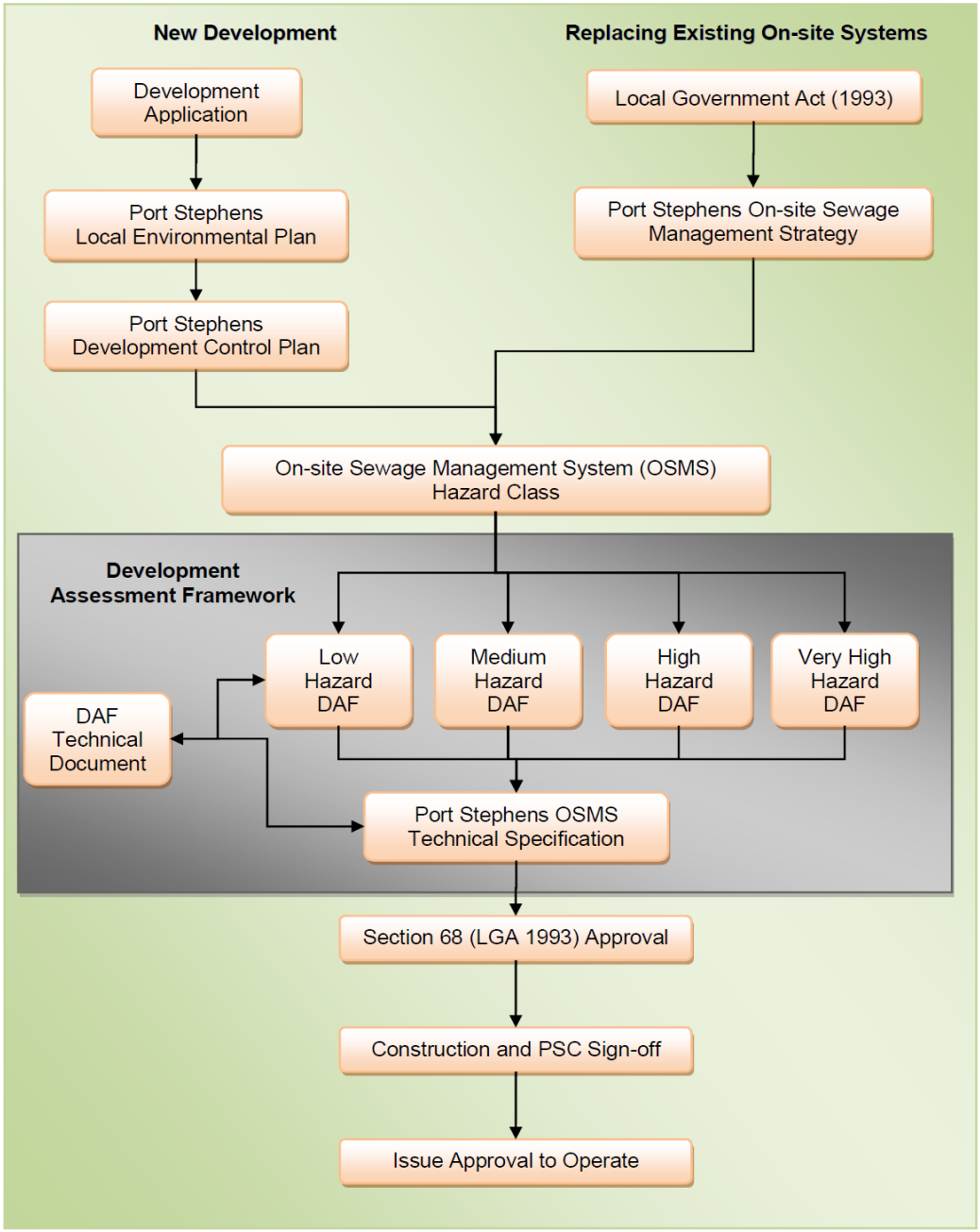
Two maps have been developed defining the hazard classes. One map relates to the installation of an on-site sewage management system on a single allotment with a second map defining hazard classes when proposing subdivision of land. Property owners, consultants and installers access these maps to identify the hazard class applicable to the lot identification details. Assessment requirements, developed specifically for each hazard class, are used by the installer or consultant to undertake an appropriate level of investigation and prepare and submit the application with the necessary information.

- **Flowchart 1:** provides an overview of the On-site Sewage Management structure. It includes the legislative framework and development assessment framework for existing and new on-site sewage management systems.

