

HAVANT BOROUGH COUNCIL

At a meeting of the Operations and Place Shaping Board held on 13 November 2018

Present

Councillors Lloyd (Chairman), Buckley, Davis, Howard, Milne, Patrick, Satchwell and Thomas

26 Apologies

Apologies were received from Councillors Raines and Shimbart.

27 Declarations of Interest

There were no declarations of interest.

28 Review of Southern Water Authority - Discharges into Langstone Harbour

The Board received a presentation By Sam Underwood and Paul Kent from Southern Water.

The Chairman then invited the following members of the public to make their Deputations to the Board:

- Mr Richard Platt
- Mr David Parham

The Chairman opened the challenge session and explained that the session would comprise of three elements:

- The blocked pumping station at Stoke on Hayling Island on 15 September 2018;
- The electrical fault at Budds Farm on 14 September 2018; and
- Communications

The blocked pumping station at Stoke on Hayling Island on 15 September 2018

The Board was advised that the failure had been due to both pumps becoming blocked by wet wipes. The incorrect disposal of wet wipes was an increasing problem and the Board noted that the issue had recently been raised in the national media.

Upon the failure occurring, a warning alarm had been received at Southern Water's Control Centre in Worthing and a local responder dispatched to investigate. This was in accordance with standard procedure, which was for a local responder to assess and repair if they were able or arrange for the appropriate remedial action. In this instance the latter took place and tankers were dispatched whilst the pumps were repaired. Southern Water apologised for the length of time that the repair took, which was due to the clean-up required after some of the contents of the wet well entered the dry well.

In response to questions the Board learnt that screens or filters were not usually fitted to pumps, although Mr Kent agreed to investigate whether there were any engineering solutions to the problem. Southern Water concentrated on education to prevent wet wipes being disposed of down toilets and also lobbied manufacturers and the Government via the appropriate body, Water UK. It was confirmed that there had been educational visits carried out on Hayling Island during the past year.

The Board was advised that pumping stations were routinely checked and it was agreed that the inspection schedule for the Stoke Pumping Station would be forwarded. Residents were not usually alerted to problems in their area, unless homes were at risk of flooding. However, this would be discussed with Southern Water's Customer Engagement Manager to review whether there were any opportunities for improvements.

With regard to clean up operations, it was confirmed that the Environment Agency led on compiling an action plan, which was then carried out by Southern Water. In the instance of the Stoke Pumping Station incident, tankers took away the untreated effluent and the system was then flushed through with treated effluent once the repairs had been completed.

The Board raised the issue of overgrown ditches, as these had the potential to hamper the natural process of untreated effluent breaking down by blocking UV light. In reply Mr Kent confirmed that ditches were checked after any incidents and agreed to investigate the Board's suggestion that they be checked annually.

In response to specific detailed questions, Mr Underwood agreed to report back on the following:

- The frequency of inspections at the Stoke Pumping Station;
- The number of instances in the past year where tankers had required to be deployed to Hayling Island;
- How quickly the first tanker arrived in respect of the incident on 14 September 2018; and
- Whether manhole No 9701 now had a permanent seal.

The electrical fault at Budds Farm Wastewater Treatment Works on 14 September 2018

OPERATIONS AND PLACE SHAPING BOARD
13 November 2018

The Board was advised that an electrical failure on the site had required an emergency mobile generator to be brought in. Whilst there were fixed emergency generators on site, the power from them could not have been used on this occasion due to the location of the fault. As an emergency measure untreated effluent had been diverted into a storm tank for temporary holding before treatment. However, this had overflowed for a period of 22 minutes and released untreated effluent into Langstone Harbour.

In response to questions the Board was advised that the power failure had been an abnormal situation. Some failures could not be prevented, but reassurance was given that processes that had been proven to work were in place to deal with them.

With regard to sampling, Mr Underwood confirmed that Southern Water sampled the releases from Budds Farm and that the Environment Agency took regular samples from the bathing waters. The Board highlighted concerns about the quality of water in the open sea, which was used for recreation by water sports enthusiasts. In reply, it had to be remembered that the releases protected homes from flooding, although the quality of the harbour water was agreed to be a knowledge gap. It was highlighted that Chichester District Council tested the water in Chichester Harbour, therefore there was potentially a role for Havant Borough Council to do the same in Langstone Harbour. Mr Underwood confirmed that Southern Water would be happy to work with the council.

Communication

The Chairman offered the council's assistance with a joint communication plan with Southern Water, particularly around the Beachbouy website and the issues caused by wet wipes.

Mr Underwood welcomed working with the council on a joint communication plan and explained that the Beachbouy release reporting system had launched in July 2018. This was currently a pilot system for Langstone and Chichester Harbours, but was planned to be rolled out over the whole Southern Water area. Following the discussions at this meeting Mr Underwood agreed that the beaches on Hayling Island would be prioritised for the next phase of Beachbuoy. This was welcomed by the Board, as was Southern Water's proposal to undertake some educational events on Hayling Island during the coming six months.

With regard to the year round use of the beaches on Hayling Island, Mr Underwood confirmed that Southern Water would look to the council and the Environment Agency for assistance with water testing outside of the bathing season.

The Chairman closed the meeting by thanking Mr Underwood and Mr Kent for attending and requested that representatives from Southern Water attend future meetings of the Board to provide updates on progress.

