



Drainage and Wastewater Management Plan

Sandown
Wastewater System Plan



from
**Southern
Water** 

Contents

Wastewater System Map

Problem Characterisation

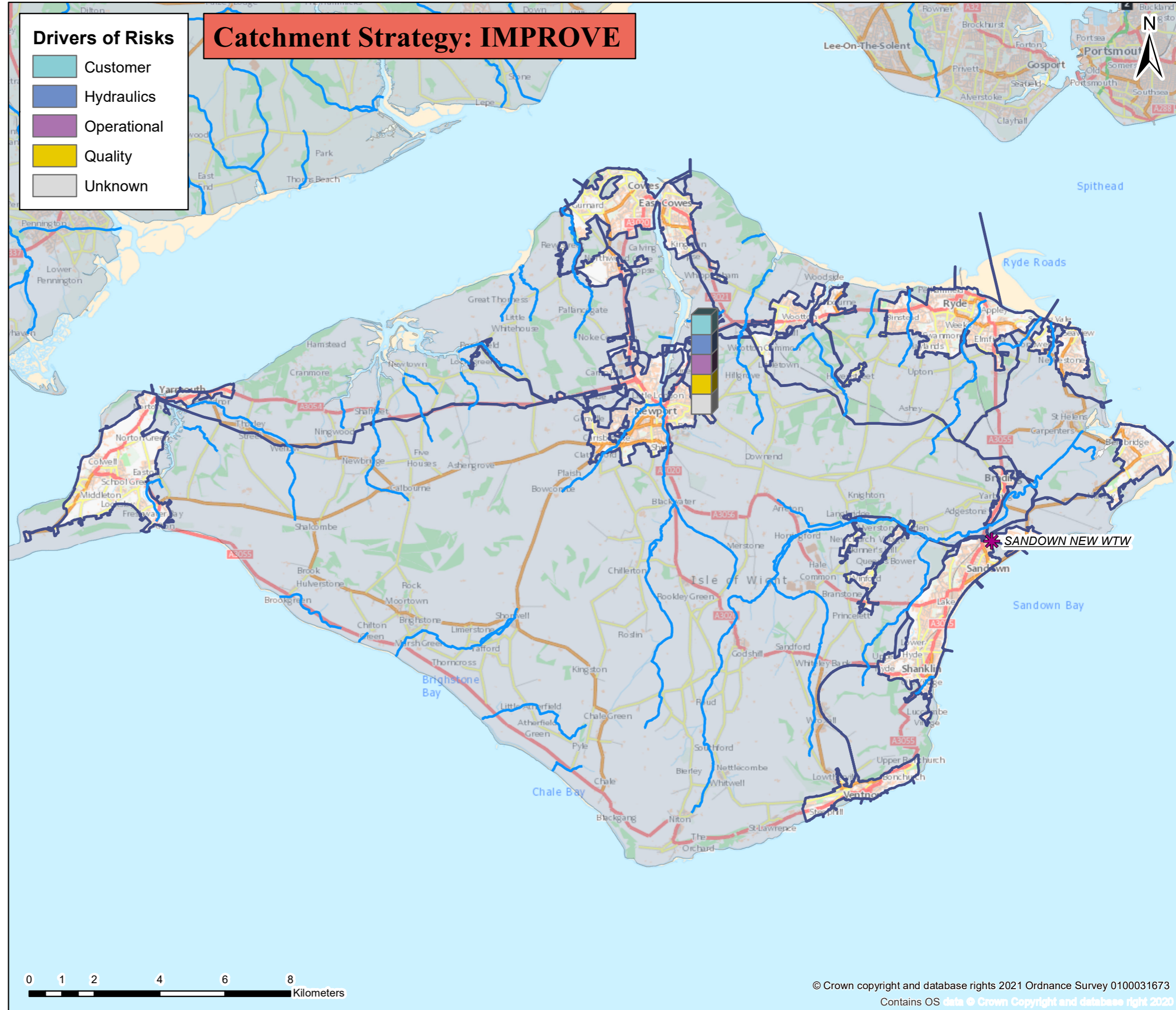
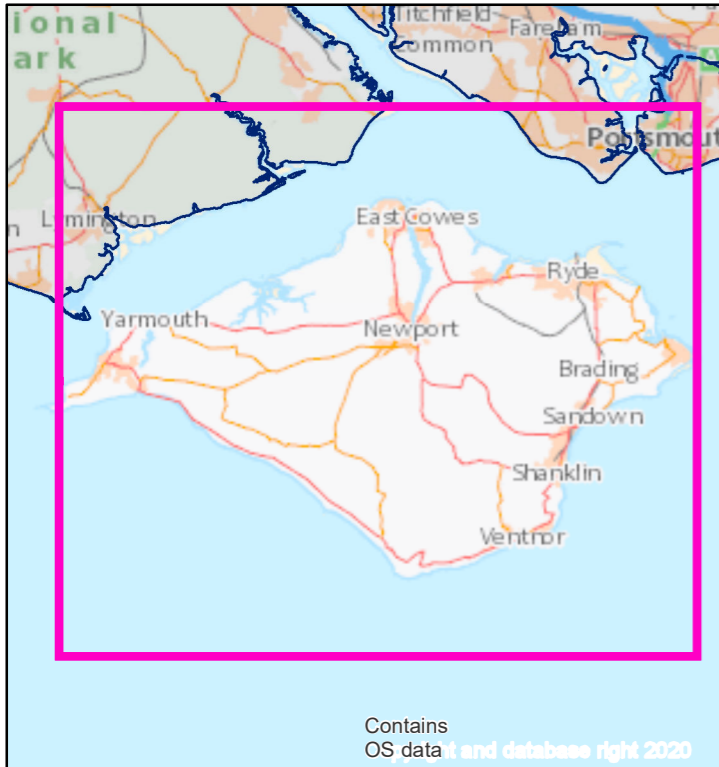
Generic Options

Outline Option Appraisal

Investment Needs

Location of Potential Options

Sandown wastewater system: map and key facts



Population Equivalent (PE)	130,771
Discharge Waterbody	Long sea outfall into English Channel
Number of Pumping Stations	166
Number of Overflows	94
Length of Sewer (km)	1299.2
Catchment Reference	SAND

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



Problem Characterisation

Sandown (SAND)

This document describes the causes of the risks identified by the Baseline Risk and Vulnerability Assessment (BRAVA). The BRAVA results for this wastewater system are summarised in Table 1. The results indicate that flooding, pollution and water quality are the main concerns in this wastewater system. 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 Sandown wastewater system

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

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 system 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).

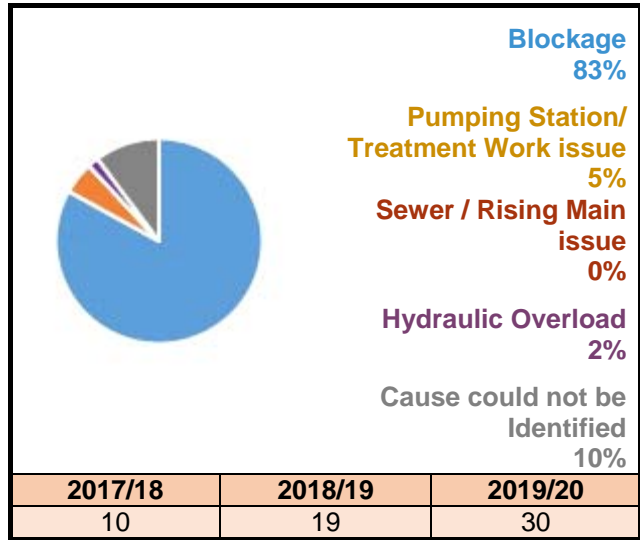


Planning Objective 1: Internal Sewer Flooding Risk

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 between 1.68 and 3.35 incidents per 10,000 connections per year (a threshold set by Ofwat) so the risk is in the 'moderately significant' band.

The primary driver for internal sewer flooding in this wastewater system is 'Customer'. Blockages caused 83% 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.

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

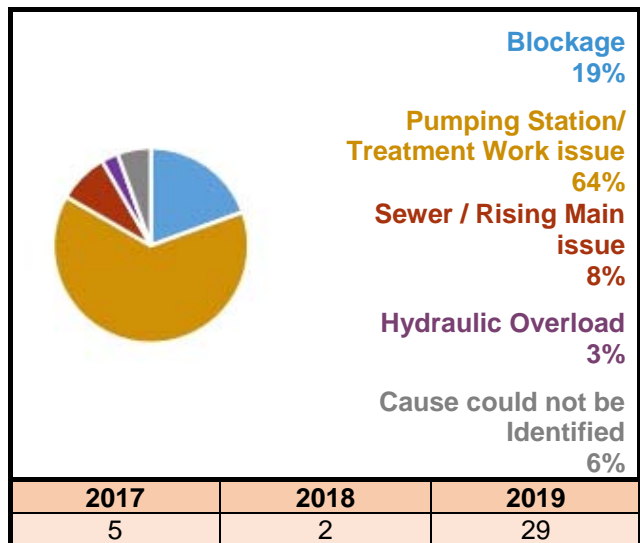


Planning Objective 2: Pollution Risk

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.