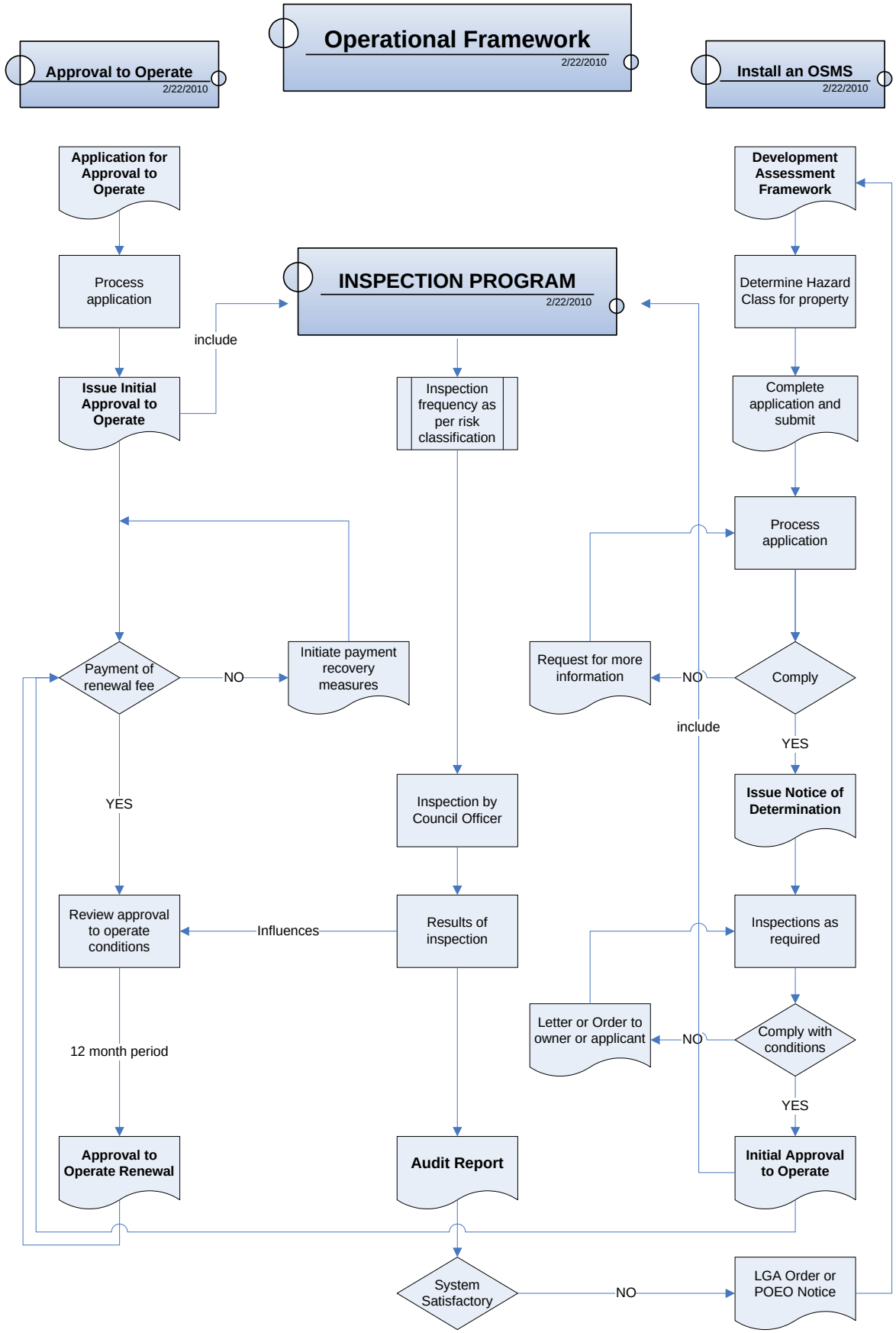
- **Flowchart 2**: details the operational flowchart for the approval to operate, inspection program and system installation.

- **Flowchart 3:** provides a more detailed explanation for the installation of an On-site Sewage Management System using the DAF.

