

## Ground Investigation works – Burneside, Staveley, Ings and Kentmere

The Environment Agency has proposed a Flood Risk Management Scheme to better protect residential and business properties from flooding in the Kent catchment. We are currently in the site investigation phase for Burneside, Staveley, Ings and the upstream storage locations in Kentrigg, Kentmere and the Stock Beck catchment drain ahead of our planning permission in Spring 2022. Below is a snapshot of some of these benefits being delivered as part of the scheme;



## Ground investigation surveys – Catchment update

As we start to step-up our ground investigation (GI) works we want to provide you with more specific information as to what's involved. To inform our detailed design of the schemes, we need to build our understanding of the ground conditions and underground features by undertaking a number of intrusive surveys, ranging from hand dug trail pitting to the use of drilling rigs for both shallow and deep boreholes. These surveys are being undertaken in a number of locations throughout Burneside Staveley, Ings, and in upstream storage locations proposed at Kentmere and Kentrigg. These are being undertaken by a team of surveyors that are fully qualified and experienced at carrying out this work.

As we step-up our work we want to let you know that it will appear more intensive in its nature – people may notice things like welfare cabins, large machinery and/or track mats where we will enter sensitive land we want to protect, for example farmers fields. Once the ground investigation surveys are completed, the pits or boreholes are backfilled and reinstated on a like-for-like basis based on the original ground surfacing.

### What do they tell us?

A GI survey is a means of determining the condition of the ground. They focus specifically on intrusive works such as trial pits and boreholes and so differ from the wider investigation surveys which we have already undertaken that tend to be non-intrusive in nature such as visual and environmental surveys. The ground investigations that we are undertaking will help determine:-

- the water table level and water flow;
- the nature of faults, fissures and voids underground;
- ground layer thicknesses and soil properties;
- detailed information about soil and ground samples.



A hand dug trial pit

## What will we see?

The types of equipment used to undertake these surveys will depend on what information and data we need. Some surveys will be undertaken using very low level impact techniques such as hand digging, whereas some will require more heavy and sophisticated machinery as we dig down to greater depths.

In some locations you may see small installations left above ground which allow a surveyor to attend for monitoring seasonal changes in groundwater movement over 12 months.

Below is an example of the range of techniques and equipment that will be used.

Ground investigations are extremely important as they help to minimise risk by better understanding potential geohazards that can be addressed during the design phase that may otherwise cause delays and additional cost during the construction phase.



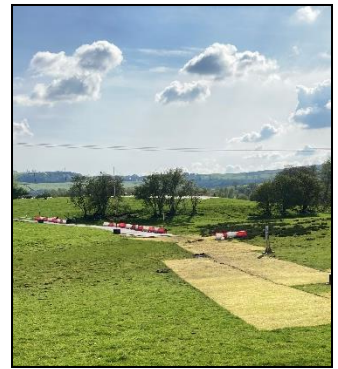
Window sample rig



Sonic drilling rig



Typical GI survey working area



Ground protection mats

## Staveley

GI works have started in Staveley at the beginning of June which involve a combination of different drilling rigs and hand dug trial pits. We anticipate completing these works by the end of June 2021. Monitoring installations will be left in-situ for up to 12 months in a small number of locations.

## Ings

We are pleased to report that we have completed GI works in Ings. Monitoring installations will be left in-situ in some locations for up to 12 months to allow monitoring of seasonal changes in groundwater.

## Kentmere

We have started GI works in Kentmere and aim to complete works in the area by the end of the August. Similar to the other areas, monitoring installations will be left in-situ to monitor ground water conditions over a period of time.



Monitoring installation  
(land prior to reinstatement)

## Burneside

Some time ago cracks appeared in the wall running along the boundary of the Bridge Street car park adjacent to the James Cropper Plc factory. Since this was brought to our attention we have carried out a structural inspection to investigate and have been using special equipment to monitor for any ongoing movement. Following a review of the findings we are now in a position to carry out remedial repair works.

