

ST BARTHOLOMEW'S HOSPITAL

LONDON EC1

Clifford Devlin were appointed by the Trust to remove asbestos containing materials (ACMs) identified in surveys of the Out Patients Building and Residential Staff Quarters.

The works were required to enable the demolition of these buildings as part of Phase 3 of the 10-year, £1bn PFI scheme which involves a combination of retention, refurbishment and new-build at both Bart's and the Royal London Hospitals in Central London.

London contractor, Clifford Devlin won a competitive tender to deliver the removal package for both buildings in November 2013.

A series of pre-start meetings were arranged during the 4-week lead-in period with various

members of the project team to plan this particularly complex project.

The buildings would remain semi-occupied for most of the 9-month programme and so required very careful planning to sequence the works to work-around occupants and live services.

This required Clifford Devlin's Project Manager, Paul Clarke-Scholes, to micro-manage each phase of the works in great detail to maintain programme.

KEY FACTS

Client: Barts Health NHS Trust

ACMs removed: 79.2 tonnes

Notifications: 45

Operatives on-site: 22

Value: £895k

Duration: 8 months

Completed: December 2014

Clifford Devlin's experience and understanding of the unique challenges involved in working in healthcare environments whilst pro-actively listening and responding to these constraints allows them to plan and deliver even complex projects without unduly disrupting our day-to-day operations.

**Martin Lee, Associate Director of Construction,
Barts Health NHS Trust**



Almost all of the asbestos containing material found in both buildings were notifiable so the HSE needed to be informed 14-days before the works commenced.

Clifford Devlin prepared and submitted 45 separate notifications and plans of work for each package as the project progressed.



WHERE THE ASBESTOS WAS LOCATED

- Pipe insulation and debris
- Insulation residue to walls, floors and ceilings
- Insulation board shuttering, wall and ceiling panels, window ledges, infill panels, support cladding, riser boxing and debris
- Cement window infills, linings to partition walls and loose stored collars
- Flashguards and pads to electrics
- Asbestos paper wrap to loose stored electrics
- Rope seals to ventilation ducting
- Floor tiles and bitumen
- Toilet cisterns
- Sink pads
- Asbestos blanket wrap to cistern
- Asbestos pipe wrap
- Cement roof tiles
- Bitumen roof felt



Detailed plan drawings of each floor were annotated and colour-coded to show the location of the ACMs and detailed programmes submitted on a weekly-basis to provide regular progress updates to the Hospital's FM team.

Since sections of the buildings remained occupied for the first 6 months of the project Clifford Devlin were unable to isolate and terminate any services to gain safe access.

Instead they liaised with the Hospital's FM team, to identify water, energy and data provisions and devise ways of removing most of the ACMs in the vicinity, leaving the materials that could not be safely accessed until the building was fully decanted.

This typically involved encapsulating insulation to hot water pipes to be removed at a later date.

Both buildings were decontaminated concurrently.

In the Out Patients Building works progressed on a floor-by-floor basis starting in the basement

where extensive pipe insulation and debris in floor voids was located. ACMs were removed using fully-controlled conditions i.e. removal carried out inside air-tight enclosures fitted with negative pressure units to prevent the emissions of fibres.



We were very impressed with the way Clifford Devlin managed this challenging asbestos project. Their collaborative and innovative approach allowed us to jointly devise methods for working around issues and obstacles that kept the project on-programme.

Mark Thurston, Senior Associate, Castons

Paul was a permanent presence on-site overseeing the works carried out by several teams consisting of a Supervisor plus a number of ARCA-accredited competent operatives. During particularly intense periods Clifford Devlin had up to 25 operational staff working on-site.



All were given an extensive induction to instruct them how to behave in occupied areas with emphasis on politeness/courtesy, housekeeping and discretion.

To maintain as inconspicuous a presence as possible a permanent Decontamination Unit (DCU) was built into a decanted area to avoid where possible, locating

mobile DCUs in the public areas, that would need to be accessed by removal teams still wearing PPE and RPE and potentially causing concern amongst staff or the public.

Analytical consultants AEC were appointed to provide reassurance and 4-stage clearance air testing and issue certificates of reoccupation.

The Trust also retained the services of asbestos consultancy, Global Environmental, to assess each package of works post-clean-up as an additional level



of quality assurance which involved a detailed inspection of the work against the surveys and, where necessary, re-sampling.

Clifford Devlin were able to use their experience of working in clinical environments to maintain a low-key presence on-site while carrying out their high-risk activities safely and unobtrusively.

