Onsite Wastewater Management Plan 2025 - 2030

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1. Introduction

Council has a significant role and legislative responsibility for protecting the health of residents, visitors and those working in the municipality. This has been recognised through the adoption of the domestic Wastewater Management Plan (DWMP) in 2002 with further reviews in 2007, 2011, 2015 and 2019.

This 2025 review incorporates new EPA regulations and outcomes from a state led review into onsite wastewater management in Victoria.

For consistency, this plan has been rebranded as Councils 'Onsite Wastewater Management Plan' (OWMP) with some continued reference to 'domestic wastewater' (wastewater generated inside the home such as from kitchens, laundries and bathrooms).

This plan forms part of a range of activities undertaken by Council in addressing the management of onsite wastewater within the municipal district. The plan also recognises the role of the local water authority Yarra Valley Water (YVW) in 'Sewerage Planning' where the OWMP identifies reticulated sewerage (or an alternative servicing solution) as a management option to meet community needs.

Figure 1: Soapy discharge entering Andersons Creek (May 2018)

2. Aims

The overall aim of Manningham's Onsite Wastewater Management Plan is to:

- Improve and protect public health;
- Promote the principles of environmental sustainability by reducing the impacts of Onsite wastewater on local creeks, steams and remote receiving environments;
- Continue to engage with property owners on septic tank management and ongoing maintenance responsibilities;
- Identify properties that would benefit from an alternative sewerage solution and refer these to YVW for inclusion onto their Community Sewerage Program;
- Advocate on behalf of the community to ensure they have the same access to sewerage infrastructure (reticulated or onsite solutions) as the rest of the Melbourne population.
- Support YVW in applying their powers of enforcement granted under S.147 of the *Water Act 1989* (connection to sewer) for properties that continue to discharge to stormwater.

3. Objectives

The objectives of the OWMP are to;

- Develop Council's policy for the management of Onsite wastewater and a framework for consistent decision making for specific sites;
- Prioritise Council's short and long term strategies for the management of septic tank systems and greywater reuse;
- Provide a systematic approach for assessing the costs, impacts and barriers to Manningham Council in managing wastewater, and;
- Provide a framework for the liaison between external organisations and internal units.

Figure 2: Local resident of waterway

4. Wastewater Management Profile of Manningham

In 2002 there were approximately 6,000 septic systems in use in Manningham. In 2011 there were 4,652 septic systems on record. In March 2025, 2,430 were still in operation.

Table 1: Snapshot of systems in use over time.

YEAR	*PROPERTIES USING A SEPTIC SYSTEM*
2002	Approx. 6,000
2011	4,652
2015	3,669
2019	3,222
2025	2,429

Previously, 2,935 properties were referred to YVW for inclusion onto their community sewer program with services declared available to the majority of properties in Warrandyte, Templestowe and Wonga Park between 2011 and 2014 (1,612 properties).

In 2015, 689 properties had not connected to the sewerage service however the sewer had only recently been declared available in the areas of Warrandyte, Templestowe and Wonga Park.

In July 2019, 268 properties had not connected to the available sewerage service. 161 of these discharge to storm water and are considered a major contributor to poor water quality in Manningham's creeks and streams.

In late 2019, Sewer was declared available to the large reticulation area of Donvale (1,054 unsewered properties) and in March 2025, 676 (64%) of these properties had connected.

725 properties have not been programmed into YVW's Community Sewerage Program as they do not pose a significant risk to health or the environment. These properties are large enough to effectively contain all wastewater on-site and pose minimal risk to storm water systems that are some distance away. The remoteness also means that sewer provision is currently impractical and cost prohibitive.

As demographics and planning controls change throughout Manningham, these properties may need to be referred for inclusion into YVW's programmed works in future water plans.

These unsewered properties will require ongoing monitoring and management by Council in accordance with this plan.

4.1. Overview of septic systems in Manningham

The following table lists the number of septic systems in each reticulation area and change over time. There has been a slow transition to reticulated sewer however a number of properties have no incentive to connect and continue to discharge to storm water. A lack of enforcement around connection to sewer is considered a main factor in the number of properties continuing to discharge off-site.

Table 2: Number of septic systems in use by reticulation area

Township	Reticulation area	Septic systems in use				Sewer available (year)	Number of properties discharging to storm water
		2011	2015	2019	2025		
Wonga Park	RA0005A	557	149	55	42	2013	24
	RA0005B	n/a	22	13	12	2013	10
Templestowe	RA0040C	47	13	8	5	2011	3
	RA0040N	121	28	21	16	2010	6
	RA0040S	325	81	59	47	2011	31
Warrandyte	RA0041C	83	36	16	10	2013	6
	RA0041D	89	63	11	8	2014	6
	RA0041E	232	179	39	28	2014	14
	RA0041G	16	4	1	0	2013	1
	RA0041H	35	31	11	11	2014	5
	RA0041I	57	56	18	11	2014	3
Ringwood North	RA0017	24	17	5	4	2013	3

DONVALE	RA0041A	1,045	1,043	1,043	369	2019	252
	RA0041K	19	0	0	5	2009	4
	RA5001	8	8	4	3	2017	3
	RA0041B	18	7	5	5	2014	5
	RA02102B	8	3	2	1	2003	0
	RA0455	2	0	0	0	2005	0
Park Orchards (*RA0039 Includes 107 properties in Warrandyte South and 100 properties in Ringwood North.)	RA0039	1,182	1,195	1,175	1,127	Construction scheduled to commence 2025/26	595
Not programmed for sewer	Not Applicable	784	734	736	725	NOT APPLICABLE	225
Totals		**4,628**	**3,652**	**3,217**	**2,429**		**376 have sewer available**

4.2. Inspection Program

Through our initial inspection program, a number of properties were identified as a type that discharge off-site and unable to contain wastewater onsite effectively. These have been referred to YVW for inclusion onto the Community Sewerage Program.

A number of systems on larger rural blocks are also a type that ‘discharge off-site’ however, these usually terminate in paddocks and not directly to storm water. An action identified as part of this review is to revisit these properties and encourage better management of these systems into the future.

There are approximately 12 different combinations that make up the various types of septic systems in Manningham. As of January 2025, approximately 50% of all septic systems within the municipality discharge some form of wastewater offsite to storm water which enter our creeks and rivers. Half of these are ‘Split Systems’ and the other half are ‘All Waste Systems’. The most common type of septic system within the municipality is the combination of a septic tank and sand filter or Split System discharging off-site.

Figure 3: Treatment Plant with sub-surface irrigation

The following table provides an overview of system types by area, their age and perceived impacts to the environment:

Table 3: Septic systems in Manningham

OVERVIEW OF SEPTICS SYSTEMS IN MANNINGHAM	
Park Orchards (Anderson Creek and Mullum Mullum Creek sub-catchments)	• Old septic systems (1940s+) higher probability of untreated effluent from failed systems and pollution of Anderson Creek • 53% of properties permitted to discharge raw sullage or treated effluent to stormwater pending arrival of the Melbourne sewerage network. • Combination of a concentration of septic systems and normal residential blocks. • Mullum Mullum Creek is one of the most polluted streams in the Yarra River catchment according to Melbourne Water data and Council's water sampling results

Templestowe
 	
(Ruffey Creek and Koonung Creek sub-catchments)
	• Old septic systems (1940s+) higher probability of untreated effluent from failed systems and pollution of waterways.
	• Reticulated sewer declared available in 2010 - 2011.
	• 68 systems remain
	  ○ 28 with onsite containment
	  ○ 40 properties continue to discharge raw sullage/treated effluent to stormwater

Donvale
 	
(Mullum Mullum Creek sub catchments)
	• Old septic systems (1940s+) higher probability of untreated effluent from failed systems and pollution of waterways. Sewer provided to 55 properties between 2003 to 2017 and then to 1,045 properties in 2019.
	• 717 properties connected to date (65%)
	• 383 remain
	  ○ 119 with onsite containment
	  ○ 264 continue to discharge raw sullage or treated effluent to stormwater.

Warrandyte
 	
(Yarra River)
	• Old septic systems (1940s+) higher probability of untreated effluent from failed systems and pollution of waterways.
	• Reticulated sewer declared available in 2013 - 2014 (residential areas).
	• 444 properties connected to date (87%)
	• 68 remain
	  ○ 33 with onsite containment
	  ○ 35 continue to discharge raw sullage or treated effluent to stormwater.

As a result of ageing and failing septic systems they are not always efficient in removing human wastes containing disease producing micro-organisms which impacts on health and the environment. In the 'Wallis Lakes' outbreak (NSW) in January 1997, links were established between human waste contaminating water with confirmed cases of Hepatitis A.

A large percentage of properties were permitted to discharge sullage or treated toilet waste to stormwater pending arrival of the Melbourne sewerage network. Unfortunately, areas such as Park Orchards and Donvale were by-passed and it wasn't until 2002 when Council adopted its first OWMP and raised concerns with YVW, that a formal process was used to prioritise sewerage services.

In 2005, 2011, 2016 and 2021 Council participated in YVW's sewer backlog / Community Sewerage Program prioritisation process. YVW's prioritisation model utilised data obtained from YVW, Department of Environment, Land, Water & Planning (DELWP), Environment Protection Authority (EPA), Melbourne Water and importantly; data obtained through Council's OWMP. The prioritisation process ranks each Community Sewerage (backlog) area using the following criteria:

- performance of septic systems
- area demographics
- customer interest/commitment to connect
- sensitivity of receiving waterways
- biodiversity
- groundwater
- public health
- recreational uses
- significance of the community or local industry
- Council support
- future development and cost per lot

Through this process, Park Orchards and Donvale were identified as priority areas for sewerage services due to the number of properties discharging off-site.

YVW designed and installed sewerage services in the areas of Templestowe, Warrandyte & Wonga Park between 2010 and 2014. Piped Sewerage services were declared available for Donvale in 2019. YVW have commenced the design phase for a piped sewerage solution to the greater area of Park Orchards with construction scheduled to commence in 2025/26.

Figure 4: Septic system components in various stage of construction/installation

Figure 5: Lay-down of sub-surface irrigation

5. Regulatory Framework

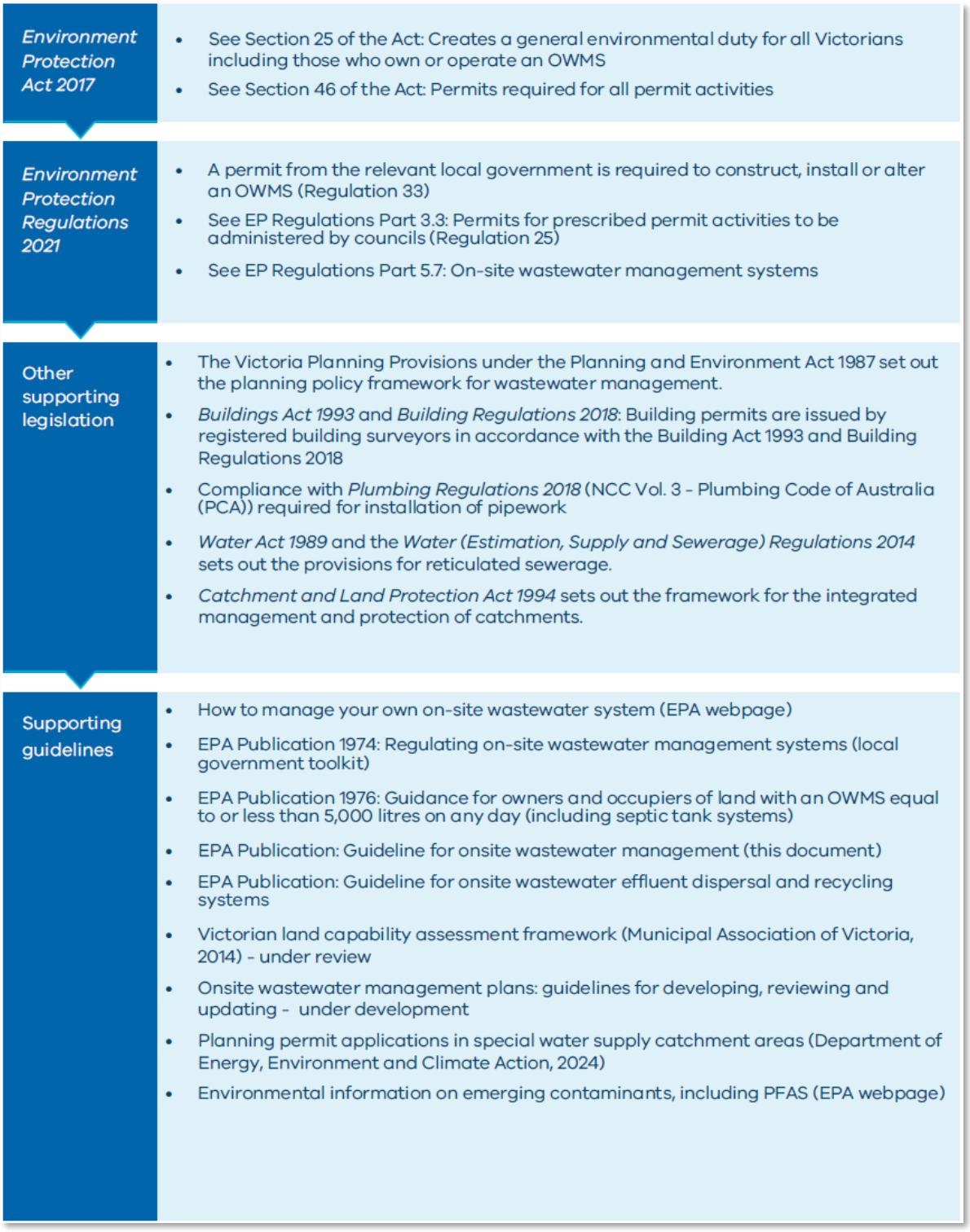

Figure 6 *Regulatory framework for OWMS in Victoria*

(taken from EPA guidelines for Onsite wastewater management May 2024)

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5.1. Environment Protection Act 2017

The EP Act sets out the legislative framework for the protection of human health and the environment from pollution and waste in Victoria. The EP Act focuses on preventing impacts from waste and pollution rather than managing those impacts after they have occurred.

