



Drainage and Wastewater Management Plan

Paddock Wood
Wastewater System Plan



from
**Southern
Water** 

Contents

Wastewater System Map

Problem Characterisation

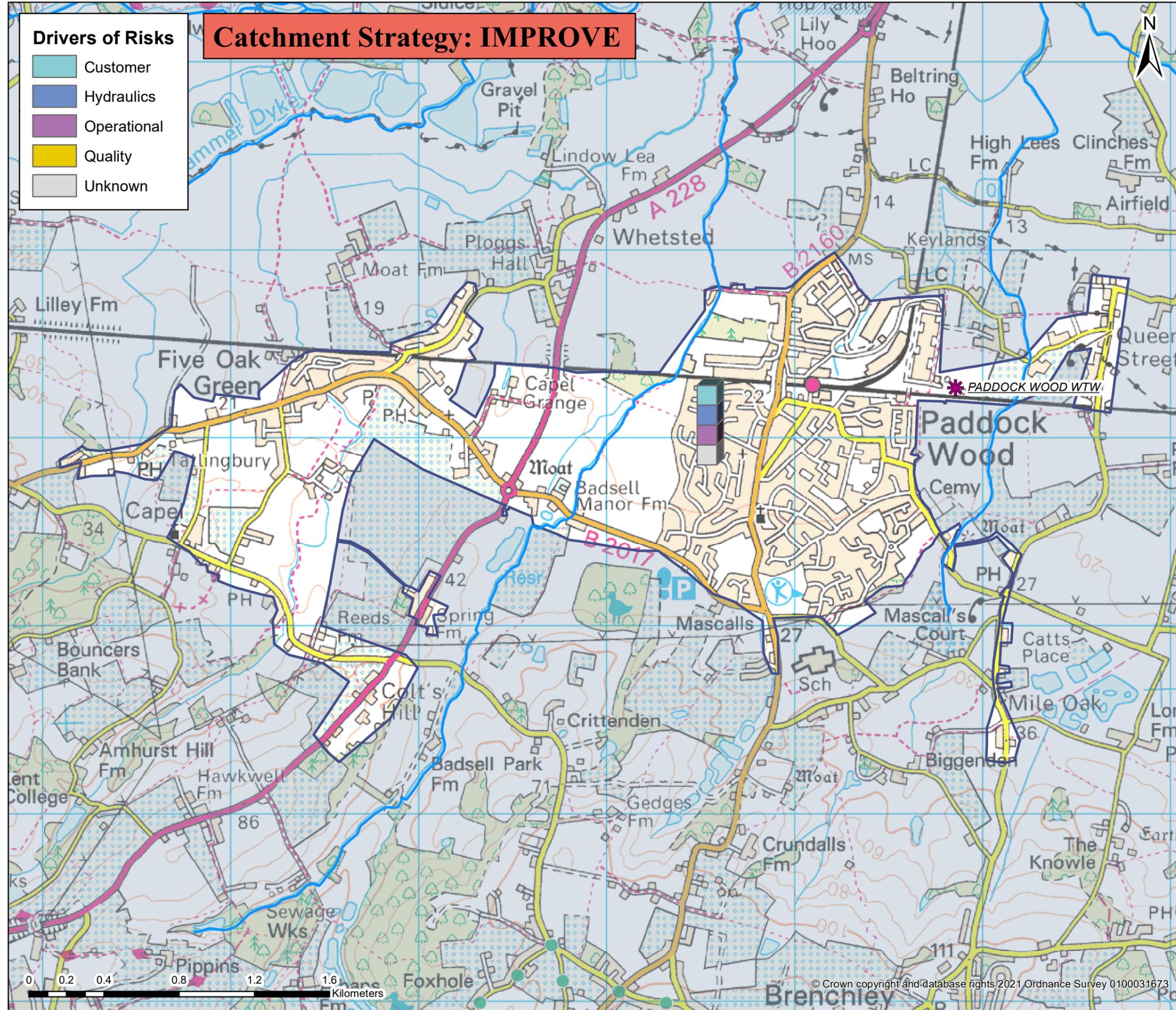
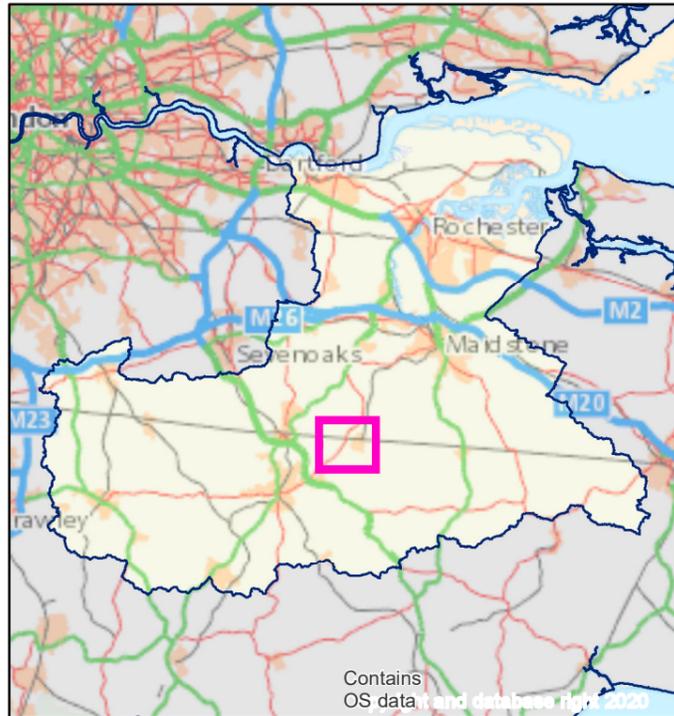
Generic Options

