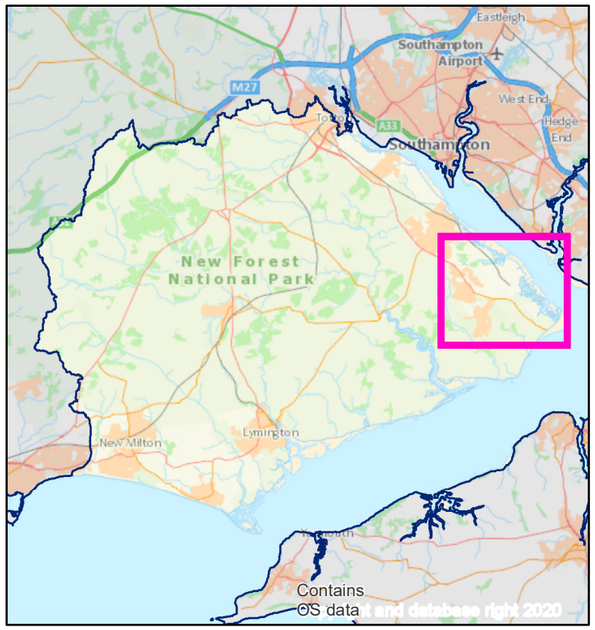
# Drainage and Wastewater Management Plan

## Ashlett Creek Fawley Wastewater System Plan

# Contents

# Ashlett Creek Fawley wastewater system: map and key facts




| | |
|---|---|
| Population Equivalent (PE) | 14,544 |
| Discharge Waterbody | Southampton Water |
| Number of Pumping Stations | 14 |
| Number of Overflows | 3 |
| Length of Sewer (km) | 94.4 |
| Catchment Reference | ASHL |

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

**Drivers of Risks**

- Customer
- Hydraulics
- Operational
- Quality
- Unknown

**Catchment Strategy: IMPROVE**

ASHLETT CREEK FAWLEY WTW

Hardley, Holbury, Fawley, Blackfield, Langley, Stonehills, Calshot, Hamble, Hamble Spit, Oil Refinery, Cadland Creek, Ashlett Creek, Mud & Sand, Tumulus, Kings Copse Inclosure, Blackwell Common, Gatewood Hill, Tom's Down, Badminston Common, Mopley Pond, Sprat's Down, Hillhead, Eaglehurst, Stanswood Fm, Whitefield Fm, West Common, Earthwork Common, Power Sta, IRB Sta Lookout Sta, IRB Sta (summer only), Outfall, A326, B3053

0 0.25 0.5 1 1.5 2 Kilometers

# Problem Characterisation

## Ashlett Creek Fawley (ASHL)

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 pollution and water quality are the main concerns in this wastewater catchment. We have completed risk assessments for 2050 where we have the data and tools available to do so. For the other planning objectives, we will explore how we can predict future risks for the next cycle of DWMPs. All the risk assessment methods need to be reviewed after the first DWMPs have been produced with a view to improve the methods and data for future planning cycles.

**Table 1: Results of the BRAVA for Ashlett Creek Fawley wastewater system**

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

### 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.

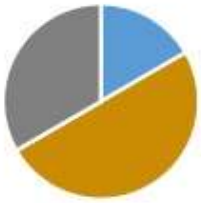
**Figure 1: Number of internal flooding incidents per annum and causes**


| 2017/18 | 2018/19 | 2019/20 |
|---|---|---|
| 0 | 1 | 0 |

## 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 less than 24.51 incidents per 10,000km per year (a threshold set by Ofwat) so the risk is in the 'not significant' band.

**Figure 2: Number of pollution incidents per annum and causes**




| 2017 | 2018 | 2019 |
|---|---|---|
| 0 | 0 | 1 |

## Planning Objective 3: Sewer Collapse Risk

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

**Table 2: Sewer collapses and rising main bursts**

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

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

The risk of flooding in a 1 in 50 year storm is not significant in 2020 or 2050. This is because our computer model of the sewer network indicate for 2020 that approximately40 - 50 properties within this wastewater system are in areas that could flood by water escaping from sewers.

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

### Planning Objective 5: Storm Overflow Performance

The storm overflow performance risk has been assessed as moderately significant in 2020, however network modelling results indicated that the risk will increase to very significant by 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** | 1 Medium | 1 High | Less than 8 | Between 8-10 | 10 or more |
| **Bathing Waters** | 0 Medium | 1 High | Less than 3 | Between 3-10 | 10 or more |
| **Freshwater** | 0 Medium | 0 Medium | Less than 20 | Between 20-40 | 40 or more |

### Planning Objective 6: Wastewater Treatment Works Water Quality Compliance

The risk of non-compliance with our wastewater quality permit has been assessed as not significant for both 2020 and 2050. This is because the wastewater treatment works has no record of compliance failure during the last three years (2018-2020).