The EP Act sets out your obligations under the general environment duty (GED) (section 25 of the EP Act) and also creates a requirement to obtain a permit for prescribed permit activities (section 46 of the EP Act).

Permits for the construction, installation or alteration of OWMS ≤5,000 L/day are issued by councils. This permit is explained in detail in Section 2.3.1 of this guideline.

How the environment protection laws apply to OWMS is explained in this section of the guideline.

5.1.1. General environmental duty

The GED, under section 25 of the EP Act, is central to Victoria's environmental protection laws. It requires anyone conducting an activity that may give rise to risks of harm to human health or the environment from pollution or waste, to minimise those risks so far as reasonably practicable.

What is 'reasonably practicable' will depend on the particular circumstances considering: the likelihood of the risks eventuating; the degree of harm that would result if the risks eventuated; what you know (or ought reasonably to know) about the harm or risks of harm and ways of minimising them; the availability and suitability of ways to minimise the risks; and the cost of minimising the risks. For further information about how to determine what is reasonably practicable, refer to EPA Publication 1856: Reasonably practicable.

The GED applies to anyone who owns or uses an OWMS. It also applies to OWMS professionals who are engaged to design, install or maintain an OWMS.

The GED establishes a prevention-based approach to the risks and impacts associated with OWMS. Minimising the risks of harm to human health and the environment from OWMS will depend on factors that influence the level of risk, such as the type of OWMS, site constraints, treatment method and the end use of the treated wastewater.

The GED requires anyone engaging in the construction, installation, alteration, operation and maintenance of OWMS to minimise the risks of harm to human health or the environment from pollution or waste. It can also apply to how faults and system failures are dealt with and how waste is managed.

For example, poorly installed or maintained OWMS can lead to discharge of wastewater into the environment which may impact water quality in waterways, channels, reservoirs, and special water supply catchments and increase risks to the environment and human health. Examples of controls to minimise those risks include:

- eliminating or minimising the risk (such as connection to reticulated sewerage, if available)
- engineering controls (such as design and installation of an appropriate OWMS)
- operation and maintenance controls (such as engaging a suitably qualified person to maintain or service an OWMS)
- a combination of the above.

5.1.2. Council's role in regulating OWMS under the EP Act

Councils regulate OWMS ≤5,000 L/day under the EP Act and EP Regulations. EPA delegates certain powers to councils under the EP Act. This includes powers to investigate contraventions of the EP Act and EP Regulations related to OWMS (including the GED) and to issue improvement notices and prohibition notices for contraventions.

> More information for council officers can be found in EPA publication 1974: Regulating onsite wastewater management systems: local government toolkit.

Specifically, Council:

- Assesses new applications; Issues permit for installation/alteration.
- Approves systems for use, following an inspection.
- Responds to complaints about failure of, or defective systems. If an issue is identified, Council can issue a notice ordering maintenance as required.

5.1.3. EPA advice - Enforcing Connection

> Powers delegated to councils to regulate on-site wastewater management systems (OWMS) do not provide councils with a lawful basis to require connection of a property to a sewer in an improvement notice.

EPA is aware that some councils have required connection to sewer via an improvement notice under the Environment Protection Act 2017. It is EPA's view that the powers delegated to councils to regulate on-site wastewater management systems (OWMS) do not provide councils with a lawful basis to require connection of a property to a sewer in an improvement notice.

This is because the powers delegated to councils are in relation to *on-site* wastewater treatment. If a property is connected to a sewer, on-site treatment is no longer taking place. This is likely to make the requirement to connect to a sewer beyond the scope of Council's limited power to only regulate in relation to on-site systems.

Councils could make clear to duty holders (whether through correspondence, or perhaps in the support to comply section of an improvement notice), that they would accept connection to a mains sewer as an alternative to compliance with the requirements of an improvement notice. However, a council cannot go so far as to impose a notice requirement to that effect.

5.2. Obligations of managers of land or infrastructure (On-site wastewater management)

The Obligations of managers of land or infrastructure (Urban stormwater management and On-site wastewater management) (OMLI) is a legislative instrument under the EP Act introduced in May 2024.

Compliance with the OMLI is mandatory and, if it is contravened, EPA may issue a remedial notice. If the duty holder fails to comply with a remedial notice EPA can take proceedings to enforce the notice in court. For more information on OMLIs see Part 7.3 of the EP Act.

The OMLI requires:

- Councils to develop and publish an onsite wastewater management plan (OWMP) that identify, risks of harm to human health and the environment from unsewered allotments and essentially identify actions with implementation timeframes to minimize risks and; prevent discharges of wastewater beyond allotment boundaries. It also requires Councils to set out its compliance and enforcement approach in relation to OWMS such as issuing EPA Notices Ordering Maintenance and Penalty Infringements for failing to maintain a system.

- Where Council's OWMP identifies an action involving a sewage management solution that is not solely an on-site wastewater management system (i.e. connection to reticulated sewer is the preferred solution), Council must notify the relevant water corporation in writing.

- There are obligations on Water Corporations to respond accordingly.

These obligations supplement and operate alongside the GED and other obligations in the EP Act.

The OMLI play a role in environmental protection by addressing responsibilities outside of the direct focus of the GED.

See EPA's website for more information about the OMLI. See also Section 3.1 about developing and OWMP.

5.3. Environment Protection Regulations 2021

The EP Regulations outline specific requirements and powers related to OWMS including:

- requirements related to obtaining a permit from council to construct, install or alter an OWMS (Part 3.3 of the EP Regulations)
- obligations for a person in management or control of an OWMS (Part 5.7 of the Regulations).
- powers of council to order an owner of a premises with OWMS to undertake specified maintenance activities (where the requirements of the EP Regulations related to the issuing of this order have been met).

5.3.1. OWMS permit

A permit is required to construct, install or alter an OWMS, which is defined in the EP Regulations as an onsite wastewater treatment plant with a design or actual flow rate of sewage not exceeding 5,000 litres on any day and includes all beds, sewers, drains, pipes, fittings, appliances and land used in connection with the treatment plant.

This is prescribed permission activity A20 under the EP Regulations and is administered by councils rather than EPA. The permit is required for proposed new systems and alterations to existing systems, which includes alterations that increase the system's flow or load – for example, a house extension or change from residential premises to commercial premises. General maintenance of the system is not considered an alteration.

An application for an A20 permit must be made in the manner and form prescribed by the Regulations (see regulation 26). Regulation 28(h) of the EP Regulations stipulates the matters a council must consider when deciding whether to issue an A20 permit. These are:

- whether the site for the proposed construction, installation or alteration of the OWMS is environmentally sensitive or is otherwise unsuitable
- whether the proposed construction, installation or alteration of the OWMS is unsuitable for the site or proposed use
- whether the proposed use of the OWMS is inconsistent with the design specifications of the system
- whether the area available for the treatment or disposal of the effluent resulting from the OWMS is not suitable or sufficient
- the findings of any land capability assessment (LCA) required under regulation 26(2)(e).

Under section 81(4) of the EP Act, council must refuse to issue a permit if:

- it determines the permit applicant is not a fit and proper person to hold the permit
- it considers that the activity specified in the permit application poses an unacceptable risk of harm to human health or the environment, or
- any prescribed circumstances exist – the EP Regulations prescribe that a permit application must be refused if it involves a new wastewater discharge or deposit to surface waters in a special water supply catchment area (regulation 19), or if the application has not provided the specified information (regulation 29(4)).

For detailed descriptions of all permit-related provisions in the EP Regulations, refer to EPA publication 1974.

Wastewater management systems that can treat more than 5,000 litres on any day are classified as prescribed permission activity A03 (Sewage treatment), which requires a development license and operating license from EPA (unless an exemption applies). This applies to both proposed new systems and existing systems.

Use EPA's Permission Pathway Form (F1021) if you are unsure about which pathway is most suitable for your wastewater management system.

Appendix 1 provides a flow chart to assist in determining the type of permit or license required for the management of wastewater based on the design or actual flow rates of wastewater treated.

Refer to Part 3.3 of the EP Regulations for more information about permits.

5.3.2. Assessment of onsite wastewater treatment plants

The EP Regulations (regulation 26(2)(c)) require an onsite wastewater treatment plant to meet the appropriate standard, unless an exemption has been granted by the EPA under section 459 of the EP Act.

Appropriate standard is defined in regulation 4 of the EP Regulations. Broadly speaking it refers to the relevant Australian and New Zealand standard. The onsite wastewater treatment plant must be assessed by a body accredited under the Joint Accreditation System of Australia and New Zealand or any other accreditation body approved by EPA. The assessment body must certify the onsite wastewater treatment plant as conforming with the relevant Australian and New Zealand standard.

If a brand or model of onsite wastewater treatment plant does not have a current certificate of conformity against the relevant Australian Standard it cannot be installed in Victoria. When a certificate of conformity expires, treatment plants that have already been installed can continue to be used in accordance with the EP Regulations.

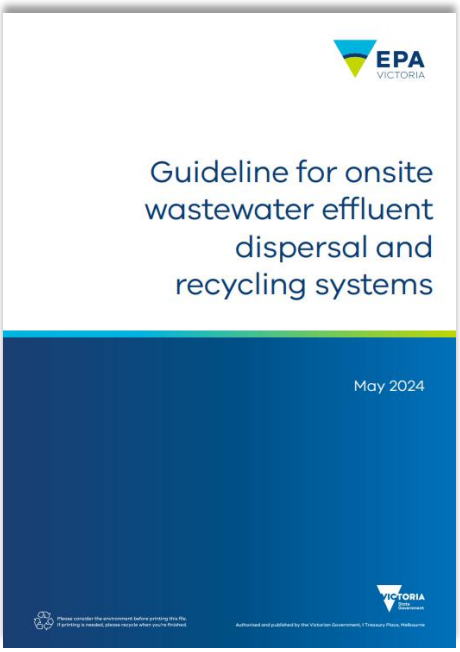
In exceptional circumstances relating to innovative onsite wastewater treatment plants, an exemption (under section 459 of the EP Act) from these requirements may be granted by EPA for a specified period. For more information refer to EPA determinations and exemptions.

EPA collates information provided by suppliers of onsite wastewater treatment plants and maintains a list of certificate holders against each treatment plant type. This information is provided on its onsite wastewater treatment systems with valid certificates webpage. It is important to note that the information presented on the website has been provided by the suppliers. EPA does not guarantee the details contained in them are correct.

5.4. New EPA Guidelines

Guidance is available for wastewater experts who design, install and maintain systems and also for onsite wastewater professionals, councils, water corporations, property owners and occupiers.

5.4.1. Guideline for onsite wastewater effluent dispersal and recycling systems (May 2024)



Provides technical guidance for onsite wastewater management systems (OWMS) with a design or actual flow rate of sewage not exceeding 5,000 litres on any day is a reference document designed to support the environment protection regulatory framework.

https://www.epa.vic.gov.au/guidelines-effluent-dispersal-and-recycling-systems

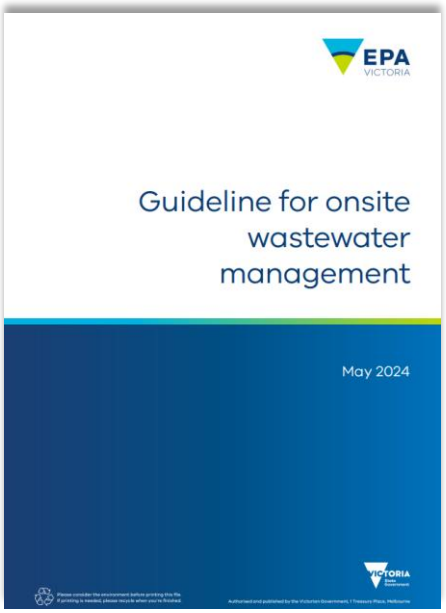
5.4.2. Guideline for onsite wastewater management (May 2024)

This guideline is a reference document designed to support Victoria's environment protection regulatory framework. It outlines a risk-based approach to managing onsite wastewater management systems (OWMS) and provides links to other guidelines and information about onsite wastewater management.