Outline Option Appraisal

Investment Needs

Location of Potential Options

Paddock Wood wastewater system: map and key facts



Catchment Strategy: IMPROVE

Drivers of Risks

- Customer
- Hydraulics
- Operational
- Quality
- Unknown

Population Equivalent (PE)	10,038
Discharge Waterbody	Rhoden Stream
Number of Pumping Stations	12
Number of Overflows	1
Length of Sewer (km)	120.6
Catchment Reference	PAWD

BRAVA Results Table		
Planning Objective	2020	2050
1 Internal Sewer Flooding Risk	0	
2 Pollution Risk	2	
3 Sewer Collapse Risk	0	
4 Risk of Sewer Flooding in a 1 in 50 year storm	2	2
5 Storm Overflow performance	1	0
6 Risk of WTW Compliance Failure	0	1
7 Risk of flooding due to Hydraulic Overload	2	2
8 Dry Weather Flow Compliance	0	1
9 Good Ecological Status / Potential	0	
10 Surface Water Management	1	
11 Nutrient Neutrality	NA	NA
12 Groundwater Pollution	0	
13 Bathing Waters	NA	
14 Shellfish Waters	NA	



Problem Characterisation

Paddock Wood (PAWD)

This document describes the causes of the risks identified by the Baseline Risk and Vulnerability Assessment (BRAVA). The BRAVA results for this catchment are summarised in Table 1. The results indicate that flooding, pollution and water quality are the main concerns in this wastewater catchment. We have completed risk assessments for 2050 where we have the data and tools available to do so. For the other planning objectives, we will explore how we can predict future risks for the next cycle of DWMPs. All the risk assessment methods need to be reviewed after the first DWMPs have been produced with a view to improve the methods and data for future planning cycles.

Table 1: Results of the BRAVA for Paddock Wood wastewater system

Planning Objectives		2020	Driver	2050
1	Internal Sewer Flooding Risk	0	-	
2	Pollution Risk	2	Customer	
3	Sewer Collapse Risk	0	-	
4	Sewer Flooding in a 1 in 50-year storm	2	Hydraulic	2
5	Storm Overflow Performance	1	Hydraulic	0
6	WTW Water Quality Compliance	0	Quality	1
7	Flooding due to Hydraulic Overload	2	Hydraulic	2
8	WTW Dry Weather Flow Compliance	0	-	1
9	Good Ecological Status / Good Ecological Potential	0	-	
10	Surface Water Management	1	Hydraulic	
11	Nutrient Neutrality	NA	-	NA
12	Groundwater Pollution	0	-	
13	Bathing Waters	NA	-	
14	Shellfish Waters	NA	-	

Key

BRAVA Risk Band	
NA	Not Applicable*
0	Not Significant
1	Moderately Significant
2	Very Significant

*No issues relevant to planning objective within Wastewater System

Catchment Investment Strategy

The risks identified in this wastewater catchment mean that we have assigned the following investment strategy:

