



Drainage and Wastewater Management Plan

Newhaven East
Wastewater System Plan



from
**Southern
Water** 

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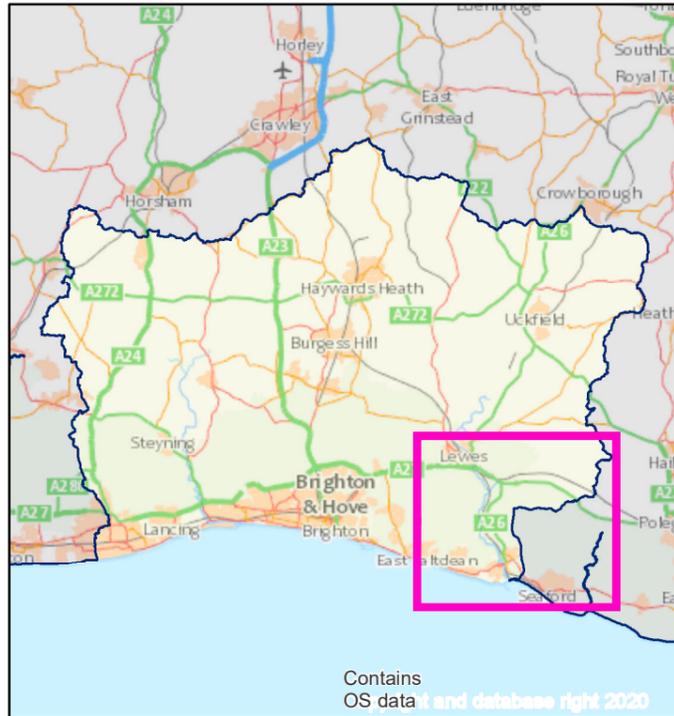
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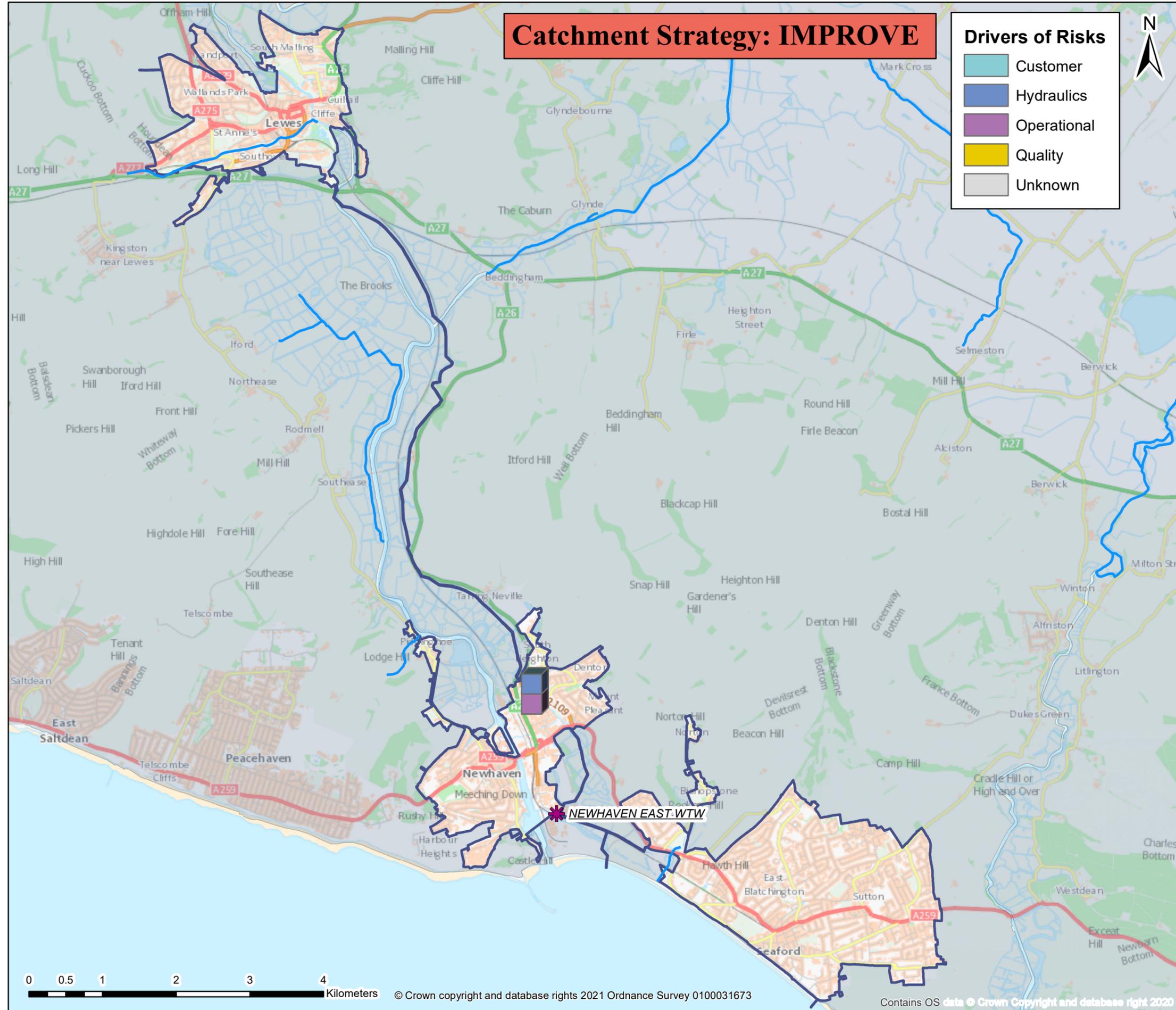
Newhaven East wastewater system: map and key facts



