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STRUCTURAL INSPECTION REPORT

Weavers' Sheds, Newsome Mills, Ruth Street, Huddersfield
For Connect Housing

Date 01/03/2023
Ref **21197/SIR002**

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Report Details

Client	**Connect Housing**
Report Title	STRUCTURAL INSPECTION REPORT
Project	Weavers' Sheds, Newsome Mills, Ruth Street, Huddersfield
Ref.	21197/SIR002
Bright Young Contact	J Bright – Redacted

Quality Assurance

Issue No.	Status	Issue Date	Comments	Author	Technical Review
1	Preliminary	01/03/2023	-		
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NEWSOME MILLS, RUTH STREET, HUDDERSFIELD

STRUCTURAL INSPECTION REPORT – WEAVERS' SHEDS

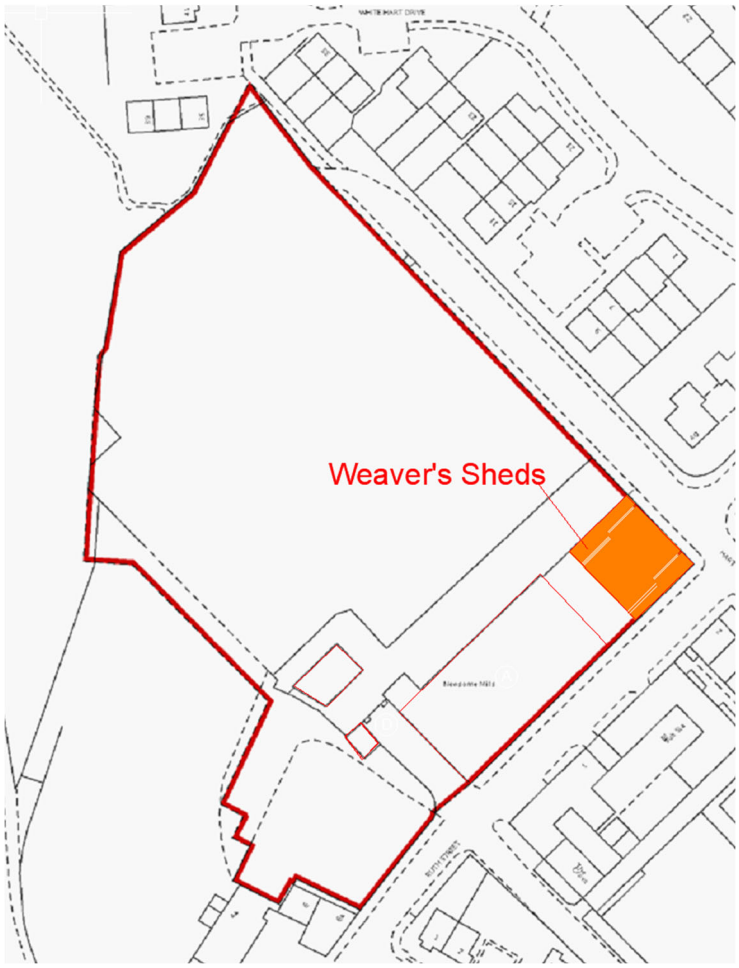
Overview

Newsome Mills was a complex of stone built worsted textile mill buildings dating from the late 1800s. Following a significant fire in 2016 much of the mill complex was demolished leaving a number of remnant structures including a small portion of the original Weavers' Shed building.

The remaining mill fabric including the Weavers' Sheds building are understood to be subject to Grade II listing (see Historic England listing details – appendix C).

The purpose of this report is to assess the structural suitability of the remnant building structure for conservation and conversion as part of a proposed redevelopment of the mill complex. The consideration of the historical and architectural value of the buildings is outside of the scope of this report.

The remaining elements of the Weavers' Sheds building is identified below:



General

Typically, with buildings of this age and type within the local area, external walls will be of coursed sandstone rubble with rubble and lime mortar infill. The more substantial buildings will have a good number of tie stones bridging between the inner and outer stonework and good quality quoins will be provided around major openings and on the corners of the buildings. These walls are intended to act as solid walls and with the rubble in place and quite compact they can be reasonably robust. However, this type of construction is also very susceptible to significant degradation over time particularly where water has been allowed to penetrate the rubble fill between leaves.