This guideline is complementary to EPA's Guideline for onsite wastewater effluent dispersal and recycling systems (EDRS Guideline).

This guideline and the EDRS guideline replace EPA Publication 891.4: Code of Practice: onsite wastewater management.

https://www.epa.vic.gov.au/guidelines-onsite-wastewater-management



In order for Council to ensure property owners comply with this part, Council should require the upgrade of a system and maximise onsite containment on consideration of the following factors:

- if the property is undergoing a renovation or addition of fixtures or fittings that generate wastewater (such as a bathroom, toilet, spa or swimming pool);
- the addition of a bedroom which would increase potential occupancy and therefore wastewater generated;
- the proposed sewer construction dates and water quality being discharged from site;
- the capability for the land to contain the wastewater generated by the household. A combination of Surface Irrigation, Sub Surface Irrigation & Agricultural Drains should be considered in determining land capability.

5.4.3. Water Act 1989

The Water Act requires referral to water authorities if systems are proposed within drinking water catchments or if an application for a septic system is received in respect to land in a sewerage district. The Act also outlines the following functions of Water Authorities notably:

a) to provide, manage and operate systems for the conveyance, treatment and disposal of sewage;

b) to identify community needs relating to sewerage services and to plan for the future needs of the community relating to sewerage services.

Section 147 also gives water corporations the power to require a property to connect to sewer under certain conditions.

If an owner of a property fails to comply with a notice requiring connection, the Water Authority may carry out the connection and recover its reasonable costs from the owner (for example, costs could be applied to the properties water bill over a period of time).

Available at: www.legislation.vic.gov.au

5.4.4. VAGO enquiry into Domestic Wastewater

The Victorian Auditor General's Office (VAGO) 2018 enquiry into 'Managing the Environmental Impacts of Domestic Wastewater' recommendation 6 stated:

The Department of Environment, Land, Water and Planning (DELWP) and the Environment Protection Authority (EPA) in consultation with councils, water authorities and other key stakeholders work together to review the regulatory framework, tools, and guidance for domestic wastewater management to address issues and gaps including:

- *lack of clarity around roles and responsibilities, particularly for enforcement and power to force connection*
- *systems approved prior to 1988 that allowed discharge of treated and/or untreated wastewater offsite or systems approved without a permit*
- *the overlapping, onerous and duplicative approval system*
- *governance and approval processes for alternative service options, including onsite installation and servicing*
- *issuing ongoing permits for the use of onsite systems.*

The Onsite Wastewater Management Steering Committee acquitted most of these VAGO recommendations however, there remains a lack of clarity around roles and responsibilities, particularly for enforcing connection to sewer.

Currently, Yarra Valley Water is the lead agency in relation to connections to sewage and has explicit powers to enforce connection, Council is responsible for Onsite Wastewater Management Systems (Septic systems) <5000 lt per day, and Council continues to work to support connection and ensuring that any issues with the actual septic systems are addressed and maintained.

5.5. Inspection Program Outcomes

As of March 2025, 4,734 properties have received 1 or more septic system assessments.

The total number of inspections on record since the program commenced in 2003 exceeds 12,100.

This includes follow up of non-compliant systems, responding to complaints and assessing new installations.

5.5.1. Initial issues

The main issues found when the inspection program was initially rolled out generally related to:

- Grease traps missing baffles resulting in grease and food particles entering storm water systems.
- Effluent disposal fields saturated and / or ineffective at distributing effluent resulting in effluent flowing overland.
- Plumbers bypassing defective septic system components and sending it to storm water as a cheaper option to repairing a defective system.
- Septic system Infrastructure buried / hidden under ground.

5.5.2. Ongoing issues

The current and ongoing issues found during and after the inspection program related to:

- Sand filter blockages from tree roots (general maintenance required)
- Treatment plants not being serviced as no service contract in place
- Properties failing to desludge the septic tank every 3 years

- Redirected / bypassed irrigation systems offsite.
- Flush valves and inline cartridge filters being tampered with.

Figure 7: Burst dripper line and septic effluent flowing over footpath

6. Actions

6.1. Development and Actions since Implementation in 2003

6.1.1. Electronic Database

- Electronic database capable of storing and managing septic information for each property. This information is considered vital in following up outstanding issues and managing septic tank systems now and into the future.
- GIS compatible hand held database capable of recording in-field assessments.
- GPS tools capable of accurately recording the in-ground location of system components for each property. Figure 10 shows new technologies capable of showing the locations of septic tank, sand filter, effluent lines, property service drains and house connection points which allows Council staff to easily access information during on-site inspections.
- Residents and contractors can also gain the benefits of GPS mapping prior to developing land or constructing buildings on properties containing on-site septic systems.
- GIS compatible hand held database capable of recoding images of septic components which will provide officers a reference point for future / follow up inspections.

6.1.2. Communication and Educational Strategies

- Communications strategy to inform residents of the OWMP process and their obligations to ensure effective system operation.
- Information sessions for Manningham City residents.
- Development of *A Guide to Septic Systems and Operation Maintenance* to assist property owners and new property owners (commenced 2017).
- Development of a *Greywater Reuse Policy* to assist owners in complying with EPA requirements.
- Development of an ongoing reminder program where owners are notified of the requirement to carry out scheduled maintenance / 3 year desludge.
- Development of *Unsewered News* to assist in the dissemination of information to owners operating a septic system.

6.1.3. Compliance Approach

- Integrated compliance approach for the installation and maintenance of septic systems.
- Inclusion of septic tank condition report into Council's Land Information Certificates for potential property buyers.
- Inspection process and checklist to consistently assess and record septic system deficiencies throughout each reticulation area.
- Community Local Law relating to owners septic tank responsibilities.
- Infringements issued where appropriate under Community Local Law
- Enforcement process to assist in the management of owner responsibilities.

6.1.4. External Liaison

- Participation on DEECA and EPA's 'Onsite Domestic Wastewater Steering Committee' to address VAGO recommendations in relation to the management of OWMS in Victoria, noting this steering committee concluded in December 2024.
- Submission of data into Yarra Valley Water's Community Sewerage Prioritisation Process.
- Participation in the Working Group and Steering Committee for the Park Orchards on-site trial (facilitated by YVW).
- Education and assistance provided to other Councils developing their DMWP.
- Presentation of issues and outcomes of Manningham's OWMP at professional association conferences and seminars.

Figure 8: Flooded irrigation field and a deeply buried distribution pit (legacy system)

7. ISO 31000 Risk Management Approach

7.1. Overview

The OWMP risk assessment methodology has been developed for councils (by Atom Consulting for the DEWLP/EPA led steering committee) to assess the risk of onsite wastewater management systems at a sub catchment and catchment level.

Council further engaged water consultants 'Decentralised Water' through a grant provided by DEWLP to perform the key data collection and analysis to inform our risk analysis.

The following objectives were considered when assessing risks associated with onsite wastewater management in Manningham:

- Onsite wastewater systems and their effluent are appropriately located and managed through a consistent risk assessment process.
- Human health and environmental risks are minimised, particularly for potable water supply and environmentally sensitive areas.
- Decentralised Water also gave consideration to systems discharging offsite and further adapted the risk tool.

7.2. Risk Analysis Methodology

Risk Analysis Methodology

Initiation: defining the scope and context to the risk management plan

- Determine sub catchments and catchment areas for assessment, identify endpoints

Risk Identification: data collection

- Collect data and allocate date to risk band levels for each risk factor

Calculate consequence

- Determine consequence through calculation of contaminant loads from risk factor data

Likelihood assessment

- Determine likelihood for each risk pathway.
- Calculate likelihood from risk factor band level data

Risk analysis

- Calculate risk rating for each sub catchment risk type and pathway

Cumulative risk

- Calculate risk rating for specific endpoints and review results

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7.3. Risk Ratings

7.3.1. Flood risk to environment

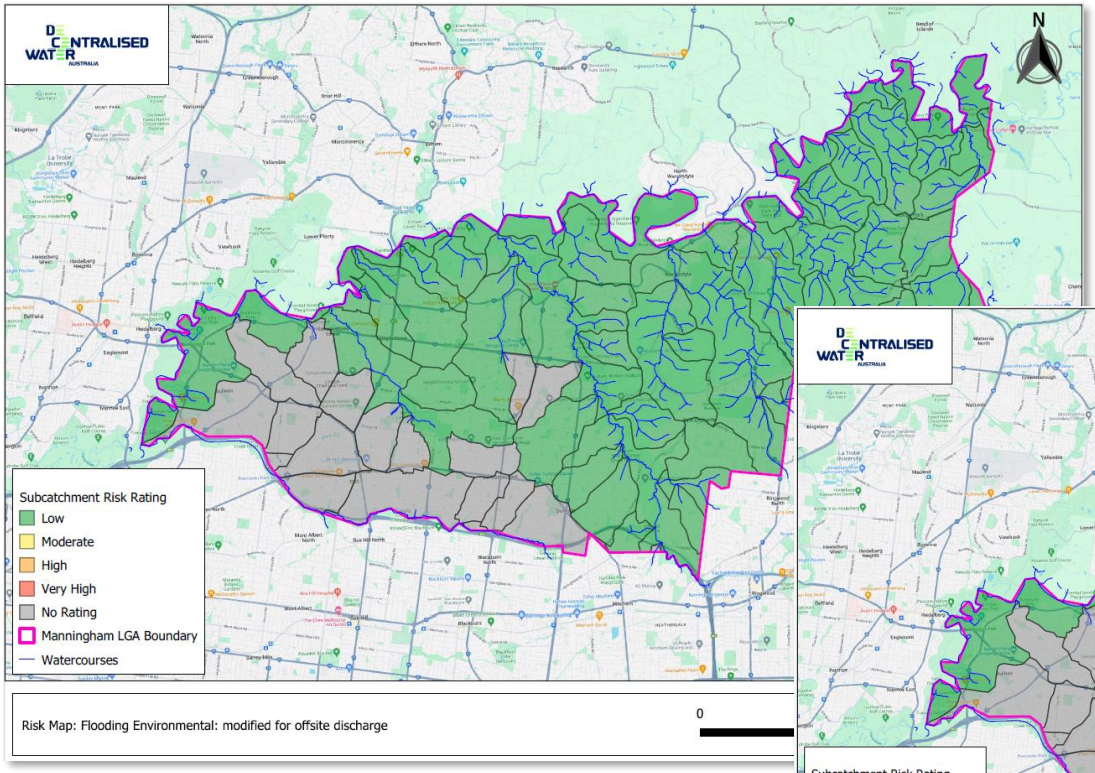

Figure 9 Flooding risk to environment before backlog sewer connections

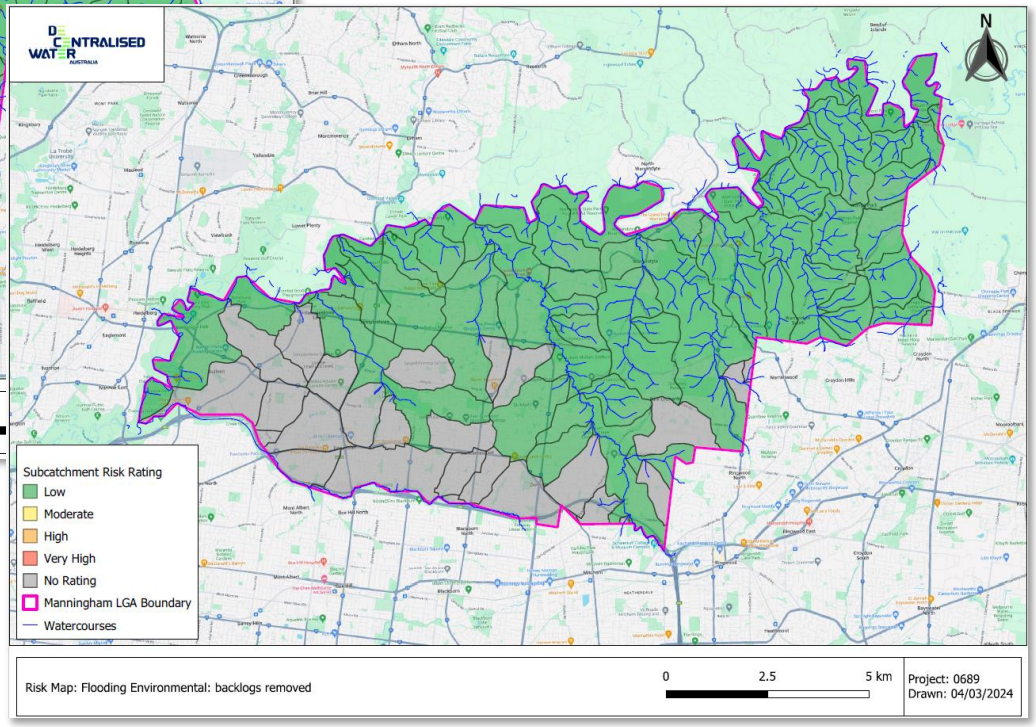

Figure 10 Flooding risk to environment after backlog sewer connections

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7.3.2. Flood risk to human health