The meeting commenced at 5.00 pm and concluded at 7.00 pm

.....
Chairman

Havant Borough Council

November 13, 2018

Paul Kent – Environment and Wastewater Strategy Manager

Sam Underwood – Stakeholder Manager (Hants and IoW)



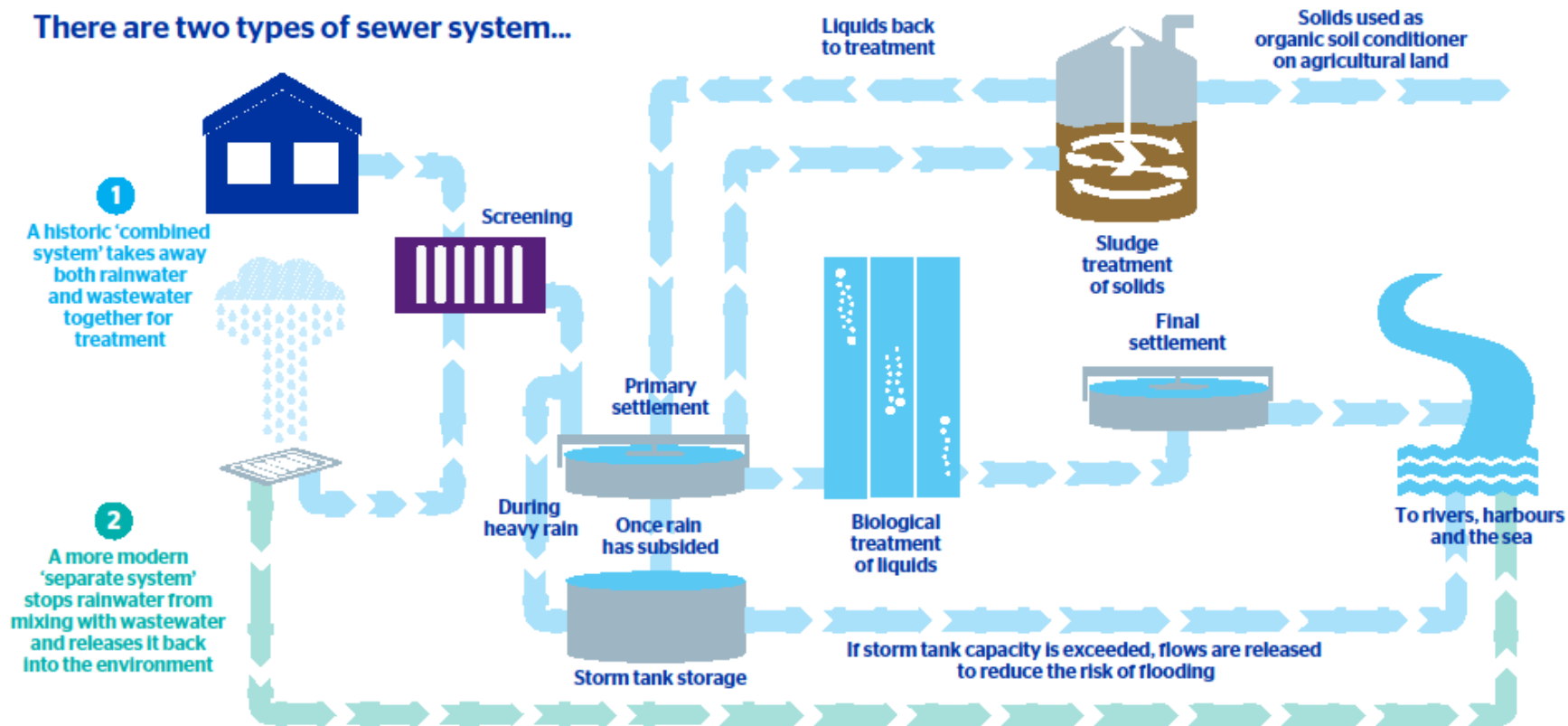
Our area of operation

Page 2



The wastewater treatment process

There are two types of sewer system...



Budds Farm Wastewater Treatment Works

- Portsmouth's wastewater flows to Eastney and is then pumped 8km to Budds Farm for treatment.
- Treated water returns to Eastney, via the same pipe, and is pumped almost 6km out to sea.
- During heavy rain, storm flows from the city are diverted through the Long Sea Outfall, along with treated flows from Budds Farm.
- To increase the outfall's capacity during heavy rain, we release treated wastewater into the north of the harbour from Budds Farm.
- When the outfall reaches capacity, excess flows go to storm tanks at Fort Cumberland and Budds Farm which can store 47m litres of stormwater – enough to fill 18 Olympic-sized swimming pools.
- If the storm tanks fill up, we release excess flows into the harbour through outfalls to protect homes and businesses from flooding.
- When levels in the network return to normal, the stormwater in the tanks is fully treated.



Releases into Langstone Harbour

- Southern Water has nine outfalls connected to the wastewater network which release directly or indirectly into Langstone Harbour to prevent flooding in the catchment.
- These are permitted by the Environment Agency.
- During dry weather there are no releases into the harbour.
- During wet weather, we release excess stormwater into the harbour to protect homes and businesses from flooding.
- Such releases will always be required to prevent flooding. We've improved their quality and reduced their frequency.
- Since January this year there have been releases on 61 days – a total of 218 releases across nine locations.
- 213 of these were in line with our environmental permits.
- The unpermitted releases relate to problems at pumping stations and Budds Farm, including the major power outage, which have since been rectified.



Model Scenarios – tides and wind

Neap tide – releases at:

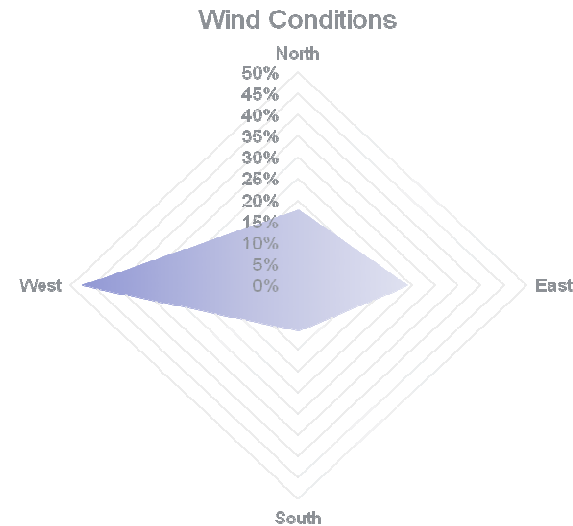
- High water
- Mid ebb
- Low water
- Mid Flood