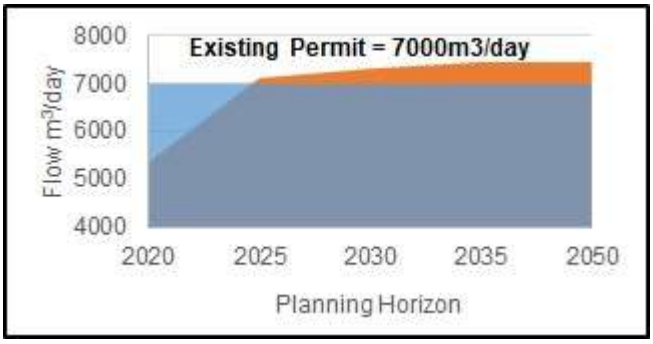
### Planning Objective 7: Flooding due to Hydraulic Overload

Our initial assessment is that flooding from hydraulic overload is not significant in this wastewater catchment for both 2020 and 2050. We will use a hydraulic model of the wastewater system to determine if this catchment 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 (DWF) Compliance is not significant for both 2020 and 2050. This is because the average annual DWF for 2017, 2018 and 2019 has been below 80% of the current permit. The predicted DWF in 2050 is also expected to remain below 80% of the current permit, shown in Figure 3.

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



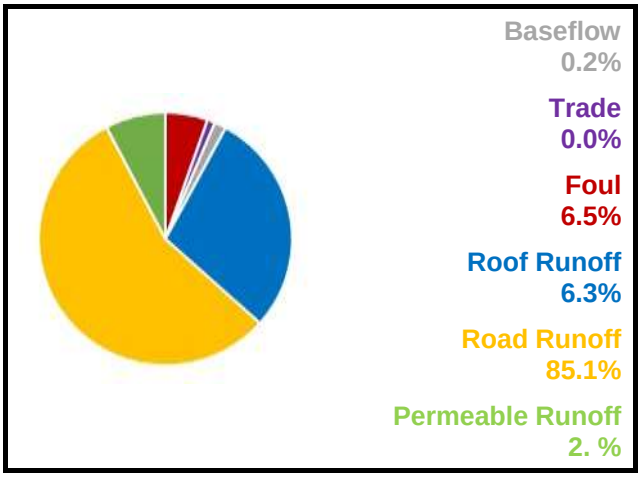

### Planning Objective 9: Good Ecological Status / Good Ecological Potential

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

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 93.4% of the flow in the sewers. The total contribution of foul water from homes is 6.5%. The baseflow is infiltration from water in the ground and makes up 0.2% 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 that are hydraulically linked to our wastewater system, listed in Table 4.

**Table 4: Habitat Sites hydraulically linked to wastewater system**

| Habitat Sites | |
|---|---|
| Solent and Dorset Coast | Phosphate and Nitrate permit review required |
| Solent & Southampton Water | No Threat/Remedy Identified or Anticipated |
| Solent Maritime | Phosphate and Nitrate permit review required |

### Planning Objective 12: Groundwater Pollution

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

### 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 |
| Calshot | Excellent | Excellent | Excellent |
| Lepe | Excellent | Excellent | Excellent |

### Planning Objective 14: Shellfish Waters

The discharges from this wastewater system can affect the designated shellfish waters shown in Table 6. The risk of not achieving the faecal standards for shellfish in these designated waters from this wastewater system is moderately significant. This is because the CEFAS classification for the shellfish waters is Long Term Class B.

**Table 6: Shellfish Waters linked to wastewater system**

| Shellfish Waters |
|---|
| Approaches To Southampton Water |

# Generic Options Assessment for: Ashlett Creek Fawley (ASHL)

| Planning Objectives | | 2020 | Driver | 2050 |
|---|---|---|---|---|
| PO1 | Internal Flooding | 0 | - | - |
| PO2 | Pollution Risk | 0 | - | - |
| PO3 | Sewer Collapse | 0 | - | - |
| PO4 | Risk of Sewer Flooding in 1 in 50 yr | 0 | - | 0 |
| PO5 | Storm Overflow Performance | 1 | Hydraulic | 2 |
| PO6 | Risk of WTW Compliance Failure | 0 | - | 0 |
| PO7 | Annualised Flood Risk/Hydraulic Overload | 0 | - | 0 |
| PO8 | DWF Compliance | 0 | - | 0 |
| PO9 | Achieve Good Ecological Status | 0 | - | - |
| PO10 | Improve Surface Water Management | 0 | - | - |
| PO11 | Secure Nutrient Neutrality | 2 | Unknown | 2 |
| PO12 | Reduce Groundwater Pollution | 0 | - | - |
| PO13 | Improve Bathing Water Quality | 0 | - | - |
| PO14 | Improve Shellfish Water Quality | 1 | Unknown | - |