The primary driver for pollution is 'Operational' due to asset operational issues. Asset operational issues at our pumping stations and treatments works are the main cause of incidents, contributing to 64% of all incidents recorded in this wastewater system.

Figure 2: Number of pollution incidents per annum and causes



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 more than 9.44 incidents per 1,000km per year (a threshold set by Ofwat) so the risk is in the 'very significant' band.

The primary driver is 'Operational' as the cause of these collapses and bursts is due to the age and condition of the sewers.

Table 2: Sewer collapses and rising main bursts

Sewer Collapse	2017/18	13
	2018/19	13
	2019/20	18
Rising Main Bursts	2017/18	8
	2018/19	11
	2019/20	1

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 7200 - 7300 properties within this wastewater system are in areas that could flood by water escaping from sewers. The model prediction for 2050 does not identify a notable increase.

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 very significant for both 2020 and 2050. 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 numbers for the 2050 assessment may be lower than the 2020 assessment. This is because the 2050 figures are predicted from modelling, whereas the 2020 figures are based on actual recorded data and include spills due to blockages or operational issues which cannot be forecast into the future.

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	2050	Low	Medium	High
Shellfish Waters	21 High	25 High	Less than 8	Between 8-10	10 or more
Bathing Waters	3 High	13 High	Less than 3	Between 3-10	10 or more
Freshwater	11 High	9 High	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 both 2020 and 2050. This is because the wastewater treatment works has no record of compliance failure during the last three years (2018-2020).

Planning Objective 7: Flooding due to Hydraulic Overload

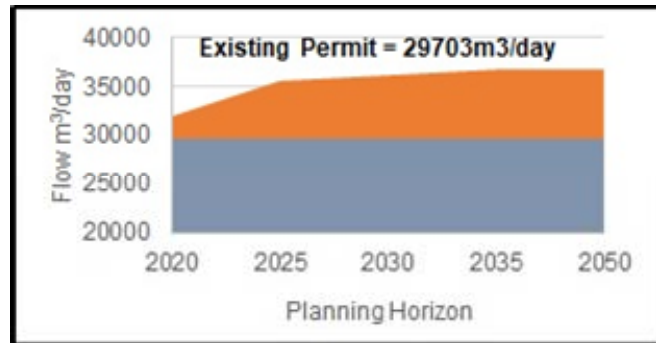
Our initial assessment is that flooding from hydraulic overload is not significant in this wastewater system for both 2020 and 2050. We will use a hydraulic model of the wastewater system to determine if this wastewater system is at risk for Hydraulic Overload across the various storm events, and update this risk assessment accordingly for the next cycle of DWMPs.

Planning Objective 8: Wastewater Treatment Works Dry Weather Flow Compliance

The risk of Wastewater Treatment Works Dry Weather Flow Compliance is very significant for both 2020 and 2050. This is because the average annual dry weather flow for 2017, 2018 and 2019 has exceeded the current permit, shown in Figure 3.

The primary driver is 'Quality' due to the permit and capacity at the treatment work.

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



Planning Objective 9: Good Ecological Status / Good Ecological Potential

Table 4 shows the waterbody connected to this wastewater system is not achieving Good Ecological Status or Potential (GES/GEP). The Environment Agency has attributed the 'reasons for not achieving good status' to water company operations. Our risk assessment has been assessed based on the worst assigned status (Moderate) and is moderately significant. This is because we are might not be complying with our permit from the Environment Agency, or the permits need to be tightened to reduce the risk.

Table 4: Waterbody not achieving GES/GEP

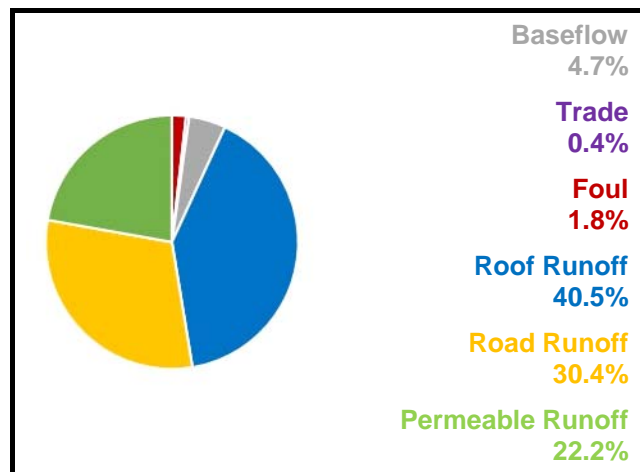
Waterbody	Classification	EA-Status	Activity
Caul Bourne	Phosphate	Moderate	Sewage discharge (continuous)

The primary driver is 'Quality'.

Planning Objective 10: Surface Water Management

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 93.1% of the flow in the sewers. The total contribution of foul water from homes is 1.8% with business contributing 0.4%. The baseflow is infiltration from water in the ground and makes up 4.7% 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

The risk to internationally designated habitat sites from this wastewater system is very significant in 2020 and 2050. This is because Natural England have advised that there is a risk to condition for the habitat sites (hydraulically linked to our wastewater system) shown in Table 5.

Table 5: Habitat Sites hydraulically linked to wastewater system

Habitat Sites	
Solent and Dorset Coast	Phosphate and Nitrate permit review required Overflow Spills
Solent & Isle of Wight Lagoons	Phosphate and Nitrate permit review required Overflow Spills

Planning Objective 12: Groundwater Pollution

The risk of Groundwater Pollution is not significant. Although our wastewater network crosses over Source Protection Zones (SPZ) used for water supply, there is no evidence to suggest our network is leaking into these SPZs.

Planning Objective 13: Bathing Waters

The designated bathing waters that could be affected by discharges from this wastewater system are shown in Table 6, along with the current classification from the Environment Agency.

Table 6: Bathing Water annual results

Bathing Waters	Annual Results		
	2017	2018	2019
Ryde	Good	Sufficient	Excellent
Cowes	Sufficient	Excellent	Excellent
Seagrove	Excellent	Good	Excellent
Bembridge	Good	Excellent	Excellent
Gurnard	Excellent	Excellent	Good
Sandown	Excellent	Excellent	Excellent
Yaverland	Excellent	Excellent	Excellent
Shanklin	Excellent	Excellent	Excellent
Colwell Bay	Excellent	Excellent	Excellent
Whitecliff Bay	Excellent	Excellent	Excellent

The risks from this wastewater system on Ryde, Cowes, Seagrove, Bembridge, Gurnard bathing waters has led to an assessment of moderately significant.

The primary driver is 'Customer' due to suspected foul to surface water misconnections as well as suspected agriculture affecting the bathing waters in this wastewater system.

Planning Objective 14: Shellfish Waters

The discharges from this wastewater system can affect the designated shellfish waters shown in Table 7. The risk of not achieving the faecal standards for shellfish in these designated waters from this wastewater system is very significant. This is because the CEFAS classification for the shellfish waters is in class C, prohibited or seasonal class B or C.

Table 7: Shellfish Waters linked to wastewater system

Shellfish Waters
Medina

Generic Options Assessment for: Sandown (SAND)



Planning Objectives		2020	Driver	2050	Type of Measures	Generic Option Categories	Icon	Take Forward?	Reasons	Examples of Generic Options
PO1	Internal Flooding	1	Customer	-	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	Operational	-		Reduce groundwater levels		N	Reducing groundwater levels would reduce the risks from infiltration into the network. However, in practice, reducing groundwater levels will be detrimental to the environment, ground conditions and is prohibitively too costly to implement. For these reasons, this generic option has been discounted.	Reduce leakage from water supply pipes; pump away schemes to locally lower groundwater near sewer network
PO3	Sewer Collapse	2	Operational	-		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	2	Hydraulic	2	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	-	0		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	0	-	0		Wastewater Transfer to treatment elsewhere		N	The causes of risk are not due to where our systems discharge to the environment or our ability to increase the capacity to connect more homes. Transferring wastewater for treatment elsewhere will not reduce any of the significant risks in this catchment.	Transfer flow to other network or treatment sites; transport sewage by tanker to other sites
PO8	DWF Compliance	2	Quality	2	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	1	Quality	-		Improve Land and Soils		N/A	Not included in first round of DWMPs	Sludge soil enhancement
PO10	Improve Surface Water Management	0	-	-		Mitigate impacts on receiving waters		Y	-	River enhancement, aeration
PO11	Secure Nutrient Neutrality	2	Unknown	2		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		Y	-	Additional data required; hydraulic model development; WQ monitoring and modelling
PO13	Improve Bathing Water Quality	1	Customer	-						
PO14	Improve Shellfish Water Quality	2	Unknown	-						