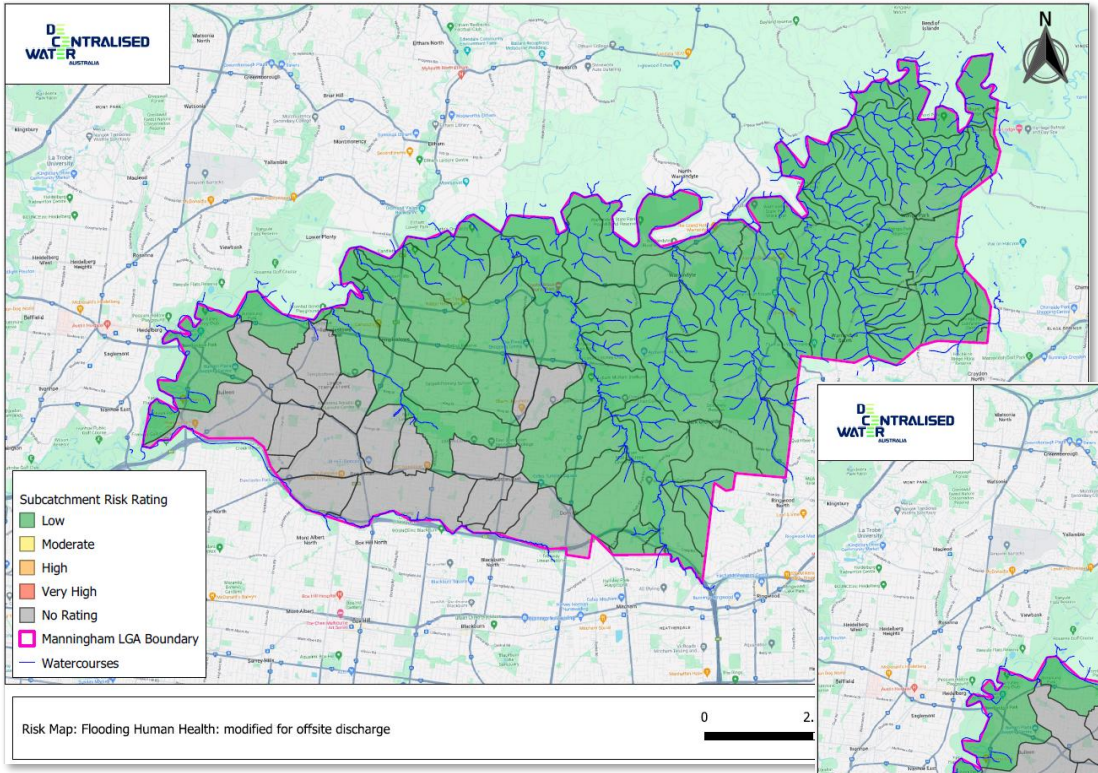

Figure 9 *Flooding risk to health before backlog sewer connections*

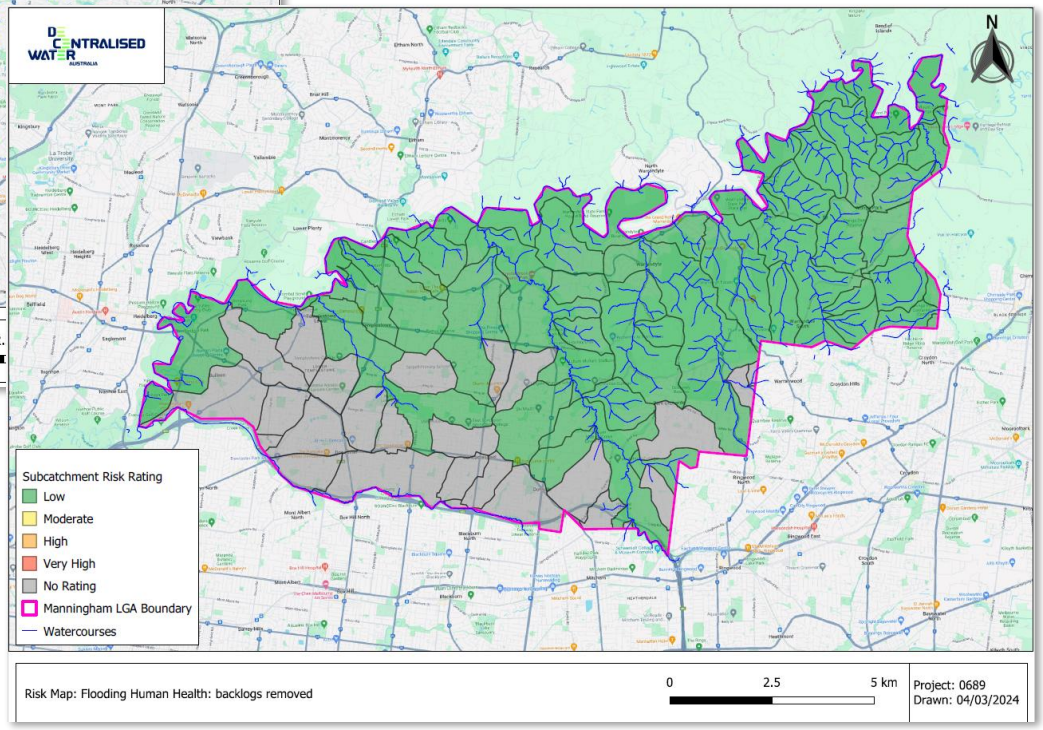

Figure 10 *Flooding risk to health after backlog sewer connections*

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7.3.3. Groundwater risk to Environment

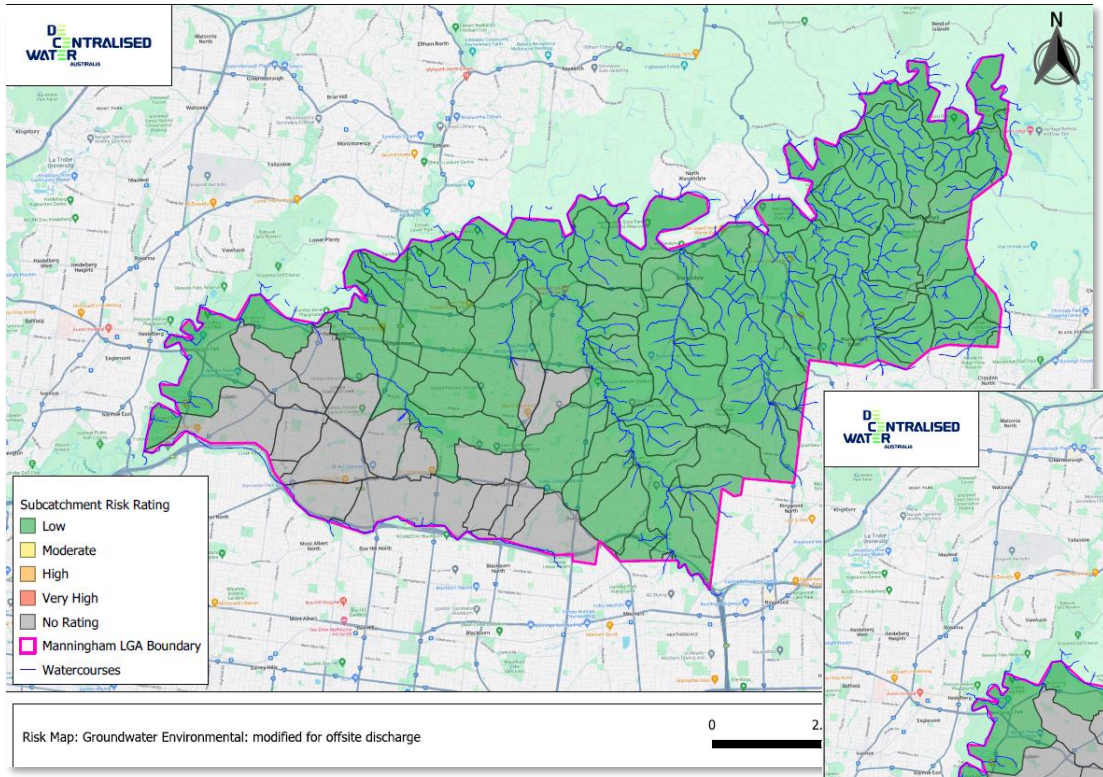

Figure 11 *Ground water risk to environment before backlog sewer connections*

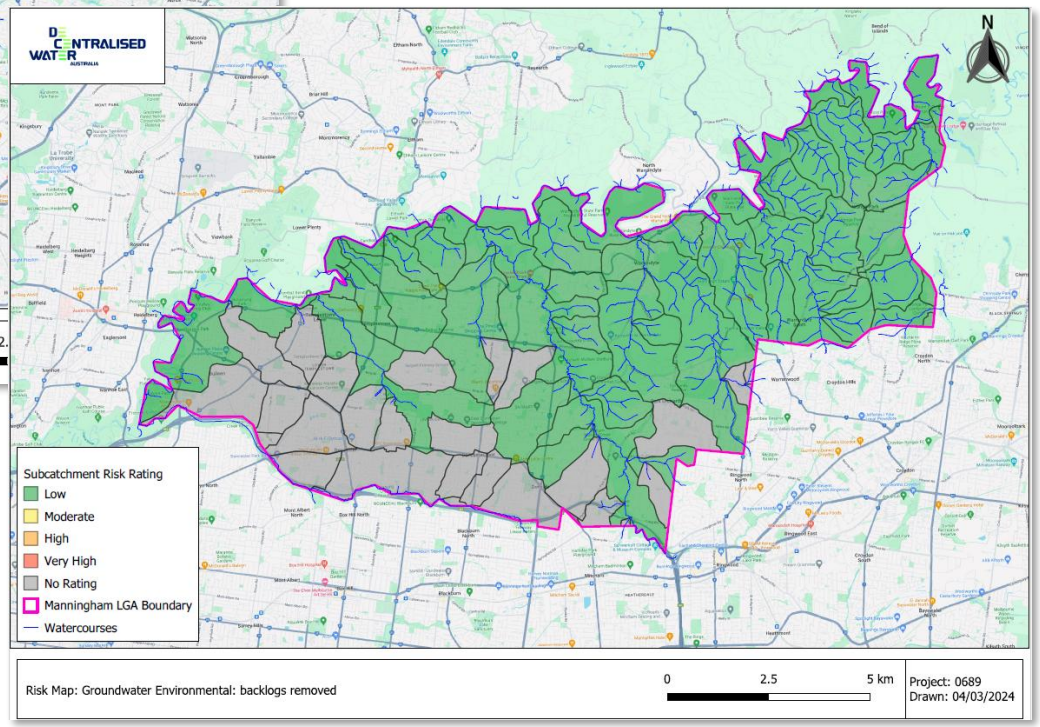

Figure 12 *Groundwater risk to environment after backlog sewer connections*

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7.3.4. Groundwater risk to Human Health

Figure 13 *Groundwater risk to Human Health before backlog sewer connections*

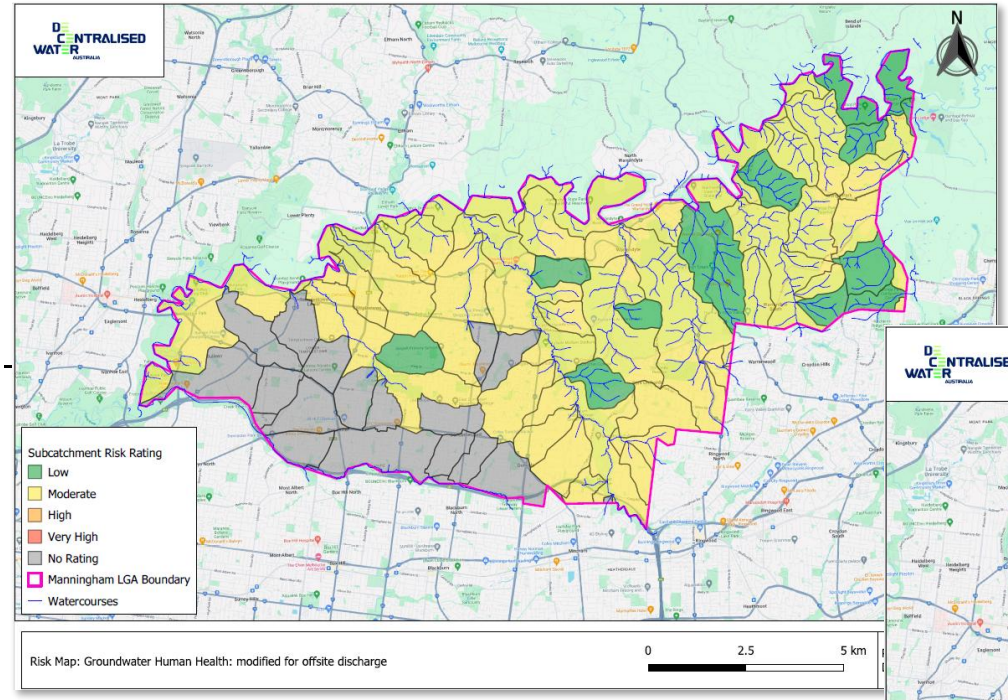

Figure 13 illustrates current groundwater risks to human health as Moderate in most sub catchment areas where Onsite systems are in use.