| Type of Measures | Generic Option Categories | Icon | Take Forward? | Reasons | Examples of Generic Options |
|---|---|---|---|---|---|
| **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 |
| | Reduce groundwater levels | | N | None of the significant risks in this catchment are caused by high groundwater levels. Hence reducing groundwater levels will not impact any of the risks in this catchment. | Reduce leakage from water supply pipes; pump away schemes to locally lower groundwater near sewer network |
| | 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 |
| | Reduce the **quantity** / demand | | N | None of the significant risks are caused by too much foul wastewater entering our systems from homes and businesses. | Water efficient appliances; water efficient measures; blackwater and/or greywater re-use; treatment at source |
| **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. |
| | 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 |
| | 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 |
| **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 |
| | Improve Land and Soils | | N/A | Not included in first round of DWMPs | Sludge soil enhancement |
| | Mitigate impacts on receiving waters | | Y | - | River enhancement, aeration |
| | Reduce impact on properties | | Y | - | Property flood resilience; non-return valves; flood guards / doors; air brick covers |
| Other | Study / Investigation | | Y | - | Additional data required; hydraulic model development; WQ monitoring and modelling |

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Version 1

# Ashlett Creek Fawley 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 | Along route of A326 highways corridor | PO5 - Hydraulic Drivers | ASHL.SC01.1 | Surface Water Seperation | Study / Investigation: Identify suitable location/s for surface water separation along route of A326, partnering with NFs recreational mitigation project (update hydraulic model)<br><br>Removal of connected suface water into the sewer in partnership with Hampshire Highways, during the A326 highways corridor improvements. | Yes | Yes | Yes | Moderate Positive ++ | £TBC - With Partners | No | Best Value |
| Control/ Reduce surface water entering the sewers | Catchment Wide / L4 | PO5 - Hydraulic Drivers | ASHL.SC01.2 | Surface Water Seperation | Removal of connected surface water into the sewer network at source. | No | | | | | | Deliver the required outcome |
| Control/ Reduce surface water entering the sewers | Northwest of Catchment / Springfield Avenue | PO5 - Hydraulic Drivers | ASHL.SC01.3 | Changes in Rural Land Drainage | Council naturalisation project at the north west of the catchment/Springfield Avenue. | No | | | | | | Risk and uncertainty - future resilience |
| Control/ Reduce surface water entering the sewers | Northwest of Catchment / Springfield Avenue | PO5 - Hydraulic Drivers | ASHL.SC01.4 | Natural Flood Management | Council naturalisation project at the north west of the catchment/Springfield Avenue. | No | | | | | | Risk and uncertainty - future resilience |
| Control/ Reduce surface water entering the sewers | Catchment Wide / L4 | PO5 - Hydraulic Drivers | ASHL.SC01.5 | Changes in Rural Land Drainage | Swales, sediment traps, bunds, ponds, wetland/constructed farm - areas identified using Hydraulic model. | No | | | | | | Cost Effective |
| Control/ Reduce surface water entering the sewers | Catchment Wide / L4 | PO5 - Hydraulic Drivers | ASHL.SC01.6 | Natural Flood Management | Storing water by planting hedgerows and trees, slowing water through bunds/ditches/ponds, increasing soil infiltration vis improved soil structure, intercepting rainfall via increased vegetation - areas identified using Hydraulic model. | No | | | | | | Deliver the required outcome and Risk and uncertainty - future resilience |
| Control/ Reduce surface water entering the sewers | Calshot | PO5 - Hydraulic Drivers | ASHL.SC01.7 | Natural Flood Management | Opportunity to separate runoff and divert into NFMs in Calshot area. | No | | | | | | Deliver the required outcome and Risk and uncertainty - future resilience |
| Control/ Reduce surface water entering the sewers | Calshot | PO5 - Hydraulic Drivers | ASHL.SC01.8 | Surface Water Seperation | Opportunity to separate runoff and divert into NFMs in Calshot area. | No | | | | | | Deliver the required outcome and Risk and uncertainty - future resilience |