When assessing the suitability of this type of building for conversion, appropriate consideration needs to be given to current standards and the efficacy and longevity of common remedial solutions. For instance, whereas most walls can be suitably stabilised, with care, using remedial wall ties combined with bed-joint reinforcement, in some instances, particularly where existing mortar joints have been washed away by water ingress over many years, these techniques can fail, and rebuilding can prove the only suitable method of ensuring the restoration of structural stability.

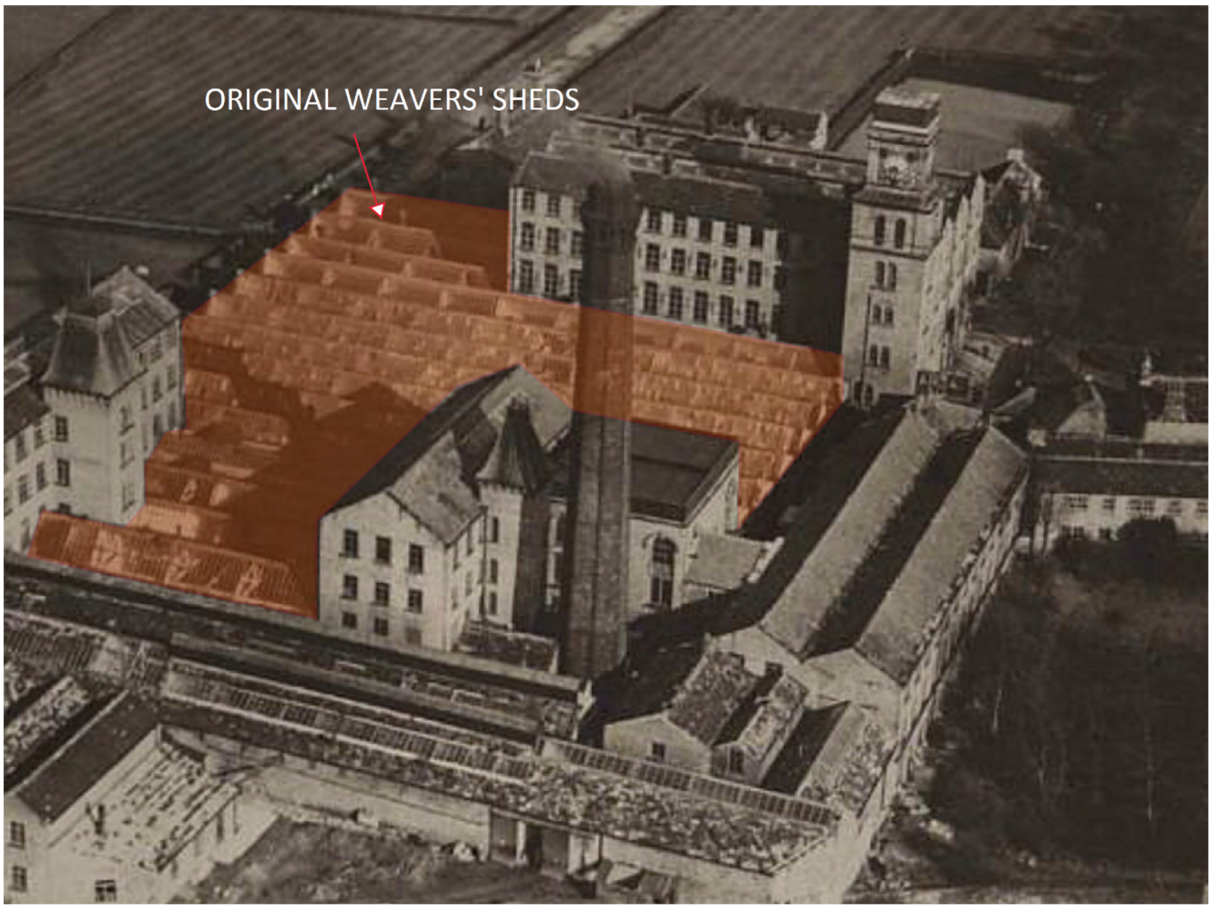
Roof structures will generally comprise of king or queen post trusses at regular intervals supporting square section purlins organised on slope with timber rafters supporting Yorkshire stone or (as in this instance) slate roofing. Generally, original roof structures rarely survive fully intact, and replacement timbers can often be undersized and poorly organised for the support of the substantial weight of Yorkshire stone or natural slate roof constructions. In addition, structural timbers are often found to be distressed due to damp penetration and timber infestation and, as in this instance, fire damage.