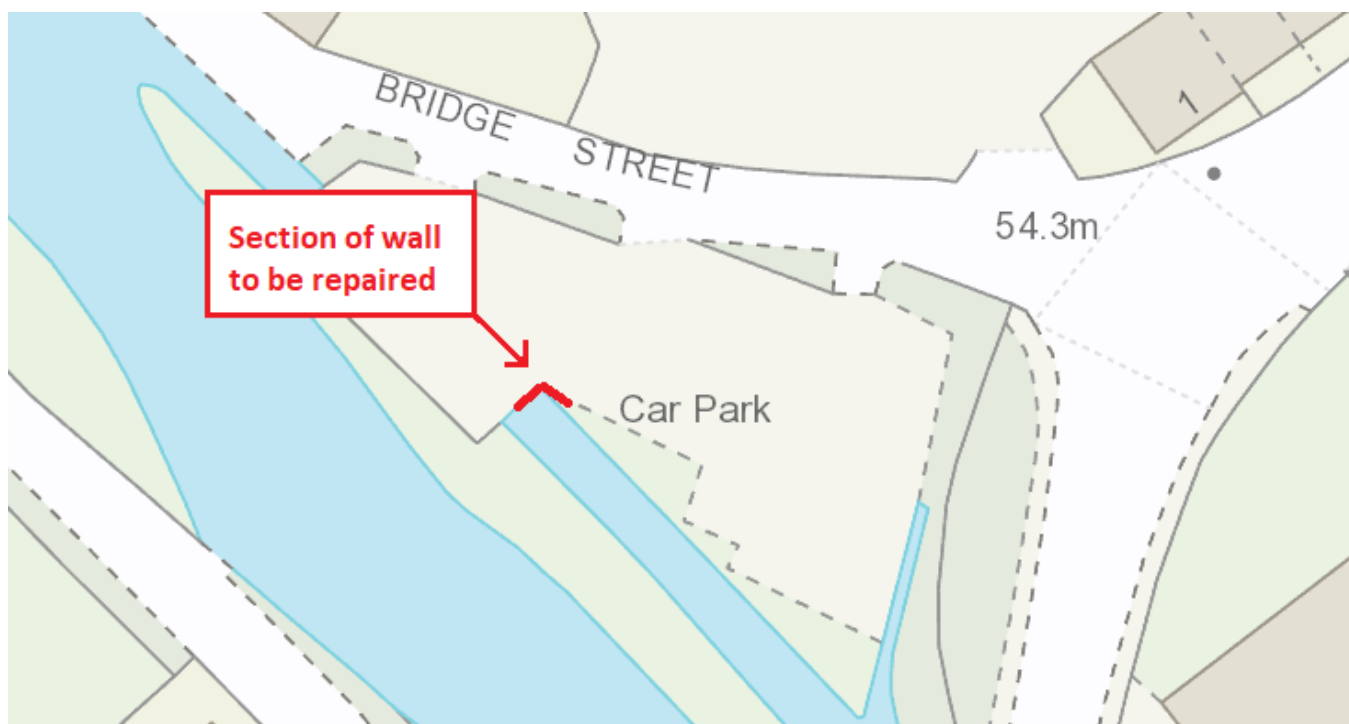
Our team will conduct repair works to the wall from Monday 21st June 2021 for up to one week. As part of the works a structural engineer will inspect the core of the wall once the exterior brickwork cladding has been removed. This inspection will determine whether any further works than currently planned are required. To ensure the safety of all whilst we undertake these works we will section off part of the car park.

We were also made aware of water bubbling up from the concrete slab in certain conditions. CCTV surveys are being carried out on the drainage in the area which will determine whether further investigations are required.

All GI works will be complete in Burneside mid July 2021. We will ensure the latest information relating to ground investigation works is uploaded to the Flood Hub. Visit [www.thefloodhub.co.uk/upperkent](http://www.thefloodhub.co.uk/upperkent)



Bridge Street car park wall



Bridge Street car park wall remedial repair works

## What time of day will the survey works be undertaken?

Survey works will be carried out between 8.00am and 6.00pm (daylight dependent), Monday to Friday. Weekend work may be required. This will be agreed with individual landowners in advance.

## How will the land be protected from damage?

We will use a combination of specialist ground investigation equipment and ground protection mats to mitigate as much impact to land as possible. Access routes required to get to borehole locations have been carefully planned in order to minimise the frequency of travel to further reduce any damage. Work areas will also be fenced off to maintain public safety. Any diversions required will be agreed with landowners and notices displayed accordingly.

## What will happen during the surveys?

The surveys will range in impact and duration as this will depend on what information we require. Some surveys will be undertaken quickly with little impact, whilst others may require more intensive works that require larger drilling equipment. There may be some locations that require monitoring equipment to be left on site for a period of time. Where this is the case all areas will be fenced off and secured.

## How will the land be left once the survey works have finished?

Prior to any works being undertaken, a full photographic record of the present condition will be taken. It may be necessary to leave certain equipment in-situ in order to monitor ground conditions. Where this is required equipment will be covered, clearly marked and fenced off. On completion of the works, the land will be reinstated to its original state, as close as practicable. There are no foreseeable works that will cause long-term damage.

## How many people will there be undertaking surveys?

This will vary but there will be a minimum of two operatives, one supervisor and one specialist operating the specialist GI equipment. The total number of operatives at any given location will be kept to the absolute minimum required, implementing social distancing measures and working in line with Covid guidelines.

## How long will you take to complete this work?

This will vary at each location based on the number of pits/boreholes required. Overall, the GI works across the Kent Catchment are due to complete September/October 2021. There may be several re-visits required for up to 12 months to attend to the monitoring equipment.

## Will you need to access individuals land, gardens or need diversion routes?

We have informed all affected landowners where we need to undertake these investigations. Residents will be informed where we need to access their gardens or driveways. Notices of diversion routes will be in place if required and residents in the immediate vicinity will be informed directly. Information on diversion routes will be uploaded to the Flood Hub website – see below.

## Where will we find the latest information?

**We will be keeping the Flood Hub up to date with information relating to the investigation works, news on any diversion routes and the Flood Risk Management Scheme over the coming weeks and months. For more information visit [www.thefloodhub.co.uk/upperkent](http://www.thefloodhub.co.uk/upperkent)**

### Contact us

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