



## Demolition of former Faculty of Psychology Building, University of Sheffield

<b>Location:</b>	Northumberland Road, Sheffield
<b>Scope:</b>	Demolition of the Faculty of Psychology Building, Sheffield
<b>Disciplines:</b>	Demolition, Substructure Removal, Site Clearance & Reinstatement
<b>Client:</b>	University of Sheffield
<b>Programme:</b>	16 Weeks
<b>Value:</b>	£310,000

Ron Hull Demolition were appointed to the role of Principal Contractor for the demolition works of the former Faculty of Psychology Building on the campus of The University of Sheffield during 2020.

The Psychology building was a 5-story reinforced concrete structure with external blockwork cladding. The roof and floors were precast concrete floor planks with a lift core located on the south elevation.

### Description of Works

Commencing July 2020, the scope of works commenced with the soft stripping of the building and introducing trackway protection to the entrance road for protection of the district heating main to which then gave way for the delivery of the D-Rigs for technical remote demolition of the structure.

RHD were required to take out non-negligent insurance at an appropriate level and on customary terms, ensuring that the policy covered damage to any neighbouring property owned by the University and the Veolia heating main system running past the site,

Loading restrictions associated with the operation of heavy-duty high reach demolition excavators on site meant the works had to be executed in a highly choreographed sequence.

The Removal of brick clad from roadside elevation was carried out to prevent debris hitting district heating main and to eliminate the risk to pedestrians and traffic. The use of a 125-foot reach cherry picker was utilised to carry out the removal works of the brick skin.

### Sequence of Works

- Verified that no asbestos present as this was removed by the Client's appointed contractor prior to RHD taking control the site.
- Securing and setting up site with solid wooden hoarding (handed over to the Client at the end of the project). There was an interest in artistry paint work to existing hoarding of which was introduced into the new hoarding design.
- Soft strip-out works prior to structural demolition works.
- Confirmation of service dis-connections/capping off, as necessary.
- Removal of all redundant plant, lifts and duct work.
- Demolition of existing structures including lowest ground floor slab and foundations.
- Grubbing up of any redundant drainage.
- Ground works to achieve the Client's requirements.

- Clear site and leave in a safe and secure condition. The building footprint being levelled to the existing area.
- The Veolia district heating was protected throughout the work with road protection matting on the access road, and exclusion zones on all above ground pipework.
- Additional Water supply fitted to carry out the works for added dust suppression.



### Project Challenges

Strict Health & Safety guidelines were put into place along with new working practices in the wake of the COVID-19 pandemic. Many discussions took place with our Client to determine a path forward which revolved around our preparedness and response to the virus without causing delay to programme whilst keeping employees safe from the virus and remaining in operation on the site throughout the pandemic.

The site presented ecological constraints working alongside Natural England installing full height scaffolding and a fully designed badger proof fence was introduced along the elevation of demolition works as a prevention. This prevented demolition arisings falling into the protected area.

The remainder of the campus remained a 'live' site and all other buildings within the vicinity of the existing Psychology building remained in use and fully operational at the time of the demolition work. These included:-

- Western Bank Villa
- Human Communications Sciences Building
- Mushroom Lane Villa
- The existing BAM site to the opposite side of Northumberland Road
- Weston Park Museum
- Children's Hospital adjacent to site
- Substation adjacent to site

Working adjacent to a live Children's Hospital and substation throughout the duration of the works careful consideration was taken in regard to stringent methods created and conducted to ensure minimal disruption and noise to the surrounding areas.

The main body of the building was of concrete structure covered by brick façade. Scaffolding with debris netting was erected to the façade of the building for access to dismantle the façade by hand. This was achieved using hand/power tools ensuring structural stability was kept throughout the demolition and to eliminate any danger to the general public.

Noise and vibration were monitored daily due to works being undertaken in close proximity to Weston Park Cancer Hospital. Dust control was paramount with the structure being brick and concrete therefore additional water supplies were introduced.



The campus was also surrounded by private residents who were kept informed by an appointed RHD Resident Liaison Officer of the works and progress via hand delivered information leaflets and monthly resident meetings.

Upon investigation it was discovered the Veolia heating main was not to the required regulation depth as the drawings showed. A design solution was sought to avoid any damage occurring to the Veolia heating pipe network within and around the site through a temporary trackway. Additional scaffold protection was erected to protect the district heating main above ground level. In addition to this a sand membrane was laid under additional track matting introduced to protect the heating main below ground level from all heavy load vehicles on this one way site system.

Working alongside the main contractor areas of foundations were to remain in situ to prevent trees from being undermined. Working alongside Sheffield tree protection as most trees had TPO and fencing was erected around them.



Techniques used ensured the works were carried out successfully, therefore contributing to safe works and keeping to the schedule.

The project was completed on programme with no incidents or lost time accidents and to the total satisfaction of our Client along with 98% of onsite materials being recycled.