Localised foundation settlements are also a common feature of this type of building due to poor quality or absent foundations and variable ground conditions.

To ensure the integrity of traditionally constructed buildings of this type, essential lateral restraint to the external walls is provided by the roof structure, floor structure and internal masonry walls. As the buildings age and become open to the elements due to failures in the building fabric, restraint systems from roof and floor structures can commonly degrade to a point where the structural stability of the building is severely compromised.

Building Description

In its original form, the Weavers' Sheds building occupied a large proportion of the mill complex being largely confined to the body of the site but with a short site frontage onto Ruth Street. The building was single storey and of typical north-light roof construction. The roof structure comprised a series of short span timber roof trusses spanning between cast iron columns with the end bays spanning onto the external wall constructions.



The remaining elements of the original Weavers' Sheds building include a portion of the original stone façade facing onto Ruth Street, a small element of the return wall along Hart Street and a very small element of the original roof structure (now partially supported by remnant cast iron columns, original masonry and more recent light-weight concrete blockwork). Behind the façade the area is now heavily overgrown by self-seeded vegetation making a safe and viable detailed inspection impractical.

What can be determined however is that this element of the mill suffered significantly from the effects of the fire in 2016 and that very little of the original structure remains. No roof covering is evident, and the remaining roof structure has been propped to help ensure its temporary stability.

In its original form, the elevation to Ruth Street was continuous with the main mill building.

The remaining façade onto Ruth Street is now free standing having lost the benefit of lateral support from the original roof structure and any significant buttressing walls and is now not continuous.

All original window openings have been boarded up.

Structural Defects

The building has remained in a state of extreme disrepair for a considerable period and has been open to the elements.

Behind the Ruth Street façade significant vegetation has established rendering a meaningful inspection of the remaining structure and in particular the rear of the façade impossible. From the roadside, water ingress into the unprotected masonry walling can be seen to have deteriorated the structural integrity of the walls at eaves with much of the high-level stonework having become dislodged and potentially at risk of falling. Reference should also be made to BYC drawing SK205 (appendix B for structural assessment records).

Where inspection of the remaining roof construction is possible, the original structure is far from complete with just a few king-post trusses and supporting cast iron columns visible.

All roofing materials have been lost and in its current condition, the remaining structure is not in a safe condition despite some works having been carried out to try to stabilize the construction in the temporary condition (presumably immediately in the aftermath of the 2016 fire).

Conclusions & Recommendations

The remaining elements of the Weavers' Sheds building has suffered significantly, initially due to significant fire damage in 2016 and subsequently due to exposure to the elements over a significant period. This process is ongoing.

In its current structural condition, the building is unsafe due to the mill fire in 2016 and subsequent neglect and, whilst catastrophic collapse is not envisaged, the remaining building fabric does pose a significant risk to the general public. Consequently, it should be secured against entry immediately with appropriate measures being taken to protect the public along the adjoining public and private road network. The site should be secured against public access and all works, including site inspections and surveys, site clearance and investigation works or remedial works should be subject to appropriate risk assessments.

Following the removal of self-seeded vegetation, a more comprehensive inspection of the rear side of the remaining external wall construction will be required to assess its suitability for incorporation within the new build proposals. However, at this stage it is likely that comprehensive structural restoration works will be necessary to bring the façade back to a suitable structural condition and that the new build proposals will need to be carefully conceived, detailed and implemented to reintroduce the necessary lateral stability that was originally provided by the overall building structure.

The balance of the remaining roof structure has no structural value and will be difficult to incorporate into the building proposals for this area of the site.

