



Heritage Impact Statement

**Ammonia House
at former Ivor Works, Dowlais
Merthyr Tydfil**



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INTRODUCTION

This Heritage Impact Assessment is submitted in support of minor works to Ammonia house, situated at the former Ivor Works in Dowlais

This assessment has been prepared in accordance with the guidance outlined in Cadw's Heritage Impact Assessment in Wales (May 2017).

The property has been listed as Grade ii, and is situated within the curtilage of the old Ivor works in Dowlais, Merthyr Tydfil and is the last surviving building.



Background

The Ivor Works were established in 1759 and became one of a number of Iron and steel works in Merthyr Tydfil.

The Ammonia House was constructed between 1922 and 1928 as two adjoining single-storey loadbearing brick sheds with slated timber-trussed roofs and a smaller single-storey section at the eastern end. The original arch-headed windows are clearly visible on the south elevation and their former locations can be discerned from the re-built brickwork areas on the other elevations.

The western section had a single row of windows on the south and west elevations. With no evidence of any previous intermediate floor or dividing walls it was probably a single volume space. Although the eastern section had two rows of windows on the north and south elevations, it was also likely to have been a single volume due to lack of evidence of a previous floor or dividing walls.

During 1939 to 1948 the Ammonia House underwent major alterations, this included a steel-framed concrete first floor construction being inserted across the line of the windows, new

window openings were cut into the brickwork above and below the original windows. The locations of the steel beams can be seen from the cut-out and repointed brickwork pockets to the north and south elevations.

The Ammonia House was most likely used for general and electrical stores after 1948, this is according to the listing description. A small extension was added on the south elevation, probably as a weighbridge office.

The building has been abandoned since 1987 and has suffered vandalism. It has been secured by blocking all the ground floor windows and doors with concrete blockwork, also a steel stair has been cut off near the first-floor level and removed.

The lower roof section no longer has any roof covering and this has exposed all the timber rafters, purlins as well as the top of the brickwork gable end wall.

The Ammonia House was listed grade ii in 2002 'for its special historical interest as the last remaining industrial building of the former Ivor Iron Works.

References

John A Owen, The History of the Dowlais Iron Works 1759-1970.

Full Report for Listed Buildings



Summary Description of a Listed Buildings

Reference Number

27086

Building Number**Grade**

II

Status

Designated

Date of Designation

12/11/2002

Date of Amendment

12/11/2002

Name of Property

Industrial building at former Ivor Works

Address

Location

Unitary Authority

Merthyr Tydfil

Community

Dowlais

Town

Merthyr Tydfil

Locality

Dowlais

Easting

306748

Northing

208096

Street Side

Location

Situated on the S side of the site of the former Ivor Iron Works just N of Ivor Street.

Description

Broad Class

Industrial

Period

History

Industrial building, the last remaining of the former Ivor Iron Works from the pre-British Steel period. The Ivor Iron Works opened in 1839 as an extension to the Dowlais Iron Works, initially with four blast furnaces. British Steel operated a foundry from the mid C20 which closed in 1987. This building was possibly built as a blast engine house but is more probably the sulphate of ammonia plant completed in 1928 as part of the coke and by-product plants constructed 1922-28. The building is not shown on the OS map of 1900 or a plan of the Ivor Works of 1910 but is marked on a plan of 1928 as a sulphate house. Sulphate of ammonia was one of the by-products of coke production, crude benzyl and tar being others. The building was converted some time between 1930 and 1949 to a general and electrical stores.

Exterior

Industrial building, red brick with slate eaves roofs. Two sections both of 2-storeys, the taller E range of 5 bays and the lower W range of 6 bays. Bays divided into sunk panels by raised piers, the E range with panels each floor, the W range with full height panels. Stepped brickwork at top of each panel. Raised plinth broken forward over piers. E range has 5 blocked arched openings to first floor with yellow brick arches, and 3 longer to ground floor in bays 1, 4 and 5, with boarded openings in lower halves, under concrete lintels. Various infills in bays 2 and 3. Right end wall has full-height panels and also 3 to gable, the centre one with blocked roundel. Ground floor flat-roofed building attached to centre and left bays, with 2 similar arched openings on 2-bay end wall, blind arches over long openings with concrete lintels. Rear has 5 square-headed windows with concrete lintels to upper floor and tall blocked arches in bays 1, 2 and 4 with boarded openings under concrete lintels in lower halves, and doors with flat heads in bays 3 and 5, with blocked small openings over. Lower W range has square upper windows with metal small-pane glazing and longer boarded windows to ground floor, except in second bay which has small window. End wall has tall blocked arched openings in outer bays, with boarded openings in lower halves under concrete lintels. Centre bay has narrow door. Three-panel gable has metal roundel. Rear has similar windows above and windows with concrete lintels below, the left bay with broad door.