Improve

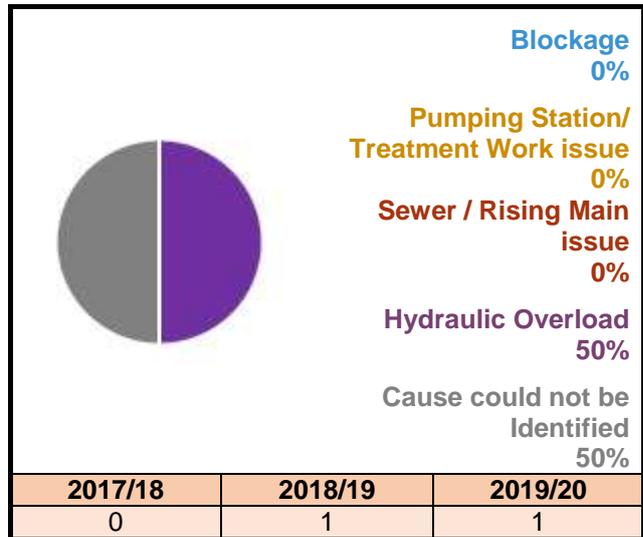
This means that we consider that the current performance of the drainage and wastewater system needs to be improved to reduce the impacts on our customers and/or the environment. We will plan investment to reduce the current risks by actively looking to invest capital funding in the short term to address current performance issues (and consider future risks when implementing improvements).



Planning Objective 1: Internal Sewer Flooding Risk

The number of internal sewer flooding incidents reported during the three years considered by the risk assessment are shown in Figure 1. The total number of connections in this wastewater system means there have been less than 1.68 incidents per 10,000 connections per year (a threshold set by Ofwat) so the risk is in the 'not significant' band.

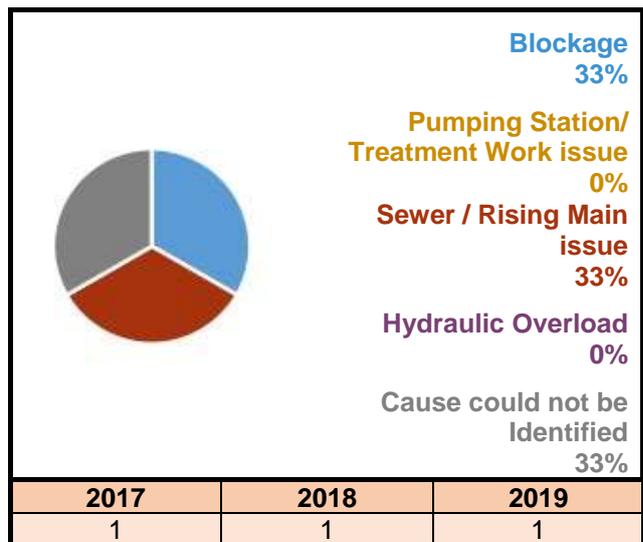
Figure 1: Number of internal flooding incidents per annum and causes



Planning Objective 2: Pollution Risk

The number of pollution incidents reported during the three years considered by the risk assessment are shown in Figure 2. The length of sewer in this wastewater system means there have been more than 49.01 incidents per 10,000km per year (a threshold set by Ofwat) so the risk is in the 'very significant' band.

Figure 2: Number of pollution incidents per annum and causes



The primary driver for pollution is 'Customer'. Blockages caused 33% of all incidents recorded in this wastewater system. Blockages are often caused by fats, oils, grease, nappies, wet wipes and sanitary products within the system. These items are non-flushable and should not be disposed of into wastewater systems.

Planning Objective 3: Sewer Collapse Risk

The number of sewer collapses reported during the three years considered by the risk assessment are shown in Table 2. The length of sewer in this wastewater system means there have been less than 5.72 incidents per 1,000km per year (a threshold set by Ofwat) so the risk is in the 'not significant' band.

Table 2: Sewer collapses and rising main bursts

Sewer Collapse	2017/18	0
	2018/19	0
	2019/20	1
Rising Main Bursts	2017/18	1
	2018/19	0
	2019/20	0

Planning Objective 4: Sewer Flooding in a 1 in 50 Year Storm

The risk of flooding in a 1 in 50 year storm is very significant in 2020 and 2050. This is because our computer model of the sewer network indicate for 2020 that approximately 1600 - 1700 properties within this wastewater system are in areas that could flood by water escaping from sewers. This model prediction increases the number of properties in areas at risk from flooding to approximately 2000 - 2100 by 2050.

Our wastewater networks are generally designed with capacity for up to a 1 in 30 year storm, hence flooding is expected to occur during more severe storms such as a 1 in 50 year event. Flooding will occur due to insufficient capacity of the drainage system either on the surface before it enters the drainage system, and/or from manholes, in people's homes or at a low point elsewhere in the system.

Planning Objective 5: Storm Overflow Performance

The storm overflow performance risk has been assessed as moderately significant for 2020. Table 3 shows the overflows that discharge above the low threshold set for storm overflow discharges to Shellfish Water, Bathing Water and inland rivers.

The primary driver for the Storm Overflow Performance is 'Hydraulic.'