Spring tide – releases at:

- High water
- Mid ebb
- Low water
- Mid Flood

Four wind conditions

- North frequency 18%
- East frequency 24%
- South frequency 11%
- West frequency 48%



Model locations

- Three model locations

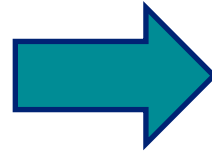
Location	Spill Frequency (%)	Modelled spill (m3/s)
Fort Cumberland	0.02%	1.0
Court Lane Group CSOs	6.00%	0.5
Budds Farm	7.80%	1.0

- Modelled at high flow, pessimistic approach (modelling more impact than really happens).
- Spill frequency taken from our telemetry.



Model inputs

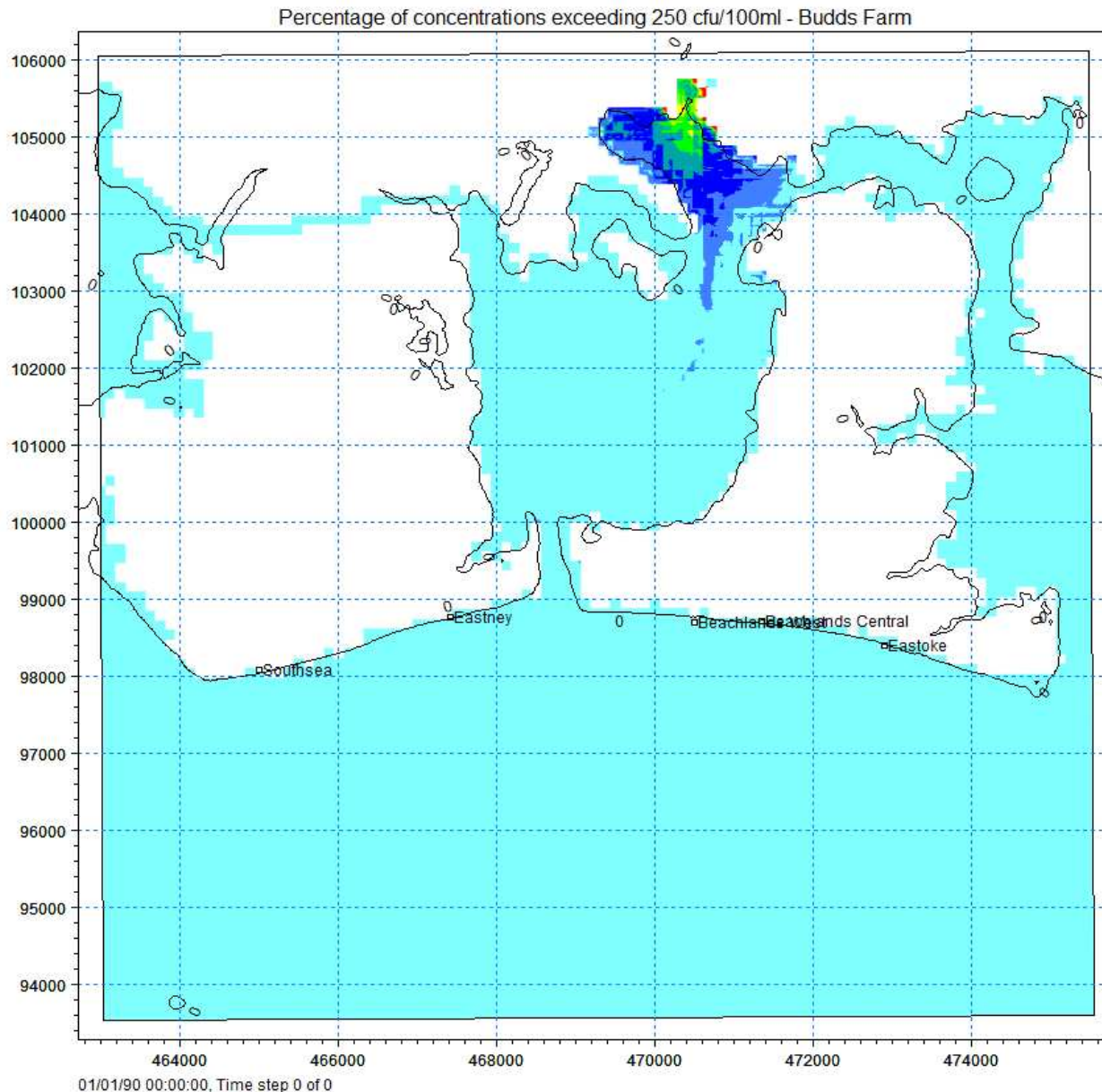
- Three model locations
- Eight tidal conditions
- Four wind conditions
- Total of 96 model simulations
- Model parameter – E.coli
- Decay rate (90% after 50 hours). This is more typical of winter conditions, in the summer the bacteria will die much more quickly.
- Model concentration 4,000,000 cfu/100ml (an extremely high concentration for a storm release).
- Each model simulation carried out for the subsequent 200 hours.



Model output

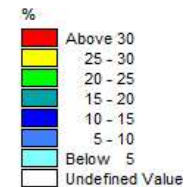
- Modelled concentrations over the whole area for the whole 200-hour simulation period.
- For each simulation calculate the period of time that the bathing water “excellent” threshold for E.coli (250 cfu/100ml) is exceeded.
- Apply the wind, spill and tidal frequencies to the results to produce a final frequency plot for each release location.