Sandown 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	FC01	PO4, PO7 & PO10 - Flooding	SAND.SC01.1	SuDS	SuDS.	No						Cost Effective
Control / Reduce groundwater infiltration												
Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)	Catchment Wide	PO1- Internal Flooding	SAND.SC03.1	Customer Education Programme	Customer education programme to reduce the risk.	Yes	Yes	Yes	Minor Positive +	£115K	Yes	Best Value
Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)	Catchment Wide	PO2- Pollution Risk	SAND.SC03.2	Customer Education Programme	Customer education programme.	Yes	Yes	Yes	Minor Positive +	£115K	Yes	Best Value
Control / Reduce the quantity / flow of wastewater entering sewer system	SANDOWN NEW WTW	PO8 (2050)- Dry Weather Flow DWF Permit=29703m3 14134m3/day removal is required to achieve below 80% permit The DWF is expected to exceed the current permit in 2050	SAND.SC04.1	Water Efficient Appliance / Measures	Southern Water aims to reduce water consumption to 100 l/h/d by 2040.	No						Deliver the required outcome
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC01 - SANDOWN NEW WTW	PO5 and PO13 - Spill Assessments	SAND.PW01.1	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£11,650K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC02 - APPLBY PARK RYDE TRANSFER WPS	PO5 and PO13 - Spill Assessments	SAND.PW01.3	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£11,650K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC03 - ALBANY ROAD EAST COWES WPS	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.4	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£9,860K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC04 - WOODVALE TRANSFER WPS	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.5	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£2,805K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC05 - NORTON TRANSFER IOW WPS	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.6	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£4,655K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC06 - DODNOR WPS	PO5 and PO14 - Spill Assessments	SAND.PW01.7	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£3,070K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC07 - MARSH ROAD GURNARD WPS	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.8	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£2,280K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC08 - SPRINGHILL COWES TRANSFER WPS	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.9	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,240K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC09 - PRIOR CRESCENT NEWPORT CSO	PO5 and PO14 - Spill Assessments	SAND.PW01.10	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£2,415K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC10 - TERMINUS ROAD COWES CSO	PO5 and PO14 - Spill Assessments The model predicts: Average number of spills per year (2020): 58 Average number of spills per year (2050): 61 Average number of spills per bathing season (2020): 22 Average number of spills per bathing season (2050): 23 Spills using 12-24hr counting method (average 2017-2019): 20 for bathing waters Spills using 12-24hr counting method (average 2017-2019): 81 for shellfish waters Spills using 12-24hr counting method (average 2017-2019): 81 for inland waters	SAND.PW01.11	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,405K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC11 - LADIES WALK BINSTEAD WPS	PO5 and PO14 - Spill Assessments	SAND.PW01.12	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,020K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC12 - TERMINUS ROAD COWES CSO	PO5 and PO14 - Spill Assessments	SAND.PW01.13	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£715K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC13 - BOW BRIDGE FRESHWATER CEO	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.14	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,020K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC14 - MARKET HILL COWES CSO	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.15	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£970K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC15 - SCHOOL GREEN ROAD FRESHWATER WPS	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.16	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£820K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC16 - SOUTH STREET NEWPORT CSO	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.17	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£650K	Yes	Best Value

Sandown 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
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC17 - WOODVALE TRANSFER WPS	PO5, PO13 and PO14 - Spill Assessments	SAND.PW01.18	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£555K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC18 - DODNOR LANE NEWPORT CSO	PO5 and PO14 - Spill Assessments	SAND.PW01.19	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£4,655K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC19 - THE INSTITUTE YARMOUTH CEO	PO5 and PO14 - Spill Assessments	SAND.PW01.20	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£625K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC20 - TERMINUS ROAD COWES CSO	PO5 and PO14 - Spill Assessments	SAND.PW01.21	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£575K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC21 - MILL SQUARE WOOTTON CSO	PO5 and PO14 - Spill Assessments	SAND.PW01.22	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,020K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC22 - FAIRLEE ROAD NEWPORT OUTSIDE 62 CSO	PO5 and PO14 - Spill Assessments	SAND.PW01.23	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£595K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC23 - FISHBOURNE LANE FISHBOURNE IOW CEO	PO5 and PO14 - Spill Assessments	SAND.PW01.24	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£525K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC24 - BARGE LANE WOOTTON BRIDGE OUTSIDE 5 CSO	PO5 and PO14 - Spill Assessments	SAND.PW01.25	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£580K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC25 - MAIN ROAD HAVENSTREET CEO	PO5 and PO14 - Spill Assessments	SAND.PW01.26	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£630K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC26 - ROSANNA SAILING SCHOOL WOOTTON CSO	PO5 and PO14 - Spill Assessments	SAND.PW01.27	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£520K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC27 - KITE HILL WOOTTON WPS	PO5 and PO14 - Spill Assessments	SAND.PW01.28	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£540K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC01 Harbour Strand and Solent Landing, Beach Road, Bembridge	PO4, PO7 & PO10 - Flooding	SAND.PW01.29	Upsizing and increase pump rate	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC02 Woodpeckers, Madeira Lane	PO4, PO7 & PO10 - Flooding	SAND.PW01.30	Upsize and Online storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC03 Heath Road, Sandown Road & New Road	PO4, PO7 & PO10 - Flooding	SAND.PW01.31	Offline Storage and Upsizing	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC05 Main Road	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.32	Change gradient	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC06 Ring Sewer (1st leg)	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.33	Construction of new gravity sewer and PS	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC06 Ring Sewer (2nd leg)	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.34	Construction of new gravity sewer	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC07 St. Gorges Way Offline tank	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.35	Offline tank, new transfer sewer and return pump	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC08 Rosemary Vineyard	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.36	Online tank	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC09 Great Preston Road	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.37	Upsize	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC09 The Point Bembridge WPS	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.38	Upsize	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC10 Fort Street	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.39	Upsize	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC11 Gunville Road	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.40	Upsize	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC12 Creek Gardens Offline Tank	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.41	Offline tank, new transfer sewer and return pump	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC13 Gully Road Offline Tank	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.42	Offline tank, new transfer sewer and return pump	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC14 Flowers Brook Ventnor	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.43	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC15 Bembridge CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.44	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC17 High Street Cowes CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.45	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC18 Ladies Walk Binstead CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.46	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC19 Market Hill Cowes CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.47	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC20 Marsh Road Gurnard CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.48	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC21 Norton Transfer IOW CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.49	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC22 Prince Consort Ryde CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.50	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC23 Springhill Cowes Transfer CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.51	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC24 St Marys Road Cowes CSO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.52	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC25 Terminus Road Cowes CSO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.53	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC26 The Institute Yarmouth CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.54	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC27 The Parade Cowes CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.55	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC27 Woodvale Transfer CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.56	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value