Table 3: Overflows exceeding discharge frequency threshold per annum

	Number of overflows	Threshold for number of discharges per annum		
	2020	Low	Medium	High
Shellfish Waters	0 Medium	Less than 8	Between 8-10	10 or more
Bathing Waters	0 Medium	Less than 3	Between 3-10	10 or more
Freshwater	1 Medium	Less than 20	Between 20-40	40 or more

Planning Objective 6: Wastewater Treatment Works Water Quality Compliance

The risk of non-compliance with our wastewater quality permit has been assessed as not significant for 2020 but is predicted to increase to moderately significant by 2050. This is because the wastewater treatment works has no record of compliance failure during the last three years (2018-2020). However it was assessed to not have adequate capacity to cope with future growth in the wastewater system.

Planning Objective 7: Flooding due to Hydraulic Overload

This is an assessment of the risk of flooding from sewers during a 1 in 30 year storm, and more frequent rainfall, to understand where flooding could occur. The risk of sewer flooding due to hydraulic overload is very significant in 2020 and 2050. The annualised number of properties in areas at risk of flooding is shown in Table 4.

Table 4: Annualised number of properties at risk per 10,000 connections.

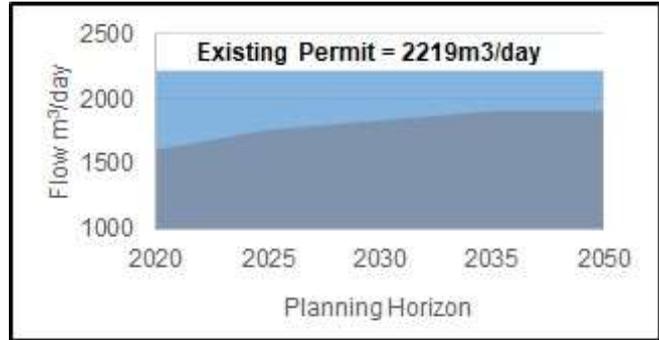
Rainfall Return Period (yr)	Number of Properties at Risk		Annualised per 10,000 connections	
	2020	2050	2020	2050
1 in 1	216	446	137	282
1 in 2	362	672	142	264
1 in 5	864	1153	157	209
1 in 10	1167	1416	111	135
1 in 20	1380	1682	67	82
1 in 30	1538	1823	50	60
Total Annualised			664	1032

This indicates that the existing capacity of the wastewater network can already be exceeded during 1 in 30 year storms (or more frequent events).

Planning Objective 8: Wastewater Treatment Works Dry Weather Flow Compliance

The risk of Wastewater Treatment Works Dry Weather Flow Compliance is not significant for 2020 but is predicted to increase to moderately significant in 2050, shown in Figure 3. This is because the predicted DWF in 2050 is expected to be between 80% and 100% of the current permit.

Figure 3: Recorded and predicted dry weather flow with existing permit



Planning Objective 9: Good Ecological Status / Good Ecological Potential

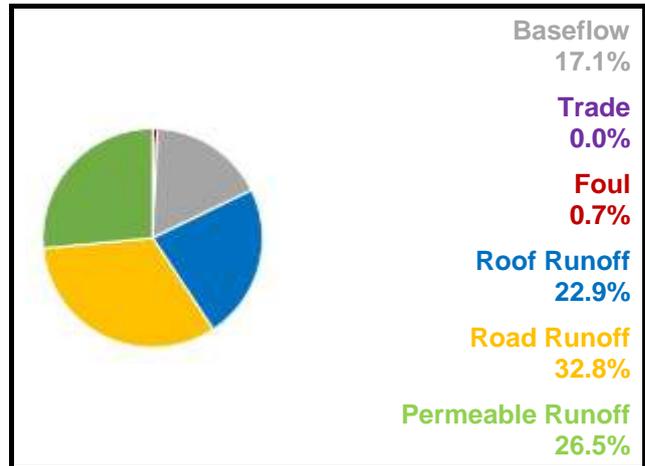
This wastewater system is not hydraulically linked to a waterbody where wastewater operations are contributing to not achieving GES/GEP, therefore the risk is not significant.

Planning Objective 10: Surface Water Management

Our initial high level assessment indicated that there is moderately significant interaction between surface water flooding and flooding from sewers in this wastewater system. The cause of this localised flooding is the capacity of the drainage network in these areas to convey both wastewater and surface water run-off.

Figure 4 illustrates the sources of water flowing in the wastewater system during a 1 in 20 year storm. It shows that surface water runoff from roofs, road and permeable surfaces constitutes more than 82.2% of the flow in the sewers. The total contribution of foul water from homes is 0.7%. The baseflow is infiltration from water in the ground and makes up 17.1% of the flow in the system.