Contains OS data and database right 2020

Population Equivalent (PE)	58,325
Discharge Waterbody	English Channel
Number of Pumping Stations	44
Number of Overflows	9
Length of Sewer (km)	400.2
Catchment Reference	NEWE

BRAVA Results Table (NEWE)		
Planning Objective	2020	2050
1 Internal Sewer Flooding Risk	0	
2 Pollution Risk	1	
3 Sewer Collapse Risk	2	
4 Risk of Sewer Flooding in a 1 in 50 year storm	1	1
5 Storm Overflow performance	2	2
6 Risk of WTW Compliance Failure	0	0
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	1	
13 Bathing Waters	0	
14 Shellfish Waters	NA	



Catchment Strategy: IMPROVE

Drivers of Risks

- Customer
- Hydraulics
- Operational
- Quality
- Unknown



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Problem Characterisation

Newhaven East (NEWE)

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 Newhaven East wastewater system

Planning Objectives		2020	Driver	2050
1	Internal Sewer Flooding Risk	0	-	
2	Pollution Risk	1	Operational	
3	Sewer Collapse Risk	2	Operational	
4	Sewer Flooding in a 1 in 50-year storm	1	Hydraulic	1
5	Storm Overflow Performance	2	Hydraulic	2
6	WTW Water Quality Compliance	0	-	0
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	1	Operational	
13	Bathing Waters	0	-	
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

Investment Strategy

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

Improve

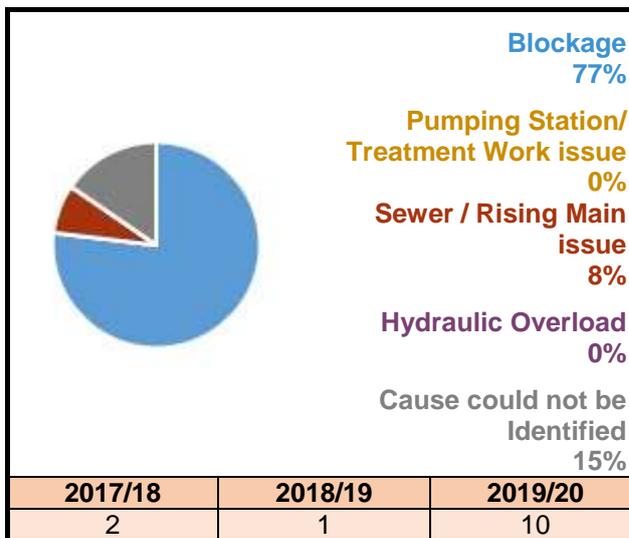
This means that we consider that the current performance of the drainage and wastewater system needs to be improved to reduce the impacts on our customers and/or the environment. We will plan investment to reduce the current risks by actively looking to invest capital funding in the short term to address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