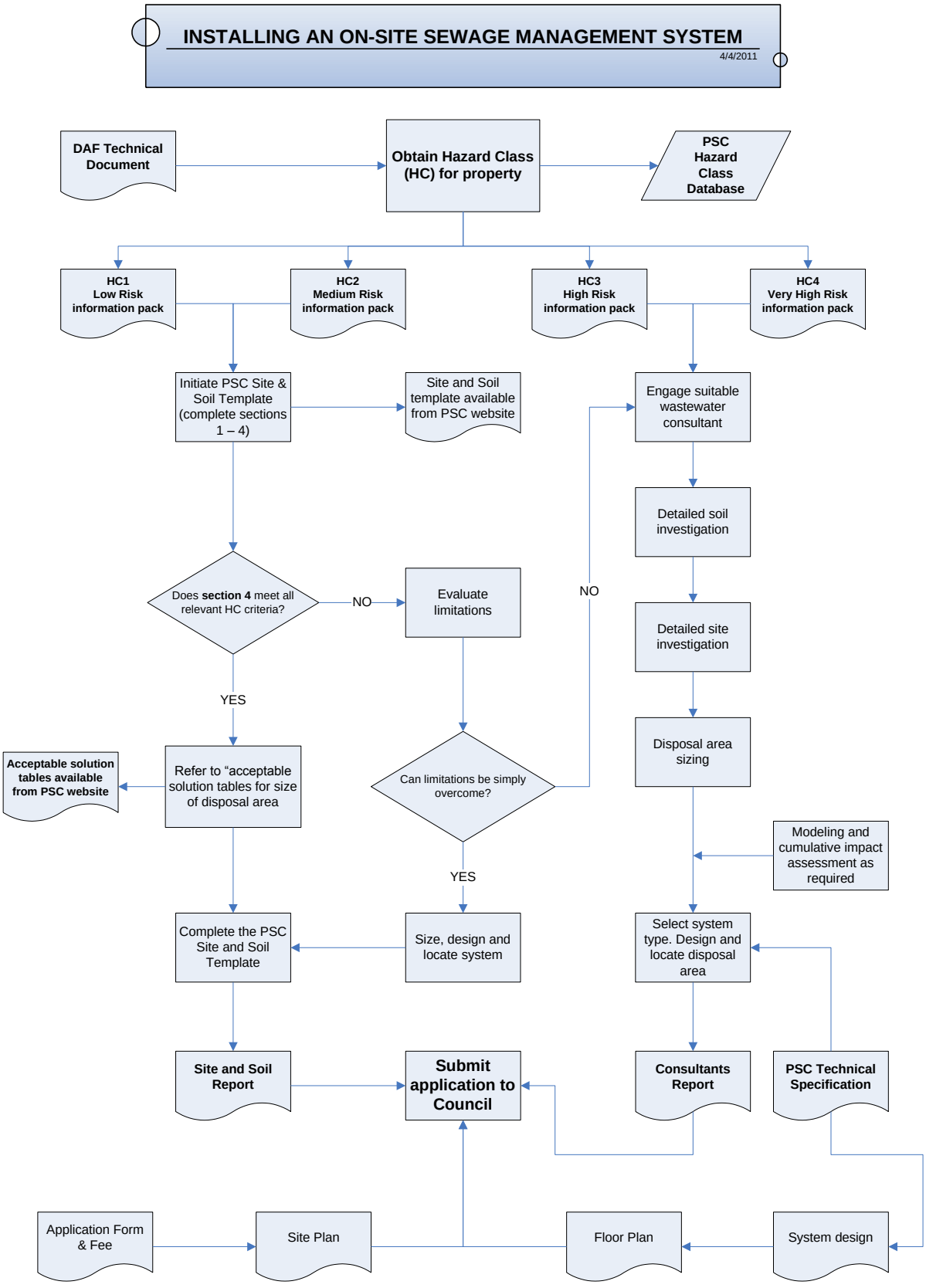
Flowchart 1


New Development
Replacing Existing On-site Systems
Development Application
Local Government Act (1993)
Port Stephens Local Environmental Plan
Port Stephens On-site Sewage Management Strategy
Port Stephens Development Control Plan
On-site Sewage Management System (OSMS) Hazard Class
Development Assessment Framework
Low Hazard DAF
Medium Hazard DAF
High Hazard DAF
Very High Hazard DAF
DAF Technical Document
Port Stephens OSMS Technical Specification
Section 68 (LGA 1993) Approval
Construction and PSC Sign-off
Issue Approval to Operate

Flowchart 2


Operational Framework
2/22/2010
Approval to Operate
2/22/2010
Install an OSMS
2/22/2010
Application for Approval to Operate
Development Assessment Framework
Process application
INSPECTION PROGRAM
2/22/2010
Determine Hazard Class for property
include
Issue Initial Approval to Operate
Inspection frequency as per risk classification
Complete application and submit
Process application
Payment of renewal fee
NO
Initiate payment recovery measures
Request for more information
NO
Comply
include
YES
YES
Inspection by Council Officer
Issue Notice of Determination
Review approval to operate conditions
Influences
Results of inspection
Inspections as required
Letter or Order to owner or applicant
NO
Comply with conditions
12 month period
YES
Approval to Operate Renewal
Audit Report
Initial Approval to Operate
System Satisfactory
NO
LGA Order or POEO Notice

Flowchart 3


INSTALLING AN ON-SITE SEWAGE MANAGEMENT SYSTEM
4/4/2011
DAF Technical Document
Obtain Hazard Class (HC) for property
PSC Hazard Class Database
HC1 Low Risk information pack
HC2 Medium Risk information pack
HC3 High Risk information pack
HC4 Very High Risk information pack
Initiate PSC Site & Soil Template (complete sections 1 – 4)
Site and Soil template available from PSC website
Engage suitable wastewater consultant
Detailed soil investigation
Detailed site investigation
Disposal area sizing
Does section 4 meet all relevant HC criteria?
NO
Evaluate limitations
YES
Acceptable solution tables available from PSC website
Refer to "acceptable solution tables for size of disposal area
Can limitations be simply overcome?
NO
YES
Modeling and cumulative impact assessment as required
Complete the PSC Site and Soil Template
Size, design and locate system
Select system type. Design and locate disposal area
Site and Soil Report
Submit application to Council
Consultants Report
PSC Technical Specification
Application Form & Fee
Site Plan
Floor Plan
System design

B. APPROVAL TO OPERATE

An approval to operate is required in accordance with section 68 and 68A of the *Local Government Act, 1993*. The operation of a system of sewage management is an activity that requires an Approval from Council (item 10 of Part F of the table in Section 68 of the Act).