APPENDICES

Appendix A – Site Location Plan

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- THE CONTRACTOR IS RESPONSIBLE FOR CHECKING DIMENSIONS, TOLERANCES & REFERENCES.
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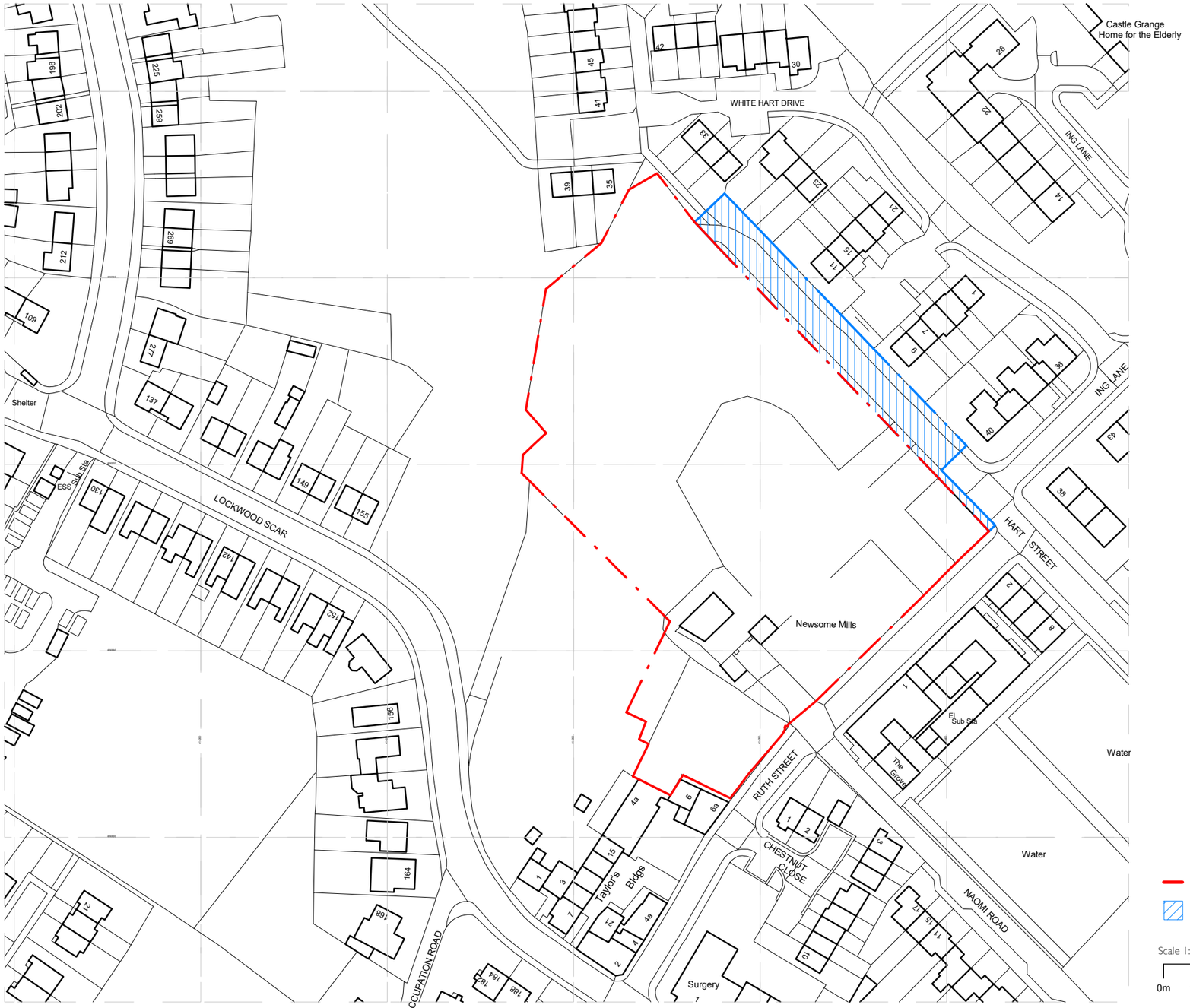
- REPORT ERRORS & OMISSIONS TO ARCHITECT.
- WHERE AN ITEM IS COVERED BY DRAWINGS OF DIFFERENT SCALE, THE LARGER SCALE DRAWING TO BE WORKED TO. DO NOT SCALE FROM THE DRAWING. FIGURED DIMENSIONS TO BE WORKED TO IN ALL CASES.
- CHECK ALL DIMENSIONS ON SITE.
- DRAWING TO BE READ IN CONJUNCTION WITH THE HEALTH & SAFETY PLAN. AND ALL RELEVANT RISK ASSESSMENTS AND THE FOLLOWING DRAWINGS:



Redline Boundary

Additional area of improvement works to Hart Street on council owned land

Scale 1:1250

0m 10m 25m 50m

N

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Revision:	Date:	By:	Remarks:
P01	12.01.23	JS	Issued for pre-app.