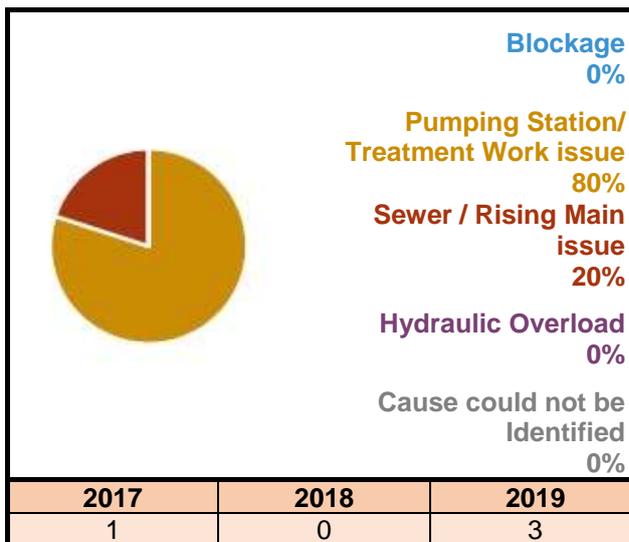
Figure 1: Number of internal flooding incidents per annum and causes



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 between 24.51 and 49.01 incidents per 10,000km per year (a threshold set by Ofwat) so the risk is in the 'moderately significant' band.

Figure 2: Number of pollution incidents per annum and causes



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 80% of all incidents recorded in this wastewater system.

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.

Table 2: Sewer collapses and rising main bursts

Sewer Collapse	2017/18	2
	2018/19	5
	2019/20	4
Rising Main Bursts	2017/18	0
	2018/19	4
	2019/20	2

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

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

The risk of flooding in a 1 in 50 year storm is moderately significant in 2020 and 2050. This is because our computer model of the sewer network indicate for 2020 that approximately 1100 - 1100 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 1600 - 1700 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 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 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	0 Medium	0 Medium	Less than 8	Between 8-10	10 or more
Bathing Waters	1 High	1 Medium	Less than 3	Between 3-10	10 or more
Freshwater	2 High	2 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

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	84	120	53	76
1 in 2	111	205	44	81
1 in 5	285	547	52	99
1 in 10	446	691	42	66
1 in 20	632	1022	31	50
1 in 30	746	1190	24	39
Total Annualised			246	410

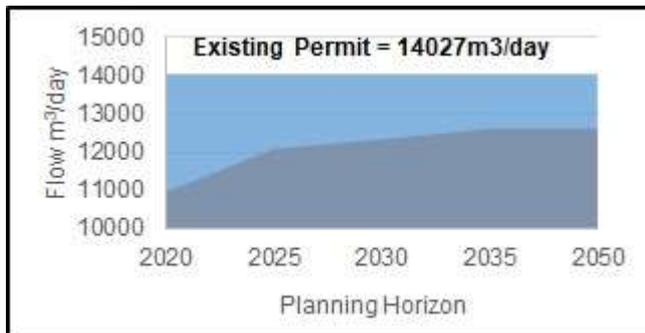


This indicates that the existing capacity of the wastewater network can already be exceeded during 1 in 30 year storms (or more frequent events).

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

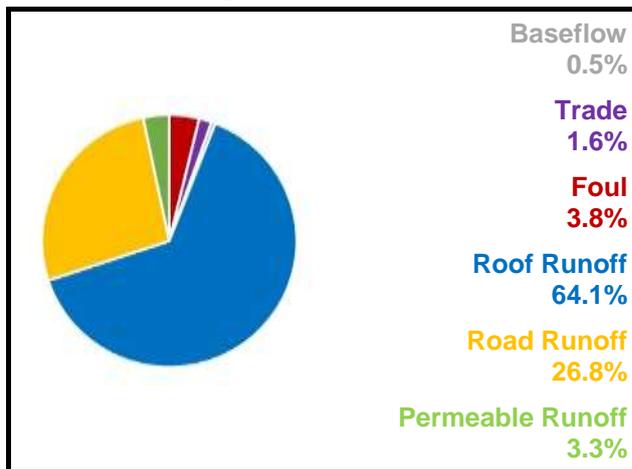
This wastewater system is not hydraulically linked to a waterbody where wastewater operations are contributing to not achieving GES/GEP, therefore the risk is not significant.