Table 3.2: Approval to Operate Key Points

Item	Key Points
Legislative instruments	• Local Government Act, 1993 (Section 68/68A) • Local Government (General) Regulations, 2005
Approval to Operate	• Required by all on-site systems with a capacity <2500EP or 750kL/day and not covered under another statutory licence • Rests with the owner or operator not the system or property
Period	• Valid for 1 year • Currently operates 1st September to 31st August
Renewal	• Renewed every 1 year • Application not required
Fee	• Included in land rates assessment notice • Fee amount in accordance with the annual Schedule of Fees and Charges
Conditions	• Each approval to operate is conditioned • Conditions relate to operational, environmental and health related objectives and are specific to the

	system type
Modification to Approval	• Approvals can be modified in accordance with s109 of LGA • Conditions reviewed each year • The approval and/or conditions may be modified if deemed necessary as a result of information obtained from an inspection
Change of ownership	• Approval re-issued to new owner/operator following notification from Lands Titles Office

C. NEW INSTALLATIONS

The installation, construction or alteration of a waste treatment device or a human waste storage facility is an activity that requires an approval from the local authority in accordance with the *Local Government Act 1993*.

Table 3.3: Approval to Install Key Points

Item	Key Points
Legislative Instruments and Policies	• Local Government Act, 1993 (Section 68) • Local Government (General) Regulations, 2005 • Protection of the Environment and Operations Act, 1997 • SEPP's 14, 62, 71 • PSC Local Environment Plan, in-force • PSC Development Control Plan, in-force • PSC Development Assessment Framework • PSC On-site Sewage Management Technical Manual
Standards and Guidelines	• Australian Standard AS1546 • Australian Standard AS1547:2012 • Environment and Health Protection Guidelines • The NSW State Groundwater Guideline – Framework Documents • Use of Effluent by Irrigation, EPA • NSW Management of Private Recycled Water Schemes • Grey water reuse in sewered

	single household residential premises
Applicability	• Install, alter or construct a waste treatment device or human waste storage facility (section 68 Part C 5). • Systems with a capacity <750kL/day or <2500EP. • Includes pump to sewer systems.
Documentation	• Application Form • Sufficient documentation required for adequate assessment • Division 4 *Local Government (General) Regulations, 2005* • Development Assessment Framework (DAF)

Table 3.3 con't: Approval to Install Key Points

Item	Key Points
Fee	• In accordance with schedule of fees and charges
Valid	• 5 years from date of approval
Inspections (nominal only)	• Site (pre-approval) • Installation (Land Application Area) • Final on completion • Other inspections as required (e.g. construction of land application area, importation of fill material etc)
Satisfactory Final Inspection	• Issue of Approval to Operate
Unsatisfactory Final Inspection	• Remedial works required. • Local Government Act, 1993 (Section 124)

D. RISK CATEGORIES & INSPECTION FREQUENCY

All existing systems are risk classified according to specific criteria. The risk classification provides a mechanism for determining inspection frequency and the potential health and environmental risks. Three risk classifications are used (refer table 3.4).

Table 3.4: OSMS Risk Categories

Hazard Class	Risk Classification	Indicative Inspection Frequency (internal use only)
Very High	High	2 years
High	High	2 years
Medium	Medium	3 years
Low	Low	5 years
Low	Low(TS) Functioning secondary treatment system (Commercial systems not included)	By Exception Only (complaint, or major fault identified on service report)

Systems will be classified according to the hazard class map for single allotments. The risk criterion in **Table 3.5** below provides a summary of the logic used to compile the hazard class map. With particular installations there may be additional issues to consider as part of the risk categorisation process. In some circumstances not ALL criteria within a particular category may apply to either the system or location. In this instance the officer performing the classification must make a decision whether there is sufficient reason to move the system into a higher or lower risk category. Generally though, classifying a system to a higher or lower risk category based on one non-complying criterion would not be warranted. (Note: Systems classified as very high according to the hazard class map are classified high with inspections annually or every 2years).

Table 3.5: OSMS Risk Classification Criteria

Indicative Criteria	High Risk	Medium Risk	Low Risk
Land Area	<2000m^2	2000 – 4000m^2	>4000m^2
Soil type **Soil Structure**	Clay or Sand Weak/massive	Loam Moderate structure	Loam Good structure
Flooding	Flood prone	Flood prone/Not flood prone	Not flood prone
System Type	Primary	Primary Secondary	Secondary or better
Depth to Groundwater or Hardpan	<0.6 metre	0.6 – 1.0 metres	>1 metres
Slope	>20%	10 – 20%	<10%
Drinking Water Catchment	Yes	Yes/No	No
Buffer distances	Not comply	Partial compliance	Comply
Property Type	Commercial (>10kL/day) Residential	Commercial (<10kL/day) Residential	Residential
Hydraulic Load	High	Medium	Low
Locality (suburb) Influence	Waterway proximity Flood prone High groundwater Topography Drinking water catchment Suburb population OSMS density		

A category known as Low (TS) will be used for systems meeting the following criteria:

- The system is a secondary or advanced secondary treatment system
- The system has been installed in accordance with a valid approval and is operating in accordance with the conditions of the approval to operate
- The system is being serviced under a maintenance agreement by a suitably qualified and experienced servicing agent
- There are no outstanding maintenance issued identified on a service report.

This category is not included on the routine inspection program but managed by exception. Inspections may be undertaken should a problem be identified through a complaint or unsatisfactory service report at the discretion of the assessing Council officer.

