

Summary Information Report

To Support the Demolition of the Calder Engineering Workshop (CEW) Complex

Building Description

The building is located to the east of the River Calder, and adjacent to the northern end of the Calder Fabrication Workshop (CFW). The CEW building was built circa 1960 and consists of a Workshop and a two-storey Annexe along the West Side. In addition to this, a single storey structure to the North of the CEW known as the Armature Cleaning Building (ACB) was also constructed. In 1969, a single storey 'L' shaped extension was built at the North End of the CEW linking it directly to the ACB.



Calder Engineering Workshop

This is a steel framed single-storey structure. It has a duo pitched roof and is 54.5m long x 15.8m wide x 9.5m to the apex. The steel columns at 25'0" (7.62m) centres are supported on concrete pad foundations approximately 750mm below ground level.

The exterior elevations are predominately covered with asbestos cement corrugated sheeting. This sheeting extends from the top of a small dado masonry wall at ground level up two thirds the height of the building to the East & West Elevations and full height on the two gable ends. Patent glazing extends above the sheeting to eaves level on the East and West elevations. The roof is constructed from 3 ply felt on 12mm insulation board above 50mm mild steel decking which is supported on rolled steel purlins. A two-storey brick-built store and office structure has been built inside the Southern end of the workshop.

The ground floor consists of a 225mm thick reinforced concrete ground bearing slab. There are cable and service trenches formed in the ground floor slab that are either covered with pre-cast concrete units or durbar plate. A 12 tonne overhead crane services the entire

workshop area, supported on rails attached to the main steel frame columns. There is patent glazing to the East and West elevations above EOT crane level up to Eaves level. There are 4no. sliding folding doors in the East Elevation 4.6m high x 4.25m wide.



Calder Engineering Workshop internal view 2019

CEW Two Storey Annexe

This is a two-storey building that runs the along the full West elevation of the workshop structure and houses offices, toilets and mess rooms. It is 54.5m long x 5.5m wide x 6m high over two floors. The flat roof and 1st floor level are formed from pre-cast concrete floor units supported on steel beams at approx. 5.6m centres spanning in the East/West direction. These steel beams are supported on the West Elevation by 16" x 12" (410mm x 300mm) load bearing masonry piers and of the other side on a 9" (225mm) load bearing internal party wall between the Workshop and the Annexe. The wall on this side extends full height of the Annexe and runs along the outside face of the Workshop columns.

On the West face there are full height masonry cavity walls to the Northern and Southern end bays acting as shear walls, the internal bays to the West elevation consist of dado masonry internal walls with colour glaze asbestos panels on the exterior. This wall construction is found at ground and first floor with patent glazing above to underside first floor and roof respectively. There are a series of single skin internal masonry shear walls

running East/West along the building at each level. Full height masonry cavity walls are found in the two external end bays.



CEW Two Storey Annexe External View 2017

CEW Armature Cleaning Building

The ACB building is constructed of load bearing masonry walls that extend on all sides to form parapet walls to the flat roof. The roof is formed from pre-cast concrete floor units spanning onto the load bearing masonry walls. A waterproof roof covering laid to falls consists of 3-ply felt on a lightweight screed.

CEW Extension

In 1969, a single storey 'L' shaped extension was built at the North End of the CEW. Part of the new works was to include the smaller independent ACB within the new extension and join it to the CEW. The building is also constructed of load bearing masonry walls that extend on all sides to form parapet walls to the flat roof. The roof is formed from pre-cast concrete floor units spanning onto the load bearing masonry walls. A waterproof roof covering laid to falls consists of 3-ply felt on a lightweight screed.

Reason for Demolition

The building is now redundant and no longer has a function on site.

- The Calder Land Clearance Project is part of the SWM Portfolio. Once removed this will release a significant land area for reuse.
- Demolition of this structure will reduce the life cycle costs of maintaining it safely and securely.
- The demolition of the building is to be completed at the earliest opportunity.

Method of Demolition

The demolition tasks will be executed by Integrated Decommissioning Solutions (IDS), who have been appointed by Sellafield Ltd, and physical works will be conducted by Erith Demolition Ltd. IDS have proven experience across the Sellafield site using industry standard techniques. The demolition activities include the following: -

- Site preparation prior to demolition, including fencing off the work area and protection of drains. All services have been previously disconnected.
- Internal asbestos removal.
- Mechanical removal of superfluous items remaining within the CEW engineering workshop, achieved using a 360° wheeled excavator c/w selector grab attachment.
- Removal of high-level light fittings within the CEW, with access to be gained from a scissor lift type MEWP.
- Manual soft strip of the CEW, all areas.
- Removal of cement bound Asbestos cladding from Southern and Eastern elevations of the CEW.
- Removal of cladding rails, glazing panels, concertina door and cross bracing, using a 360° high reach demolition rig c/w shear attachment.
- Removal of internal masonry structure. This will be achieved using a 360° standard configuration demolition specification excavator c/w hydraulic pulveriser and bucket attachments.
- Structural demolition of the building from north to south, achieved with 360° high reach demolition rig c/w hydraulic shear attachment
- Segregation of waste.
- Disposal of waste materials in accordance with IDS Waste Management Plan.
- Complete demolition of the building structure to base slab.

Environmental Impact and Waste Streaming

- Appropriate characterisation of waste has conducted in line with SL procedures.
- Asbestos R&D Surveys have been undertaken to determine appropriate routes.
- An Out of Scope* (OOS) Metals agreement is in place between SL and IDS.

The following waste has been determined for the demolition for CEW:

Waste Type	Waste Weight (te)	Radiological Categorisation	Chemical Categorisation	Waste Route
Asbestos Cement	7.18	OOS	Hazardous	Cumbria Waste Management Ltd- Disposal
Bitumen (Felt)	4.9	VLLW	Hazardous	SL Waste Route- Disposal
Brick	517.1	OOS	Non- Hazardous	Cumbria Waste Management Ltd- Recycle
Cabling	6.54	OOS	Non- Hazardous	Yorkshire Alloys Ltd- Recycle
Ceramic	0.18	OOS	Non- Hazardous	Cumbria Waste Management Ltd- Recycle
Concrete	1207.31	OOS	Non- Hazardous	Cumbria Waste Management Ltd- Recycle
Fibreglass Insulation	0.65	OOS	Non- Hazardous	Cumbria Waste Management Ltd- Recycle
Glass	7.98	OOS	Non- Hazardous	Cumbria Waste Management Ltd- Recycle
Metal (Ferrous)	118.13	OOS	Non- Hazardous	Yorkshire Alloys Ltd- Recycle
Metal (Non-Ferrous)	0.13	OOS	Non- Hazardous	Yorkshire Alloys Ltd- Recycle
Plaster	0.58	OOS	Non- Hazardous	Cumbria Waste Management Ltd- Recycle
Plastic	4.2	OOS	Non- Hazardous	Cumbria Waste Management Ltd- Recycle
Timber	22.31	OOS	Hazardous	Cumbria Waste Management Ltd- Disposal

* 'Out of scope' broadly equates to 'not radioactive' for the purposes of the both the Radioactive Substances Act 1993 (RSA93) and the Environmental Permitting (England and Wales) Regulations 2016 (EPR16). Radioactive substances which are 'out of scope' are not subject to any regulatory requirement under this legislation.

Ecology Report

Please find attached enclosed report, completed in 2021 for the full scope of the Calder Land Clearance Project (CLC).