| Control/ Reduce surface water entering the sewers | Fawley refinery Complex | PO5 - Hydraulic Drivers | ASHL.SC01.9 | Surface Water Seperation | Opportunity to separate runoff and SuDS at the new development at the Fawley refinery complex. | No | | | | | | Deliver the required outcome and Risk and uncertainty - future resilience |
| Control/ Reduce surface water entering the sewers | Fawley refinery Complex | PO5 - Hydraulic Drivers | ASHL.SC01.10 | SuDS | Opportunity to separate runoff and SuDS at the new development at the Fawley refinery complex. | No | | | | | | Deliver the required outcome and Risk and uncertainty - future resilience |
| Control/ Reduce surface water entering the sewers | Catchment Wide/ L4 | PO5 - Hydraulic Drivers | ASHL.SC01.11 | Rain Water harvesting | Collect rainwater from roofs and other paved surfaces for use on site. | No | | | | | | Cost Effective, Deliver the required outcome, Environmental risk mitigatable and Risk and uncertainty - future resilience |
| Control/ Reduce surface water entering the sewers | Catchment Wide / L4 | PO5 - Hydraulic Drivers | ASHL.SC01.12 | SuDS | Installation of SuDS - areas identified using Hydraulic model. | No | | | | | | Deliver the required outcome |
| 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 | | | | | | | | | | | | |
| Network Improvements (eg increase capacity, storage, conveyance) | Catchment Wide | PO5 - Hydraulic Drivers<br>PO14 - Shellfish Waters | ASHL.PW01.1 | Additional Storage Capacity | Construction of online/offline storage as stipulated point across the catchment, as outlines in the hydraulic model - using DAP results. | No | | | | | | Do customer support it |
| Network Improvements (eg increase capacity, storage, conveyance) | Catchment Wide | PO5 - Hydraulic Drivers<br>PO14 - Shellfish Waters | ASHL.PW01.2 | Additional Conveyance Capacity | Based on results of hydraulic model (option PENN. | No | | | | | | Environmental risk mitigatable |
| Network Improvements (eg increase capacity, storage, conveyance) | Catchment Wide | PO5 - Hydraulic Drivers<br>PO14 - Shellfish Waters | ASHL.PW01.3 | Separate Flows (WfL-H) | Construction of new surface water sewers to channel excess flow away from combined/foul sewers, instead utilsing water to assist in capture of further water for WfL-H project. | No | | | | | | Deliver the required outcome and Risk and uncertainty - future resilience |
| Improve treatment (capacity and quality at existing works or develop new WTWs) | Ashlett Creek Fawley WTW | PO11 - Nutrient Neutrality | ASHL.PW02.1 | Install P removal tertiary plant | Remove more P from final effluent, past the currently allowed 1Mg/L permitted rate. | No | | | | | | Risk and uncertainty - future resilience |
| Improve treatment (capacity and quality at existing works or develop new WTWs) | Ashlett Creek Fawley WTW | PO11 - Nutrient Neutrality | ASHL.PW02.2 | Install N removal tertiary plant | Currently no Nitrate permit, although there is an Ammonia permit. | No | | | | | | Risk and uncertainty - future resilience |
| Improve treatment (capacity and quality at existing works or develop new WTWs) | Ashlett Creek Fawley WTW | PO11 - Nutrient Neutrality<br>PO14 - Shellfish Waters | ASHL.PW02.3 | Install UV removal tertiary plant | Install to remove from final effluent. | No | | | | | | Cost Effective and Risk and uncertainty - future resilience |
| 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 | Ashlett Creek Fawley WTW | PO11 - Nutrient Neutrality | ASHL.RC03.1 | Catchment permits | Reduce consented permit levels for nutrients and solids in the final effluent from treatment works. | No | | | | | | Deliver the required outcome |
| Mitigate impacts on Water Quality | Ashlett Creek Fawley WTW | PO11 - Nutrient Neutrality | ASHL.RC03.2 | Efflent re-use | Re-use of effluent from site - pumping of this effluent to potable process treatment works. | No | | | | | | Cost Effective |
| Reduce consequences Properties (e.g. Property Flood Resilience) | | | | | | | | | | | | |
| Study/ investigation to gather more data | Calshot | PO5 - Hydraulic Drivers<br>PO11 - Nutrient Neutrality<br>PO14 - Improve Shellfish Water Quality | ASHL.OT01.1 | Further Study/Investigation | Model cause of spill at WPS and MH at Calshot. | Yes | No | | | | | Environmental - Strategic Environmental Assessment |
| Study/ investigation to gather more data | Catchment Wide | PO5 - Hydraulic Drivers<br>PO11 - Nutrient Neutrality<br>PO14 - Improve Shellfish Water Quality | ASHL.OT01.2 | Further Study/Investigation | Futher Study/Investigation - Identifying ideal locations to separate foul and surface water systems, after updating of hydraulic model. | Yes | No | | | | | Environmental - Strategic Environmental Assessment |