REVIEW OF AND CHANGES TO CATEGORIES OR RISK

In order to encourage appropriate management and maintenance of on-site sewage management systems Council provides for the re-categorisation of systems from the high and medium risk categories. This will involve re-categorisation of systems from high risk to medium risk where the continuing operation of a particular installation has been shown, to Council's satisfaction, over 2 consecutive programmed inspections, to be in accordance with the performance standards set out in this guideline. Similarly medium risk installations whose continuing operation has been shown, over 2 consecutive programmed inspections , to be in accordance with the performance standards set out in the strategy will be re-categorised to low risk.

Council officers may increase the risk rating of any installation after inspection if that inspection reveals that more frequent monitoring of that system is required.

Council will advise the owners concerned in writing of the outcome of requests for re-categorisation.

E. INSPECTION PROCESS

Council has developed an inspection program for existing on-site systems to ensure those systems meet environmental and health performance objectives set out in this guideline. The program involves the monitoring of existing service documentation and programmed on-site inspections.

At present there are approximately 4800 on-site sewage management systems in the Port Stephens LGA. To carry out effective and ongoing inspections systems are classified according to risk. Inspections will then be carried out at an interval appropriate to the individual systems risk assessment subject to adequate resourcing.

Council will inspect all systems in the LGA with the exception of those identified as Low (TS). Properties will be inspected to the schedule outlined above and individual systems assessed on performance standards as stated in the EH&P Guidelines. An audit report is completed for each inspection with a copy of the report forwarded to the property owner or designated operator. If changes are made to conditions as a result of the inspection, owners are issued with an amended Approval to Operate (with conditions attached).

Table 3.6: OSMS Inspection Process

Item	Criteria
Which Systems?	• All domestic and commercial on-site systems holding an active approval to operate
Exemptions	• Systems classified as Low (TS) unless by complaint, incident or if determined necessary by Council
When undertaken?	• In accordance with risk classifications • If complaint received • If requested by owner/operator • Request for pre-purchase inspection (i.e. impending sale of the property)
Who performs?	• Councils Environmental Health Officers • Notification of inspection in accordance with LGA is sent to

	owners/operators • Signed authority to enter property provided with pre-purchase inspection request
Why inspect?	• To determine operating status and compliance with standards and guidelines • Determine risk to environment and public health. Initiate upgrade/repairs if required.
Fee	• No charge for routine inspections • Pre-purchase inspection in accordance with schedule of fees and charges
Records	• Audit sheets maintained electronically • Typed report sent to owner/operator • Pre-purchase inspection report to applicant

Table 3.6 con't: OSMS Inspection Process

Item	Criteria
Pumpout Systems (tanker removal)	
Aerated wastewater treatment systems (AWTS)	• Servicing records obtained by contractors and entered into electronic database. • Reports generated detailing servicing frequency.
Pump to sewer systems	• Classified as an on-site sewage system in accordance with regulations. • Inspected to determine compliance with Hunter Water Corporation specifications
Commercial Systems	• Size and type of system determines inspection frequency

F. UPGRADING FAILING SYSTEMS

Inspections of on-site sewage management systems are required to ensure that they are installed and operated in accordance with the conditions specified in any Council approval. Beyond system design and installation, those approval conditions relate primarily to the performance standards specified in the regulations and this guideline.

System failure is deemed to have occurred when a system fails to achieve prescribed performance standards resulting in adverse impacts on public health or the environment. **Appendix 1** provides a methodology for defining minor and major breaches for treatment systems and disposal areas. **Table 3.7** provides a methodology for prioritising identified issues, determining an appropriate response and provides tools that may be used to assist in investigating and addressing the issue.

The upgrading of failing system shall be in undertaken in accordance with:

- Legislative requirements, and
- The Development Assessment Framework

G. COMPLAINTS ABOUT FAILING SYSTEMS

A member of the community who has a problem with the operation of an on-site sewage management system is entitled to approach Council about the problem. Council must regulate the operation of on-site sewage management facilities so that risks to health and the environment do not arise or do not escalate. Council will investigate complaints relating to systems failures irrespective of the priority area. This inspection may replace the next scheduled inspection for any system that is the subject of a complaint and where as a result of that inspection Council requires the owner/operator to take some action. Changes may also be made to the risk categorisation of systems as a result of any complaint investigation.

It is the responsibility of the owner or occupier of the premises to ensure that on-site systems are designed, installed and managed so that environmental nuisance/damage does not occur and there is no risk to public health from the operation of the system.

Owners should also ensure that other occupiers of the premises are also aware of the systems operation and maintenance requirements. If a system is defective and cannot be corrected by the proper operation and maintenance, householders should report this to Council so that immediate action can be taken to address the problem.

Table 3.7 provides a methodology for prioritising identified issues, determining an appropriate response and provides tools that may be used to assist in investigating and addressing the issue.