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 94.2% of the flow in the sewers. The total contribution of foul water from homes is 3.8% with business contributing 1.6%. The baseflow is infiltration from water in the ground and makes up 0.5% 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 moderately significant. The wastewater system network of sewers extends across geographical areas that are designated as a Source Protection Zone (SPZ) for water supply. Sewer survey data indicates that parts of the sewer network are in poor condition and are likely to leak sewage.

The primary driver is 'Operational' due to condition of our assets.

Planning Objective 13: Bathing Waters

The designated bathing waters that could be affected by discharges from this wastewater system are shown in Table 5, along with the current classification from the Environment

Agency. The risks from this wastewater system on these bathing waters is not significant. This is because all the designated bathing waters affected by this wastewater system have passed annual inspections.

Table 5: Bathing Water annual results

Bathing Waters	Annual Results		
	2017	2018	2019
Seaford	Excellent	Excellent	Excellent

Planning Objective 14: Shellfish Waters

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

Southern Water

August 2021
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Generic Options Assessment for: Newhaven East (NEWE)



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	1	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		N	None of the significant risks are caused by the quality of wastewater entering the wastewater system.	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	1	Hydraulic	1		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	2	Hydraulic	2		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	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	1	Operational	-	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	0	-	-						
PO14	Improve Shellfish Water Quality	NA	-	-						