Figure 14 illustrates an improvement once reticulated sewer is provided and properties connect.

A Moderate risk rating will apply where onsite systems continue to be used into the future (EPA compliant systems and/or no sewerage option).

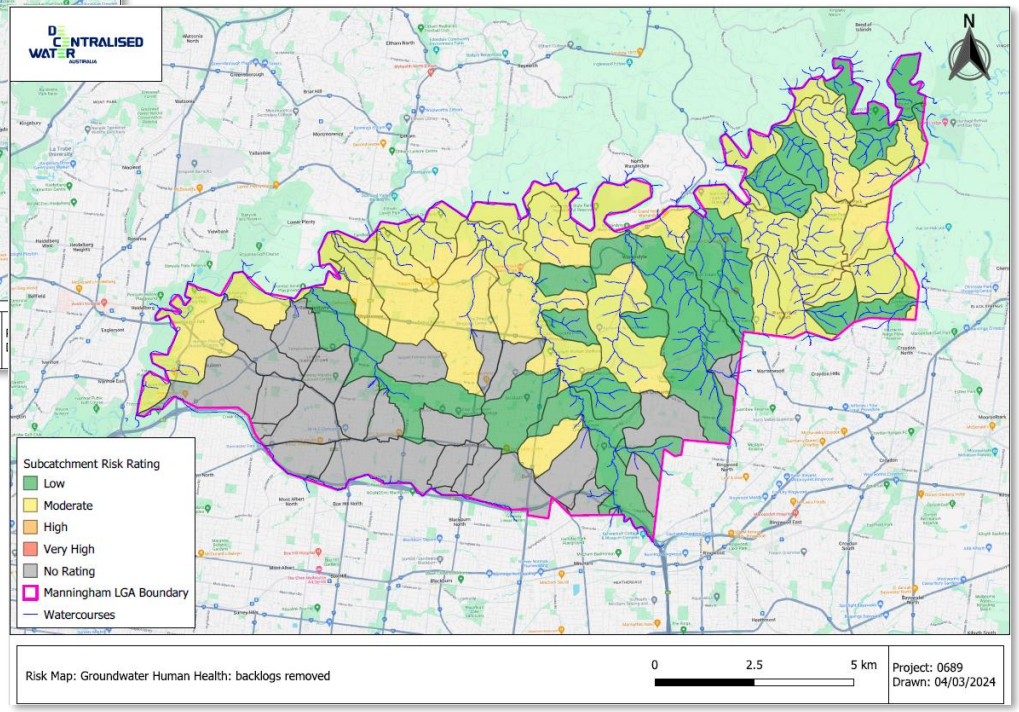

Figure 14 *Groundwater risk to Human Health after backlog sewer connections*

7.3.5. Watercourse risk to environment

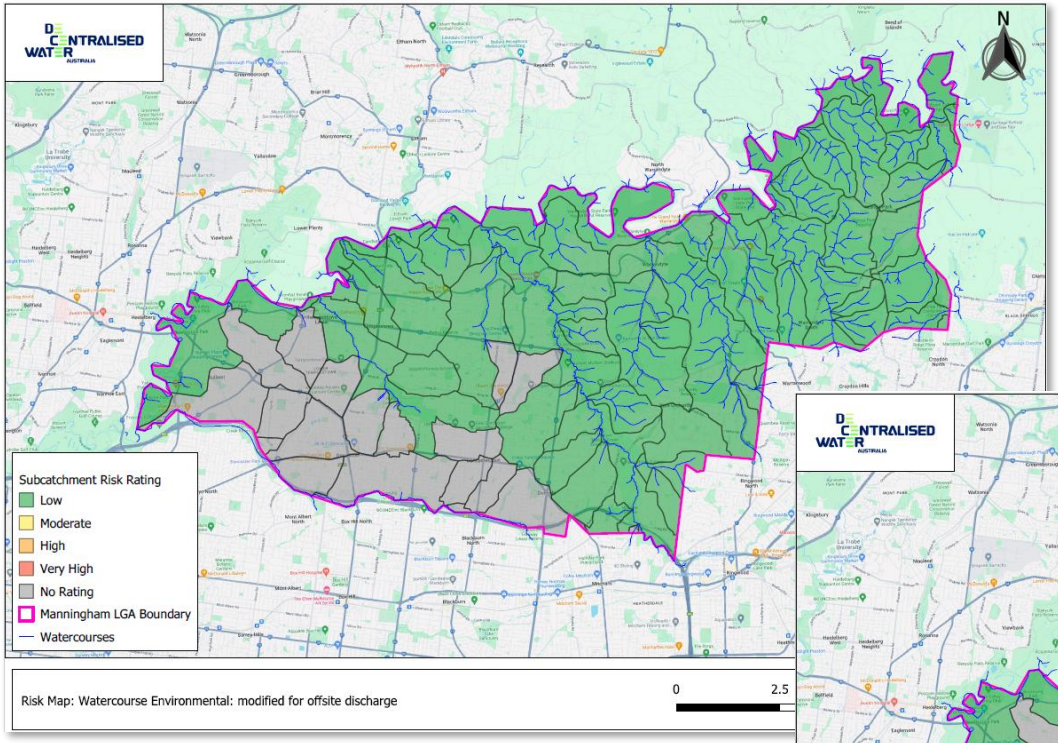

Figure 15 *Watercourse risk to environment before backlog sewer connections*

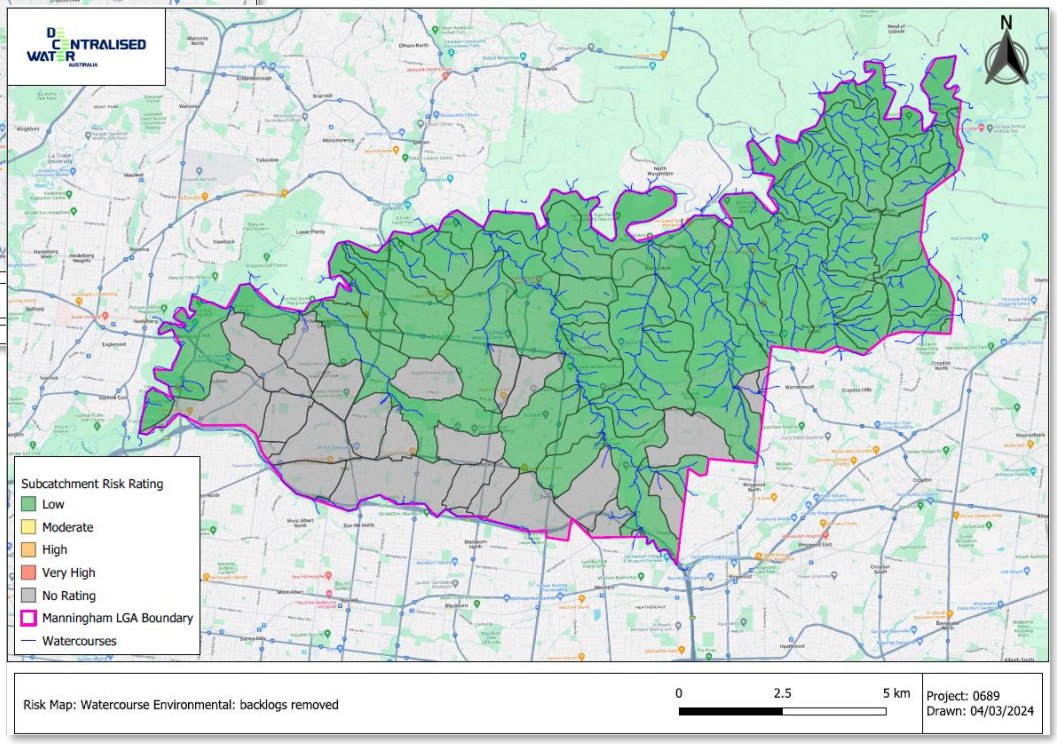

Figure 16 Watercourse risk to environment after backlog sewer connections

7.3.6. Watercourse risk to Human Health

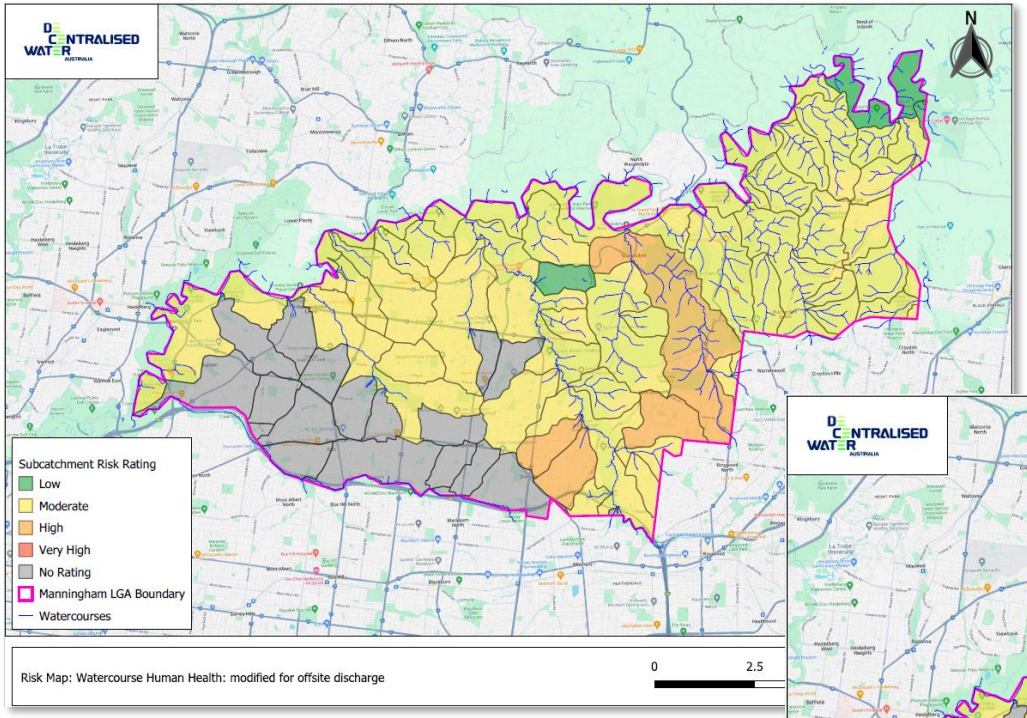

Figure 17 Watercourse risk to Human Health before backlog sewer connections

Figure 17 illustrates current Watercourse risks to human health as Moderate to High in sub catchments where a high percentage of systems in use discharge to stormwater.

Figure 18 illustrates an improvement once reticulated sewer is provided and these properties connect.