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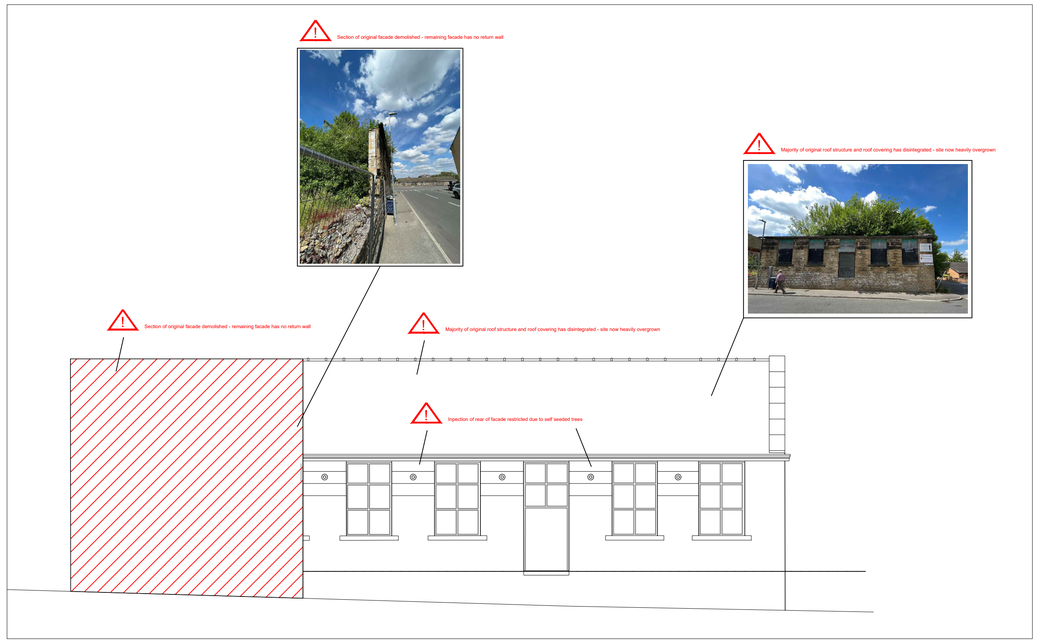
Drawing Purpose:	Revision:	Scale @A3: 1 : 1250	Client:
INFORMATION	P01	Date: Jan. 2023	Connect Housing
Project: Origin.: Vol/Sys: Level: Type: Role: Drg No.:		Drawn: JS	Project No. / Project Name: 21-003 / Newsome Mills
NSM - TRI - ZZ - ZZ - DR - A - 3000		Checked: BPM	Drawing Name: Site Location Plan

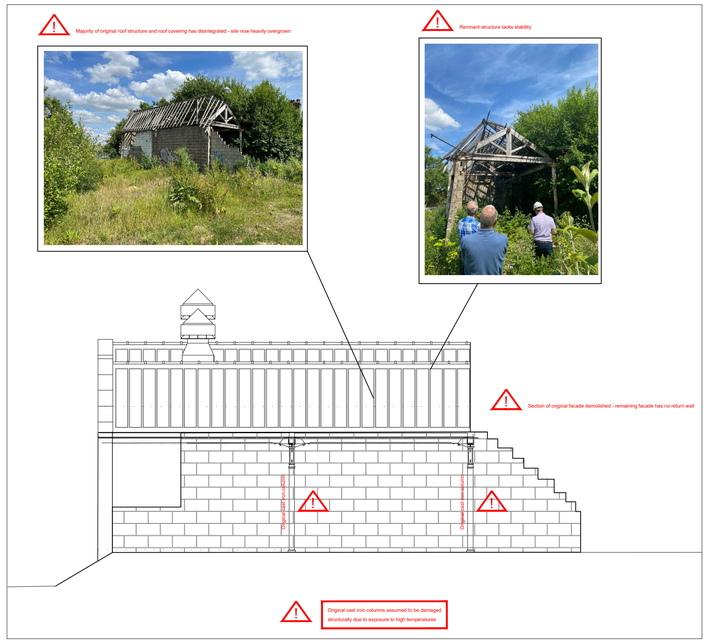
Appendix B – BYC Structural Assessment Drawing