Table 3.7: OSMS Prioritisation Methodology

Situation Classification		
Critical	**Major**	**Minor**
Situations • Significant failure of the wastewater treatment system or disposal area whether intentional or un-intentional • Significant threat to the environment and public health	**Situations** • Major failure of the wastewater treatment system, component or disposal area • Moderate to major threat to the environment and public health	**Situations** • Minor or insignificant problem with the wastewater treatment system, component or disposal area • Minor or no threat to the environment and public health
Responses • Immediate action by Council is to commence • May need multiple Council staff to respond • May need consultation with	**Responses** • Important but not urgent. • Action by Council should commence within 5 business days • May need immediate communication with	**Responses** • Needs attention by owner/operator but is not urgent • Minimal intervention by Council staff • May be remedied with discussion with owner or operator

DECCW staff • Same day response • Immediate communication with system owner / operator • Definite follow up action by Council staff	system owner/operator if necessary • Would involve follow up action by Council staff	• May need a follow up response to ensure the problem does not escalate • Educational material may be appropriate
Tools • Water and/or soil samples. Chemical and microbiological testing • Photographic evidence • Detailed notes • Interviews with relevant persons • POEO – Prevention Notice, Clean-up Notice • Legal action if warranted	**Tools** • Testing of water and/or soil samples only if necessary. • Photographic evidence if necessary • Detailed notes • Local Government Act Order (s124) if necessary • Penalty infringement notice if failure to undertake works in a reasonable time	**Tools** • Routine inspection • Audit report or letter • Warning letter if left unresolved
Examples • Significant failure of a wastewater system discharging effluent into a drinking water supply, waterway or stormwater drainage system	**Examples** • Failing wastewater system or disposal area • Major unresolved problem with a treatment system component	**Examples** • Minor problem with a wastewater system or disposal area

H. RECORDS, REPORTING, REVIEW & EDUCATION

A. COUNCIL RECORDS

All applications and associated information received are recorded in the appropriate electronic register (Authority) and/or hardcopy file. Such a register will include details of, the applicant, the property concerned, the type of installation, the date of application, the determination of the application, the date of issue of any approval or refusal, any site inspections and any other relevant details. This register will be kept in electronic format and applications, audit sheets, special conditions attached to approvals and correspondence will be saved electronically in TRIM.

All service documentation related to AWTS quarterly maintenance that are forwarded to Council will be recorded within the Authority wastewater register (AWTS servicing data base).

Council will also maintain a record of effluent pumpout figures to allow periodic desktop analysis of volumes from individual properties. These figures are currently provided by Council approved transport contractors and maintained within the Authority wastewater register.

B. NOTIFICATION THROUGH THE 149 CERTIFICATE

In the case of land subject to a Development Control Plan for on-site sewage management, intending purchasers would be notified of that DCP (under Section 149 clause 2 of the EP&A Act (1979)).

C. ENVIRONMENTAL AUDIT

The operation of large numbers of on-site sewage systems in a catchment area have the potential, in the long term, to detrimentally impact on the environment especially water quality. To monitor these impacts regular testing of ground and surface waters for faecal, nutrient and other relevant contaminants should be routinely performed through a targeted water quality program. The monitoring program should involve a review of existing water quality data collected by other authorities in the Port Stephens Area where that data was relevant and available. These authorities may include the Hunter Water Corporation, NSW Fisheries and Port Stephens Shellfish Association.

The program will assist in assessing the effectiveness of Port Stephens management practices for on-site sewerage systems and also as an indicator of problem areas and management priorities.

D. REPORTING

The State of the Environment Report will include details of:

- The results of the on-site sewage management inspection program;
- Details regarding particular patterns of system failure related to either location criteria or system type;
- An assessment of the ongoing integration of this guideline with the other strategic planning processes of Council;'
- The effectiveness of this guideline and its implementation measured against the objectives and goals set out in this guideline;

E. REVIEW & EVALUATION OF THIS GUIDLELINE

This guideline will be the subject of ongoing review. Reviews will occur every four years in the twelve-month period after each Council election.

F. EDUCATION & PROVISION OF INFORMATION

An important part of this guideline is to ensure that all parties involved in the installation operation and maintenance of on-site sewage management systems are aware of their responsibilities and have enough information to carry them out. The level of knowledge required will depend on the type of sewage management system and what the stakeholder needs to do.

The operation of a centralised sewage system requires limited input from the individual householder, but householders need to take an active role in the operation of on-site sewage management systems. They should have a broad knowledge of on-site sewage management principles and be able to apply that knowledge responsibly.

Householders need to have a full knowledge of:

- System operation and maintenance requirements;
- Responsibilities under the new regulations;
- System selection and design of effluent application areas;
- Health risks of effluent and chemicals;
- Emergency contact numbers;
- Waste and water minimisation principles and techniques;
- Environmental impacts of wastewater.

Council will take an active role in the provision of this information to the householder and help in the development of individual management plans through this information and the approvals and inspection process. Information will be made readily available from Councils website, emailed or posted if requested or included with an inspection report.

I. FEES AND RESOURCING

A. FEES

The fee schedule has been designed to provide Council and users of on-site sewage systems with a cost-effective, user pays monitoring program that provides an efficient mechanism to ensure the long term environmental and public health objectives of this guideline.

The fees are levied under s608 of the *Local Government Act, 1993*. Fees apply to the owner / occupier rather than to the land.