**Steve Eames, Construction Project Manager,
Barts Health NHS Trust**

THE PROJECT TEAM

Client:

Barts Health NHS Trust

Facilities Management:

Skanska (Barts & The London)

Asbestos Consultant:

Global Safety & Environmental

Quantity Surveyor:

Castons

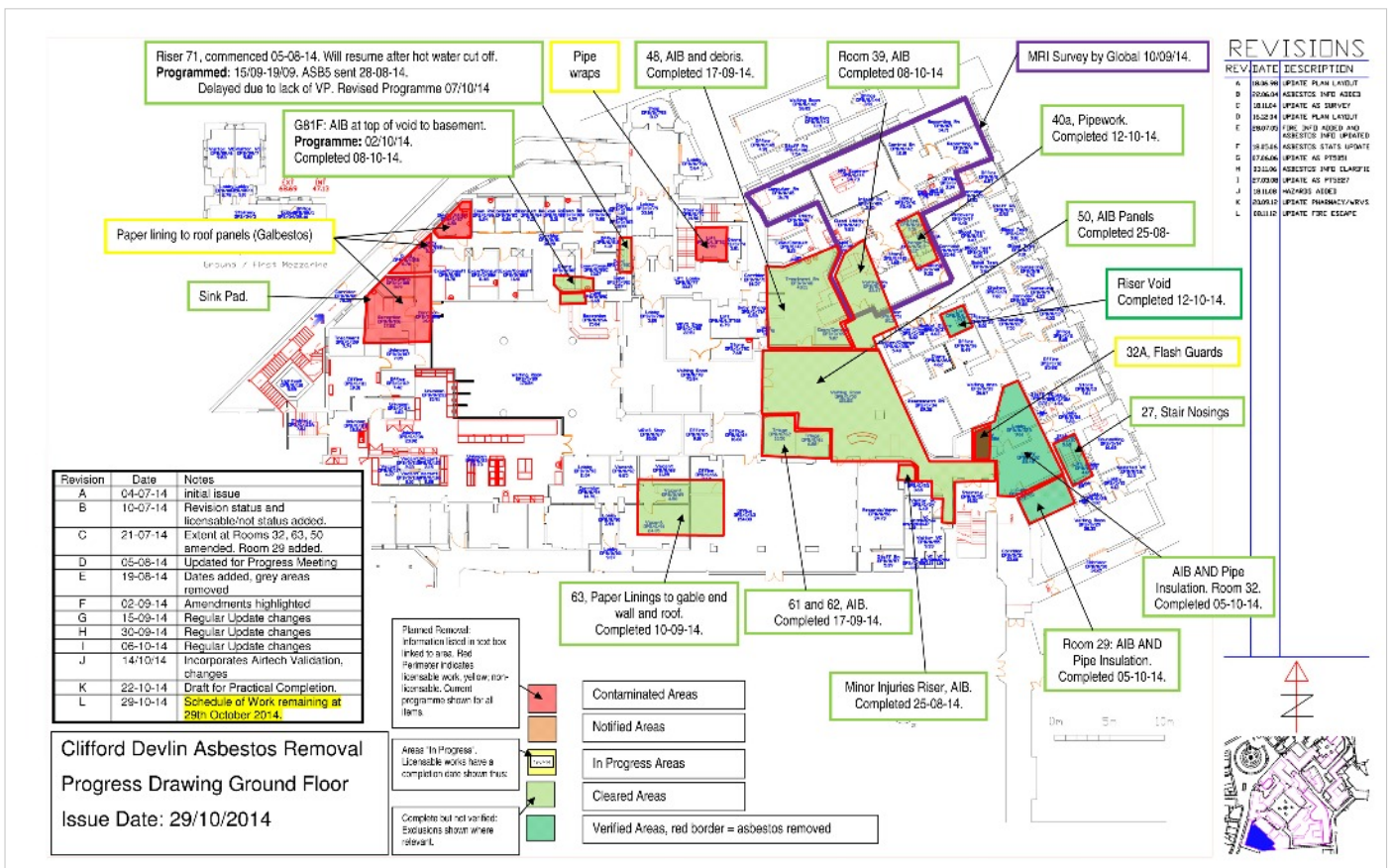
CDM Coordinator:

Flood Partnership LLP

Analytical consultant:

AEC





Colour-coded schematic diagrams were prepared to illustrate the progress of the removal

Specialist operatives were used to provide the necessary reinstatement work required in areas that for operational purposes, the hospital needed to re-occupy.

For example, some suspended ceilings and lighting systems were dismantled to enable access to the ACMs.

A number of external ACMs had been found during the survey. These included packing in rainwater downpipes, roof sheets, felt,

and tiles, as well as AIB residue to the timber frame work of the roof tank rooms and a cylinder blanket in the roof plant housing.

These works were programmed towards the end of the project to enable operatives to access them using scaffolding erected for the demolition phase.

In October, vacant possession was handed to Clifford Devlin's team and services were termi-

nated to enable adjacent materials such as pipe insulation to be removed safely.

A full set of updated plan drawings together with consignment notes and analytical documentation were submitted following completion of the project which was signed-off by the Trust's Facilities Management team in December 2014 enabling the demolition of the buildings to commence.