



CASE STUDY

Works: Demolition & Asbestos Removal

Sector: Redevelopment



Broomhill House & Guildford House, Bristol

OVERVIEW: Lawson Group were awarded the demolition and asbestos removal project at Broomhill House and Guildford House in Bristol.

CHALLENGE: The **Broomhill House** site was located on Eastwood Road in Bristol. There were several residential properties surrounding the site on three sides. To the rear of the site was an access track to several other residential properties, this would have to remain clear at all times. Opposite the site was a park with a children's play area. All vehicles entering the site would need to be controlled by an appointed banksman and be pre-booked before arriving.

The works consisted of the removal of a former forty-bedroom Bristol City Council care home with an annexed plant room. The main structure was a three-storey, traditionally constructed building with cast, in situ concrete floors. The roof was of a cut timber design with a traditional concrete tile covering.

There were trees around the perimeter, these had to be protected and remain undamaged. Tree protection would need to be installed before any works started. All vegetation and small trees would be checked by the appointed ecologist for nesting birds before removal.

The access gate would need to remain closed and locked at all times. The site supervisors contact phone number would be displayed for site access. The rear of the site has security fencing in place, timber hoarding would need securing to this.



The **Guildford House** site was located off a heavily populated area of Guildford Road in Bristol with houses on both sides of the building and the site access being between two houses. The buildings that were to be removed were of a masonry construction with asbestos cement corrugated roof sheets, they had stud partitions with a suspended wooden floor. This site had

a chain link fencing around the perimeter along with small outbuildings which had to be removed. The trees around the perimeter had to be protected and remain undamaged. It had been identified that there could be a potential for bats to be present in the building, when the roof was to be removed by hand, an appointed ecologist would need to carry out a watching brief during the works. There was a live substation located at the top of the site that had to remain in place, access to this was required at all times - this would be fenced off from the works using Heras fencing with warning signs attached.

Both sites were in the vicinity of each other and it had been known that rough sleepers and occupants had been using both the buildings in the months prior to the demolition date. For this reason, sites would need to be secured once made vacant; guardians occupied Broomhill, whilst Guildford House had squatters.

SOLUTION:

Broomhill House

A letter drop of all surrounding properties took place; the letter was approved by the client before it was issued. Site welfare and parking was located within the front of the site. Heras fencing with debris netting attached was positioned along the front boundary. The access gate remained closed and locked at all times with the site supervisor's contact phone number displayed for site access.

A CAT scan for live services was undertaken before work starts. Before any demolition works could commence, licensed asbestos containing materials had to be removed under controlled conditions from Broomhill House first. This project included the removal of 28m² of AIB, 240LM of AIB Soffits, 30m² of AIB Debris and 210m² of Asbestos lagging residue inside the boiler room. Locations of the AIB included areas such as the lift shaft, boiler room, main kitchen and external soffits.



The soffit removal works were undertaken in accordance with Asbestos Liaison Group Memo 03/12 - The removal of external soffits. Lawson Environmental (part of Lawson Group) utilised subcontracted scaffolders for safe access and egress. All Licensed asbestos was removed under controlled

conditions, as laid out by the HSE.

Only after the asbestos had been removed could the demolition works commence. Primary soft strip of all non-structural fixtures and fittings took place - safely removing them from the buildings and separating them ready for removal from site.

Scaffold was erected along the gable end of the building; this was to protect trees that had a preservation order on them. Dust suppression equipment was set up next to the demolition excavator with a water supply from a fire hydrant. All entrances to each building were securely fenced off to ensure no entry could be gained to the building.



There was a drop zone and respirator zone set up around the building using Heras fencing with signage attached. All voids in the ground, such as manholes and sewers, were protected.

A 360° demolition excavator, with demolition attachment, was positioned at the rear of the structure.



Using a hydraulic grab attachment, the roof was removed back to the first supporting column allowing one bay of the roof to be lowered carefully to the ground floor slab. The wood and timber sections were then removed and lowered to ground level, away from the building and were later processed and loaded into the designated forty-yard waste bins. Once the roof had been removed, the internal walls and floors were removed and lowered to ground level.

The external walls were left until all internal walls had been removed to help contain any dust generated. As the demolition of the gable end commenced, the scaffold was removed progressively floor by floor by the appointed competent scaffolders.

This process of deconstruction was repeated until the entire building had been removed. All the brick and concrete were then stockpiled ready for crushing. Once the slab had been lifted, the excavator returned to the edge of the slab and dug around the first foundation.

The foundation was lifted out and stockpiled ready for breaking. The area of ground from where the foundation had been removed was then backfilled and tracked in. This process was repeated until all the foundations had been removed.



Once a stockpile of concrete had been generated, a second excavator with breaker attachment then proceeded to break the concrete into pieces of no bigger than 500cm² ready for crushing. The Mobile Crusher was operated in accordance with the Safe Operating Procedure from the NFDC.

Once all crushing had been completed, the crushed concrete was spread over the site to ensure there were no sudden drops or open edges. As the site was on a steep gradient, the crushed concrete was graded off to a gentle slope from the back of the site to the front. Any excess crushed concrete was loaded into eight trucks ready for removal from site.

Once all works had been completed a member of the local authority visited the site for a final inspection.

Guildford House

Following the soft strip of the building, the removal of the cement bonded asbestos roofs could begin.

The asbestos cement roof panels were sprayed throughout the removal process using a water and suppressant mix via a low-pressure spray. This was used to wet the roof sheets before and during the removal. All manhole covers and internal drains were covered with Hessian to ensure no demolition debris could block the site drainage. Entrances to each building were securely fenced off to ensure entry into the building could be restricted.

A respirator only exclusion zone was set up, utilising Heras type fencing with warning signage attached to prevent unauthorised access into the working area. A scaffold tower was set up inside the building under the first section of roof that had to be removed, this was checked by the supervisor.



Two operatives accessed the underside of the roof sheets, using a killer sprayer, the sheets were wetted first. Using bolt croppers, the bolt heads were cut from the underside of each fixing point into the purling support. They then carefully lowered each roof sheet to ground level; operatives then placed the sheets into a forty-yard asbestos bin for removal from site. This process was then repeated until all the asbestos cement roof sheets had been removed. This was carried out under the watchful eye of an ecologist to check for the presence of bats - none were found.



Once the roof had been safely removed the deconstruction and crushing of the building could begin. This was carried out using a similar method to that described above for Broomhill House.

RESULT: Both sites were cleared on time and to the client's satisfaction, leaving them ready for the next stage of redevelopment.

To find out more on how Lawson Group can help with your next demolition or asbestos removal project, call 01793 782000, email enquiries@lawsongroup.co.uk or visit www.lawsongroup.co.uk