

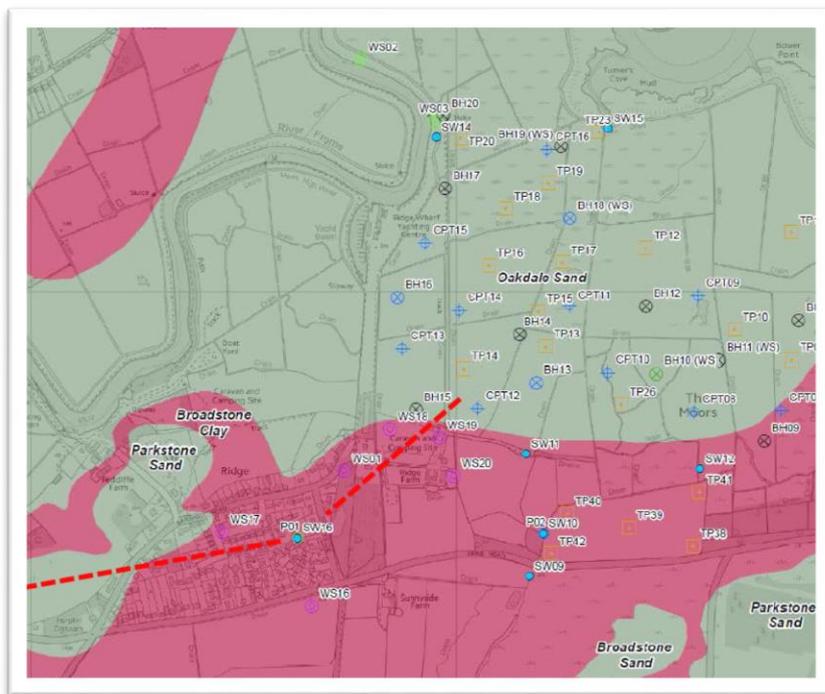


The Moors at Arne Coastal Management Project Groundwater Survey

September 2018

Following the public meetings held last year we have adjusted the scope of our investigations to explain the groundwater issues experienced within Ridge and have developed an interim understanding of the groundwater regime. Samples from boreholes have provided us with information about the varying soils and sediments beneath the surface. For 6 boreholes at Ridge and Ridge Farm we have installed water level recorders. These help identify at what depth water is present beneath the surface. For certain parts of the built-up area of Ridge there is a very shallow aquifer beneath the surface.

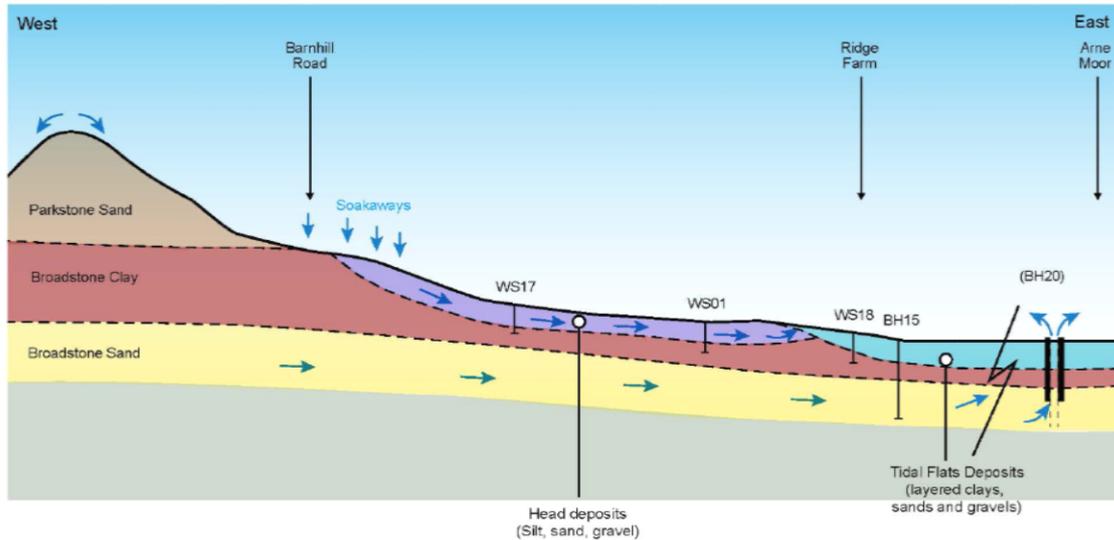
Mapping produced by the British Geological Survey (Extract below) shows that in Ridge there are combinations of sandstone and clay layers forming the solid geology.