PRELIMINARY STRUCTURAL HAZARD ASSESSMENT						
Hazard	Description	Risk to	Design stage risk mitigation proposals	Date of action or work stage	Risk closed/open/residual	Risk Action owner
⚠	See drawing	General public, workforce (including investigation contractors, consultants and surveyors), listed building fabric	Cordon off site and ensure no public access. Close Ruth Street to pedestrians on site side. Carry out site vegetation removal to permit further structural inspection works	Immediate	Open	Land owner

NOTE - DETAILED IMPLEMENTATION OF ESSENTIAL STRUCTURAL REPAIR WORKS TO LISTED BUILDING FABRIC TO BE AGREED FOLLOWING PLANNING AND LISTED BUILDING CONSULTATIONS



ELEVATION 1



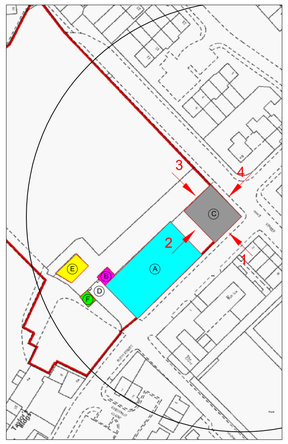
ELEVATION 3

SUBJECT TO FURTHER STRUCTURAL INSPECTION WORK FOLLOWING REMOVAL OF SITE VEGETATION

ELEVATION 2

SUBJECT TO FURTHER STRUCTURAL INSPECTION WORK FOLLOWING REMOVAL OF SITE VEGETATION

ELEVATION 4



KEY PLAN

NOTES

BASIS OF STRUCTURAL INSPECTION

1. Single cursory visual inspection of accessible remnant listed building fabric carried out from ground level on Tuesday 21st June 2022.
2. Building elevations based on CAD file supplied to BYC from a previous planning application

LIMITATIONS

3. No high level access available to assist inspection
4. No opening up work undertaken
5. Widespread self seeded vegetation obscuring significant elements of the existing structure
6. Elements of structure (particularly Building E) currently not in a safe enough condition for internal inspection
7. Timber and damp surveys outside of scope of structural assessment

DETAILED SURVEY WORKS (POST PLANNING STAGE) ENVISAGED

8. Full measured building survey of remnant listed fabric
9. Verticality survey of all walls and structures
10. Material testing of all structural elements to be retained and incorporated into the proposed building fabric including:

- Masonry elements including mortar
- Concrete elements
- Timber elements
- Cast iron elements
- Steelwork elements

Checked	Revisions	Description	Date
	A	PLANNING STAGE ISSUE	19/07/22

Client

COLLABORATE LIVING/CONNECT HOUSING

Job Title

NEWSOME MILL

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Drawing Title

REMNANT MILL BUILDINGS

STRUCTURAL ASSESSMENT

SHEET 5

Scale	Date	Drawn	Checked

Drg No. 21197/SK205 Rev A

REMNANT MILL STRUCTURE (C)

Appendix C – Historic England Listing

NEWSOME MILLS

Official list entry

Heritage Category: **Listed Building**

Grade: **II**

List Entry Number: **1232037**

Date first listed: **29-Sep-1978**

Date of most recent amendment: **09-Jan-2008**

List Entry Name: **NEWSOME MILLS**

Statutory Address 1: **NEWSOME MILLS, RUTH STREET**

This List entry helps identify the building designated at this address for its special architectural or historic interest.

Unless the List entry states otherwise, it includes both the structure itself and any object or structure fixed to it (whether inside or outside) as well as any object or structure within the curtilage of the building.

For these purposes, to be included within the curtilage of the building, the object or structure must have formed part of the land since before 1st July 1948.

Understanding list entries *(https://historicengland.org.uk/listing/the-list/understanding-list-entries/)*

Corrections and minor amendments *(https://historicengland.org.uk/listing/the-list/minor-amendments/)*

Location

Statutory Address: **NEWSOME MILLS, RUTH STREET**

The building or site itself may lie within the boundary of more than one authority.

