



## 1

### BACKGROUND

A damaged sewer main with the potential to cause severe environmental pollution prompted an emergency callout from Northumbrian Water Group to Selwood's pump rental team to come up with a solution.

The pipe, underneath a car park at Cat Nab, a prominent hill on the seafront at Saltburn, was damaged by a third party working on behalf of the local council.

The contents of the pipe began spilling onto the beach, risking pollution of a stream known as Skelton Beck and into the North Sea.

The pipe required emergency repair work over a number of days and people were warned to stay away from that area of the beach.

It was not possible to stop the flow through the pipe as this would have created a flood risk to nearby homes.

As a short-term measure, tankers were used to transport sewage away and reduce the volume of waste entering the sea.



## 2

### CHALLENGE

Selwood's teams carried out a full site survey with a view to overpumping the damaged pipe to divert flows while repairs were carried out.

The location of the ruptured main and the high pressure of sewage running through it were huge challenges to overcome. There was no nearby point to connect to it and the team had to stop raw sewage entering the water and stop aquatic life from being harmed by going through the pumping units.

## 3

### SOLUTION

The team decided the best solution for the emergency bypass was to use pumps located at an existing pumping station located opposite the car park at the site of the leak.

As these were high head pumps, the team had to work out a new duty point to ensure the pumps would work without causing issues. For this the team set up two lines of pipework out to the station, connecting to the high head pumps. The pipework had to run through the bed of the stream and come out at a safe position and was then run along a miniature railway platform to a position around 20 meters past the point of the burst pipe.

A small commission test was successfully carried out to ensure the required flow could be achieved.

During the installation process, it was agreed by Selwood, Northumbrian Water Group and United Rental that a separate treatment plant using a tank and screens was needed. For this two S150 was needed to feed the screening plant. The pumps and pipework required were delivered by Selwood on a Saturday morning and the screening plant was up and running by late afternoon.

A third solution was to overpump the beck, so the last piece of the puzzle was to produce an over pump system to cover approximately 350l/sec.

The team used three D200 pumps to do this, replacing the oil in the unit with food grade oils to avoid pollution. Purpose-made filter socks were used to meet the requirement from the Environment Agency to stop any aquatic being pushed forward through the pump.



## 4

### RESULT

The over pumping system was successfully installed and run, enabling the customer to successfully begin repairs, safe in the knowledge that the local environment was protected.

