



# Millhouses Park Mill Buildings

Report

by  
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1	Site History
2	Site Location
3	Project Brief
4	Sun Path and Shadow Analysis
5	Site Plan
6	Large Mill Building
7	Existing Elevations - Large Mill Building
8	Existing Sections - Large Mill Building
9	Existing Ground Floor Plan - Large Mill Building
10	Existing Ground Floor Detail - Large Mill Building
11	Existing First Floor Plan - Large Mill Building
12	Medium Mill Building
13	Medium Mill Building Detail
14	Small Mill Buildings
15	Our Proposal
16	Proposed Elevations and Sections - Large Mill Building
17	Proposed Ground Floor Plan - Large Mill Building
18	Potential Use - Brewery
19	Proposed Large Mill Building - Ventilation and Daylight
20	Proposed Upper Floor Plan - Large Mill Building
21-23	Potential Uses
24	Sustainability
25-29	Site Proposals

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## References

Millhouses History - Chris Keeling article

Mill Buildings Timeline - Friends of Millhouses Park

Existing Plans for Medium Mill Building and Site - Sheffield City Council and Eastwood and Partners

The Millhouses Mill Buildings have a long history dating back to the 13th century. Originally, the mill was established by monks at Beauchief Abbey in medieval times.

Ownership of the mill and the site has changed a number of times over the past 800 years and is currently under the control of Sheffield City Council.

It remained in water powered use until the mid 19th century, and steam powered until the 1940's until it finally closed in the 60's.

Over the years, the original buildings have been built, demolished and rebuilt a number of times. The current buildings date back to the 17th and 18th centuries, but have been altered significantly over the past century.

Consequently, some of the character features have been lost and historic brickwork and windows have been replaced with modern brickwork and dissimilar construction materials.

The current use of the site is as a depot for the council's wardens, but the long history of the site and excellent location makes the site prime for a creative redevelopment.



1893

### Site Ownership History

Beauchief Abbey 1225-1530	Strelley 1540-1634	Bright 1634-1782	Fitzwilliam 1782-1960	Sheffield City Council 1960-
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The site is located in Millhouses, an affluent suburb three miles south west of Sheffield city centre.

The name of the neighbourhood actually derives from the mill itself which further reiterates the long history of the mill buildings.

The site is positioned in the north-west corner of Millhouses Park, a 30 acre green space comprising of a cricket pitch, boating lake, skate park and cafe.

The clients for the project are the **Friends of Millhouses Park (FOMP)** organisation.

They are a community group with over 100 members with the main aim of maintaining and improving the park for the benefit of the community.

Over the last few years, they have raised thousands of pounds through fundraising and have recently raised enough to start renovating one of the smaller mill buildings which was in danger of collapse.



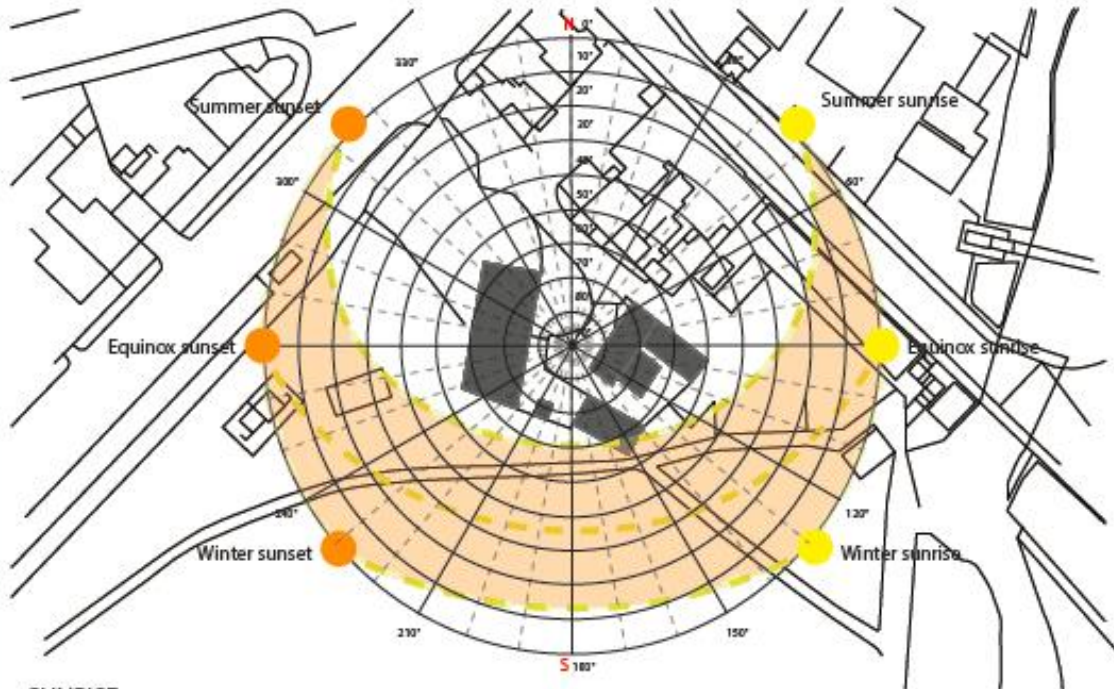
***The main aim of the project is to propose a creative solution for the re-use of the entire mill building site.***