District: **Kirklees (Metropolitan Authority)**

Parish: **Non Civil Parish**

National Grid Reference: **SE 14368 14860**

Details

This list entry was subject to a Minor Amendment on 31/08/2016

919/44/1153

RUTH STREET NEWSOME NEWSOME MILLS (Formerly listed as: RUTH STREET, NEWSOME TOWER AND ADJACENT ARCHWAY TO NEWSOME

MILL) 29-SEP-1978

II

Mill building of hammer dressed stone, late C19, with associated ancillary buildings.

PLAN: main mill building is triple-span, 16 windows long, 3 bays wide with 2 windows to each bay, four storeys.

ELEVATIONS: to Ruth Street, ground floor windows not seen, 1st floor windows are 8 lights, 2nd floor are 6 lights and 3rd floor also 6 light but shorter. Slate roof: most slates removed to storage. Left return: 3 bays each with 2 windows as at the front, round window in each gable end. Clock tower at left side. Rear elevation has pillars to ground floor, formerly leading to weaving sheds, now blocked.

At the right end of the mill are weaving sheds, single storey, in hammer dressed stone, of the same date. 8 windows, one altered and all blocked, to the front. Right return: 3 bays with north lights, entrance in the left bay, 2 windows in the central bay and single window to the right. Roof slates removed exposing roof structure. Rear: breeze block walls formerly linking to other buildings which are now demolished.

MILL INTERIOR: four floors each with a double row of cast iron columns supporting steel frames and original wooden floors. Evidence of line shafting at the top of the columns. King post roof structure to each bay with north lights. Some original wood and glass partitions on 3rd floor.

TOWER EXTERIOR: hammer dressed stone of 6 storeys, surmounted by water tank. Lower 4 storeys have paired arched windows with plain voussoirs and keystones, crowned by a moulded cornice. The 4th floor has 2 windows with moulded impost band and moulded voussoirs, set in sunk panel, and with heavier moulded cornice. 5th floor has angle pilasters taking full entablature, and clocks on each face, with moulded voussoirs and ornamental spandrels.

TOWER INTERIOR: the tower houses the stairs for the adjoining mill building. Stone stairs rise around a central lift to the 3rd floor. A spiral wrought iron stair rises to the 4th floor which houses a bell inscribed with a date of 1887. Wooden stair to 5th floor.

ARCHWAY: Tuscan pilasters with entasis, taking full entablature and blocking course, inscribed "Newsome Mills". Frieze inscribed "Established 1827" in relief. Cast iron gates with ornamental spear finials.

LODGE: to left of the archway, single storey with hipped roof, arched entrance and double arched window facing mill building.

OFFICE: two storeys with hipped slate roof and central stack. Arched entrance to right, two ground floor windows, single light round arched window above entrance and 2-light arched window to centre first floor. Right return has entrance to left and 2 single pane sash windows to ground and first floor.

HISTORY: The first woollen mill on the site at Newsome was founded by John Taylor in 1827. This building burnt down in 1872 and in 1873 Ephraim Beaumont Taylor went into partnership with Joshua Littlewood, to form Taylor & Littlewood, under which name the firm operated as a worsted mill until its closure in 1983. The current mill buildings must have been constructed soon after, and by 1893 occupied the whole block with integrated mill, weaving sheds, clock tower, ancillary and administrative buildings. After the closure of the mill, most of the buildings were let out as business units until the site was sold in 2006. The boiler house and chimney were already lost by then, and the greater part of the weaving sheds and some of the ancillary buildings were subsequently demolished to make way for housing.

Reasons for Designation Decision Newsome Mills is designated at Grade II for the following principal reasons: * The structures form the major part of a significant worsted textile complex of the second half of the nineteenth century, an industry which was an important specialism within the nationally important textile industry * The tower and archway are of architectural interest, being well executed and decoratively detailed, as well as being the centre around which the other buildings are grouped * They demonstrate in their form and construction their original function * They are largely unaltered both externally and internally.