Model Results – Budds Farm

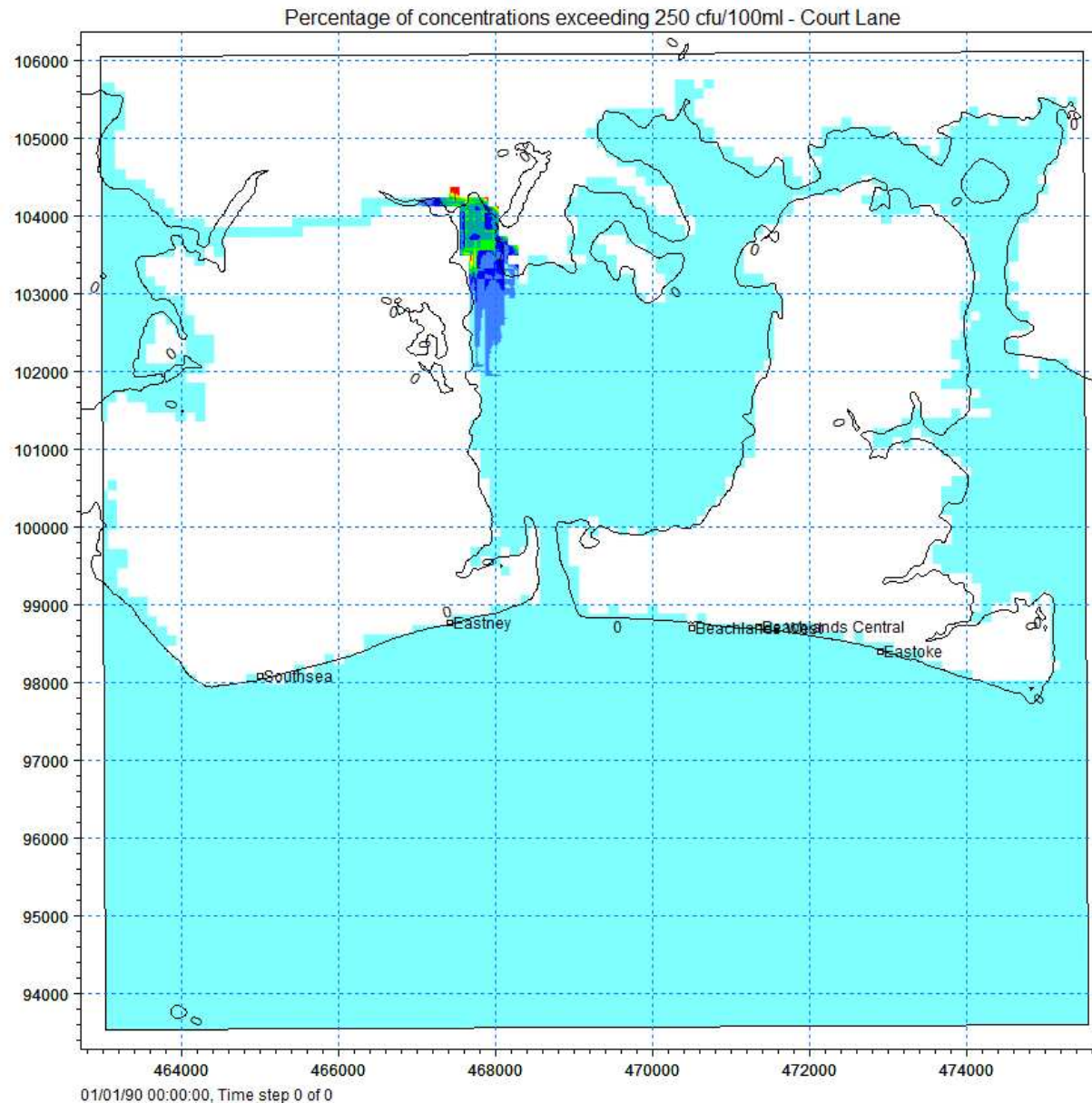


The harbour is not a designated bathing water but the modelling assumes water quality is “excellent” under the bathing water standard 95% of the time.

Data shows the period of time that the “excellent” bathing water standard was exceeded under the model.