Sandown 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
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC28 Barge Lane Wootton Bridge Outside 5 CSO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.57	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC29 Fishbourne Lane Fishbourne IOW CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.58	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC29 Fishbourne Lane Fishbourne IOW CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.59	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND FC30 Kite Hill Wootton CEO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.60	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SAND Mill Square Wootton CSO	PO1, PO4,PO5 and PO7 - Growth	SAND.PW01.61	Additional storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Improve treatment (capacity and quality at existing works or develop new WTWs)	SANDOWN NEW WTW	PO2- Pollution Risk	SAND.PW02.1	Maintenance Programme WTW	Improve resilience: An efficient maintenance programme for the treatment works to eliminate the risk of a pollution incident due to an operational failure.	No						Deliver the required outcome
Improve treatment (capacity and quality at existing works or develop new WTWs)	SANDOWN NEW WTW	PO8 (2050)- Dry Weather Flow	SAND.PW02.2	Permit Review	Proposed permit-47371m3.	Yes	Yes	Yes	Minor Negative -	£4,640K	Yes	Least Cost
Wastewater Transfer												
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	Cross Street	PO1- Internal Flooding	SAND.RC03.1	Property Flood Mitigation / Resistance	Short-term property level protection ahead of flood alleviation scheme - Non-return valves and flood mitigation doors / gates.	No						Risk and uncertainty - future resilience
Reduce consequences Properties (e.g. Property Flood Resilience)												
Study/ investigation to gather more data	SAND FC01 - LION POINT VENTNOR CEO	PO5 and PO13 - Spill Assessments	SAND.OT01.1	Storage	The DAP model has a confidence score of 2 and was last verified in 2014.	Yes	Yes	Yes	Major Positive +++	£1,000K	No	Best Value
Study/ investigation to gather more data	SAND FC02 - MADEIRA ROAD TOTLAND CEO	PO5, PO13 and PO14 - Spill Assessments	SAND.OT01.2	Storage	The model has a High risk DAP confidence score of 4 and was last verified in 2017.	Yes	Yes	Yes	Major Positive +++	£1,000K	Yes	Best Value
Study/ investigation to gather more data	SAND FC03 - SEAGROVE BAY CEO	PO5, PO13 and PO14 - Spill Assessments	SAND.OT01.3	Storage	The model has a High risk DAP confidence score of 4 and was last verified in 2017.	Yes	Yes	Yes	Major Positive +++	£1,000K	Yes	Best Value
Study/ investigation to gather more data	SAND FC04 - LAKE GREEN ROAD SANDOWN CSO	PO5 and PO14 - Spill Assessments	SAND.OT01.4	Storage	The model has a High risk DAP confidence score of 4 and was last verified in 2017.	Yes	Yes	Yes	Major Positive +++	£1,000K	Yes	Best Value
Study/ investigation to gather more data	St. Thomas Street, Newnham Road, Melville Street, Union Street, Upton Road	PO1- Internal Flooding	SAND.OT01.5	Investigation into causes	Further investigation to identify the cause of the internal flooding incident.	Yes	Yes	Yes	Minor Positive +	£230K	Yes	Best Value
Study/ investigation to gather more data	Catchment Wide	PO2- Pollution Risk 5.6% of of Cat1-3 pollution incidents by unknown causes (2 from 36 incidents)	SAND.OT01.6	Pollution Investigation	Further investigation to identify the cause of the pollution incident.	Yes	Yes	Yes	Minor Positive +	£230K	Yes	Best Value
Study/ investigation to gather more data	Catchment Wide	PO3- Sewer Collapse	SAND.OT01.7	Pipe Rehabilitation Programme	Pipe Rehabilitation Programme.	Yes	Yes	Yes	Minor Positive +	£4,830K	Yes	Best Value
Study/ investigation to gather more data	Catchment Wide	PO8 (2050)- Dry Weather Flow	SAND.OT01.8	Infiltration Reduction Plan	Relining/improving structural grades of sewers across the catchment.	No						Cost Effective
Study/ investigation to gather more data	Caul Bourne	PO9- GE Status / Potential	SAND.OT01.9	Study and Investigation-Phosphate	Catchment was banded 1 in because; Caul Bourne-Phosphate (Moderate Sewage discharge (continuous)).	Yes	Yes	Yes	Minor Positive +	£695K	No	Best Value
Study/ investigation to gather more data	Solent and Dorset Coast Solent & Isle of Wight Lagoons	PO11 - Nutrient Neutrality	SAND.OT01.10	Nutrient Budget	Catchment is Hydraulically linked to; Solent and Dorset Coast (Threat/Remedy Identified or Anticipated) Solent & Isle of Wight Lagoons (Threat/Remedy Identified or Anticipated).	Yes	Yes	Yes	Minor Positive +	£695K	Yes	Best Value
Study/ investigation to gather more data	Catchment Wide	PO4- 1 in 50 year PO5- Storm Overflow	SAND.OT01.11	Improve Hydraulic Model	Study / Investigation: Update and re-verify the Sandown Hydraulic Model to improve model confidence.	Yes	Yes	Yes	Minor Positive +	£225K	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
Isle of Wight Sandown								
SAND.SC03.1	Isle of Wight	Sandown	System Wide	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	Isle of Wight Council Isle of Wight Tourist Board His Majesty Prisons Service	PO1
SAND.SC03.2	Isle of Wight	Sandown	System Wide	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	Isle of Wight Council Isle of Wight Tourist Board	PO2
SAND.PW02.2	Isle of Wight	Sandown	SANDOWN NEW WTW	Increase capacity to allow for planned new development	£4,640K	AMP10	Isle of Wight Council Local Flood Authority	PO8
SAND.OT01.5	Isle of Wight	Sandown	St. Thomas St, Newnham Road, Melville St, Union St, Upton Rd	Study and Investigation: Investigation to identify the root cause of internal flooding and measures to reduce the number of incidents	£1,000K	AMP9	-	PO1
SAND.OT01.6	Isle of Wight	Sandown	System Wide	Study and Investigation: Investigation to identify the root cause of pollution and measures to reduce the number of incidents	£230K	AMP8	-	PO2
SAND.OT01.7	Isle of Wight	Sandown	System Wide	Sewer Rehabilitation: Targeted CCTV or electroscan surveys and sewer rehabilitation to reduce the risk of sewer bursts and collapses	£4,830K	AMP8 onwards	-	PO3
SAND.OT01.9	Isle of Wight	Sandown	Caul Bourne	Study and Investigation to understand the impact of wastewater discharges on the local environment and identify measures required to achieve good ecological status in the receiving waterbody	£695K	AMP8	Environment Agency Natural England	PO9
SAND.OT01.10	Isle of Wight	Sandown	Solent and Dorset Coast Solent & Isle of Wight Lagoons	Study and Investigation to understand the potential impact of wastewater discharges on Habitats and identify measures to prevent deterioration from Natural England's revised Common Standards Monitoring Guidance (rCSMG) targets for Total Phosphorus and Total Nitrogen	£695K	AMP8	Environment Agency Natural England	PO11
SAND.CONSO1.1	Isle of Wight	Sandown	Ventnor, Blackgang, Cowes, Gurnard, Bonchurchm St Lawrence, Niton	Investigation - Landslide Issues: Investigation of land stability issues to understand how local geology and flooding may influence landslips and impact on local infrastructure.	£TBC	AMP8	Isle of Wight Council, Environment Agency	PO3
SAND.WINEP01.1	Isle of Wight	Sandown	APPLEY PARK RYDE TRANSFER CEO	Reduce the number of storm discharges from APPLEY PARK RYDE TRANSFER CEO by a combination of SuDS and storage options	£36,995K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.2	Isle of Wight	Sandown	SANDOWN NEW NO.1 SSO	Reduce the number of storm discharges from SANDOWN NEW NO.1 SSO by a combination of SuDS and storage options	£40,215K	AMP10	-	PO4 PO5
SAND.WINEP01.3	Isle of Wight	Sandown	FAIRLEE CSO	Reduce the number of storm discharges from FAIRLEE CSO by a combination of SuDS and storage options	£27,985K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.4	Isle of Wight	Sandown	WOODVALE TRANSFER CSO	Reduce the number of storm discharges from WOODVALE TRANSFER CSO by creating below-ground storage	£10,975K	AMP8	-	PO5 PO13 PO14
SAND.WINEP01.5	Isle of Wight	Sandown	MEDINA ROAD COWES CEO	Reduce the number of storm discharges from MEDINA ROAD COWES CEO by a combination of SuDS and storage options	£13,200K	AMP8	-	PO4 PO5 PO13 PO14

Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
SAND.WINEP01.6	Isle of Wight	Sandown	NORTON TRANSFER IOW SSSI CEO	Reduce the number of storm discharges from NORTON TRANSFER IOW SSSI CEO by a combination of SuDS and storage options	£10,060K	AMP11	-	PO4 PO5 PO14
SAND.WINEP01.7	Isle of Wight	Sandown	SANDOWN NEW NO.2 SSO	Reduce the number of storm discharges from SANDOWN NEW NO.2 SSO by creating below-ground storage	£2,015K	AMP10	-	PO5
SAND.WINEP01.8	Isle of Wight	Sandown	SPRINGHILL COWES TRANSFER CEO	Reduce the number of storm discharges from SPRINGHILL COWES TRANSFER CEO by a combination of SuDS and storage options	£8,205K	AMP8	-	PO4 PO5 PO13 PO14
SAND.WINEP01.9	Isle of Wight	Sandown	PRINCE CONSORT RYDE CEO	Reduce the number of storm discharges from PRINCE CONSORT RYDE CEO by a combination of SuDS and storage options	£9,045K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.10	Isle of Wight	Sandown	DODNOR CEO	Reduce the number of storm discharges from DODNOR CEO by a combination of SuDS and storage options	£7,570K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.11	Isle of Wight	Sandown	ALBANY ROAD EAST COWES CEO	Reduce the number of storm discharges from ALBANY ROAD EAST COWES CEO by a combination of SuDS and storage options	£8,825K	AMP8	-	PO4 PO5 PO13 PO14
SAND.WINEP01.12	Isle of Wight	Sandown	HOPE BEACH SHANKLIN NEW CEO	New or improved screen to reduce aesthetics impacts from storm discharges at HOPE BEACH SHANKLIN NEW CEO	£145K	AMP9	-	PO5 PO13
SAND.WINEP01.13	Isle of Wight	Sandown	NORTON TRANSFER IOW PUMPED CEO	Reduce the number of storm discharges from NORTON TRANSFER IOW PUMPED CEO by a combination of SuDS and storage options	£2,855K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.14	Isle of Wight	Sandown	HILLWAY BEMBRIDGE CEO	Reduce the number of storm discharges from HILLWAY BEMBRIDGE CEO by creating below-ground storage	£1,855K	AMP9	-	PO5 PO13
SAND.WINEP01.15	Isle of Wight	Sandown	PRIOR CRESCENT NEWPORT CSO	Reduce the number of storm discharges from PRIOR CRESCENT NEWPORT CSO by creating below-ground storage	£2,795K	AMP8	-	PO5 PO14
SAND.WINEP01.16	Isle of Wight	Sandown	THE QUAY NEWPORT CEO	Reduce the number of storm discharges from THE QUAY NEWPORT CEO by a combination of SuDS and storage options	£2,975K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.17	Isle of Wight	Sandown	LANE END STORAGE TANKS BEMBRIDGE CEO	Reduce the number of storm discharges from LANE END STORAGE TANKS BEMBRIDGE CEO by a combination of SuDS and storage options	£7,495K	AMP9	-	PO4 PO5 PO13
SAND.WINEP01.18	Isle of Wight	Sandown	NEW ROAD WOOTTON CEO	Reduce the number of storm discharges from NEW ROAD WOOTTON CEO by a combination of SuDS and storage options	£3,275K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.19	Isle of Wight	Sandown	MARSH ROAD GURNARD CEO	Reduce the number of storm discharges from MARSH ROAD GURNARD CEO by a combination of SuDS and storage options	£6,760K	AMP11	-	PO4 PO5
SAND.WINEP01.20	Isle of Wight	Sandown	QUAY LANE BRADING CEO	Reduce the number of storm discharges from QUAY LANE BRADING CEO by a combination of SuDS and storage options	£2,340K	AMP10	-	PO4 PO5

Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
SAND.WINEP01.21	Isle of Wight	Sandown	NORTON TRANSFER IOW INLET CEO	Reduce the number of storm discharges from NORTON TRANSFER IOW INLET CEO by a combination of SuDS and storage options	£2,360K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.22	Isle of Wight	Sandown	TERMINUS ROAD COWES CSO	Reduce the number of storm discharges from TERMINUS ROAD COWES CSO by creating below-ground storage	£1,960K	AMP8	-	PO5 PO13 PO14
SAND.WINEP01.23	Isle of Wight	Sandown	ST MARYS ROAD COWES CSO	Reduce the number of storm discharges from ST MARYS ROAD COWES CSO by a combination of SuDS and storage options	£2,805K	AMP8	-	PO4 PO5 PO13 PO14
SAND.WINEP01.24	Isle of Wight	Sandown	MAIN ROAD PORCHFIELD CEO	Reduce the number of storm discharges from MAIN ROAD PORCHFIELD CEO by a combination of SuDS and storage options	£1,860K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.25	Isle of Wight	Sandown	EGYPT POINT COWES CEO Pumped	Reduce the number of storm discharges from EGYPT POINT COWES CEO Pumped by a combination of SuDS and storage options	£2,500K	AMP8	-	PO4 PO5 PO13 PO14
SAND.WINEP01.26	Isle of Wight	Sandown	BOW BRIDGE FRESHWATER CEO	Reduce the number of storm discharges from BOW BRIDGE FRESHWATER CEO by a combination of SuDS and storage options	£2,325K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.27	Isle of Wight	Sandown	HIGH STREET COWES CEO	New or improved screen to reduce aesthetics impacts from storm discharges at HIGH STREET COWES CEO	£150K	AMP9	-	PO5 PO13
SAND.WINEP01.28	Isle of Wight	Sandown	MARKET HILL COWES CSO	Reduce the number of storm discharges from MARKET HILL COWES CSO by creating below-ground storage	£1,535K	AMP8	-	PO5 PO13 PO14
SAND.WINEP01.29	Isle of Wight	Sandown	LADIES WALK BINSTED CEO	Reduce the number of storm discharges from LADIES WALK BINSTED CEO by a combination of SuDS and storage options	£1,475K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.30	Isle of Wight	Sandown	THE DUVER ST HELENS CEO	New or improved screen to reduce aesthetics impacts from storm discharges at THE DUVER ST HELENS CEO	£130K	AMP11	-	PO5
SAND.WINEP01.31	Isle of Wight	Sandown	SCHOOL GREEN ROAD FRESHWATER CEO	Reduce the number of storm discharges from SCHOOL GREEN ROAD FRESHWATER CEO by a combination of SuDS and storage options	£1,285K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.32	Isle of Wight	Sandown	HYDE DESTRUCTOR SHANKLIN CSO	Reduce the number of storm discharges from HYDE DESTRUCTOR SHANKLIN CSO by creating below-ground storage	£1,165K	AMP9	-	PO5 PO13
SAND.WINEP01.33	Isle of Wight	Sandown	THE POINT BEMBRIDGE NEW CEO	Reduce the number of storm discharges from THE POINT BEMBRIDGE NEW CEO by a combination of SuDS and storage options	£1,090K	AMP9	-	PO4 PO5 PO13
SAND.WINEP01.34	Isle of Wight	Sandown	BARGE LANE WOOTTON BRIDGE OUTSIDE 5 CSO	Reduce the number of storm discharges from BARGE LANE WOOTTON BRIDGE OUTSIDE 5 CSO by a combination of SuDS and storage options	£1,225K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.35	Isle of Wight	Sandown	SPRING VALE CEO Pumped	New or improved screen to reduce aesthetics impacts from storm discharges at SPRING VALE CEO Pumped	£130K	AMP11	-	PO5

Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
SAND.WINEP01.36	Isle of Wight	Sandown	DODNOR LANE NEWPORT CSO	Reduce the number of storm discharges from DODNOR LANE NEWPORT CSO by a combination of SuDS and storage options	£1,185K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.37	Isle of Wight	Sandown	SALTERNS ROAD SEAVIEW CEO	New or improved screen to reduce aesthetics impacts from storm discharges at SALTERNS ROAD SEAVIEW CEO	£135K	AMP9	-	PO5 PO13
SAND.WINEP01.38	Isle of Wight	Sandown	MILL SQUARE WOOTTON CSO	Reduce the number of storm discharges from MILL SQUARE WOOTTON CSO by a combination of SuDS and storage options	£1,090K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.39	Isle of Wight	Sandown	THORLEY ROAD BOULDNOR CEO	Reduce the number of storm discharges from THORLEY ROAD BOULDNOR CEO by a combination of SuDS and storage options	£1,195K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.40	Isle of Wight	Sandown	FISHBOURNE LANE FISHBOURNE IOW CEO	Reduce the number of storm discharges from FISHBOURNE LANE FISHBOURNE IOW CEO by a combination of SuDS and storage options	£1,045K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.41	Isle of Wight	Sandown	SCHOOL GREEN ROAD FRESHWATER OUTSIDE 33 CSO	New or improved screen to reduce aesthetics impacts from storm discharges at SCHOOL GREEN ROAD FRESHWATER OUTSIDE 33 CSO	£130K	AMP12	-	PO5
SAND.WINEP01.42	Isle of Wight	Sandown	SOUTH STREET NEWPORT CSO	Reduce the number of storm discharges from SOUTH STREET NEWPORT CSO by a combination of SuDS and storage options	£910K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.43	Isle of Wight	Sandown	THE INSTITUTE YARMOUTH CEO	New or improved screen to reduce aesthetics impacts from storm discharges at THE INSTITUTE YARMOUTH CEO	£130K	AMP11	-	PO5
SAND.WINEP01.44	Isle of Wight	Sandown	SIMEON STREET RYDE CSO	Reduce the number of storm discharges from SIMEON STREET RYDE CSO by a combination of SuDS and storage options	£2,220K	AMP8	-	PO4 PO5 PO13 PO14
SAND.WINEP01.45	Isle of Wight	Sandown	KINGS MANOR CEO	New or improved screen to reduce aesthetics impacts from storm discharges at KINGS MANOR CEO	£130K	AMP11	-	PO5
SAND.WINEP01.46	Isle of Wight	Sandown	MADEIRA ROAD TOTLAND SSO	Reduce the number of storm discharges from MADEIRA ROAD TOTLAND SSO by a combination of SuDS and storage options	£1,580K	AMP9	-	PO4 PO5 PO13
SAND.WINEP01.47	Isle of Wight	Sandown	LUCCOMBE CEO	New or improved screen to reduce aesthetics impacts from storm discharges at LUCCOMBE CEO	£130K	AMP9	-	PO5 PO13
SAND.WINEP01.48	Isle of Wight	Sandown	ROSANNA SAILING SCHOOL WOOTTON CSO	Reduce the number of storm discharges from ROSANNA SAILING SCHOOL WOOTTON CSO by a combination of SuDS and storage options	£900K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.49	Isle of Wight	Sandown	FAIRLEE ROAD NEWPORT OUTSIDE 62 CSO	Reduce the number of storm discharges from FAIRLEE ROAD NEWPORT OUTSIDE 62 CSO by a combination of SuDS and storage options	£845K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.50	Isle of Wight	Sandown	SEAGROVE BAY CEO	New or improved screen to reduce aesthetics impacts from storm discharges at SEAGROVE BAY CEO	£130K	AMP11	-	PO5

Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
SAND.WINEP01.51	Isle of Wight	Sandown	FLOATING BRIDGE COWES CSO	New or improved screen to reduce aesthetics impacts from storm discharges at FLOATING BRIDGE COWES CSO	£130K	AMP11	-	PO5
SAND.WINEP01.52	Isle of Wight	Sandown	PARK ROAD RYDE CSO	New or improved screen to reduce aesthetics impacts from storm discharges at PARK ROAD RYDE CSO	£110K	AMP9	-	PO5 PO13
SAND.WINEP01.53	Isle of Wight	Sandown	COLWELL CHINE CEO	New or improved screen to reduce aesthetics impacts from storm discharges at COLWELL CHINE CEO	£130K	AMP9	-	PO5 PO13
SAND.WINEP01.54	Isle of Wight	Sandown	ESPLANADE SEAVIEW CEO	New or improved screen to reduce aesthetics impacts from storm discharges at ESPLANADE SEAVIEW CEO	£130K	AMP9	-	PO5 PO13
SAND.WINEP01.55	Isle of Wight	Sandown	MAIN ROAD HAVENSTREET CEO	Reduce the number of storm discharges from MAIN ROAD HAVENSTREET CEO by a combination of SuDS and storage options	£835K	AMP11	-	PO4 PO5
SAND.WINEP01.56	Isle of Wight	Sandown	EASTERN GARDENS SANDOWN CEO	New or improved screen to reduce aesthetics impacts from storm discharges at EASTERN GARDENS SANDOWN CEO	£130K	AMP9	-	PO5 PO13
SAND.WINEP01.57	Isle of Wight	Sandown	LANGBRIDGE CEO	Reduce the number of storm discharges from LANGBRIDGE CEO by a combination of SuDS and storage options	£840K	AMP11	-	PO4 PO5
SAND.WINEP01.58	Isle of Wight	Sandown	KITE HILL WOOTTON CEO	Reduce the number of storm discharges from KITE HILL WOOTTON CEO by a combination of SuDS and storage options	£835K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.59	Isle of Wight	Sandown	OFF FOREST ROAD NEWPORT CEO	Reduce the number of storm discharges from OFF FOREST ROAD NEWPORT CEO by a combination of SuDS and storage options	£1,245K	AMP12	-	PO4 PO5
SAND.WINEP01.60	Isle of Wight	Sandown	LINSTONE DRIVE NORTON IOW CSO	New or improved screen to reduce aesthetics impacts from storm discharges at LINSTONE DRIVE NORTON IOW CSO	£130K	AMP12	-	PO5
SAND.WINEP01.61	Isle of Wight	Sandown	COASTGUARD LANE FRESHWATER BAY CEO	Reduce the number of storm discharges from COASTGUARD LANE FRESHWATER BAY CEO by a combination of SuDS and storage options	£1,190K	AMP11	-	PO4 PO5
SAND.WINEP01.62	Isle of Wight	Sandown	LAKE GREEN ROAD SANDOWN CSO	New or improved screen to reduce aesthetics impacts from storm discharges at LAKE GREEN ROAD SANDOWN CSO	£130K	AMP12	-	PO5
SAND.WINEP01.63	Isle of Wight	Sandown	CASTLE STREET COWES CSO	New or improved screen to reduce aesthetics impacts from storm discharges at CASTLE STREET COWES CSO	£130K	AMP11	-	PO5
SAND.WINEP01.64	Isle of Wight	Sandown	THE PARADE COWES CEO	New or improved screen to reduce aesthetics impacts from storm discharges at THE PARADE COWES CEO	£130K	AMP11	-	PO5
SAND.WINEP01.65	Isle of Wight	Sandown	AUGUSTA ROAD RYDE CSO	New or improved screen to reduce aesthetics impacts from storm discharges at AUGUSTA ROAD RYDE CSO	£130K	AMP11	-	PO5

Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
SAND.WINEP01.66	Isle of Wight	Sandown	EGYPT POINT COWES CEO	New or improved screen to reduce aesthetics impacts from storm discharges at EGYPT POINT COWES CEO	£130K	AMP11	-	PO5
SAND.WINEP01.67	Isle of Wight	Sandown	ASHEY ROAD RYDE CSO	New or improved screen to reduce aesthetics impacts from storm discharges at ASHEY ROAD RYDE CSO	£130K	AMP12	-	PO5
SAND.WINEP01.68	Isle of Wight	Sandown	NICHOLSON ROAD RYDE CSO	Reduce the number of storm discharges from NICHOLSON ROAD RYDE CSO by a combination of SuDS and storage options	£1,485K	AMP12	-	PO4 PO5
SAND.WINEP01.69	Isle of Wight	Sandown	WINFORD CEO	New or improved screen to reduce aesthetics impacts from storm discharges at WINFORD CEO	£130K	AMP12	-	PO5
SAND.WINEP01.70	Isle of Wight	Sandown	MONKS LANE LINSTONE CHINE CSO	New or improved screen to reduce aesthetics impacts from storm discharges at MONKS LANE LINSTONE CHINE CSO	£115K	AMP9	-	PO5 PO13
SAND.WINEP01.71	Isle of Wight	Sandown	SPRING VALE CEO	New or improved screen to reduce aesthetics impacts from storm discharges at SPRING VALE CEO	£130K	AMP11	-	PO5
SAND.WINEP01.72	Isle of Wight	Sandown	ALVERSTONE SHUTE ALVERSTONE CEO	New or improved screen to reduce aesthetics impacts from storm discharges at ALVERSTONE SHUTE ALVERSTONE CEO	£130K	AMP11	-	PO5
SAND.WINEP01.73	Isle of Wight	Sandown	SHANKLIN CHINE CSO	New or improved screen to reduce aesthetics impacts from storm discharges at SHANKLIN CHINE CSO	£130K	AMP12	-	PO5
SAND.WINEP01.74	Isle of Wight	Sandown	FISHBOURNE LANE RYDE CSO	Reduce the number of storm discharges from FISHBOURNE LANE RYDE CSO by a combination of SuDS and storage options	£1,260K	AMP8	-	PO4 PO5 PO14
SAND.WINEP01.75	Isle of Wight	Sandown	NEWBARN FARM APSE HEATH CEO	Reduce the number of storm discharges from NEWBARN FARM APSE HEATH CEO by a combination of SuDS and storage options	£1,590K	AMP12	-	PO4 PO5
SAND.WINEP01.76	Isle of Wight	Sandown	MILL ROAD YARMOUTH CSO	New or improved screen to reduce aesthetics impacts from storm discharges at MILL ROAD YARMOUTH CSO	£130K	AMP12	-	PO5
SAND.WINEP01.77	Isle of Wight	Sandown	LOCKS GREEN PORCHFIELD CEO	Reduce the number of storm discharges from LOCKS GREEN PORCHFIELD CEO by a combination of SuDS and storage options	£1,455K	AMP11	-	PO4 PO5
SAND.WINEP01.78	Isle of Wight	Sandown	NORTON GREEN CEO	Reduce the number of storm discharges from NORTON GREEN CEO by a combination of SuDS and storage options	£1,525K	AMP10	-	PO4 PO5
SAND.WINEP01.80	Isle of Wight	Sandown	WESTMINSTER MILL NEWPORT CSO	Reduce the number of storm discharges from WESTMINSTER MILL NEWPORT CSO by a combination of SuDS and storage options	£1,515K	AMP12	-	PO4 PO5
SAND.WINEP01.81	Isle of Wight	Sandown	WESTWOOD ROAD RYDE CSO	Reduce the number of storm discharges from WESTWOOD ROAD RYDE CSO by a combination of SuDS and storage options	£1,505K	AMP11	-	PO4 PO5

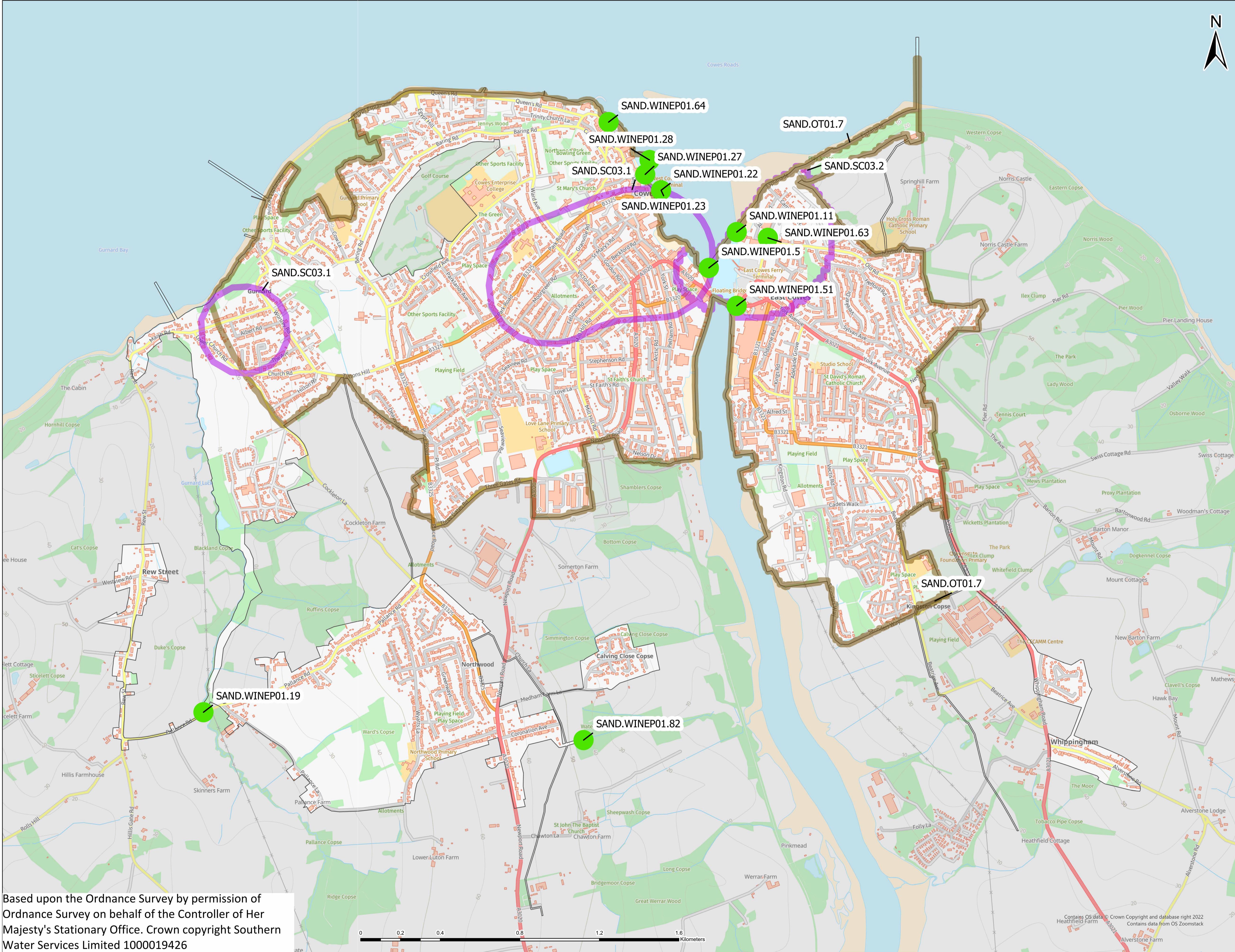
Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
SAND.WINEP01.79	Isle of Wight	Sandown	SPENCER ROAD RYDE CSO	Reduce the number of storm discharges from SPENCER ROAD RYDE CSO by a combination of SuDS and storage options	£2,600K	AMP11	-	PO4 PO5
SAND.WINEP01.82	Isle of Wight	Sandown	WHITFORD BRIDGE NORTHWOOD CSO	Reduce the number of storm discharges from WHITFORD BRIDGE NORTHWOOD CSO by a combination of SuDS and storage options	£1,460K	AMP12	-	PO4 PO5