Interior

Not available for inspection.

Reason for designation

Included for its special historical interest as the last remaining industrial building of the former Ivor Iron Works from the pre-British Steel period, probably a sulphate of ammonia processing plant.

DESCRIPTION OF BUILDING

Existing Ground Floor Plan

The building is constructed from red engineering brickwork, a minimum of one-and-a-half-bricks thick, with two-brick thick piers, laid in English bond. The taller eastern section also has one-and-a-half thick brick internal piers, corresponding to the external piers. The original window openings feature arched heads formed in two rows of yellow brick-on-edge headers and bullnose brick sills. The circular openings on the gable ends are also surrounded by yellow brick details. Both openings contain the remains of a timber frame, the eastern opening crudely bricked up.

The later windows are steel framed with concrete lintels and sills. The original pattern comprised small panes with a centre opening light. Some of them have been altered or vandalised and every visible pane is broken. None of the original or later doors survive.

The roofs were originally covered in slate, although all have been stripped from the lower western roof. The roof structure to both main sections is formed with timber queen post trusses supporting timber purlins and boarding.

The first-floor structure consists of an in-situ concrete slab laid on a steel structure of transverse beams in turn supported by a longitudinal beams and columns. The concrete slab in the western section and the west end of the eastern section is supported by permanent corrugated steel shuttering arched between the beams

In the remaining area the slab was laid on temporary shuttering with a flat soffit

The ground floor slab is approximately 700 mm higher than the adjoining ground level. It is not entirely clear if this was the original floor level or part of the alterations when the first floor was constructed and there are no clues in the historical research. Trenches for abandoned services and a sump for the weighing machine appear to be cast rather than cut into the slab. A section of replaced brickwork on the south elevation extends below the present floor level, which suggests the floor has been raised.

The smaller flat-roofed section at the eastern end was part of the original building and can be seen in the late 1920s aerial photograph. No access has been possible as all openings have been sealed with concrete blockwork.

PROPOSED WORKS

In January 2022 Lapider inspected the building externally. The following issues were noted>

The roof covering to the right-hand side is still mainly in place, however, the netting has come off and there are areas where the slate covering is deteriorating.

The roof covering to the left-hand side of the property is missing and the gable wall and roof structure are open to the elements (and have been for some time).

The top of the gable wall which is exposed brick is not protected by the roof covering and is absorbing rainwater and starting to deteriorate. The purlins that are built into the gable wall and fixed to the trusses are also exposed and starting to deteriorate.