Figure 4: Sources of water flowing in sewers during a 1 in 20 year storm



Planning Objective 11: Nutrient Neutrality

This wastewater system is not hydraulically linked to Habitat Sites noted as under threat by Natural England.

Planning Objective 12: Groundwater Pollution

The risk of Groundwater Pollution is not significant. This is because the wastewater network in this wastewater system does not overlap with any groundwater Source Protection Zones (SPZ) used for water supply.

f

Planning Objective 13: Bathing Waters

This wastewater system does not discharge into a designated bathing water.

Planning Objective 14: Shellfish Waters

The discharges from this wastewater system do not impact on any designated shellfish waters.

Generic Options Assessment for: Paddock Wood (PAWD)



Planning Objectives		2020	Driver	2050	Type of Measures	Generic Option Categories	Icon	Take Forward?	Reasons	Examples of Generic Options
PO1	Internal Flooding	0	-	-	Source (Demand) Measures (to reduce likelihood)	Control / Reduce surface water run-off		Y	-	Natural Flood Management; rural land management and catchment management; SuDS including blue and green infrastructure; storm management
PO2	Pollution Risk	2	Customer	-		Reduce groundwater levels		N	Baseflow is significant, currently (in 2020) predicted to contribute 17% of flows in network during 1 in 20 year storm. Reducing groundwater levels would reduce the risks from infiltration into the network. However, in	Reduce leakage from water supply pipes; pump away schemes to locally lower groundwater near sewer network
PO3	Sewer Collapse	0	-	-		Improve quality of wastewater		Y	-	Domestic and business customer education; incentives and behaviour change (reduce Fats, Oils & Grease, wet wipes etc.); monitoring trade waste at source; on-site black water and/or greywater pre-treatment
PO4	Risk of Sewer Flooding in 1 in 50 yr	2	Hydraulic	2		Reduce the quantity / demand		Y	-	Water efficient appliances; water efficient measures; blackwater and/or greywater re-use; treatment at source
PO5	Storm Overflow Performance	1	Hydraulic	0	Pathway (Supply) Measures (to reduce likelihood)	Network Improvements		Y	-	Asset optimisation; additional network capacity; storage; separate flows; structural repairs; re-line sewer pipe and manholes; smart networks.
PO6	Risk of WTW Compliance Failure	0	Quality	1		Improve Treatment Quality		Y	-	Increase treatment capacity; rationalisation of treatment works (centralisation / de-centralisation); install tertiary plant; UV plant or disinfection facilities; innovation; improve Technical Achievable Limits; new WTWs
PO7	Annualised Flood Risk/Hydraulic Overload	2	Hydraulic	2		Wastewater Transfer to treatment elsewhere		Y	-	Transfer flow to other network or treatment sites; transport sewage by tanker to other sites
PO8	DWF Compliance	0	-	1	Receptor Measures (to reduce consequences)	Mitigate impacts on Air Quality		N/A	Not included in first round of DWMPs	Carbon offsetting; noise suppression /filtering; odour control and treatments
PO9	Achieve Good Ecological Status	0	-	-		Improve Land and Soils		N/A	Not included in first round of DWMPs	Sludge soil enhancement
PO10	Improve Surface Water Management	1	Hydraulic	-		Mitigate impacts on receiving waters		N	The receiving waters are not adversely impacted by our wastewater operations. Hence, offsetting any adverse impacts on receiving waters will not reduce any of the significant risks in this catchment.	River enhancement, aeration
PO11	Secure Nutrient Neutrality	NA	-	NA		Reduce impact on properties		Y	-	Property flood resilience; non-return valves; flood guards / doors; air brick covers
PO12	Reduce Groundwater Pollution	0	-	-	Other	Study / Investigation		N	No further studies are required at this stage	Additional data required; hydraulic model development; WQ monitoring and modelling
PO13	Improve Bathing Water Quality	NA	-	-						
PO14	Improve Shellfish Water Quality	NA	-	-						