Drainage and Wastewater Management Plan: Location of Potential Options SANDOWN COWES

Wastewater system in Isle of Wight 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.



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

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

Contains OS data © Crown Copyright and database right 2022 Contains data from OS Zoomstack

Drainage and Wastewater Management Plan: Location of Potential Options SANDOWN RYDE

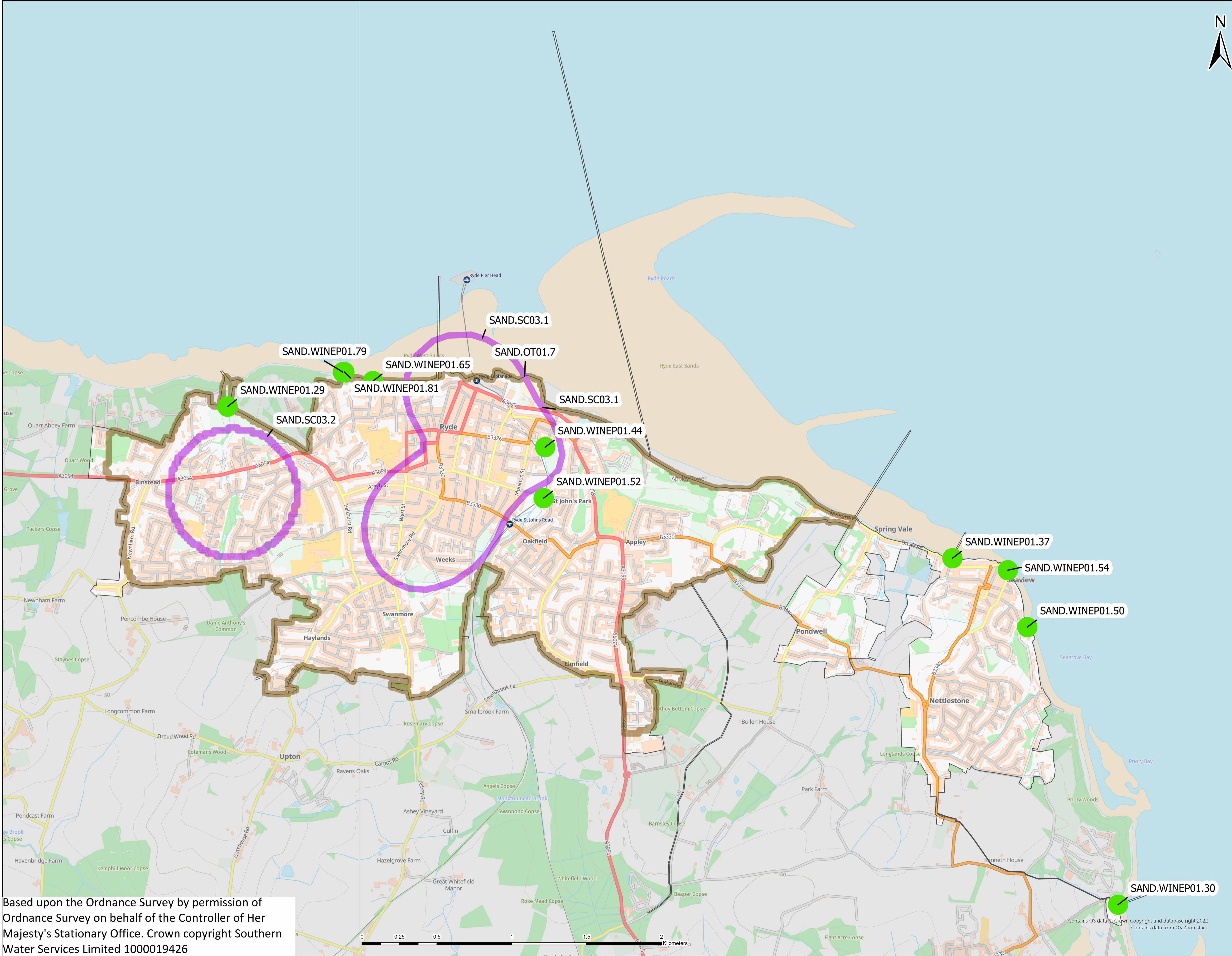
Wastewater system in Isle of Wight River Basin Catchment



(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.