Newhaven East 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	NEWE FC01_1 - Blatchington Road,	PO4 and PO7 Flooding	NEWE.SC01.1	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	NEWE FC01_2 - Blatchington Road,	PO4 and PO7 Flooding	NEWE.SC01.2	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	NEWE FC02_1 - Riverside	PO4 and PO7 Flooding	NEWE.SC01.3	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	NEWE FC03_1 - Vale Road	PO4 and PO7 Flooding	NEWE.SC01.4	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	NEWE FC04_1 - Chyngton Gardens,	PO4 and PO7 Flooding	NEWE.SC01.5	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	NEWE FC05_1 - Avis Way	PO4 and PO7 Flooding	NEWE.SC01.6	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	NEWE FC05_2 - Avis Way	PO4 and PO7 Flooding	NEWE.SC01.7	Surface Water Separation	DAP Option.	No						
Control / Reduce groundwater infiltration												
Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)												
Control / Reduce the quantity / flow of wastewater entering sewer system	NEWHAVEN EAST WTW	PO8 (2050)- Dry Weather Flow	NEWE.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)	Ham Lane Lewes New Wps,	PO2- Pollution Risk	NEWE.PW01.1	Maintenance Programme WPS	An efficient maintenance programme for pumping stations to eliminate the risk of a pollution incident due to an operational failure.	Yes	Yes	Yes	Minor Positive +	£235K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO3- Sewer Collapse	NEWE.PW01.2	Pipe Rehabilitation Programme	Targeted CCTV / electroscan surveys and proactive sewer rehabilitation to reduce risk of sewer collapse.	Yes	Yes	Yes	Minor Positive +	£1,310K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO8 (2050)- Dry Weather Flow	NEWE.PW01.3	Pipe Rehabilitation Programme	Relining/improving structural grades of sewers across the catchment.	No						Cost Effective
Network Improvements (eg increase capacity, storage, conveyance)	Southover- Inner & Outer Zone TCZ	PO12- Ground Water Pollution	NEWE.PW01.4	Pipe Rehabilitation Programme	Total length of sewer within protection zones- 79.	Yes	Yes	Yes	Minor Positive +	£4,660K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO2- Pollution Risk	NEWE.PW01.5	Pipe Rehabilitation Programme	Pipe Rehabilitation Programme.	No						Technically feasibleCost Effective
Network Improvements (eg increase capacity, storage, conveyance)	NEWE FC01_1 - Blatchington Road,	PO4 and PO7 Flooding	NEWE.PW01.6	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,395K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	NEWE FC01_2 - Blatchington Road,	PO4 and PO7 Flooding	NEWE.PW01.7	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£2,455K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	NEWE FC02_1 - Riverside	PO4 and PO7 Flooding	NEWE.PW01.8	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£585K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	NEWE FC03_1 - Vale Road	PO4 and PO7 Flooding	NEWE.PW01.9	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£540K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	NEWE FC04_1 - Chyngton Gardens,	PO4 and PO7 Flooding	NEWE.PW01.10	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,060K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	NEWE FC05_1 - Avis Way	PO4 and PO7 Flooding	NEWE.PW01.11	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£590K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	NEWE FC05_2 - Avis Way	PO4 and PO7 Flooding	NEWE.PW01.12	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,970K	Yes	Best Value
Improve treatment (capacity and quality at existing works or develop new WTWs)	NEWHAVEN EAST WTW	PO2- Pollution Risk	NEWE.PW02.1	Maintenance Programme WTW	An efficient maintenance programme for the treatment works to eliminate the risk of a pollution incident due to an operational failure.	Yes	Yes	Yes	Minor Positive +	£TBC - With Partners	Yes	Best Value
Improve treatment (capacity and quality at existing works or develop new WTWs)	NEWHAVEN EAST WTW	PO8 (2050)- Dry Weather Flow	NEWE.PW02.2	Permit Review	Proposed permit-16467m3.	Yes	Yes	Yes	Minor Positive +	£2,130K	No	Best Value