Fees are revised annually.

Table 5.1: OSMS Fees

Fee Name	Details
Application to install, alter or construct a waste treatment device or human waste storage facility	• The installation of an OSMS incurs an application fee in accordance with s80 of the Local Government Act. • Amendments to issued consents also incur an amendment fee, usually 50% of the application fee. • Fees are set in accordance with the schedule of fees and charges.
Approval to Operate	• An application for an initial approval to operate is subject to an application fee in accordance with the schedule of fees and charges.
Approval to Operate Renewal	• The annual approval fee is levied on all owners of on-site systems in the Port Stephens LGA to cover costs of the On-site Sewage Management Program. These costs include work by clerical staff, monitoring of service documentation and pumpout figures, inspections, environmental auditing, complaint investigations and the provision of educational and system management advice. • The fee is levied on an annual basis and is included as a separate item on the land rates notice.
Routine/Programmed Inspections	• Routine inspections do not incur a fee.

Re-inspections	• Situations involving more than one re-inspection may incur a charge in accordance with the schedule of fees and charges. • This is at the discretion of the Council officer in consultation with management.
Extraordinary Costs	• May include testing of water and soil samples. • Charged on a cost recovery basis.

B. RESOURCING

The OSMS program is performed by the Environmental Health team.

Core functions include:

- Complete programmed inspections
- Initiate action for upgrading and maintaining systems
- Ensure all owners/operators of systems obtain and renew an approval to operate
- Provide education and guidance to the community, staff and Council
- Assess applications for new installation
- Monitor and assess data and reports for systems
- Undertake continuous improvement of the program

J. GLOSSARY OF TERMS

Aerated Wastewater Treatment System (AWTS) – Aerated wastewater treatment systems treat all household wastewater and have several treatment compartments. The first is like a septic tank, but in the second compartment air is mixed with wastewater to assist bacteria to break down solids. A third compartment allows settling of more solids and a final chlorination contact chamber allows disinfection.

Blackwater- human excreta and water grossly contaminated with human excreta.

Catchment – A catchment is an area of land with natural features such as hills or mountains, from which all run-off water flows into a creek, river, lake or ocean.

Composting Toilets – Composting toilets collect and treat toilet waste only. Water from the shower, sink and washing machine needs to be treated separately. The compost produced by a composting toilet has special requirements but is usually buried on site.

Completion certificate – formal notification from council indicating that a sewage management facility has been installed substantially in accordance with a relevant development approval, and is able to be commissioned.

Council – for the purposes of this guideline refers to the Port Stephens Council.

DCP – Development Control Plan within the meaning of the Environmental Planning and Assessment Act.

Desludging – Withdrawing of sludge, biosolids, scum and liquid from a septic tank.

Ecological Sustainable Development – Development that improves the quality of life, both now and for the future, in a way that maintains the ecological processes on which life depends.

Effluent – wastewater discharging from a sewage management facility.

Effluent application area – an area of land specifically designated for the application of effluent either by subsurface absorption or by surface irrigation.

Evapotranspiration – process by which soil moisture is subject to processes of evaporation from the sun and wind and is transpired to the atmosphere via trees and plants.

Greywater (or sullage) – domestic effluent, excluding toilet waste.

Ground Water – All naturally occurring underground waters.

Guidelines – Environment and Health Protection Guidelines – *On-site Sewage Management for Single Households.*

LGA – Local Government Area.

On-site Sewage Management System – Any facility that stores, treats and/or disposes of sewage and wastewater on-site.

Operational Constraints – Those site or systems characteristics which place limits on the quality and quantity of wastewater that can be effectively treated by a sewage management facility within a given period of time.

Pump-out System – A septic system where all accumulated wastewater is removed from site by a purpose built road tanker.

Reticulated Sewer – Centralised sewerage system, consisting of a wastewater transport network, pumping stations, and treatment facilities designed to services multiple users concurrently. Hunter Water Corporation is the local authority for all reticulated sewer and Sewage Treatment Plants in the Port Stephens LGA

Regulation – Local Government (Approvals) Amendment (Sewage Management) Regulation 1998.

Run-off – The part of precipitation of irrigated effluent that becomes surface flow because it is not immediately absorbed into or detained by the soil.

Septic tank – conventional septic tank systems treat both greywater and blackwater, but they provide only limited treatment through the settling of solids and the flotation of fats and greases. Bacteria in the tank break down the solids over a period of time. Wastewater that has been treated in a septic tank can only be applied to land through a covered soil absorption system as the effluent is still too contaminated for above ground irrigation.

Sewage – human wastewater and matter which usually passes through the reticulated sewer or an on-site sewage management system.

Sewage Management – Any activity carried out for the purpose of holding, processing, reusing, or otherwise disposing of sewage or by-products of sewage.

Total Catchment Management – Total Catchment Management is the co-ordinated and sustainable use and management of land, water, vegetation and other natural resources on a catchment basis so as to balance resource utilisation and conservation.

Useable land - total allotment area excluding dams, intermittent and permanent watercourses and open stormwater drains and pits in addition to the relevant buffer distances prescribed in the Port Stephens Council Development Assessment Framework for those objects.