There are a number of important objectives that we have completed to make sure the project is successful and meets the requirements of the brief and the client:-

- We will produce conceptual design ideas for the existing buildings and the whole site.
- We will produce detailed 2d and 3d drawings of the large mill building.
- We will generate ideas for the re-use of the buildings which we think will have a positive effect on the local community
- We will reflect the important heritage of the buildings and create an area which can educate people about the history of the buildings and allow future generations to appreciate it.
- We will assess the potential of incorporating renewable energy technologies into the site to provide energy for the buildings and represent a transition from old to new technologies.
- We aim to re-use and maintain all construction elements of historical value, and restore features of historical merit that have been lost or damaged.
- We will produce holistic design solutions which take into account the rest of the park and local area, whilst still maintaining the site as an area of its own significance.

As this project is being conducted by two persons we have made sure that we have equally split the workload. To make it fair we have divided each task between each other rather than allocating individual tasks. This means that both of us have had experience of each aspect of the project, for example taking photographs, producing computer and physical models, researching, and annotating our proposals.

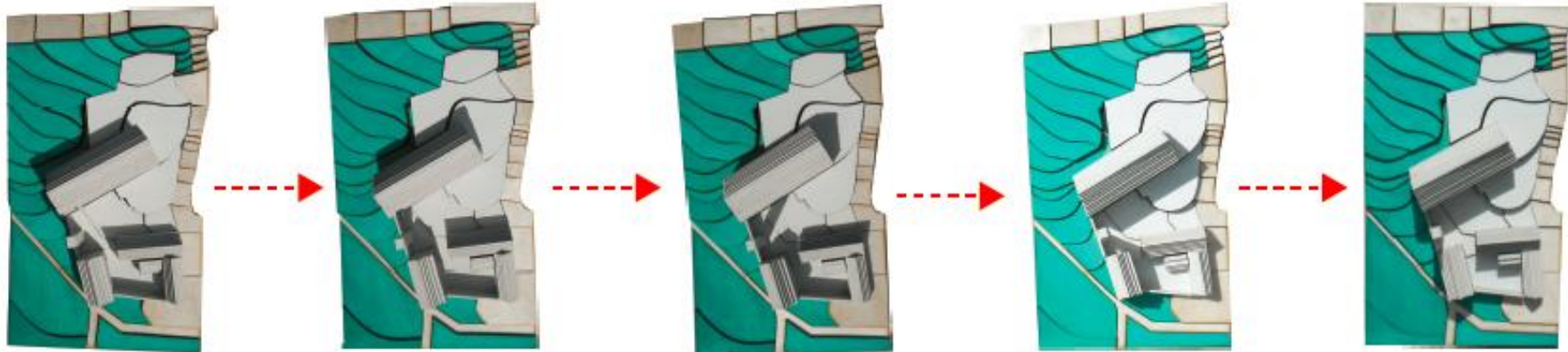
# Sun Path and Shadow Analysis



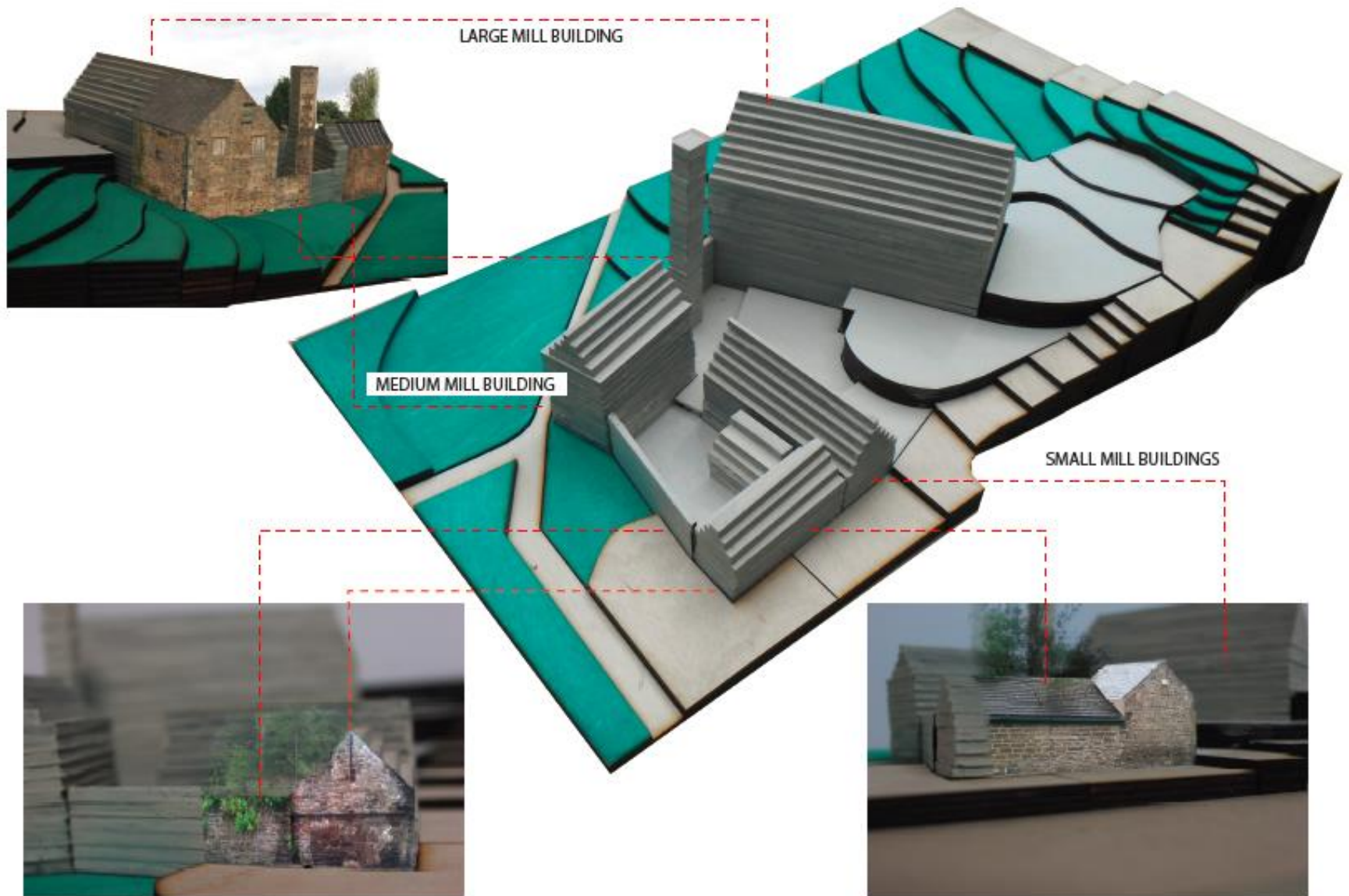
This diagram shows the path of the sun throughout the year. It shows which facades of the buildings will receive sunlight which helps us to make decisions during the design proposal stage.

The diagrams below show the shadows that the buildings create at different times of the day.

