



**CASE STUDY**

**Works:** Deconstruction, Crane Work

**Sector:** MoD

## Arborfield Garrison (Metal Footbridge and Footings Removal), Berkshire

**OVERVIEW:** Lawson Group had to project manage the removal of a metal footbridge that spanned Biggs Lane. This was a part of a regeneration project of the former Arborfield Garrison in Berkshire.

**CHALLENGE:** A road closure permit would be required and electric lights on the bridge would need to be removed before works commenced. The planned days for the bridge removal would have to be scheduled over one weekend to minimise disruption. Before any work could commence, a traffic management plan would need to be agreed.

**SOLUTION:** On the day of the operation, a traffic management company set up the road closure and signage as per the agreed plan. The electric lights were made safe and removed prior to any work starting.

Lawson Demolition operatives gained access to the bridge and marked up the lifting points set out by the contract lift designer. The crane was then brought onto site and set up - all parties involved signed up to the lifting plan. This operation was based on a contract lift, so all plans, drivers, slingers and signallers were brought to site by the crane company and had the correct tickets to operate.



Lawson Demolition operatives then clipped onto a secure structural member using a harness at all times during this working at height stage. Once set up, the chains were checked and were

attached to the landing on the stairs. This was done by cutting a hole in the plate and cutting off the bolts.



A truck then reversed onto site and parked near to the bridge ready to be loaded. Once the landing was free the crane lifted the sections and slew them onto the waiting truck and trailer.

The crane was then attached to the main sections of the footbridge using four legged chains, (as per the lifting plan procedures). Once both landings and steps had been removed from both sides of the bridge, the main bolts holding the footbridge were cut by a trained burner, ready to be lifted. An operative used a cherry picker working from the sides of the bridge, the bolts were removed, either by undoing the bolts or cut using the burning equipment. The bolts were only cut safely from the side of the bridge and never from underneath.



As the final bolts were being cut, the slinger was in contact with the crane operator making him aware of what was happening, and the full control of the bridge was under his command. A tag line was secured to the bridge and used to help control the swing and direction of the bridge. The crane then slowly lifted the bridge which was then lifted up and away from the crane.



Using the tag line, the bridge was turned ninety degrees and lowered down onto the waiting lorry. Once the bridge section had been placed on the trailer, the load was made secure and then transported around to another area within the Arborfield site. The chains were left on the bridge so it could be lifted off the lorry.

At this separate location, Lawson Group's own CAT 374 with a D Lock was connected to the chains. The machine then lifted the bridge up from the trailer, the truck drove forward leaving the bridge hanging on the chains. The machine then lowered the bridge onto the ground and the chains were removed.

The bridge was then cut up under a separate method statement using machine shears and a breaker.





Back on Biggs Lane, the holding-down bolts were cut from the concrete base, once removed, the crane lifted the bridge supports using the same method as before, placing onto the waiting lorry.

Once the bridge had been completely removed, the road was swept clean and the road closure was cleared, re-opening the road could now occur.

Next, the bridge's footings on each side of the road were dug up and removed, this was done during the week after the bridge removal. Heras fencing had been placed around the work area and a CAT scans were used to check over the area and to ensure that it was free of all services.



Once deemed safe to do so, the excavator lifted all the concrete out of the ground. For footings that were too large to lift out, a breaker attachment was placed on the machine to break up the concrete first.

The concrete was removed by loading into a tipper or road legal dumpers and tipped onto the Arborfield site ready to be crushed. The crushed material was then brought back to the former bridge site and recycled to fill in the excavated hole.



**RESULT:** The footbridge and its footings were successfully uplifted and removed from site. The area was then levelled and left ready for the next stage of redevelopment, with minimal disruption to road users.

To find out more on how Lawson Group can help with your next demolition or asbestos removal project, please call Lawson Group on 01793 782000, email [estimating@lawsongroup.co.uk](mailto:estimating@lawsongroup.co.uk) or visit [www.lawsongroup.co.uk](http://www.lawsongroup.co.uk)