Paddock Wood Wastewater System - Outline Options Appraisal

Generic Option	Location of Risk	Planning Objective and Description of Risk	Option Reference	Description	Further Description	Unconstrained Option?	Constrained Option?	Feasible Option?	Net Benefits	Estimated Cost	Preferred Option	Best value / Least cost or Reasons for Rejection
Control/ Reduce surface water entering the sewers												
Control / Reduce groundwater infiltration												
Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)	High Street	PO2- Pollution Risk	PAWD.SC03.1	Customer Education Programme	Customer education programme to reduce the risk.	Yes	Yes	Yes	Minor Positive +	£115K	Yes	Best Value
Control / Reduce the quantity / flow of wastewater entering sewer system	PADDOCK WOOD WTW	PO8 (2050) - Dry Weather Flow	PAWD.SC04.1	Water Efficient Appliance / Measures	Southern Water aims to reduce water consumption to 100 l/h/d by 2040.	Yes	No					Environmental - Strategic Environmental Assessment
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO8 (2050)- Dry Weather Flow	PAWD.PW01.1	Pipe Rehabilitation Programme	Relining/improving structural grades of sewers across the catchment.	No						Cost Effective
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO2- Pollution Risk	PAWD.PW01.2	Pipe Rehabilitation Programme	Relining/improving structural grades of sewers across the catchment.	Yes	Yes	Yes	Minor Positive +	£420K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO2- Pollution Risk	PAWD.PW01.3	Jetting Programme	Increase frequency of MST (Maintenance Scheduled Tasks).	Yes	Yes	Yes	Minor Positive +	£10K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	PAWD FC03 Church Farm Housing Development	PO4 & PO7 - Growth	PAWD.PW01.4	Upsizing	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,430K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	PAWD FC04 Mount Pleasant	PO4 & PO7 - Growth	PAWD.PW01.5	Upsizing and New Sewers	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,430K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	PAWD FC05 Ringden Avenue	PO4 & PO7 - Growth	PAWD.PW01.6	Upsizing	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,430K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	PAWD FC06 Near Eastwell Close	PO4 & PO7 - Growth	PAWD.PW01.7	Upsizing	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,430K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	PAWD FC07 Near Eastwell Close	PO4 & PO7 - Growth	PAWD.PW01.8	Upsizing and New Sewer	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,430K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	PAWD FC01 Bridge Hall, Whetsted Road	PO4, PO7 & PO10 - Flooding	PAWD.PW01.9	Upsizing and New Sewers - Surface Water system only	DAP Option.	Yes	Yes	Yes	Major Positive +++	TBC	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	PAWD FC02 Badsell Road	PO4 & PO7 - Growth	PAWD.PW01.10	Upsizing and new sewers	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,430K	Yes	Best Value
Improve treatment (capacity and quality at existing works or develop new WTWs)	Paddock Wood WTW	PO6 (2050)- WTW compliance	PAWD.PW02.1	Increase Capacity	Increase biological capacity at Treatment Works.	Yes	Yes	Yes	Minor Positive +	£3,965K	Yes	Best Value
Improve treatment (capacity and quality at existing works or develop new WTWs)	Paddock Wood WTW	PO8 (2050)- Dry Weather Flow	PAWD.PW02.2	Permit Review	Increase DWF capacity.	Yes	Yes	Yes	Minor Positive +	£1,585K	Yes	Best Value
Wastewater Transfer	Paddock Wood WTW	PO8 (2050)- Dry Weather Flow	PAWD.PW03.1	New WPS & Rising Main	Within 10km radius of PAWD is HORS which in 2050 will have approximately 407m3/day of headroom (until it is above 80% of its DWF permit).	Yes	No					Feasibility and Risk
Mitigate impacts on Air Quality (e.g. Carbon neutrality, noise, odour)												Not included in the first round of DWMPs
Improve Land and Soils												Not included in the first round of DWMPs
Mitigate impacts on Water Quality												
Reduce consequences Properties (e.g. Property Flood Resilience)												
Study/ investigation to gather more data	Paddock Wood WTW	PO2- Pollution Risk	PAWD.OT01.1	Investigation into causes	Further investigation to identify the cause of the pollution incident.	Yes	No					Operational
Study/ investigation to gather more data	Catchment wide	PO8 (2050)- Dry Weather Flow	PAWD.OT01.2	Infiltration Reduction Plan	Relining/improving structural grades of sewers across the catchment.	Yes	Yes	Yes	Minor Positive +	£55K	Yes	Best Value
Study/ investigation to gather more data	Catchment wide/ Overflow Locations	PO4- 1 in 50 year PO7- Hydraulic Overload PO10- Surface Water Management	PAWD.OT01.3	Improve Hydraulic Model	Hydraulic model to be improved and upgraded.	Yes	Yes	Yes	Minor Positive +	£190K	Yes	Best Value
Study/ investigation to gather more data	PAWD FC08 Paddock Wood WTW	PO4 & PO7 - Growth	PAWD.OT01.4	Study / model investigation	DAP Option.	Yes	Yes	Yes	Major Positive +++	£190K	Yes	Best Value

Drainage and Wastewater Management Plan (DWMP)