# Ashlett Creek Fawley 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Study/ investigation to gather more data | Solent and Dorset Coast<br>Solent & Southampton Water<br>Solent Maritime | PO11 - Nutrient Neutrality | ASHL.OT01.3 | Nutrient Budget | Study / Investigation: Develop a nutrient budget and investigate the risks and sources impacting these named Habitat sites<br><br>Study / Investigation required to understand the impact of wastewater discharges and achieve or prevent deterioration from Natrural England's revised Common Standards Monitoring Guidance (rCSMG) targets Total Phosphorus (TP) and Total Nitrogen (TN). | Yes | Yes | Yes | Minor Positive + | £75K | Yes | Best Value |
| Study/ investigation to gather more data | Ashlett Creek Fawley WTW CSO | PO5 - High Spilling CSOs<br>PO14 - Shellfish Waters | ASHL.OT01.4 | Further Study/Investigation | Surface water separation to reduce spills from Ashlett Creek Fawley storm overflow. | Yes | Yes | Yes | Major Positive +++ | £1,000K | Yes | Best Value |
| Study/ investigation to gather more data | Approaches To Southampton Water | PO14- Shellfish Water Quality | ASHL.OT01.5 | Shellfish Study- Overflows discharging to Shellfish waters | Study / Investigation: Shellfish water study. | Yes | Yes | Yes | Minor Positive + | £TBC - With Partners | Yes | Best Value |
| Study/ investigation to gather more data | Catchment Wide | PO5- Storm Overflow | ASHL.OT01.6 | Improve Hydraulic Model | Study / Investigation: Update and re-verify the Ashlett Creek Fawley Hydraulic Model to improve model confidence. | Yes | Yes | Yes | Minor Positive + | £250K | Yes | Best Value |
| Study/ investigation to gather more data | Fawley refinery complex | PO5- Storm Overflow | ASHL.OT01.7 | Further Study/Investigation | Study / Investigation: Identify suitable location/s for surface water separation in the Fawley refinery complex. | Yes | Yes | Yes | Minor Positive + | £TBC - With Partners | Yes | Best Value |

# 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 |
|---|---|---|---|---|---|---|---|---|
| **New Forest** | | | | | | | | |
| **Ashlett Creek Fawley** | | | | | | | | |
| ASHL.OT01.5 | New Forest | Ashlett Creek Fawley | Approaches To Southampton Water | Study / Investigation: Shellfish water study | £TBC | AMP8 | - | PO14 |
| ASHL.OT01.6 | New Forest | Ashlett Creek Fawley | System Wide | Improve the Hydraulic Model: Surveys and reverification of model to improve confidence and accuracy | £250K | AMP8 | New Forest District Council New Forest National Park Authority | PO5 |
| ASHL.WINEP01.1 | New Forest | Ashlett Creek Fawley | ASHLETT CREEK FAWLEY SSO | Reduce the number of storm discharges from ASHLETT CREEK FAWLEY SSO by creating below-ground storage | £575K | AMP8 | - | PO5 PO14 |
| ASHL.WINEP01.2 | New Forest | Ashlett Creek Fawley | WEST COMMON FAWLEY CEO | Reduce the number of storm discharges from WEST COMMON FAWLEY CEO by a combination of SuDS and storage options | £2,810K | AMP12 | - | PO4 PO5 |
| ASHL.WINEP.PO2.1 | New Forest | Ashlett Creek Fawley | Ashlett Creek Fawley WTW | Provision of additional biological treatment capacity and provision of denitrification capacity to achieve 10mg/l Total Nitrogen permit (WINEP action 08SO103967) | £21,951K | AMP8 | - | PO11 |

# Drainage and Wastewater Management Plan: Location of Potential Options ASHLETT CREEK FAWLEY Wastewater system in New Forest River Basin Catchment

WATER for LIFE from Southern Water

(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 Nutient Neutrality
- WINEP Storm Overflows