Wastewater Transfer	NEWHAVEN EAST WTW	PO8 (2050)- Dry Weather Flow	NEWE.PW03.1	Construct New WPS & Rising Main	No other WTWs are within a 20km radius of NEWHAVEN EAST WTW with spare capacity to take DWF.	No						Technically feasible, Cost EffectiveDeliver the required outcomeDo customer support it
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	Catchment Wide	PO3- Sewer Collapse	NEWE.OT01.1	CCTV Investigation	CCTV Investigation.	No						Deliver the required outcome
Study/ investigation to gather more data	Catchment Wide	PO8 (2050)- Dry Weather Flow	NEWE.OT01.2	Infiltration Reduction Plan	Relining/improving structural grades of sewers across the catchment.	No						Deliver the required outcome
Study/ investigation to gather more data	Southover- Inner & Outer Zone TCZ	PO12- Ground Water Pollution	NEWE.OT01.3	Study and Investigations	Study and Investigations.	No						Deliver the required outcome
Study/ investigation to gather more data	HAM LANE LEWES NEW WPS	PO5 - Storm Overflow	NEWE.OT01.4	Storage.	Storage.	Yes	Yes	Yes	Minor Positive +	£1,000K	Yes	Best Value
Study/ investigation to gather more data	Catchment Wide	PO4- 1 in 50 year PO5- Storm Overflow PO7- Hydraulic Overload PO10- Surface Water Management	NEWE.OT01.5	Improve Hydraulic Model	Improve Hydraulic Model.	Yes	Yes	Yes	Minor Positive +	£340K	Yes	Best Value
Study/ investigation to gather more data	CLIFF END SEAFORD WPS	PO5 - Storm Overflow	NEWE.OT01.6	Storage	Storage.	Yes	Yes	Yes	Minor Positive +	£1,000K	Yes	Best Value
Study/ investigation to gather more data	NEWHAVEN MAIN WTW	PO5 - Storm Overflow	NEWE.OT01.7	Storage.	Storage.	Yes	Yes	Yes	Minor Positive +	£1,000K	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
Adur and Ouse								
Newhaven East								
NEWE.PW01.1	Adur and Ouse	Newhaven East	Ham Lane Lewes New WPS	Improve the operational resilience of wastewater pumping station (WPS) to reduce pollution incidents	£235K	AMP8 onwards	-	PO2
NEWE.PW01.2	Adur and Ouse	Newhaven East	Lewes Town Centre, Southover	Sewer Rehabilitation: Targeted CCTV or electroscan surveys and sewer rehabilitation to reduce the risk of sewer bursts and collapses	£1,310K	AMP8 onwards	-	PO3
NEWE.PW01.4	Adur and Ouse	Newhaven East	Southover	Sewer Rehabilitation: Targeted CCTV or electroscan surveys to check the integrity of sewers and reline or renew them to reduce the risk of groundwater pollution	£4,660K	AMP9	-	PO12
NEWE.PW01.6	Adur and Ouse	Newhaven East	Blatchington Road i	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)	£1,865K	AMP9	East Sussex County Council	PO4 PO7
NEWE.PW01.7	Adur and Ouse	Newhaven East	Blatchington Road ii	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)	£1,395K	AMP9	East Sussex County Council	PO4 PO7
NEWE.PW01.8	Adur and Ouse	Newhaven East	Riverside	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)	£2,455K	AMP9	East Sussex County Council	PO4 PO7
NEWE.PW01.9	Adur and Ouse	Newhaven East	Vale 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)	£585K	AMP9	East Sussex County Council	PO4 PO7
NEWE.PW01.10	Adur and Ouse	Newhaven East	Chyngton Gardens	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)	£540K	AMP9	East Sussex County Council	PO4 PO7
NEWE.PW01.11	Adur and Ouse	Newhaven East	Avis Way i	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)	£1,060K	AMP9	East Sussex County Council	PO4 PO7
NEWE.PW01.12	Adur and Ouse	Newhaven East	Avis Way ii	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)	£590K	AMP9	East Sussex County Council	PO4 PO7
NEWE.PW02.1	Adur and Ouse	Newhaven East	Newhaven East WTW	Improve the operational resilience of wastewater treatment works (WTW) to reduce pollution incidents	£6,970K	AMP8 onwards	-	PO2
NEWE.PW02.2	Adur and Ouse	Newhaven East	Newhaven East WTW	Increase capacity to allow for planned new development	£2,130K	AMP9	-	PO8
NEWE.OT01.5	Adur and Ouse	Newhaven East	System Wide	Improve the Hydraulic Model: Surveys and reverification of model to improve confidence and accuracy	£340K	AMP8	-	PO4 PO5 PO7 PO10
NEWE.WINEP01.1	Adur and Ouse	Newhaven East	COURT ROAD LEWES CEO	Reduce the number of storm discharges from COURT ROAD LEWES CEO by creating below-ground storage	£1,810K	AMP11	-	PO5