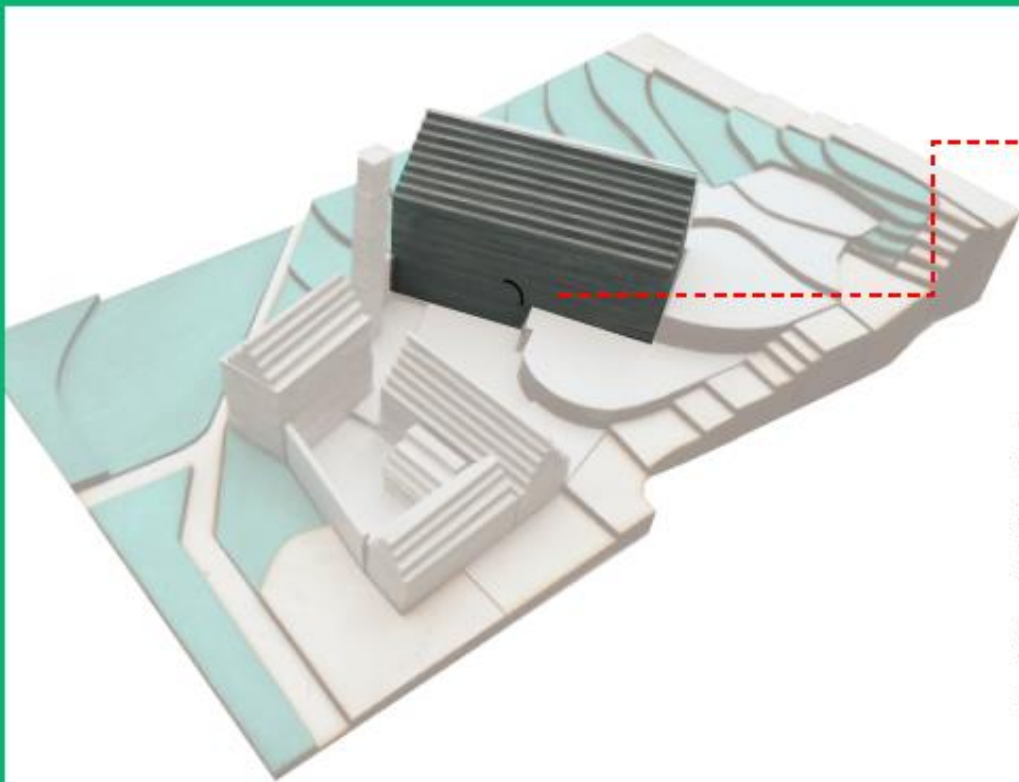
SUNRISE



SUNSET



# Large Mill Building



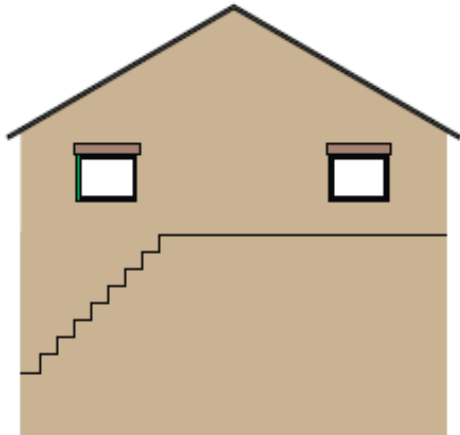
This pictures shows brickwork of an original archway that allowed access into the large mill. It has been almost completely removed and replaced by a rectangular door and masonry brickwork.

This building is the largest on site and has two stories. The lower floor is accessible from the main courtyard and has a double span ceiling height with original beams supported by a modern steel framework. The upper floor has historic beams that were original to when the current building was built over 300 years ago. They have significant architectural and historical value but are very low and may cause head height problems.

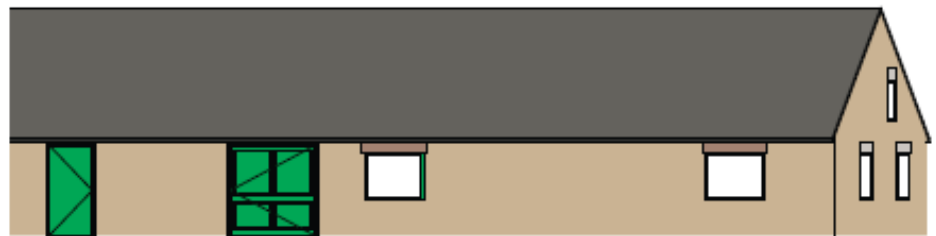




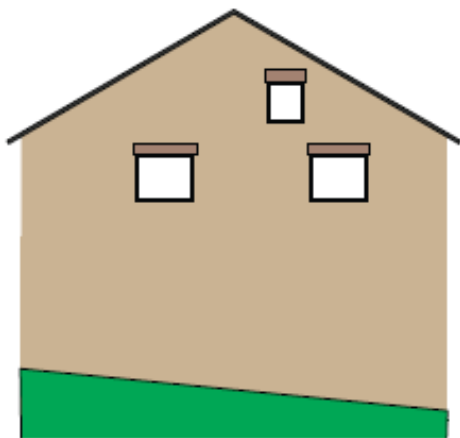
# Existing Elevations - Large Mill Building



