

Sappers Field 'sinkhole' update January 2023

The press has regularly referred to the collapse event from February 2020 (remember those pre-Covid times!) as a sink hole. However, it is in fact a crown hole atop a shaft of an assumed deep bell pit which was dug to extract chalk. The chalk was turned to lime and used in the brick and tile-making process.

The 'Collapse'

As noted above, the crown hole appeared in February 2020 after the wettest February on record and, what started as a small depression, quickly enlarged into a 10m-11m wide opening at the surface narrowing to around 2m at approximately 5m depth and then extending to some 46m total depth

So, what happened next?

The Wooburn and Bourne End Parish Council (WBEP) worked closely with Buckinghamshire Council (BC) to tender two packages of work. Initially a ground investigation to assess the local ground conditions and therefore allow the design of temporary works required to remediate the collapse and secondly the main works to backfill and permanently make safe the shaft.

The main contract was awarded by Buckinghamshire Council to Soil Engineering Ltd in spring 2022 with mobilisation set for the summer months to maximise the good weather (and what a summer we had). After the ground investigation has been completed and the results assessed by Soil Engineering, mobilisation to the site commenced in late August 2022.

A large temporary 'bridge' was initially lowered into place to span the shaft which was then fitted with a conveyor belt to move a vast quantity of stone to fill the shaft from the base upwards. The stone filling works took several weeks to complete and an unimaginable volume of material! But in late October 2022 this reached the shaft 'narrowing' and then formed a plug above this feature. At this point, the next stage involved drilling into the recently placed fill and injecting it with a cement based grout – this would act to fill small residual voids and bind the material into a large 'plug'. Further grout was used in the shallow 'dome' of material close to the surface to ensure that future residual settlement is negligible.

Prior to and during the works, we captured some of the progress and conditions using drone surveys. These can be seen at the following links on YouTube (all credit to Andy Annable). **Error! Reference source not found.** below also shows a still image of a possible brick lining to the shaft crown hole.

Prior to works: <https://www.youtube.com/watch?v=qweBw8iCOYE>

During the works: <https://www.youtube.com/watch?v=OUBJ7vGwO1w>

By mid-December 2022, all of the equipment had been removed and reinstatement completed by Soil Engineering in addition, BC have removed all of the fencing which was used to secure the site and protect the collapse event from posing a safety hazard. Sappers Field has now been handed back to WBEP (under lease) and the WBEP grounds team have started getting it ready for spring. The field is now open to the public and in the coming months it will start to be regenerated by WBEP with unaffected areas (including perimeter bushes) given a good haircut, regular maintenance and an inspection of the play area.