Solid Geology	
●	Borehole location
	Clay
	Sandstone
- - -	Schematic section

Our investigations have located layers under Ridge which are capable of transmitting groundwater. These are typically granular “soils” (such as sands and gravels). Where clays occur above or beneath these granular layers they prevent water “soaking in” or downward into underlying layers. Clays may interrupt both vertical and lateral flow of groundwater.

Initial conceptual understanding (schematic section)



Our boreholes have shown that there is a second deeper groundwater aquifer which flows under Ridge towards the River Frome which is isolated from properties in Ridge by an intervening layer of clay.

The groundwater level monitors indicate that there is no correlation between water levels recorded in Ridge and the height of the tides. We conclude from this that there is no physical connection.

We will continue to collect information over the summer and will be in a position to report more fully at a public exhibition in the autumn.

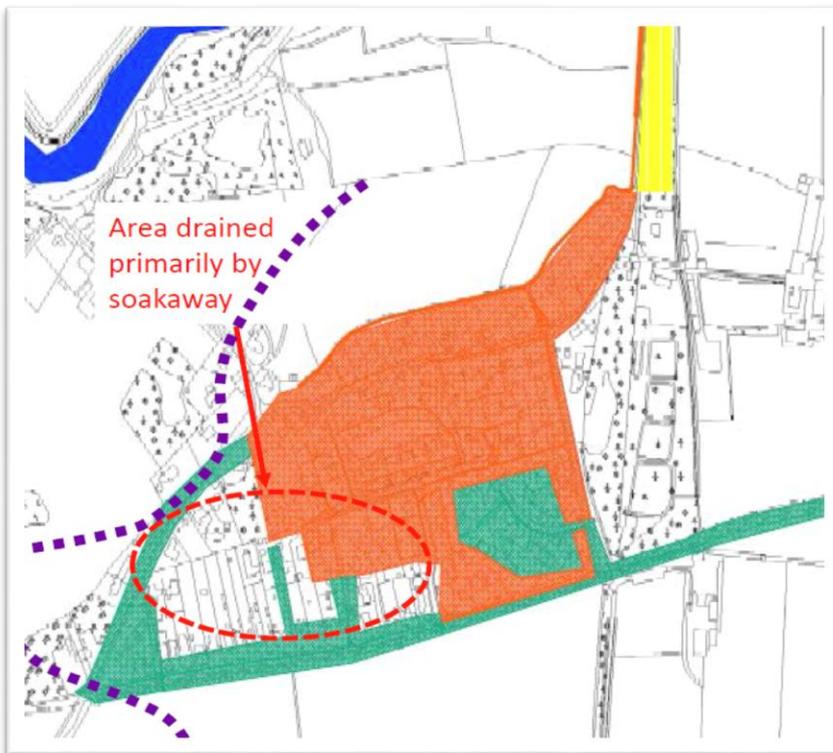
The Moors at Arne

Coastal Management Project

Ridge Surface Water

September 2018

As a result of commitments made by the Arne Moors Project Team at the public meeting at Furzebrook Hall on 30 October last year, we have surveyed all surface water drainage systems in Ridge. The purpose was to determine where rainfall travelled to get to a drain or a ditch and how it left Ridge. We held a drop-in meeting on 22 May at Stoborough Village Hall to share some of the results.



	Boundaries of rainfall runoff catchments, indicating break of slope
	Area of made ground acting as a barrier
	Area connected to systems which drain to the North
	Area connected to systems which drain to the East
	Soakaways capture surface runoff from roofs and paved areas feeding water into the ground

In the map above of Ridge, the green area drains out eastwards towards the Furze Brook via the ditch alongside the Arne Road. The orange area drains northwards to the river meadow via the bottom of Barnhill Road. This area has no drainage connection with the project area of the Moors at Arne. There is a zone where property surface drainage goes to soakaways shown within the red dotted area.

This Ridge surface water drainage catchment map is based on detailed survey and technical assessment, if you have any requirement for clarification or details from the CCTV record please let us know.

In carrying out the surface water drainage survey we removed 7 tonnes of silt from the piped system which has built up over the years. These cleaning actions combined with removal of intrusive tree roots leaves the system in better order than it was last autumn.

The surface water drains from Ridge will be unaffected by any proposed changes by the Moors project because the lowest point of discharge from pipe to open ditch is at least 0.5 metres higher than the most extreme tidal storm level predicted.