

CASE STUDY

Works: Licensed Asbestos Removal and Remediation

Sector: MoD



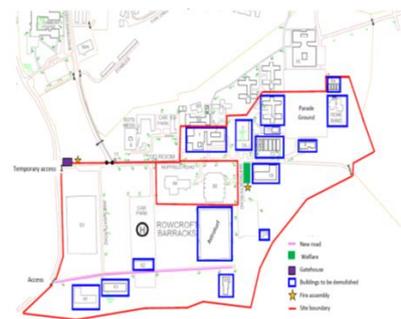
Arborfield Garrison (Rowcroft Barracks Licensed Asbestos Removal), Berkshire

OVERVIEW: Lawson Group were awarded the contract to undertake the demolition, asbestos removal, and remedial work at Arborfield Garrison. The work was set to take place over 4 years, working on various buildings, structures and SANGS - all with different challenges and requirements. This case study will centre on one of those areas: Licensed asbestos removal from Rowcroft Barracks

Rowcroft Barracks (including Sergeants Mess) Licensed Asbestos Removal

CHALLENGE: As a result of the Refurbishment and Demolition Surveys provided by the client in the tender stage, it was recognised that buildings 1,2,5,7,5D,8,41,61,9 and the Sergeants Mess all had licensed asbestos within the buildings.

This large project faced many ecological issues, therefore permission from an ecologist to undertake the work was required before the work could commence.



The main ecological issue that Lawson Environmental (part of Lawson Group) faced was that bats were nesting within some of the buildings and in different areas within said buildings. The building order that the licensed asbestos would have to be removed was: 41, 61, 8, 1, 2 back to 41, back to building 2, onto 5D, Sergeants Mess, onto 7, back to 5D.

SOLUTION: All licensed asbestos removal work was carried out under fully controlled conditions, which included the erection of enclosures and negative air pressures as stipulated in the CAR regulations 2012. All enclosures were smoke tested prior to becoming operational and Lawson Environmental utilised their company owned DCU

which was set up and operational, with airlocks and baglocks - positioned specifically for the location the task was in.

For each area of the building that the asbestos was being removed from, a site plan was stated in the Plan of Works including the location of the DCU, airlock, baglocks and enclosures.

Licensed asbestos was firstly removed from building 41 which required the removal of approximately 25m² of asbestos insulation board (AIB). Once this area was clear from hazardous material, building 61 required the removal of 4lm of pipe insulation (lagging) and insulation (lagging) debris which was found in small amounts within the building to 8m² to the wall within the boiler room. Lawson Environmental operatives were then granted permission from the ecologist to commence the removal of 2m² of asbestos insulation board from the entrance of the porch ceiling and 1m² of AIB shuttering to the floor duct in building 8.

The enclosure to remove the AIB shuttering in Building 8 can be seen below.



This was followed by approximately 150m² AIB removal from building 1, which was followed by the removal of 96m² of AIB and 192lm of AIB from above and below the windows in building 2.

Due to the ecological issues faced with bats nesting in areas within the building, some of the buildings had to be returned to in order to complete the asbestos removal work required.

Once the work in building 2 was complete, Lawson Environmental commenced work back at building 41, then back to building 2. From there, Lawson Environmental's operatives were required to remove 160m² of AIB from building 5D. Permission was later granted to remove the asbestos from a separate area within Arborfield Garrison known as Sergeants Mess. Here a Refurbishment and Demolition survey found that 200lm of AIB soffit was required for removal at the former Sergeants accommodation block. Work then proceeded onto building 7 to remove 5lm of AIB found above and below windows.

External AIB soffits at Sergeants Mess can be seen in the two images immediately below.



Please see below the methodologies Lawson Environmental utilised to remove the asbestos insulation board and redundant pipework from within the buildings.

Removing AIB

An enclosure was formed using existing structural elements of the building and timber framework to which 1000-gauge polythene was fixed. Once the enclosure, airlocks and bag locks were constructed, Lawson Environmental's qualified operatives used hand tools and cordless drills to remove the screws and nails which were visible as they were used to fix the AIB to the ceiling. The nails were removed in conjunction with the shadow vacuum procedures (LEV).

Once the first AIB panel was released, one operative lowered the panel in order to make the back of the panel accessible for decontamination. The back of the panels were carefully vacuumed prior to carefully applying an application of fibre suppression. The panels were then lowered horizontally onto a prepared polythene sheet. Next, the



panels were wrapped in the polythene sheets with smaller panels bagged into red bags which were sealed and placed to one side until they were ready to be removed from the enclosure.

Once the first panel was removed, the void could be accessed, and the back/top of the panel was vacuumed as far as it could without being over-extended. Then the water and surfactant mix was applied by a

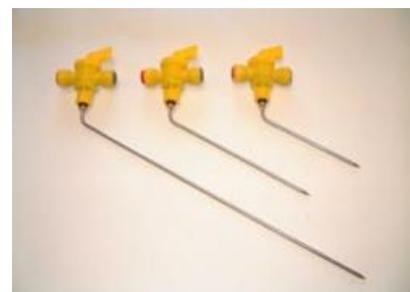
handheld manual pump up spray to the rear face of the remaining panels which was left to penetrate.

The methodology of the removal was to start by removing the panels to the perimeter, so the void was able to be inspected for any apertures to adjoining areas and was sealed as necessary. After this was completed, the remaining panels were removed in a sequential manner.

Removing Redundant Pipe Work

The methodology Lawson Environmental's operatives used to remove the redundant pipework was the procedure as follows:

Where a section of lagging was removed to allow the pipe to be cut, these sections were injected using an injection system (examples on right) before being removed with hand tools.





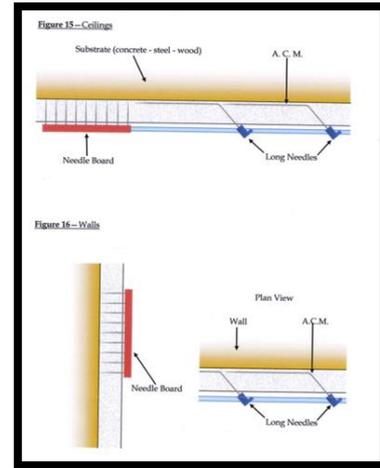
The removed sections were placed immediately into waste bags.

The ends of the remaining pipe lagging, and pipework were cut, and tape was wrapped around them before they were cut.

Lawson Environmental operatives ensured that any areas that required to be removed, were sprayed at all times whilst the cutting was taking place and applied through manual application to prevent the release of asbestos fibres. Cutting into the pipework was done at natural breaks in the pipe run. Long pieces that were cut had to be in manageable lengths ready to be removed from the enclosure. Lawson Environmental ensured that any remaining pipework with asbestos lagging was cleaned and removed using hand tools and immediately placed into 'UN' approved asbestos waste bags.

Manmade mineral fibre insulation was sprayed with surfactant and double bagged for disposal as contaminated waste.

RESULT: Once the work was complete within a building, Lawson Demolition (also part of Lawson Group) were then utilised to demolish the buildings using company owned mechanical equipment to complete the works. However, just before the demolition phase, it was discovered that a significant amount of asbestos material had been buried in the surrounding soil. Tests of soil samples indicated that the contamination was present up to 2m deep. In agreement with the client, Lawson Group arranged for surveys to be carried out. Following these surveys, a Remediation Strategy and Materials Management Plan were put in place along with air monitoring equipment. The ground in question was successfully remediated and was completed to the satisfaction of the client (please see separate case study). This entire phase was completed within the scope of the project and within budget.



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