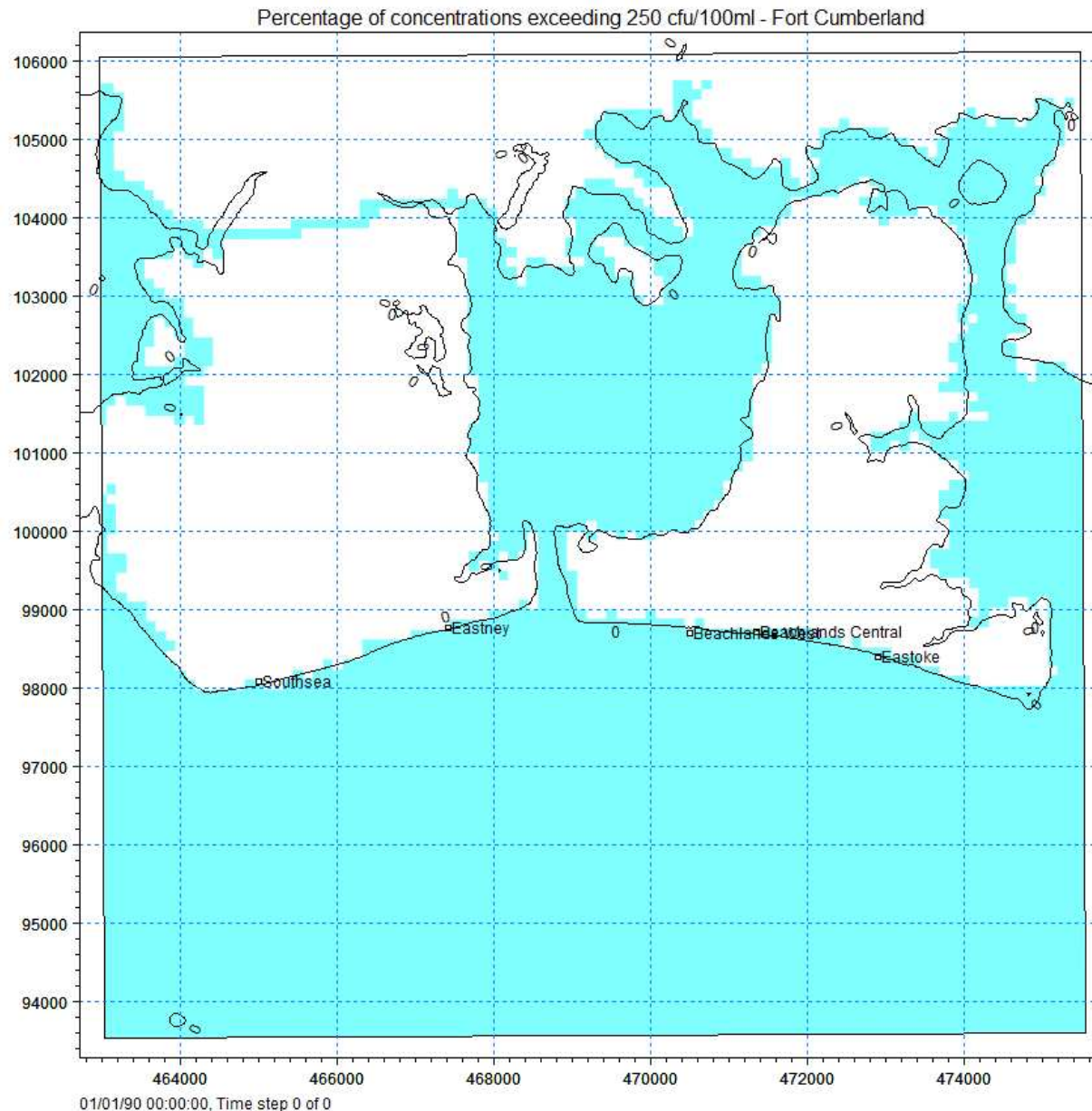
Model Results – Court Lane Group



The harbour is not a designated bathing water but the modelling assumes water quality is “excellent” under the bathing water standard 95% of the time.

Data shows the period of time that the “excellent” bathing water standard was exceeded under the model.

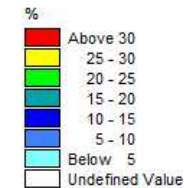
Model Results – Fort Cumberland CSO



Model of two releases per year for Fort Cumberland CSO

The harbour is not a designated bathing water but the modelling assumes water quality is “excellent” under the bathing water standard 95% of the time.

Data shows the period of time that the “excellent” bathing water standard was exceeded under the model.



What is stormwater? What is wastewater?

- Stormwater is a mixture of wastewater and rainwater from a combined sewer network, which is released to the environment to prevent flooding.
- The term “raw sewage” is often, wrongly, used to describe stormwater.
- Wastewater from homes is about 3% human waste from toilets – the vast majority is water from toilet flushing, kitchens and bathrooms.
- In a combined system such as Portsmouth’s, where rainwater and wastewater mix, this percentage is even smaller.
- During dry weather, wastewater from the city arrives at our Eastney pumping station at about 700 litres a second.
- During heavy rain this can rise to 20,000 litres a second (more than 28 times that in dry weather).
- Dilution of the typical 3% content at this rate means stormwater would be about 0.1% human waste.
- Stormwater is screened to remove solids and items such as wet wipes.

Beachbuoy

We voluntarily notify the Harbour Board of releases and upload information onto:

Beachbuoy

Our service provides the most up to date information on water quality at the beach.

We're currently piloting this service at the two main harbours in our region which are used as recreational waters, as well as a small selection of bathing waters.

We plan to provide similar information for other bathing waters in the near future.

During this pilot, we'll add updates between 9am-5pm (we're working on 24/7 automatic updates in the future).



Emergency releases in September 2018

Two of the unpermitted releases happened on one weekend in September.

- The first, on Sept 14, was caused by a major electrical fault at Budds Farm following a power surge on the network.
- We brought in replacement generators and used the site's storm tanks to minimise the release to 22 minutes.
- We let the Environment Agency and Harbour Board know and sent notifications to harbour users via Beachbuoy.
- The site's emergency generators operated as designed but the original fault in the high voltage gear is believed to have damaged the power line so only parts of the site received back up power.
- Our teams worked through the night with UK Power Networks to set up temporary generators and fix the problem.

Emergency releases in September 2018

- The second, on Sept 15, happened after a build up of wet wipes and sanitary products blocked our Stoke pumping station in Hayling Island.
- It was not linked to the incident at Budds Farm.
- This caused wastewater to back up in the sewer and seep out through two manholes into a ditch that leads to the harbour.
- We let the Environment Agency and Harbour Board know and sent notifications to harbour users via Beachbuoy.
- We deployed a fleet of more than 20 tankers to minimise the flows and allow the team on site to clear the blockage and get the site running.
- A clean-up operation was recently concluded, once access to the ditch was granted by residents.
- The site's pumps are being reviewed as part of an ongoing region-wide replacement programme.
- One new pump is due to be installed in the next few weeks.