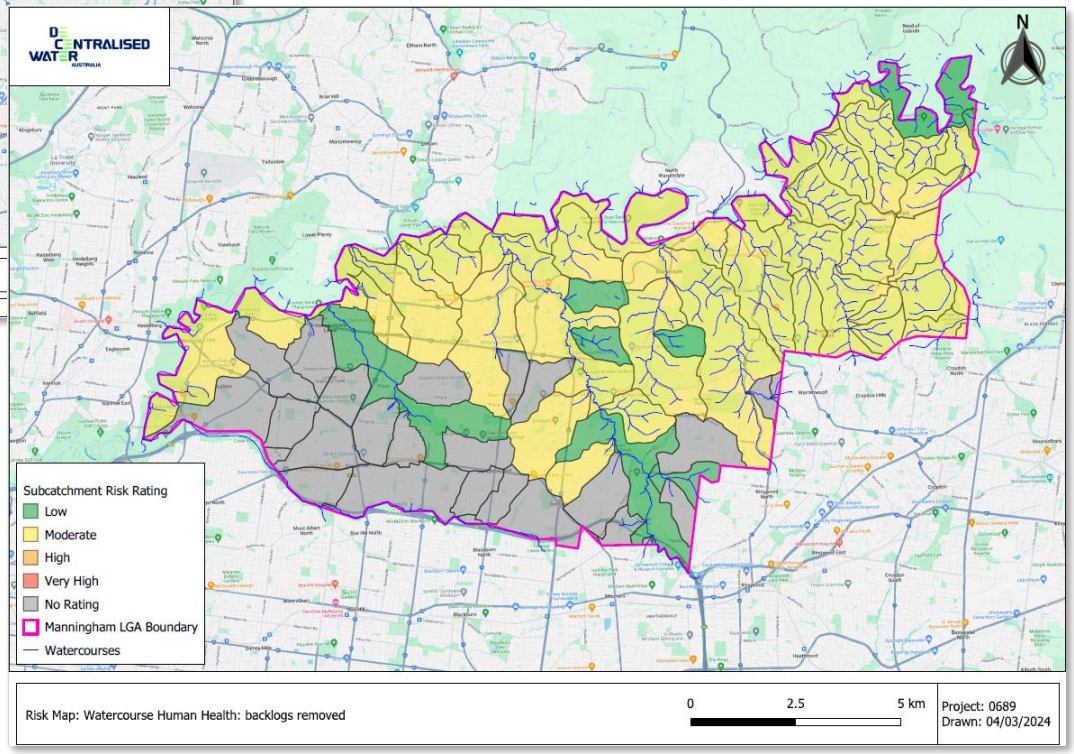

Figure 18 Watercourse risk to Human Health after backlog sewer connections

8. Outcomes

Overall, there were minimal sub catchment risk ratings reflecting medium or high-risk ratings.

8.1. Groundwater risk to Human Health

- There is a current moderate risk to human health through groundwater in most sub catchment areas where onsite systems are in use.
    - There is an expected improvement in Park Orchards (Anderson Creek, Mullum Mullum Creek and tributaries) once reticulated sewer is provided and properties connect (expected to become available in 2026 and beyond)
    - There is an expected improvement in Warrandyte (Andersons Creek and tributaries) once properties discharging offsite connect to the available sewer (declared available in 2013/14).
    - There is an expected improvement in Donvale (Mullum Mullum creek and tributaries) once properties discharging offsite connect to the available sewer (declared available in 2019).
    - A Moderate risk rating will continue where EPA compliant systems continue to be used into the future and in areas where there is no sewerage option available.

8.2. Watercourse risk to Human Health

- There is a current high-risk rating to Human Health via Watercourse where a large number of legacy systems discharge to stormwater (offsite).
    - There is an expected improvement in Park Orchards (Andersons Creek, Mullum Mullum creek and tributaries) once reticulated sewer is provided and properties discharging offsite connect (expected to become available in 2026 and beyond)
    - There is an expected improvement in Warrandyte (Andersons Creek and tributaries) once properties discharging offsite connect to the available sewer (declared available in 2013/14).
    - There is an expected improvement in Donvale (Mullum Mullum creek and tributaries) once properties discharging offsite connect to the available sewer (declared available in 2019).
    - A Moderate risk rating will remain where onsite systems continue to be used (no sewerage option).

8.3. Risk Treatment Plan

RISK	**8.3.1. GROUNDWATER RISK TO HUMAN HEALTH**
Area	Mullum Mullum creek and sub catchments Anderson creek and sub catchments
Assessed Risk ranking	Moderate Risk to Low Risk
Source of risk	Large number of systems circa 1990's with onsite containment considered at end of life. Properties with onsite containment pose an accumulative moderate to low risk to health.
Treatment Control	1. Encourage connection to sewer for properties identified as high risk of polluting - noting Council cannot enforce connection to sewer. - Councils do not have power to enforce connection to sewer. EPA and DEECA should be encouraged to consider suitable enforcement approaches and undertake appropriate regulatory impact statements to support preferred approach. 2. Provide educational information developed by Yarra Valley Water to property owners which have had sewer available the longest and encourage connection. In accordance with the *Obligations for Managers of Land and Infrastructure (On-site wastewater management)* - where Council's OWMP identifies an action involving a sewage management solution that is not solely an on-site wastewater management system (i.e. connection to reticulated sewer is the preferred solution), Council must notify the relevant water corporation in writing. There are obligations on Water Corporations to respond accordingly. 3. Continue to inspect properties utilising onsite systems to manage their wastewater. - Ensure all OWMS componentry is plotted using GPS - Require the repair of systems identified as defective through a Notice Ordering Maintenance - Escalate to EPA Improvement Notices for continued non-compliance - Continue to roll out a regular maintenance reminder program for all properties utilising an onsite system with respect to an annual service contract and 3 yearly desludge requirements. 4. Participate in YVW's sewerage prioritisation workshops and continue to advocate for the inclusion of high-risk properties onto YVW's Community Sewerage Program (properties discharging from site and within close proximity to

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	sewerage infrastructure). 5. Perform water analysis on local creeks and rivers and monitor quality indicators. 6. Issue 'Conditions of Use' and associated maintenance requirements to all satisfactory systems that have been upgraded or do not have existing permit conditions associated with the property. 7. Respond to internal referrals from Statutory Planning team relating to permit applications in unsewered areas. Ensure new developments are appropriate and have suitable means for the conveyance and treatment of all wastewater generated by that development. 8. Continue to provide maintenance and operation guides to new owners in Manningham: https://www.manningham.vic.gov.au/property-and-development/guides-and-maps/septic-tanks/maintain-your-septic-tank
Time to Start	Most of these were implemented between 2002 - 2007
Timeframe for Implementation	Ongoing
Responsibility	OWMP team
Residual risk (once implemented)	Moderate Risk to Low Risk - for properties that elect to not connect to sewer (EPA compliant) or where no sewerage planned.

RISK	**8.3.2. WATERCOURSE RISK TO HUMAN HEALTH**
Area	Mullum Mullum creek and sub catchments Anderson creek and sub catchments
Assessed Risk ranking	High risk
Source of risk	Old Legacy systems discharging untreated greywater or treated effluent to stormwater pose an accumulative High risk to human health. Properties with onsite containment also pose an accumulative moderate to low risk to health.
Treatment Control	1. Encourage connection to sewer for properties identified as high risk of polluting - noting Council cannot enforce connection to sewer. a. Councils do not have power to enforce connection to sewer. EPA and DEECA should be encouraged to consider suitable enforcement approaches and undertake appropriate regulatory impact statements to support preferred approach. 2. Provide educational information developed by Yarra Valley Water to property owners which have had sewer available the longest and encourage connection. 3. In accordance with the *Obligations for Managers of Land and Infrastructure (On-site wastewater management)* - where Council's OWMP identifies an action involving a sewage management solution that is not solely an on-site wastewater management system (i.e. connection to reticulated sewer is the preferred solution), Council must notify the relevant water corporation in writing. There are obligations on Water Corporations to respond accordingly. 4. Continue to inspect properties utilising onsite systems to manage their wastewater. a. Ensure all OWMS componentry is plotted using GPS b. Require the repair of systems identified as defective through a Notice Ordering Maintenance c. Escalate to EPA Improvement Notices for continued non-compliance d. Continue to roll out a regular maintenance reminder program for all properties utilising an onsite system with respect to an annual service contract and 3 yearly desludge requirements.
	5. Participate in YVW's sewerage prioritisation workshops and continue to advocate for the inclusion of high-risk properties onto YVW's Community Sewerage Program (properties discharging from site and within close proximity to

	sewerage infrastructure). 6. Perform water analysis on local creeks and rivers and monitor quality indicators. 7. Issue 'Conditions of Use' and associated maintenance requirements to all satisfactory systems that have been upgraded or do not have existing permit conditions associated with the property. 8. Respond to internal referrals from Statutory Planning team relating to permit applications in unsewered areas. Ensure new developments are appropriate and have suitable means for the conveyance and treatment of all wastewater generated by that development. 9. Continue to provide maintenance and operation guides to new owners in Manningham: https://www.manningham.vic.gov.au/property-and-development/guides-and-maps/septic-tanks/maintain-your-septic-tank
Time to Start	Most of these were implemented between 2002 - 2007
Timeframe for Implementation	Ongoing
Responsibility	OWMP team
Residual risk (once implemented)	Moderate to Low risk - for properties that elect to not connect to sewer (EPA compliant) or where no sewerage planned.

9. Conclusion

Based on inspection data and water quality results obtained through Council's OWMP and water watch it is in Councils' interest to protect the community from the adverse health effects associated with exposure to Onsite wastewater. It is also important to reduce the risk posed to the environment from Onsite wastewater entering local creeks and streams.

Council will continue to advocate for improved sewerage services in Manningham and work with YVW in determining the best outcomes for our communities with respect to practicality, cost and protection of the environment and public health.

Where reticulated sewer is provided, residents should be encouraged to connect as this will ultimately save money and time maintaining an on-site disposal system. Connecting to the sewer will reduce the potential for sewage run off and improve the current level of pollution entering creeks and rivers in Manningham.

10. Appendix 1 – Wastewater Systems by Type

Consideration of the total types of systems known to have been used in the municipality from the beginning revealed 21 categories. The 12 main categories and installation trends are noted in the following table:

CODE	TYPE OF SYSTEM	USEAGE	NO. IN USE APRIL 2015	JULY 2019	MARCH 2025
1. TP/AGL	Treatment Plant with Absorb / Transpiration Trenches	1990 onwards (still used)	170	136	117
2. TP/SI	Treatment Plant with Surface Irrigation	1997 onwards (still used)	110	91	67
3. TP/SSI	Treatment Plant with Sub Surface Irrigation	1997 onwards (still used)	398	464	433
	Ozikleen systems: OKAGL / OKSI / OKSSI	2006			
	Biolytix systems: BLTAGL / BLTSSI	2005			
4. SF/AGL	Sand Filter with Absorb / Transpiration Trenches	1990 onwards (still used)	360	329	271
5. SF/SI	Sand Filter with Surface Irrigation	Approx. 1997 - uncommon	5	4	2
6. SF/SSI	Sand Filter with Sub Surface Irrigation	1997 onwards (still used)	54	74	75
7. AW/AGL	All Waste to Absorb / Transpiration Trenches	1968 onwards (still used)	357	321	252
8. AW/WF	All Waste to Worm Farm contained on site		5	7	8
9. AW/RB	All Waste to Reed bed contained on site	1992 - not used often.	6	5	4
10. TP/DIS	Treatment Plant discharging off site*	1975 - Nov 1998	130	117	60
11. TWOAT	Toilet Waste Only to Absorption / Transpiration Trenches*	1996 WC Composting AW biolytic film - not used often. 1950's No longer used	811	672	541
12. SF/DIS	Sand Filter Discharging Off Site*	1970 to 1998.	1263	1,002	599
TOTAL			**3,649**	**3,222**	**2,430**
*Highlighted system types 10, 11 & 12 are types that discharge either treated effluent or untreated greywater to storm water.					

Table 4 Wastewater systems by type

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11. Appendix 2 - Installation Trends

The following data has been collected for the period 1994 through to 2019 and it shows installation trends for the municipality:

Type	1994 1995	1995 1996	1996 1997	1997 1998	1998 1999	1999 2000	2000 2001	2001 2006	2007 2011	2011 2014	2015 2019	2020 2025
TP/AGL	5	4	5	15	17	18	8	79	18	16	9	7
TP/SI	2	2	7	24	30	25	18	68	5	0	0	1
TP/SSI	0	1	0	2	2	8	8	136	187	67	125	65
SF/AGL	26	33	39	34	34	28	14	73	47	34	34	17
SF/SI	0	0	0	0	1	1	0	2	4	0	0	0
SF/SSI	0	0	0	0	0	0	0	3	37	18	32	9
AW/AGL	9	3	7	4	5	4	3	51	44	25	8	5
Worm Farm	0	0	0	0	0	0	0	4	3	3	0	2
Reedbed	0	0	3	5	0	0	0	1	3	0	0	0
TP/DIS	20	21	20	5	0	1	0	3	3	0	0	0
TWOAT	0	0	0	1	0	1	0	27	178	0	0	9*
SF/DIS	24	21	11	3	1	0	0	46	71	0	0	1
TOTAL	**86**	**85**	**92**	**93**	**90**	**86**	**51**	**493**	**600**	**163**	**208**	**116**

*The 9 applications received for Toilet Waste Only systems (discharging grey water offsite) were for repairs / improvements whilst awaiting rollout of sewage infrastructure.