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



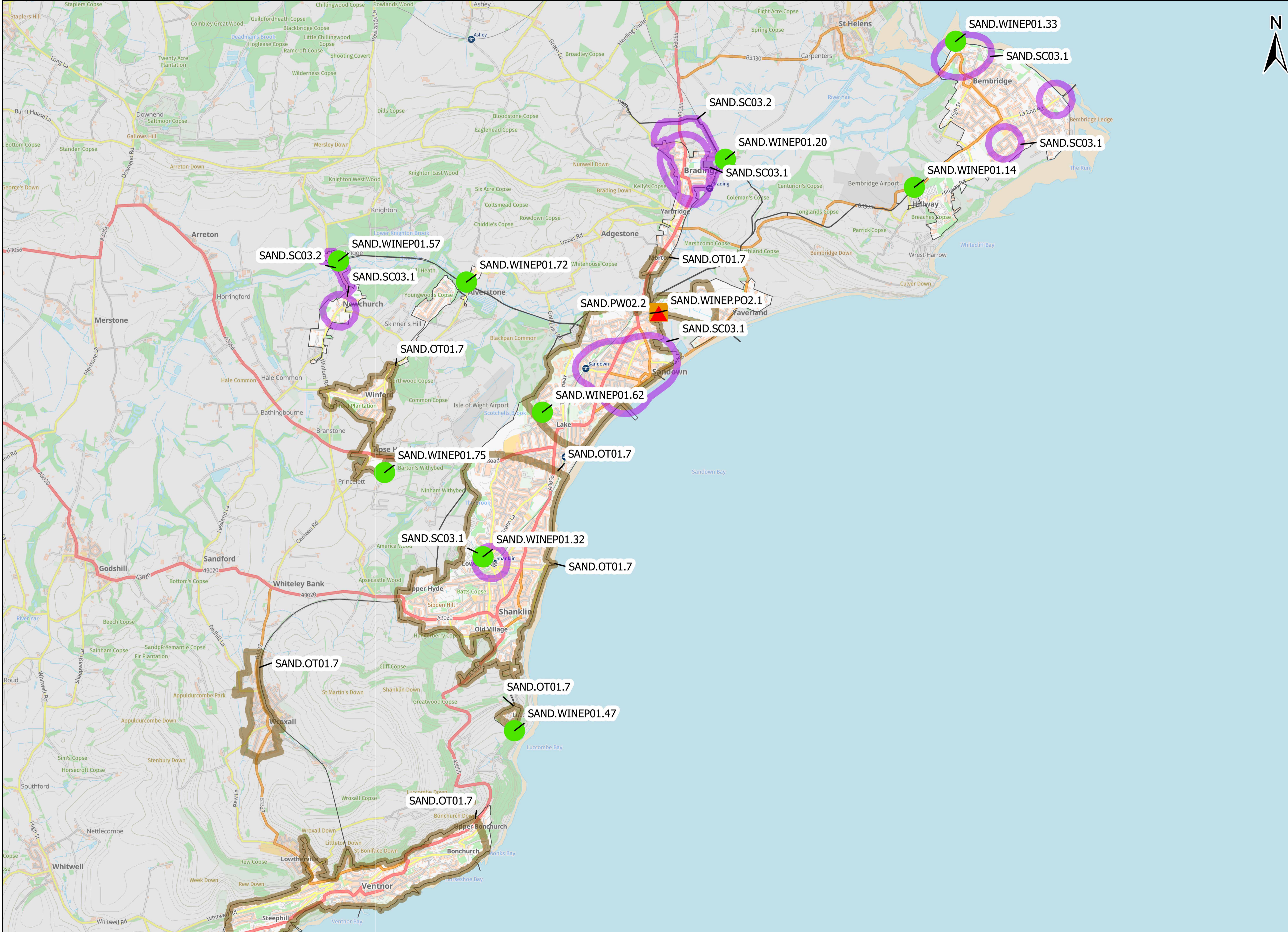
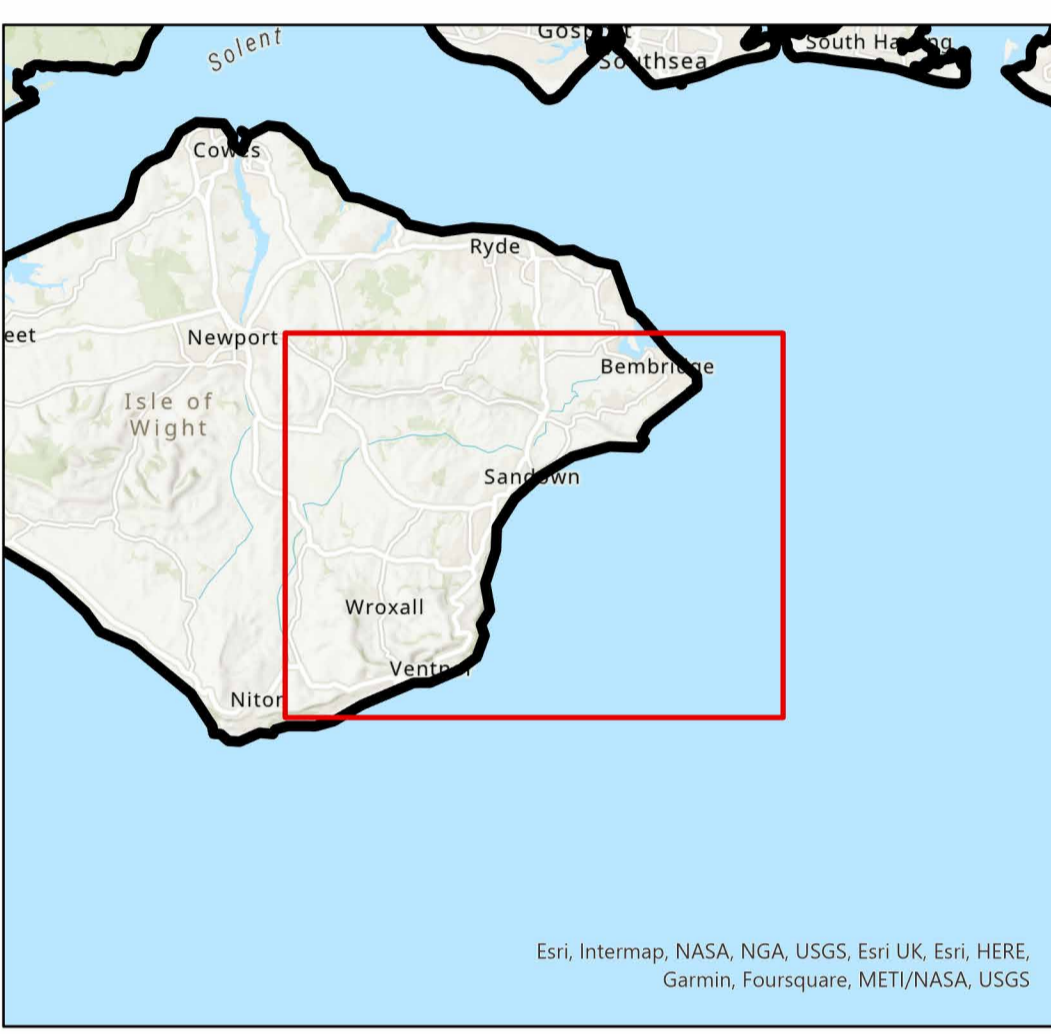
Based upon the Ordnance Survey by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office. Crown copyright Southern Water Services Limited 1000019426


Contains OS data © Crown Copyright and database right 2022. Contains data from OS Zoomstack

Drainage and Wastewater Management Plan: Location of Potential Options SANDOWN SHANKLIN Wastewater system in Isle of Wight 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.



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

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 1000019426



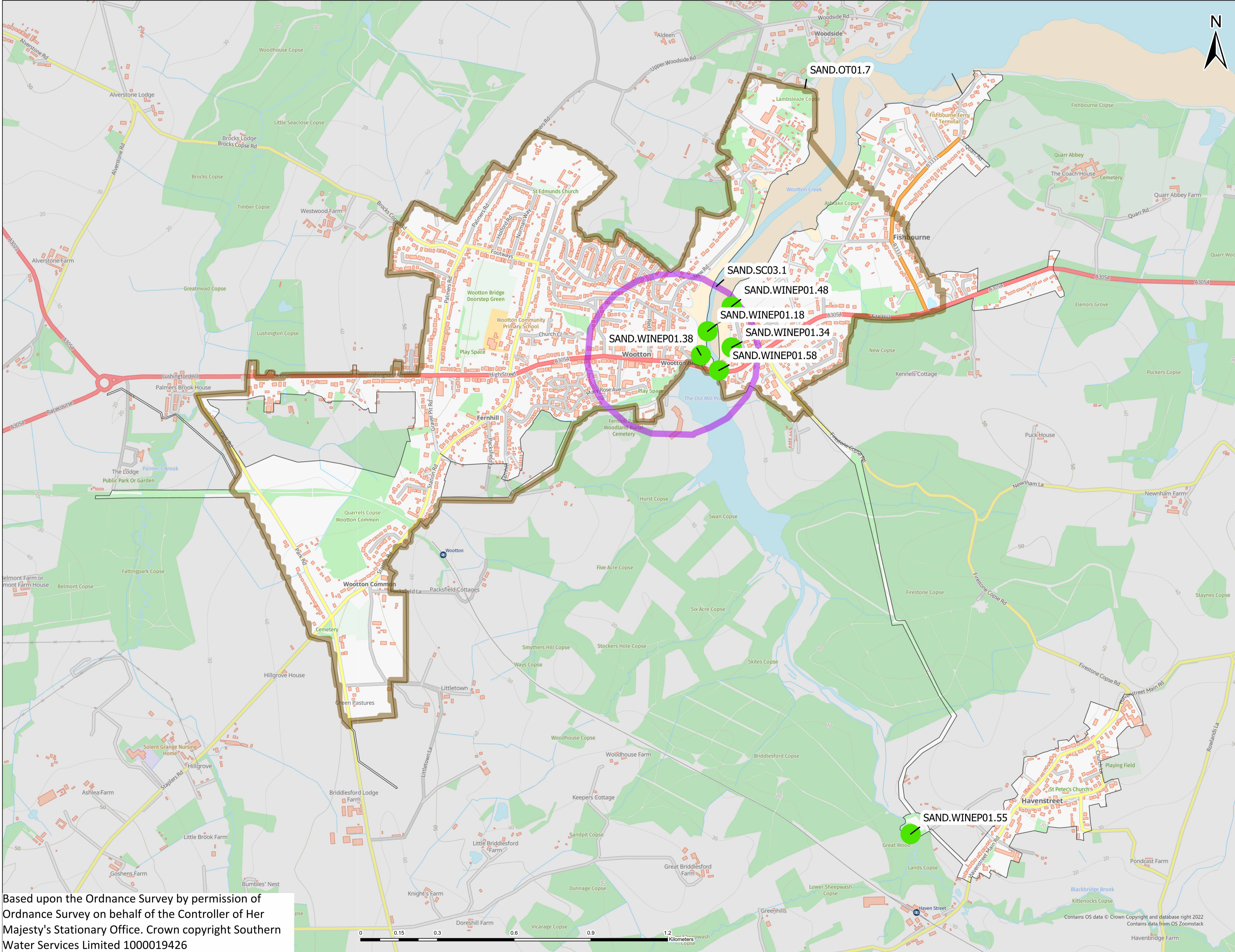
Contains OS data © Crown Copyright and database right 2022. Contains data from OS Zoomstack.

Drainage and Wastewater Management Plan: Location of Potential Options SANDOWN WOTTON

Wastewater system in Isle of Wight 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.



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

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 1000019426

Contains OS data © Crown Copyright and database right 2022. Contains data from OS Zoomstack