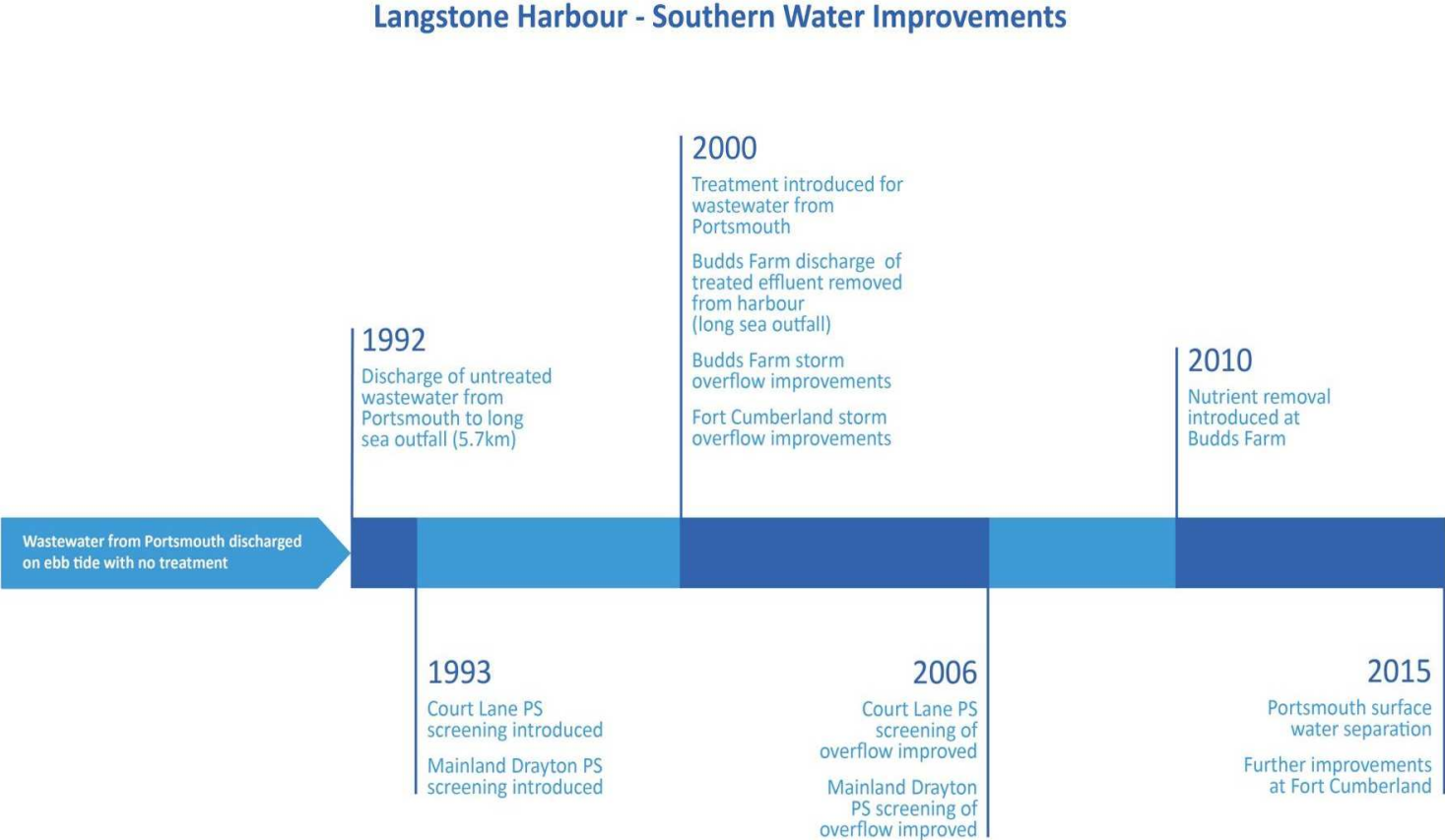
Recent investment

We've invested millions of pounds in the area's wastewater treatment over the last ten years

- Portsmouth has 1-in-76-year protection from flooding – usually, water companies build to 1-in-30-year protection.
- In 2014 we completed a £20 million flood alleviation scheme including new surface water drains and pumping stations.
- The scheme diverts up to 6,400 litres a second of rainwater to sea – reducing the burden on the network by a third.
- Also in 2014, we completed a £13 million upgrade of Fort Cumberland to renovate pumps and install new screens to handle incoming wastewater more effectively.
- We also spent £5 million on an odour management system and upgrades to our control systems at Eastney.