Table 5 *Installation Trends*

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Figure 20. Mullum Mullum Creek Park Orchards

12. Appendix 3 - Waterwatch

The Manningham Waterwatch program is a citizen science initiative that supports local communities to monitor the health of our local waterways. In Manningham, a network of community volunteers have initiated a municipal wide water quality monitoring program. The program aims to connect local communities with waterway health and sustainable water management issues. Waterwatch monitoring has been done in Manningham for over 10 years across 20 different sites. Waterwatch volunteers repeat their monitoring over consecutive months and years, and as a result trends in waterway condition have been detected particularly in catchments where new sewer services have been made available to local residents.

12.1. Ruffey Creek

Waterwatch groups have been monitoring Ruffey Creek at 3 monitoring sites including Ruffey Lake, King Street and Dellfield Drive since 2007. Initially (prior to 2012), Waterwatch data identified that highly polluted stormwater was impacting the creek between King Street and Dellfield Drive. With the completion of the new Templestowe sewer service in 2012, the water quality of Ruffey Creek improved quickly at Dellfield Drive. This likely indicates a decline in household wastewater impacting on Ruffey Creek.

12.2. Andersons Creek

Waterwatch monitoring in Andersons Creek indicates that the creek is being impacted by highly polluted stormwater discharging from the majority of the stormwater drains. The continuous nature of the stormwater discharge, even outside of rainfall, and the associated milky white colour, strong sewer-like odour and foamy consistency suggests that the discharge is likely to have originated as household waste water. Measurements of Ortho-phosphorus, electrical conductivity and ammonium, particularly in the upper parts of the catchment, are measured as highly degraded and can regularly exceed the limits of the Waterwatch equipment. Waterwatch data indicates that the creek is at its most polluted at the top of the catchment and improves with ground water dilution as the creek flows through the Warrandyte State Park.

Figure 21: Algal bloom, Andersons Creek

12.3. Mullum Mullum Creek

Waterwatch monitoring in Mullum Mullum Creek indicates that the water quality of the Creek deteriorates quickly after it enters the Manningham municipality. To determine what is impacting the creek Waterwatch volunteers established monitoring sites upstream and downstream of every stormwater discharge drain between Beckett and Park Roads. Monitoring results indicate that the water quality typically deteriorates after each stormwater drain. The rapid decline in water quality and the sharp increase of nutrient pollution indicates that household greywater from the 1,575 split greywater systems in the catchment is adversely impacting on the water quality of the creek. Continued Waterwatch monitoring of these sites will help assess the expected improvement to the water quality of Mullum Mullum when the new sewer service arrives in the coming years.

12.4. Jumping Creek

Jumping Creek provides a characteristic semi-rural catchment reference site against which Brushy, Ruffey, Andersons and Mullum Mullum Creeks can be compared. The water quality of Jumping Creek is rated as “Good” under the ANZECC water quality guidelines.

12.5. Brushy Creek

Waterwatch monitoring in Brushy Creek clearly indicates a reduction in nutrient pollution since the completion of the Wonga Park sewer service in 2012. Continued Waterwatch monitoring of Brushy Creek will confirm if this water quality trend will continue.

More information on waterwatch results and publications can be found at:
www.manningham.vic.gov.au/waterwatch-program

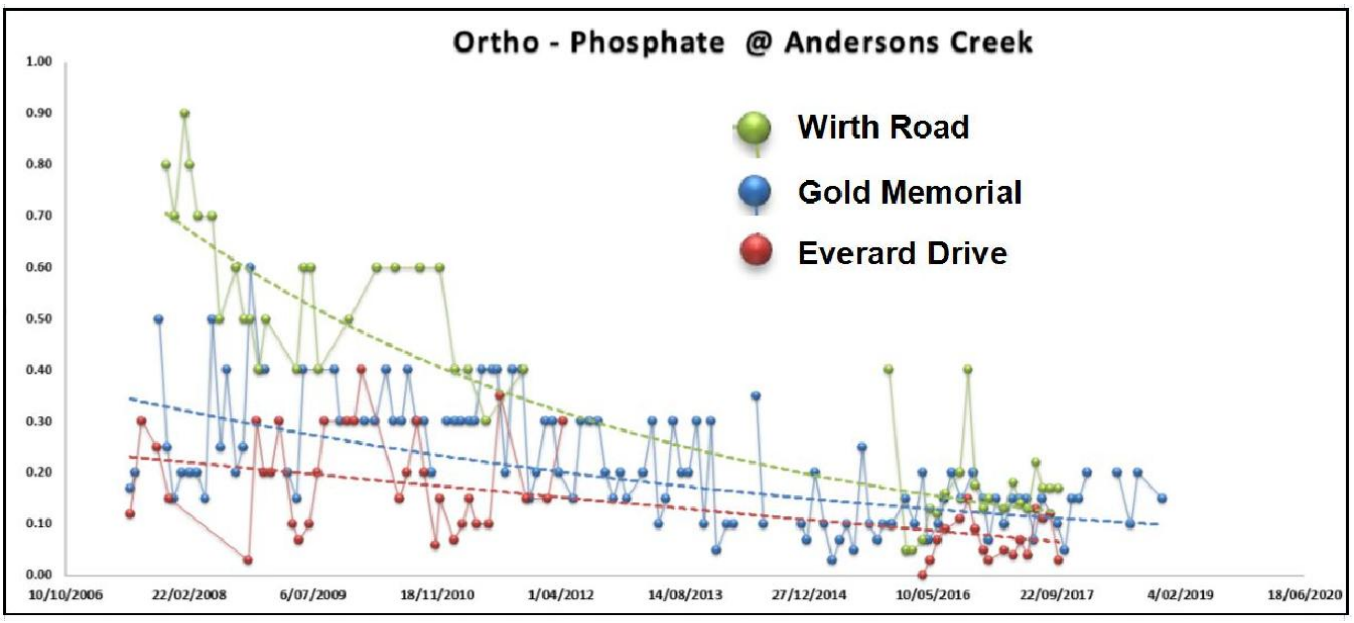


Figure 22. Andersons Creek Ortho-phosphate levels

13. Appendix 4 - Water sampling results

Water sampling has been conducted by the OWMP team since 2003 at several locations along creeks running throughout Manningham. Samples were taken 30cm below the surface to obtain a consistent sample representative of the water quality in that area. The table below indicates high levels of E.coli present in Manningham's creeks and is indicative of faecal contamination. In some instances, levels were considerably higher than those levels recommended for swimming.

Adults, children and animals that come into contact with contaminated creek or river water may experience diarrhoea, stomach infections, ear, eye and throat infections as a result of high levels of E.coli present in the water.

Following are the water quality parameters set by State Environmental Protection Policy in relation to E.coli levels:

- E.coli levels above 200/100ml are not recommended for swimming
- Levels above 1000/100ml are not recommended for fishing or boating activities.

Although not conclusive, there appears to be an improvement in water quality results for the Penderal Court Drain and Creek and the Violet Court Drain compared to water sampling performed in previous years. The Penderal and Violet Court Drains are located in the Wonga Park backlog areas RA0005A & RA0005B where approximately 489 properties (88%) of properties have connected to sewer since 2013.

68 properties have not connected, 42 of which discharge to stormwater.

An improvement in the quality of the Ruffey Creek Drain has also been observed in recent years.