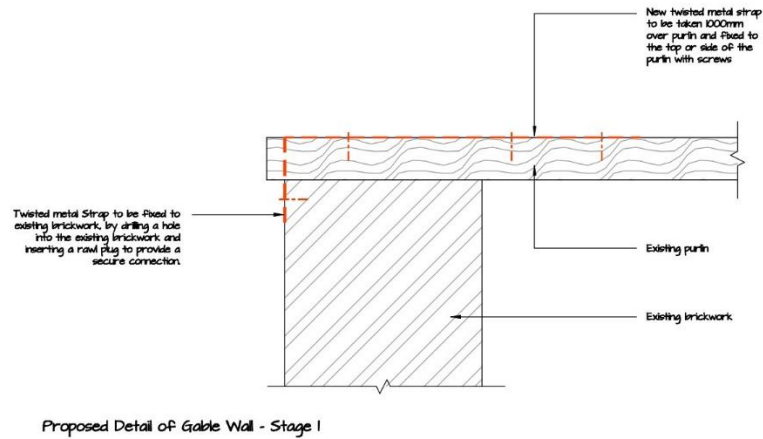


Top of Gable Wall

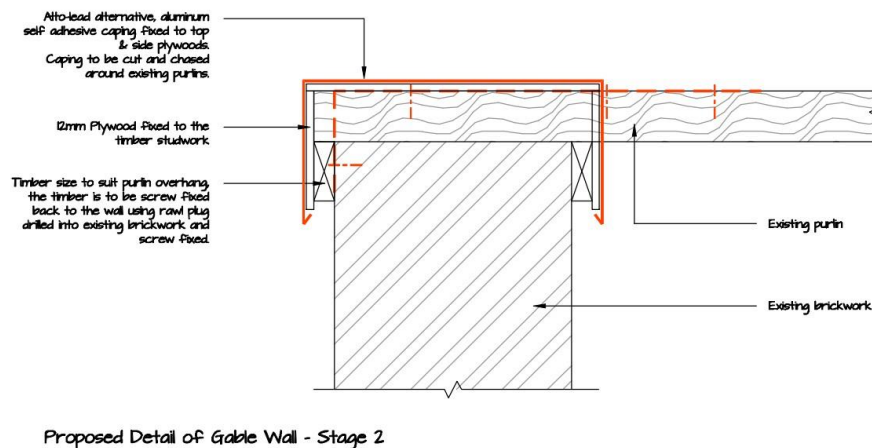
The issue raised from the inspection is that the wall and purlins are exposed and deteriorating, if the purlins continue to decay and lose connection to the gable wall, then this could cause the trusses to collapse. Further the gable wall will start to deteriorate.

The inspection highlighted repairs to try and reduce the extent of deterioration to the gable wall and existing roof structure. It is proposed to mechanically connect the purlins to the wall with a twisted metal strap that is screw fixed to the top of the purlins and drilled into the gable end brickwork and screwed with Rawl plugs into the brickwork. The strap will need to be drilled into the brickwork as the mortar joints are in a poor condition and will not provide the needed fixing strength.

(Fig 1.1)



To prolong the trusses and the gable wall we propose to form a capping to be placed over the top of the wall. (Refer to Fig 1.2)



The repairs will remain until the building is restored in the future. They are not intended to be a permanent fix but will delay the deterioration of the gable wall and the roof structure only.

When works are conducted in the future the capping can be easily removed and the holes that have been made in the brickwork can either be filled in with a Stonelux brick repair filler or similar approved.



Or the top few courses of brickwork can be removed and replaced with bricks to match existing.

Refer to drawings 110 & 111 for further information on the temporary works proposed.

ORIENTATION AND LAYOUT

Ammonia House is situated close to the southern boundary of the Ivor Works site near to the old works entrance at the junction of Ivor Street, Garden Street and Gwernlyn Road. The building is approximately 42.8 metres long by 12.2 metres wide overall and orientated with the long sides facing north and south.

The eaves heights are some 9.0 metres on the western section and 11.8 metres on the eastern section.

The surrounding area to the southwest and west is practically level, formed from the ground slabs of demolished buildings and hard surfaces. To the north about 20 metres from the building the ground begins to rise towards the northern site boundary.

APPERANCE

From areas of altered brickwork and pointing the original window pattern appears to have consisted of a single row on the south elevation of the lower western section and two rows on the higher eastern section on the north and south elevations. Arch headed windows also featured on the east and west elevations.

The insertion of the first floor cut through many of the original windows, so less than 20 years after it was built the building received a new window pattern.

Community Safety

The building is entirely enclosed by a boundary fence, and all possible measurements will be put into place to keep the site as secure as possible and safe to the general public.

Environmental Sustainability

The existing building will remain as is, with the additional proposed works to be undertaken to keep the building as safe as possible, whilst slowing down its deterioration.

CONCLUSION

The works which will be undertaken to the property will be minimal, however, they will be necessary for the lifespan of the building to be extended. It is not proposed to do major works to the building other than protected the lower roof section as well as the gable end wall. If these works are not conducted, then the deterioration of the building will happen at a much faster rate.

APPENDIX A

Site Photographs



North-East Facing Elevation



North-East Facing Elevation



South-East Facing Elevation



North-West Facing Elevation



South-West Facing Elevation