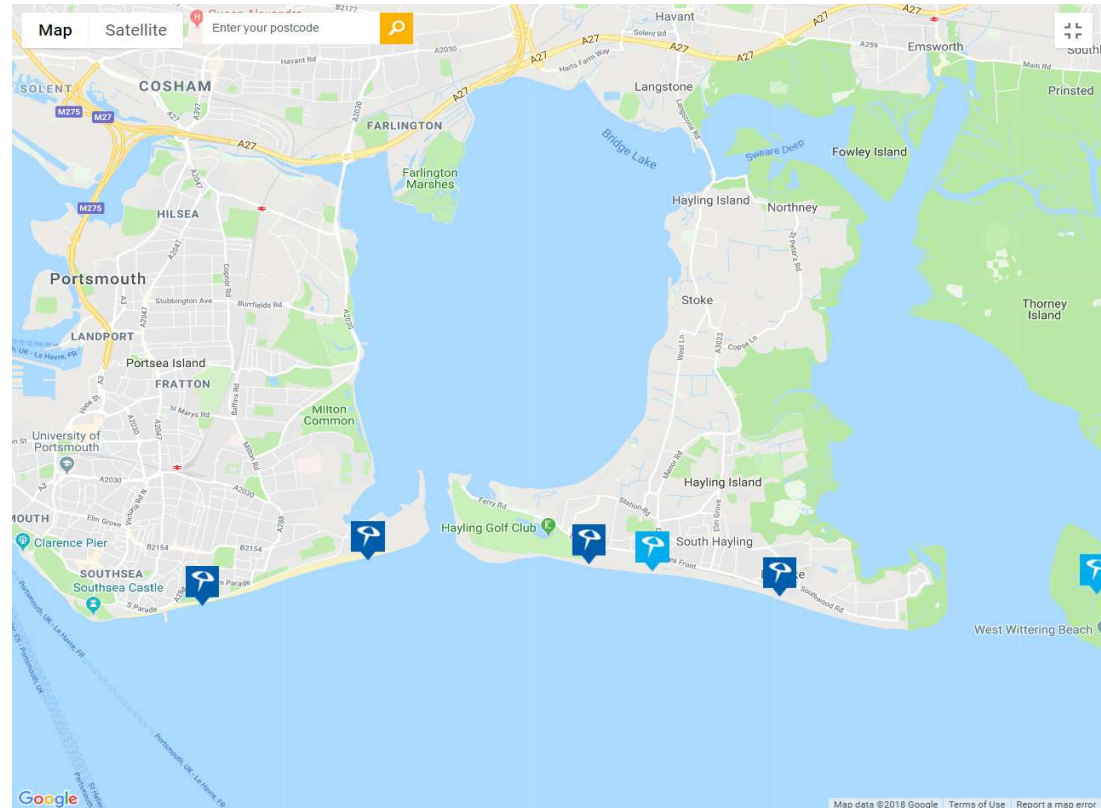
Timeline of improvements



Bathing water quality

All local bathing waters are consistently rated “excellent” by the Environment Agency

- Southsea East
- Eastney
- Beachlands West
- Beachlands Central
- Eastoke

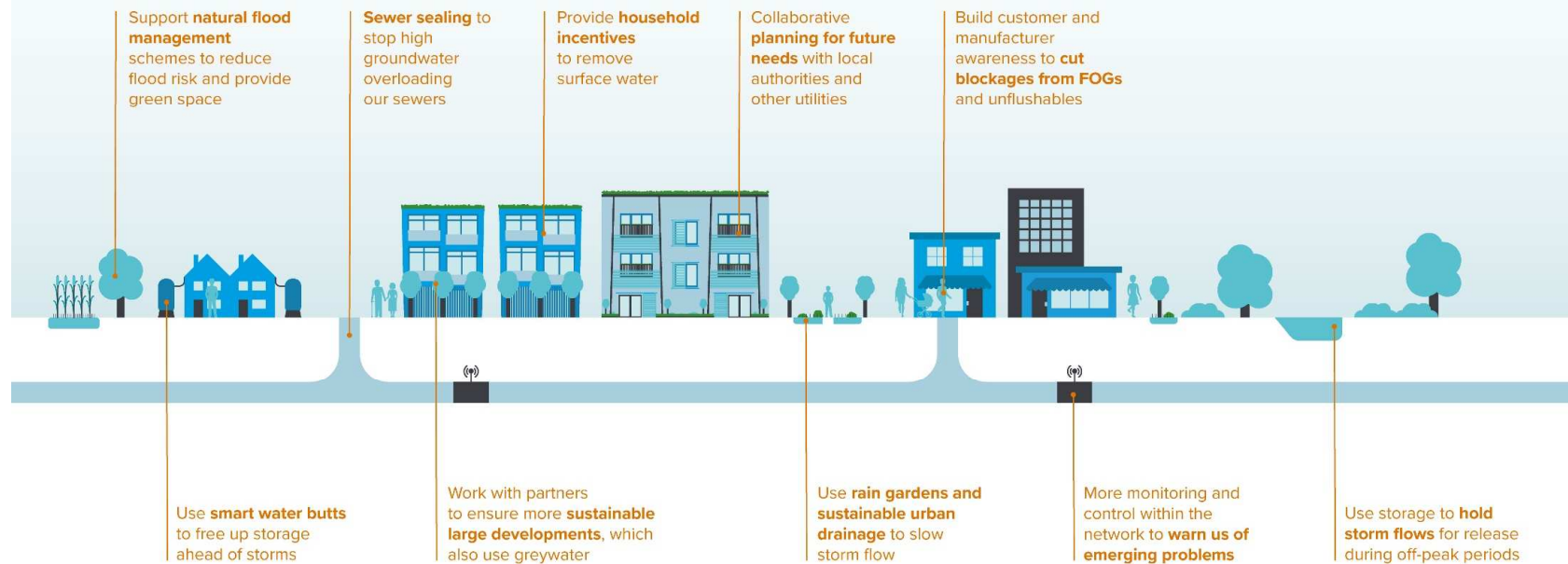


Beachlands Central has been a Blue Flag bathing water for 27 years

Planning for growth

Sustainable Drainage 2030

Creating capacity across the sewer network by implementing surface water solutions, building smart networks and increasing customer awareness.



Reducing plastic waste

- Waste plastics pose a global threat to the marine environment and to our region.
- We are a link in the chain and can help to tackle this problem.
- We have an opportunity to remove microplastics at our treatment works.

As part of our wider Environmental policy we are:

- Minimising our use of plastics
- Reducing the environmental impact of waste plastics
- Aiming to beat the national target of eliminating avoidable plastic waste before the end of 2042

We are focusing on a three-stage approach:

- We've developed a plastics policy
- We're sponsoring academic studies into wastewater plastics
- We're influencing behaviours to reduce plastic use and plastic waste



Any questions?

This page is intentionally left blank

Deputation to HBC meeting 13 Nov 2018 on behalf of Mill close Residents

Thank you for allowing this deputation from the residents of Mill Close.

- We are a small residential community of 21 families on the site of the old Stoke Mill, which is on slightly higher ground than the flood plain that surrounds it
- We are half way between Hayling Island's Main pumping station and Langstone harbour. You might say we are in the direct gravitational firing line of a fragile waste water sewage system that has, as its failure mode, the unlicensed release of raw sewage towards us and we don't have the luxury of a pump to send it back.
- The pumping Station is higher than us and well above the tidal gate that protects us from the sea and Langstone Harbour from our sewage system.
- When this tidal valve shuts, as it does twice a day, we have 5 or 6 hours to study the quality of effluent rising around us
- I have lived here for 26 years and we have been flooded many times from the sewage system. During every incident the worst spill was from a particular Manhole cover, number 9701, which regularly spewed raw sewage directly into the Pound Croft ditch which the Environment Agency classify as a Main River which flows round our properties and out into the harbour at low tide. It was particularly bad in 2010 when we were flooded 10 times in one year, each time from this manhole cover and also 9 others amongst our houses.