DWMP Investment Needs

1. The options listed in the DWMP Investment Needs below are the preferred options in our DWMP. They will need further refinement as we implement the DWMP to confirm the exact location and scope of action needed, and the cost.
2. The costs are indicative costs for planning purposes only. The basis for the cost estimates, including assumptions and uncertainties, are explained in our DWMP Investment Plans.
3. The table of Investment Need provides an indicative cost so we know what level of funding is needed to reduce the risks. It is not a commitment to fund or deliver any option.
4. The Indicative Timescale is when the investment is needed. Some options may take several investment periods to achieve the desired outcomes.
5. Potential Partners have been identified in the table of Investment Needs. This is to indicate where there may be opportunities for us to work with these partners when developing and delivering these options. It is not a commitment by any of the partners to work with us.
6. These options will inform our future business plans as part of the Ofwat periodic review process to secure the finance to implement these options.
7. The options listed are prioritised by the method stated in the [Programme Appraisal Technical Summary](#).

Date : May 2023

Version : 1.0

Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
Medway								
Paddock Wood								
PAWD.SC03.1	Medway	Paddock Wood	High Street	Customer Education Programme: Targeted campaign to reduce the amount of FOG (fats, oils and grease) and unflushables discharged into the sewer network	£115K	AMP8 onwards	Tunbridge Wells Borough Council	PO2
PAWD.PW01.2	Medway	Paddock Wood	System Wide	Sewer Rehabilitation: Targeted CCTV or electroscan surveys and sewer rehabilitation to reduce the risk of pollution	£420K	AMP9	-	PO2
PAWD.PW01.3	Medway	Paddock Wood	System Wide	Enhanced Sewer Maintenance: Increase targeted sewer jetting to reduce the number of blockages in the network	£10K	AMP8 onwards	-	PO2
PAWD.PW01.4	Medway	Paddock Wood	Church Farm	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£1,430K	AMP9	-	PO4 PO7
PAWD.PW01.5	Medway	Paddock Wood	Mount Pleasant	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£1,430K	AMP9	-	PO4 PO7
PAWD.PW01.6	Medway	Paddock Wood	Ringden Avenue	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£1,430K	AMP9	-	PO4 PO7
PAWD.PW01.7	Medway	Paddock Wood	Near Eastwell	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£1,430K	AMP9	-	PO4 PO7
PAWD.PW01.8	Medway	Paddock Wood	Near Eastwell	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£1,430K	AMP9	-	PO4 PO7
PAWD.PW01.10	Medway	Paddock Wood	Badsell Road	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£1,430K	AMP9	-	PO4 PO7
PAWD.PW02.1	Medway	Paddock Wood	Paddock Wood WTW	Increase treatment capacity to allow for planned new development	£880K	AMP9	Environment Agency	PO6
PAWD.PW02.2	Medway	Paddock Wood	Paddock Wood WTW	Increase capacity to allow for planned new development	£4,000K	AMP8	Environment Agency	PO8
PAWD.OT01.2	Medway	Paddock Wood	System Wide	Increase capacity to allow for planned new development	£55K	AMP8	-	PO8
PAWD.OT01.3	Medway	Paddock Wood	System Wide/ Overflow Locations	Improve the Hydraulic Model: Surveys and reverification of model to improve confidence and accuracy	£190K	AMP9	-	PO4 PO7 PO10
PAWD.WINEP01.1	Medway	Paddock Wood	PADDOCK WOOD SSO	Reduce the number of storm discharges from PADDOCK WOOD SSO by a combination of SuDS and storage options	£9,205K	AMP11	-	PO4 PO5 PO7