Wastewater – Blackwater and/or Greywater.

APPENDIX 1

DEFINITION OF "MAJOR AND MINOR" BREACHES

Treatment System "Major" Breach – the failure, malfunction, collapse, omission, deterioration or breakdown of any treatment system component, tank, internal vessel or chamber, segregating baffle, control panel, power supply, chemical, aerating device or mechanical pumping device that is:

- Not currently under repair, or
- Has not been reported to an appropriate service provider in a timely manner,

And that has:

- The potential to prevent the normal operation of the system; or
- The potential to significantly reduce the quality of effluent from expected levels; or
- The potential to impact on the natural environment, human health or public amenity; or
- The potential to cause a significant public safety risk.

Table 1: Examples of Treatment System Major Breaches

Treatment System Type	Major Breach Description (To be considered in conjunction with definition)
Aerated Wastewater Treatment System	Inoperable aeration blower causing significant effluent quality problems
	Inoperable irrigation pump with effluent overflowing
	Fused/damaged control panel
	Internal baffle that has separated from the side wall allowing mixing of treated and untreated water
	System not being serviced and effluent quality significantly deteriorated
	No disinfection system (ie. Chlorine, ultra-violet, etc) in operation
	Tank lid that is significantly damaged. Potential safety risk, odour problem
Septic Tank	Excessive sludge levels (<200mm below outlet invert)
	Excessive water levels (above top of inlet/outlet junctions) or overflowing
	Structurally unsound tank - damaged below water level and is leaking effluent to ground surface/groundwater
	Tank lid that is significantly damaged. Potential safety risk, odour problem

Septic Pumpwell	Inoperable irrigation pump with effluent overflowing
	Tank lid that is significantly damaged. Potential safety risk, odour problem
Effluent Pump-out Tank	Effluent levels excessive with overflows visibly occurring
	Tank lid that is significantly damaged. Potential safety risk, odour problem
Wet Composting System	Structurally unsound tank - damaged below water level and is leaking effluent to ground surface/groundwater
	Tank lid that is significantly damaged. Potential safety risk, odour problem

Treatment System "Minor" Breach – all other areas, components or adjustments of the treatment system not captured under major breach definition and that does not:

- have the potential to prevent the normal operation of the system; or
- have the potential to impact on the natural environment, human health or public amenity; or
- have the potential to significantly reduce the quality of effluent from expected levels; or
- have the potential to cause a significant safety risk.

Table 2: Examples of Treatment System Minor Breaches

Treatment System Type	Minor Breach Description (To be considered in conjunction with definition)
Aerated Wastewater Treatment System	Skimmer not operable
	Irrigation filter not in place
	Missing primary chamber inspection cap
	Minor odour
	Floating media blocks
	Floating scum in clarification chamber
Septic Tank	Moderate sludge levels (>200mm below outlet invert)
	Minor elevated water levels (above invert of outlet pipe but not above top of junctions)
	Tank that is cracked above water level and cracks are hairline only
	Tank lid that has minor cracking (hairline cracks)
	Missing inlet/outlet junctions
	Tank lid at ground level
	Missing inspection caps
Septic Pumpwell	Missing inspection caps
	Tank lid at ground level
Effluent Pump-out Tank	Missing inspection caps
	Missing standpipe cap

Land Application (Disposal) Area "Major" Breach – the observed failure of the land application area to adequately dispose of or contain effluent during normal annual climatic conditions that potentially may result in risk to the environment, public health or public safety. The failure of the land application area to operate within expected design limits. Land application area includes but is not limited to absorption trenches, evapo-transpiration beds, Wisconsin mounds, surface irrigation areas and sub-surface irrigation areas.

Table 3: Examples of Disposal Area Major Breaches

Land Application Area Type	Major Breach Description (To be considered in conjunction with definition)
Surface/subsurface Irrigation	Inadequate maintenance of irrigation hardware that results in the surface ponding of effluent
	End-of-pipe disposal
	Inadequate size of disposal area that results in significant saturation of soils
	Location of disposal area within prescribed buffer zones and environmentally sensitive areas
	Location of disposal area within observed recreational areas
Absorption/Evapo-transpiration	Observed ponding of effluent on the disposal area surface. Effluent must be confirmed via colour, clarity or odour.
	End-of-pipe disposal

Land Application (Disposal) Area “Minor” Breach: all other areas not captured under major breach definition and that are unlikely to result in environmental harm, risk to public health or risk to public safety.

Table 4: Examples of Disposal Area Minor Breaches

Land Application Area Type	Minor Breach Description (To be considered in conjunction with definition)
Surface/subsurface Irrigation	Missing warning signs
	Some spray heads inoperable
	Irrigation line not buried
Absorption/Evapo-transpiration	Overgrown vegetation
	Infrequent livestock access
	Damp/soft underfoot but no visible signs of effluent

CONTROLLED DOCUMENT INFORMATION:

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RM8 container No	PSC2013-00406	**RM8 record No**	
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V2.1	**/09/2016	Coordinator Environmental Health and Regulation	The guideline contains guideline documents and there have been minor changes reflecting improvements or legislative amendments within the document which are summarised in Table 3.1 in the guideline.	