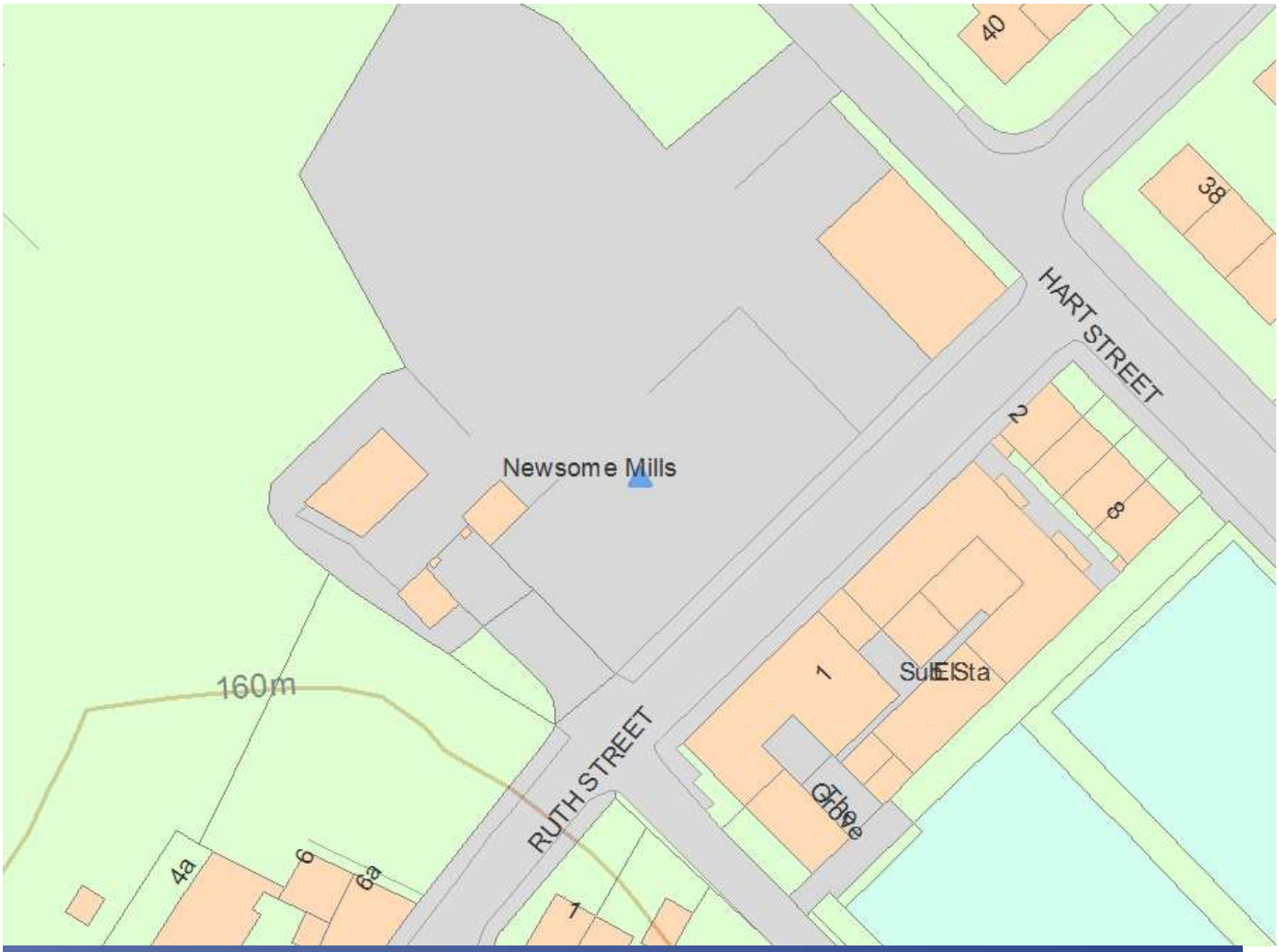
Legacy

The contents of this record have been generated from a legacy data system.
Legacy System number: 407011

Legacy System: LBS

Legal

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.



Map

This map is for quick reference purposes only and may not be to scale. This copy shows the entry on 23-Feb-2023 at 14:40:36.

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End of official list entry

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Appendix D – Limitations

The discussion, conclusions and recommendations contained in this Report are based on a single cursory visual inspection of the property from ground level, without the facilities for high level access and inspection. No opening up works to reveal the detailed nature and condition of the structural fabric was undertaken. The scope of the report does not include the consideration of damp and infestation issues.

The discussion, conclusions and recommendations contained in this Report represent the professional opinions of Bright Young Consulting Limited (BYC), based upon the information listed in the Report, exercising the duty of care required of an experienced Engineering Consultant. BYC does not warrant the accuracy of the information or data forming the basis of the report and will not be responsible for any opinions which BYC has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

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