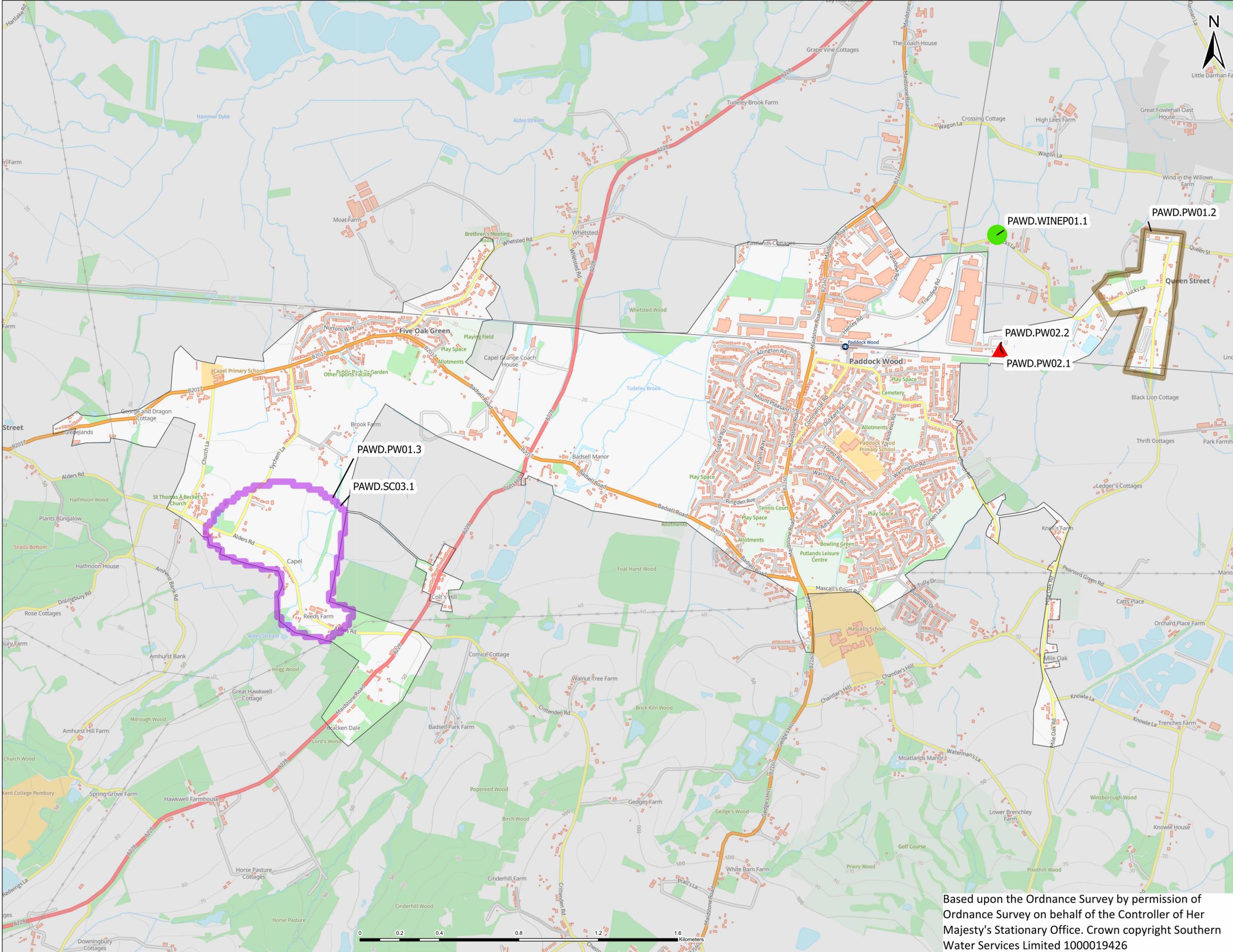
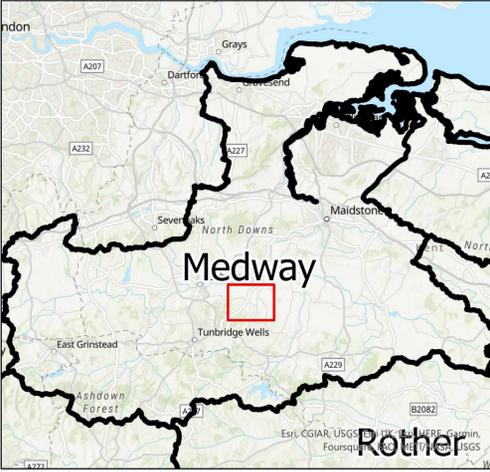
Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
PAWD.WINEP.PO2.1	Medway	Paddock Wood	Paddock Wood WTW	Provision of additional nitrification capacity to achieve 1 mg/l Ammonia, and 10mg/l BOD (WINEP OAR 08SO104036)	£11,053K	AMP8	-	PO9
PAWD.WINEP.PO2.2	Medway	Paddock Wood	Paddock Wood WTW	Conversion of existing treatment process to Activated Sludge Process to meet the 0.25 mg/l Total P permit (WINEP OAR 08SO104711)	£17,753K	AMP8	-	PO9

Drainage and Wastewater Management Plan: Location of Potential Options PADDOCK WOOD

Wastewater system in Medway River Basin Catchment



(i) This map should be read in conjunction with the list of Investment Needs for this wastewater system
 (ii) The areas shown on this map are the potential locations for the options. The location of the risk may be elsewhere in the system.
 (iii) Labels for each location are the option references in the list of Investment Needs
 (iv) Drainage Area Plan (DAP) options on flooding and growth are not shown.



- Customer Education
- Pipe Rehabilitation
- Asset Resilience
- Wastewater Treatment
- WINEP Nutrient Neutrality
- WINEP Storm Overflows

Based upon the Ordnance Survey by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office. Crown copyright Southern Water Services Limited 100019426