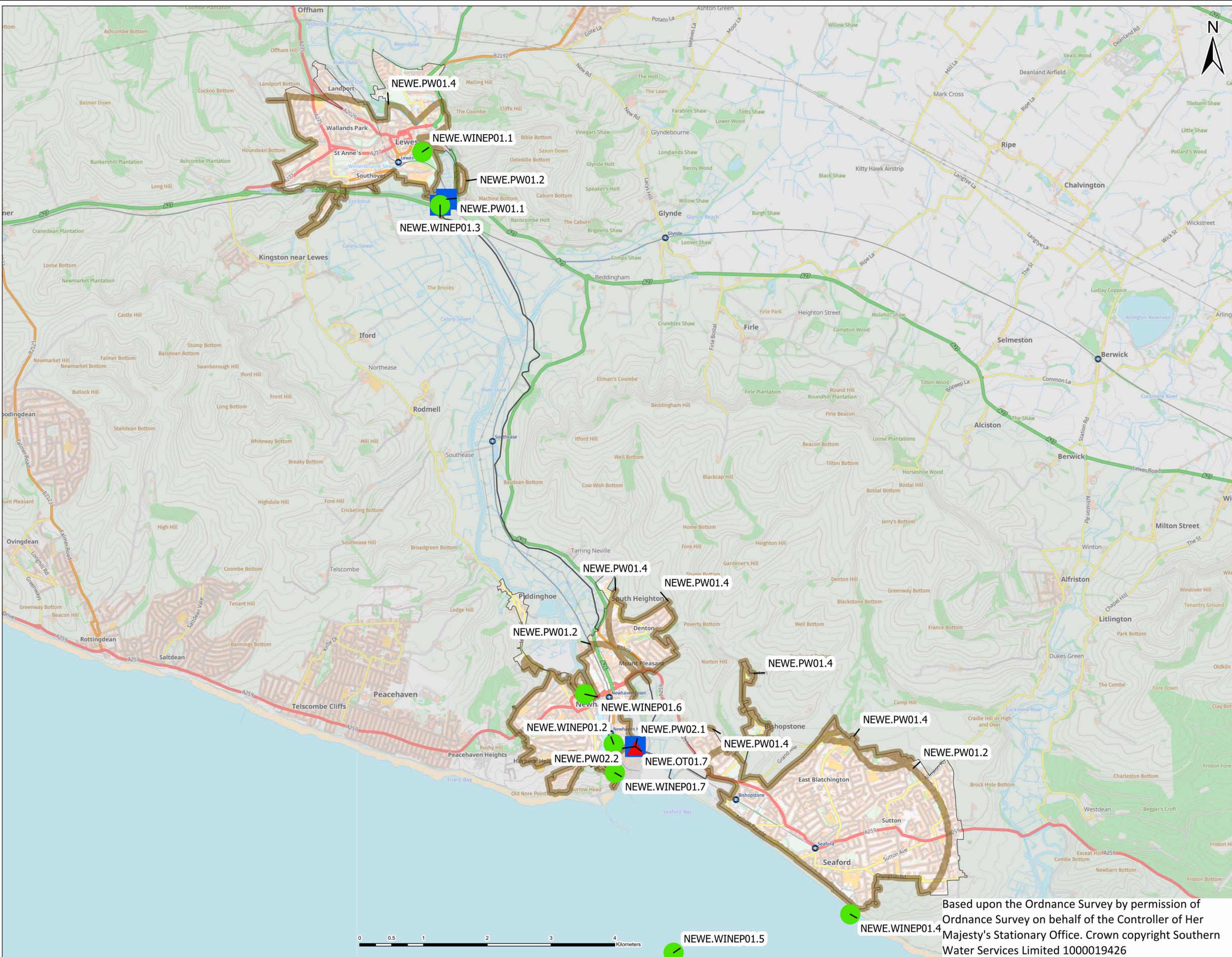
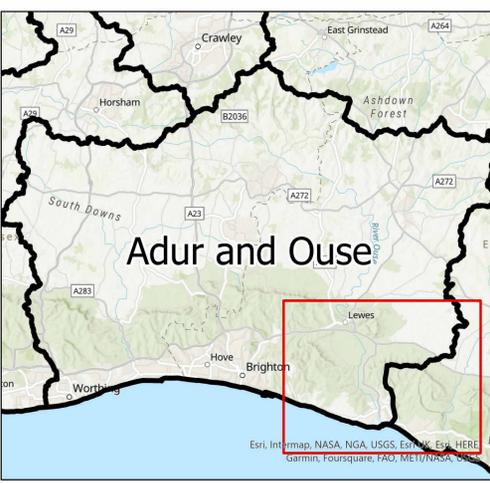
Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
NEWE.WINEP01.2	Adur and Ouse	Newhaven East	BEACH ROAD NEWHAVEN STORM TANK CSO	New or improved screen to reduce aesthetics impacts from storm discharges at BEACH ROAD NEWHAVEN STORM TANK CSO	£130K	AMP12	-	PO5
NEWE.WINEP01.3	Adur and Ouse	Newhaven East	HAM LANE LEWES NEW SSO	Reduce the number of storm discharges from HAM LANE LEWES NEW SSO by a combination of SuDS and storage options	£3,435K	AMP8	-	PO4 PO5 PO7
NEWE.WINEP01.4	Adur and Ouse	Newhaven East	MARTELLO ROAD SEAFORD CSO	New or improved screen to reduce aesthetics impacts from storm discharges at MARTELLO ROAD SEAFORD CSO	£130K	AMP12	-	PO5
NEWE.WINEP01.5	Adur and Ouse	Newhaven East	NEWHAVEN MAIN CSO	Reduce the number of storm discharges from NEWHAVEN MAIN CSO by a combination of SuDS and storage options	£10,680K	AMP9	-	PO4 PO5 PO7
NEWE.WINEP01.6	Adur and Ouse	Newhaven East	DENTON ISLAND NEWHAVEN CEO	Reduce the number of storm discharges from DENTON ISLAND NEWHAVEN CEO by a combination of SuDS and storage options	£1,690K	AMP12	-	PO4 PO5 PO7
NEWE.WINEP01.7	Adur and Ouse	Newhaven East	FORT ROAD NEWHAVEN WEST SSO	Reduce the number of storm discharges from FORT ROAD NEWHAVEN WEST SSO by a combination of SuDS and storage options	£1,775K	AMP12	-	PO4 PO5 PO7

Drainage and Wastewater Management Plan: Location of Potential Options NEWHAVEN EAST

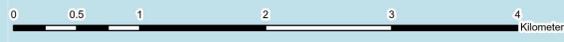
Wastewater system in Adur and Ouse River Basin Catchment



(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



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