Figure 23: BOD by date and location

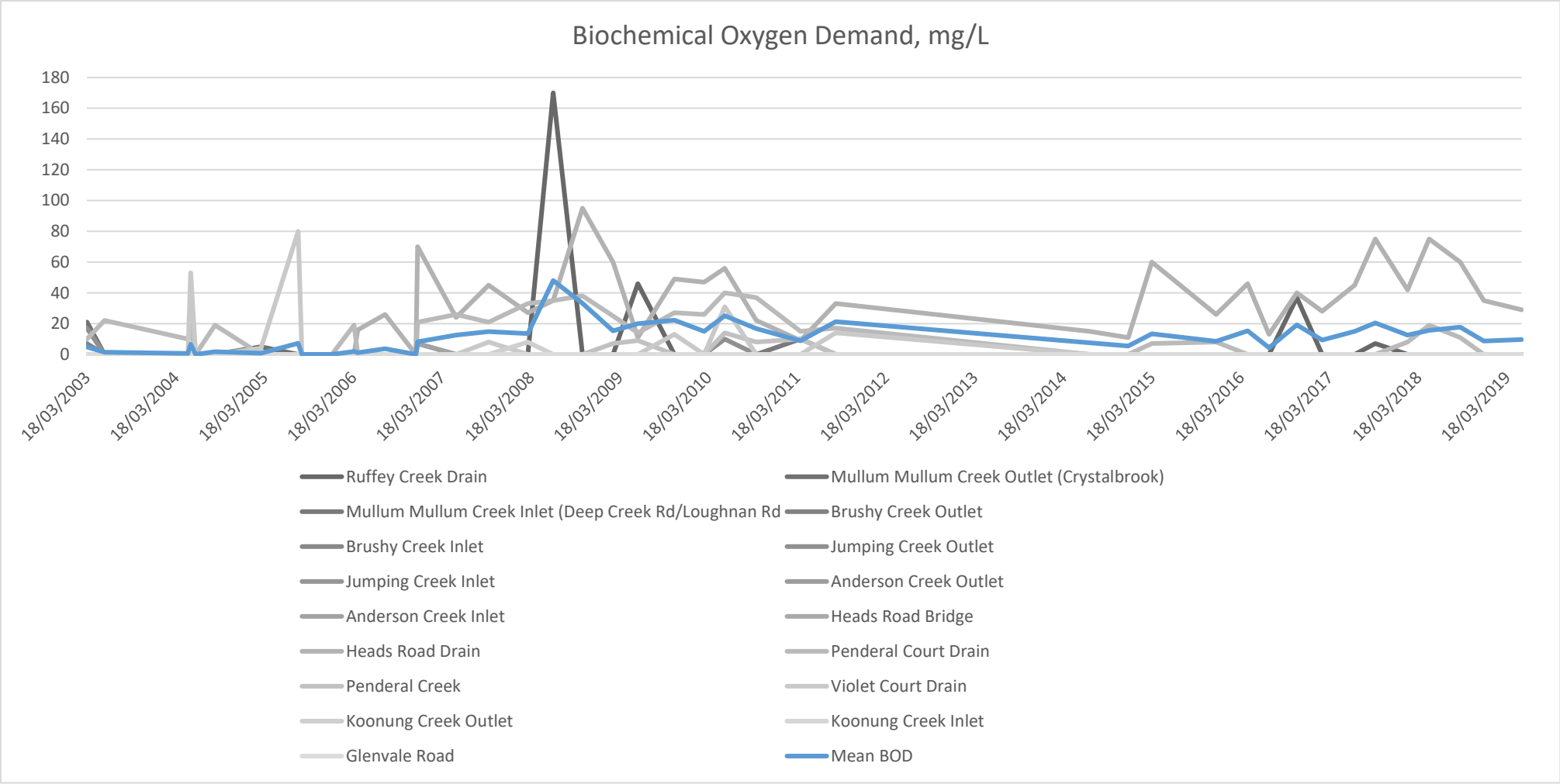


Figure 24: Suspended Solids by date and location

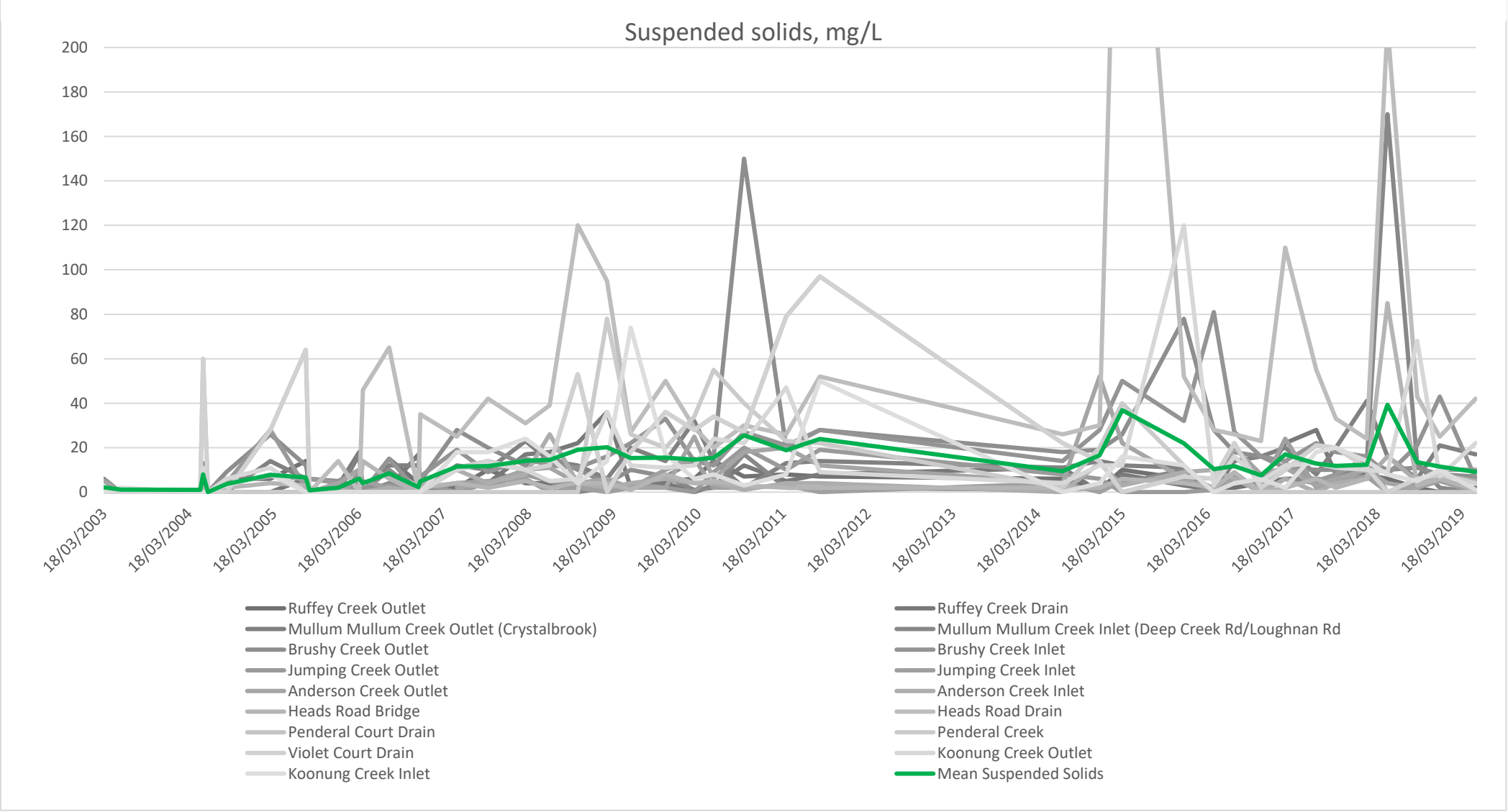
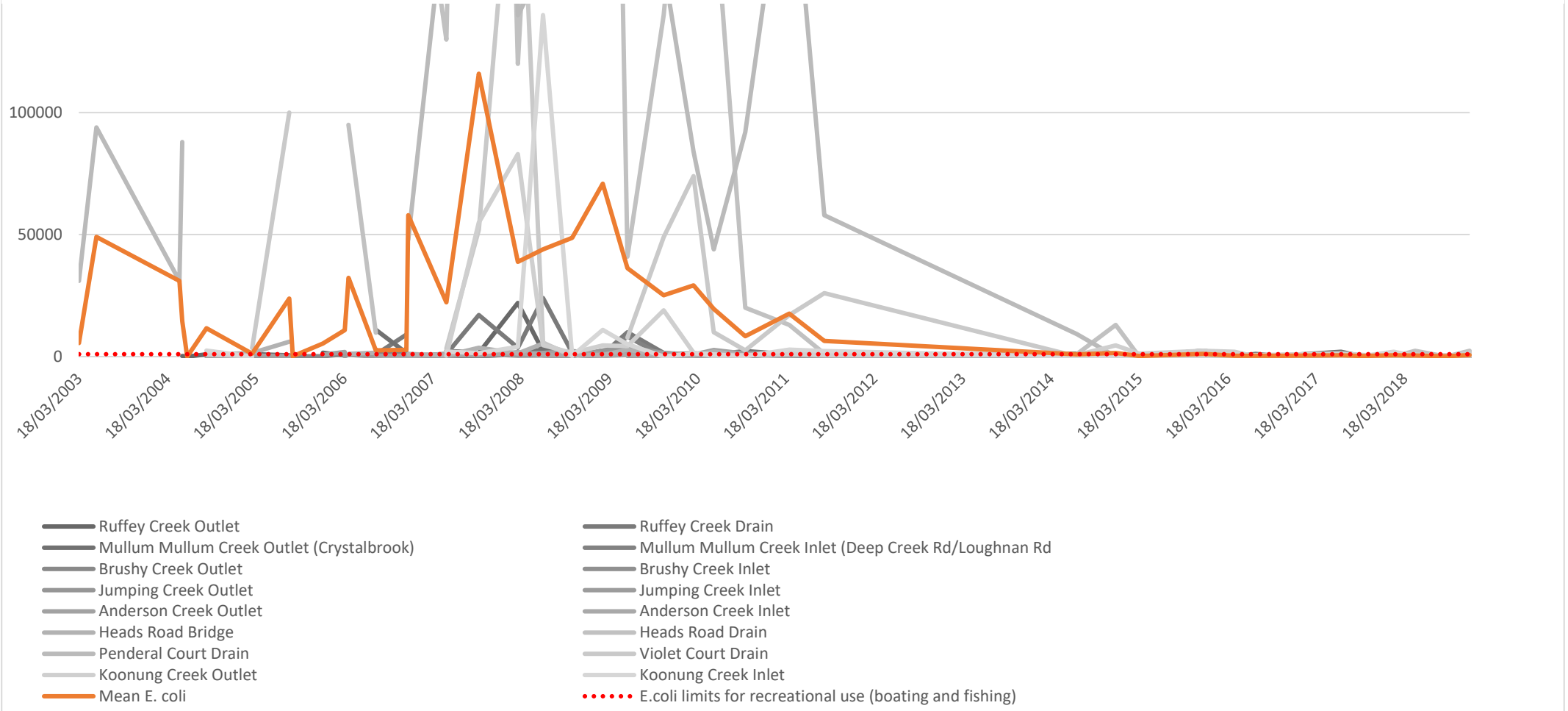


Figure 25: E.coli by date and location



14. Appendix 5 - Onsite management or reticulated sewer?

Costs associated with installing an on-site septic system are generally expensive due to costs of hiring excavation machinery, installing the septic tank, sand filter and laying effluent lines. Labour and materials usually range from $15,000 to $20,000 per system.

Ongoing maintenance costs (depending on the type of system) are approximately $380 every 3 years to carry out desludging. These costs double for treatment plants consisting of two chambers as both tanks require desludging. Service fees for treatment plants are approximately $400 per year and include quarterly servicing. Power costs also apply to operate pumps and aerators on a regular basis.

Provision of Yarra Valley Water's sewer infrastructure includes a contribution fee. The contribution fee was a contribution customers pay towards the cost of Yarra Valley Water bringing sewerage infrastructure into their area.

The future of the contribution charge will be reviewed as part of an overall review into the Community Sewerage Program funding approach and connections rates strategy.

Connection to sewer includes an annual service charge of $486.34 per annum as of 1 July 2025. Sewerage disposal fees are charged $0.9063 per kiloliter of water used, up to 40kL each quarter.
This rate increases to $1.2793 per kL of water used between 40 and 80 kL each quarter.

The charge is applied to an estimated volume of sewage that is disposed into the sewerage system from inside your home based on your water usage and adjusted for seasonal variations.

More information can be found on Yarra Valley Waters website under 'Fees and Charges https://www.yvw.com.au/help-advice/help-my-account/understand-my-bill/fees-and-charges

There may also be power costs to run a pump for those properties connected to a pressure sewer. Costs are approximately $70-$150 per year.

Owners are also responsible for providing a service drain to the sewer point located on the property boundary. Costs will depend on the distance the house is from this service point and can be between $3,000 to $6,000 on average.

Advantages of connecting to sewer

- No maintenance required by owners
- Connection costs cheaper than installation costs
- Cheaper maintenance costs in long run
- Reduces mosquito / vector breeding grounds
- Reduces risk of disease transmission
- Improved use of land (tennis courts, gardens, trees etc.)
- Prevents land from becoming water logged or contaminated

- Reduces odours emanating from the property

Disadvantages of connecting to sewer

- Water is discharged off-site and cannot be reused on garden (*Grey water may be re-used if installed correctly).
- Exorbitant installation costs for some inaccessible properties
- Reinstatement expenses of assets
- Damage to environment during sewer construction

15. Appendix 6 - Operating and Maintaining Septic Systems

The following table outlines all the maintenance requirements for septic systems and links to the community local law.

CODE	TYPE OF SYSTEM	OPERATING PROCEDURES / MAINTENANCE REQUIREMENTS
1 to 12	All Systems	Where applicable, the effluent absorption area must be maintained as a permanent, dedicated area. Vehicles and livestock must be excluded from the effluent absorption area. Unless a permit for offsite discharge is held, effluent from the septic tank must be contained onsite and must not be discharged beyond the boundaries of the allotment. Buildings, driveways, concrete, tennis courts, swimming pools, garden beds, large trees and the like must not be placed in or on effluent areas. The system must not be altered or modified, except with the approval of the Council. A *Permit to Alter the Septic Tank System* must be obtained from the Council before making any alterations to the system. Unless an owner of a property is operating an EPA approved secondary treatment system that contains all effluent onsite all-year round, the owner must arrange for connection to reticulated sewer as soon as reticulated sewer is made available. All access openings for the septic tank system must be brought up to ground level and comply with Australian Standard 1546, On-site domestic wastewater treatment units. All irrigation pipework and fittings must comply with Australian Standard 2698 Plastic pipes and fittings for irrigation and rural applications.
1. TP/AGL	Treatment Plant with Absorbtion / Transpiration Trenches	The treatment plant is to be maintained by an annual service contract by the manufacturer or serving agent and a copy of the contract forwarded to Council each year. A maintenance and service report is to be submitted to Council once every three months. The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council

CODE	TYPE OF SYSTEM	OPERATING PROCEDURES / MAINTENANCE REQUIREMENTS
2. TP/SI	Treatment Plant with Surface Irrigation	A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS); 3. E.Coli bacteria; 4. Free Residual Chlorine. The treatment plant is to be maintained by an annual service contract by the manufacturer or serving agent and a copy of the contract forwarded to Council each year. A maintenance and service report is to be submitted to Council once every three months. The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.
3. TP/SSI	Treatment Plant with Sub Surface Irrigation	A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS). The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. The treatment plant is to be maintained by an annual service contract by the manufacturer or serving agent and a copy of the contract forwarded to Council each year. A maintenance and service report is to be submitted to Council once every three months. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.
4. SF/AGL	Sand Filter with Absorbtion / Transpiration Trenches	A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS). The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.

CODE	TYPE OF SYSTEM	OPERATING PROCEDURES / MAINTENANCE REQUIREMENTS
5. SF/SI	Sand Filter with Surface Irrigation	A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS); 3. E.Coli bacteria; 4. Free Residual Chlorine. The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.
6. SF/SSI	Sand Filter with Sub Surface Irrigation	A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS). The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.
7. AW/AGL	All Waste to Absorbtion / Transpiration Trenches	The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.
8. AW/WF	All Waste to Worm Farm contained on site	A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS). The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.

CODE	TYPE OF SYSTEM	OPERATING PROCEDURES / MAINTENANCE REQUIREMENTS
9. AW/RB	All Waste to Reed bed contained on site	A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS). The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.
10. TP/DIS	Treatment Plant discharging off site	The treatment plant is to be maintained by an annual service contract by the manufacturer or serving agent and a copy of the contract forwarded to Council each year. A maintenance and service report is to be submitted to Council once every three months. A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS); 3. E.Coli bacteria; 4. Total Residual Chlorine. The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.
11. WC/AGL (split system)	Water closet to Absorbtion / Transpiration Trenches	The grease trap must be cleaned as required and the baffles replaced when necessary. The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.
12. SF/DIS	Sand Filter Discharging Off Site	A sample of effluent must be taken every 12 months and analysed by a laboratory registered with the National Association of Testing Authorities (NATA) for the following tests: 1. Biological Oxygen Demand (BOD); 2. Suspended Solids (SS); 3. E.Coli bacteria; 4. Total Residual Chlorine. The septic tank system must be desludged (pumped out) at least every three years. Written evidence that this has occurred is to be provided to Council. A licensed plumber/drainer must inspect the septic system every three years and written evidence of each inspection must be forwarded to Council.

16. Incentives to Connect

In supporting Yarra Valley Water increase connection rates, Council will consider other options to incentivise connection such as applying a special charge on properties that continue to discharge to stormwater.

This requires further investigation and appropriate legal advice on how this may be applied in accordance with the *Local Government Act 1989* special charge provisions.

Sewerage works to Park Orchards is currently being delivered in stages with construction expected to commence mid-2026. This is expected to be completed within 4 years and maybe sooner due to other planned works on YVW's community sewerage program.

Once all of Manningham's backlog areas have been serviced (Park Orchards being the last), Council could consider applying this special charge in order to decrease the number of legacy systems still operating in Manningham and incentivise connection.

Contact Details

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MANNINGHAM