SW promised then to uprate the pumps and install non-return flap valves to protect our houses. At this time one of my neighbours had to redesign and rewire his house because sewage repeatedly got into the electrics under his house and another neighbour raised the threshold of his whole house by more than a foot to stop it flooding.

Even though SW uprated the pumping station, we were flooded again really badly in 2014 when the vital Hayling main road had to be closed.

This year on Friday 14 September I had cleared part of the ditch because it was dry and relatively easy to do.

When I went to bed the light was on in the pumping station; a regular occurrence, indicating some work was being done by SW. I was woken in the morning by a terrible sewage smell and went out to check the ditch which was then running with torrents of raw sewage. The same 9701 manhole cover was fountaining effluent into the ditch as usual; but this time it was much worse, there was an additional torrent, 2 foot deep, coming down the ditch towards our houses, from the direction of the pumping station as well.

I immediately went to the pumping station where one inadequate tanker was trying to pump out the main well. I took the driver and showed him the raw sewage pouring into the ditch 70 yards away. He immediately called for more tankers to slow sewage being pumped into the main well from the south of the Island. This was at 9 am and it was clear to me that the spill had been going for several hours. It continued until lunchtime the following day. Probably at least 36 hours!

The new leak was from the encasement of manhole cover 801 in dense undergrowth, clearly not checked for years; it took me a couple of days to hack through and find it. No one could possibly see this cover during the spill but we could smell it and hear it babbling away.

What stresses me and my neighbours most is that

- I was the only person looking for this new leak a good 5 days after the main pumps failure. Also
- We have had to suffer an appalling stench from the ditch for 2 months. The main river has still never been cleaned up to our satisfaction round our houses.
- We are not happy to be the only early warning to Southern Water that there is something wrong.
 - One of my neighbours alerts SW to problems 4 or 5 times every year when her toilets back up.
 - It is incredible to me that no one at SW guessed that the consequence of main pump failure would be a catastrophic

pollution spill towards us, until I pointed it out to them 10 hours after it started!

- Southern Water was unable to control the spill for at least another 24 hours. This was with no storm water present at all.
- I have a lot of admiration for Mark, the senior engineer at pumping Station, who worked tirelessly over the weekend to solve the problem under dangerous gas conditions.
- The whole sewage system is too fragile now that we have so many houses on Hayling and the filtration system is clearly inadequate to protect the pumps. We were lucky there was no storm water to aggravate the problem this time.

This page is intentionally left blank

Thank you Chair.

Again we are forced into the position as residents to take the lead in raising concerns over another infrastructure debacle. This time we have received robust support from The News and the Hayling Islander in bringing this latest issue to the fore.

Southern Water have a very poor record of service to the Hayling Island community over many years. The more recent issues include:

- Major, repetitive and illegal flooding of the Stoke community in 2010 due to multiple failures of the pumping station. Repeated in 2014.
- In 2016/2017 many weeks of road closures were required to repair the pumping station in Mengeham, this caused unauthorised periods of sewage discharge into the water table.
- And now a major and complete failure of this same Stoke pumping station. The station is designed to pump the wastewater from the Island network (comprising 13 other pumping stations) to the Treatment Works at Budds Farm.

This total failure resulted in an illegal and pressurised discharge of raw sewage from blown manholes in the local network, flooding land and flowing via ditches bordering the local houses and a river bed into Langstone Harbour. This discharge lasted between 24 and 36 hours, and even a massive convoy of 22 tankers dispatched over the Island was unable to staunch the flow. It does not take much imagination to understand the residents' fears once again watching an uncontrolled torrent of sewage flowing round their properties.

Following previous concerns from the Hayling Island Infrastructure Advisory Committee, Southern Water presented the network status to the Committee a year ago on the 25th of October 2017.

At this meeting, Southern Water said:

- "Southern Water is not concerned over the capacity of the wastewater system serving the Island, and the pipe to Budds Farm has plenty of capacity."
We question the accuracy of this statement.
- "Southern Water produce infrastructure for the near term and there would not be a need for more pumping stations in all likelihood."
This statement is clearly not true.
- "Southern Water stated that only official discharge goes into the surface water such as rivers."
Again clearly not true.

- “In the worst case scenario, a tanker would be sent out within 30 minutes.”

This did not happen!

We are informed that an investigation is underway on this latest incident’s causes, actions and clean up. We need to know who is undertaking this investigation and when the conclusions will be available for review.

At a meeting hosted by Save Our Island last month between the residents, HBC and Southern Water, we asked Southern Water to come forward with a re-engineered wastewater network capable of controlling overload/failure situations and not require or facilitate any illegal discharges into the Stoke community or Langstone Harbour and that it complies with current regulations. We also agreed to table the issues in the form of an EIR request to Southern Water covering the problems, actions, backup capabilities and future plans.

I have that paper in my hand and in it Southern Water have chosen not to answer any of the key issues claiming sub judice and rights to secrecy, although we now know that one of the pumps is being replaced as a matter of urgency. We will continue under the auspices of the Advisory Committee to work constructively with Southern Water to achieve the objectives.

Without this commitment from Southern Water, we find it very hard to see how HBC can validate Southern Water as a fit-for-purpose service provider as part of the Infrastructure section of the Local Plan 2036.

Finally, we would encourage Southern Water to adopt a more conciliatory tone in accepting their prior deficiencies and publicly acknowledge that their primary clients are the residents, not the Environment Agency or OFWAT. We should all require Southern Water to implement a redesign which will no longer disrupt the quality of life for the community whose only crime was to buy a house in Stoke village.

Thank you.

Dave Parham
Save Our Island