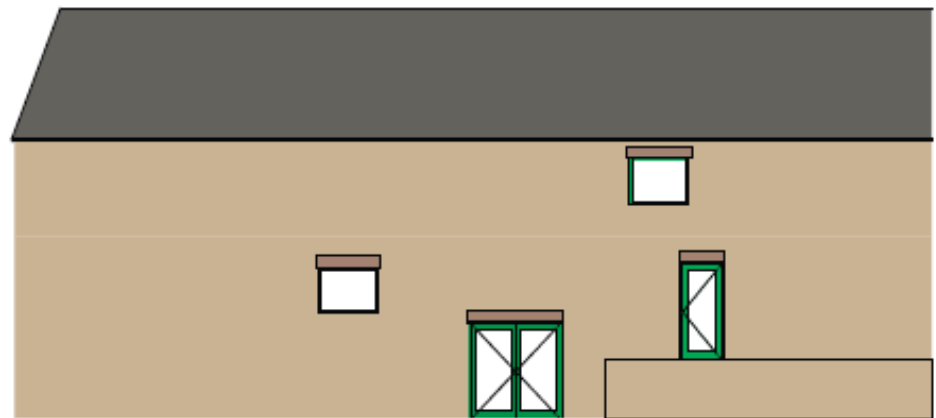
NORTH ELEVATION



WEST ELEVATION

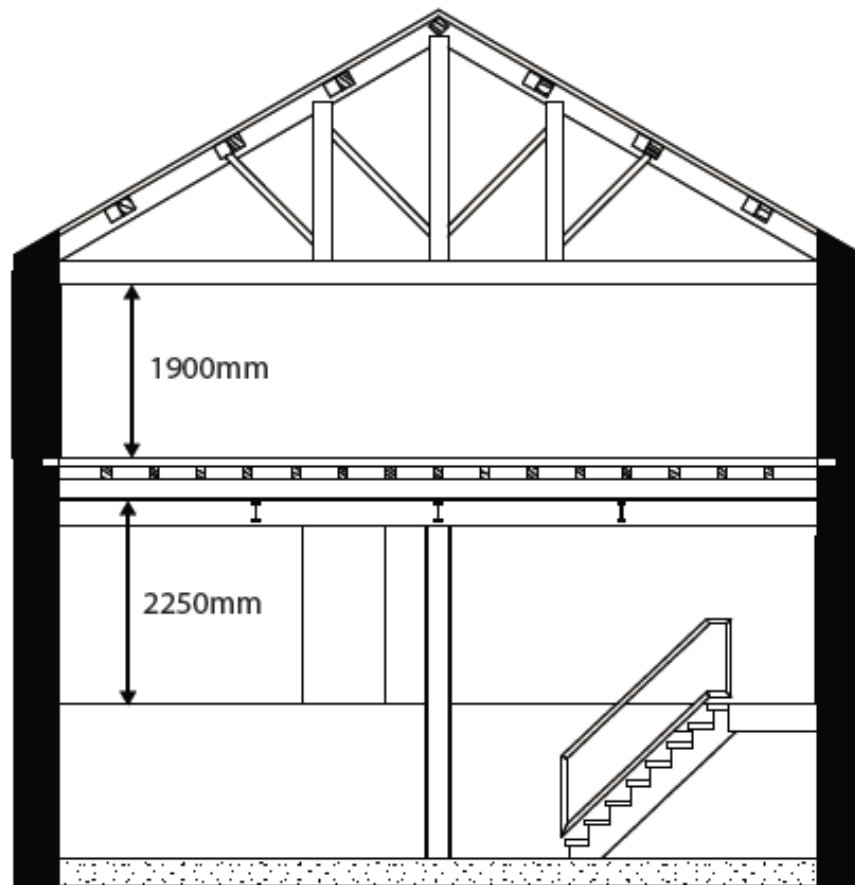


SOUTH ELEVATION

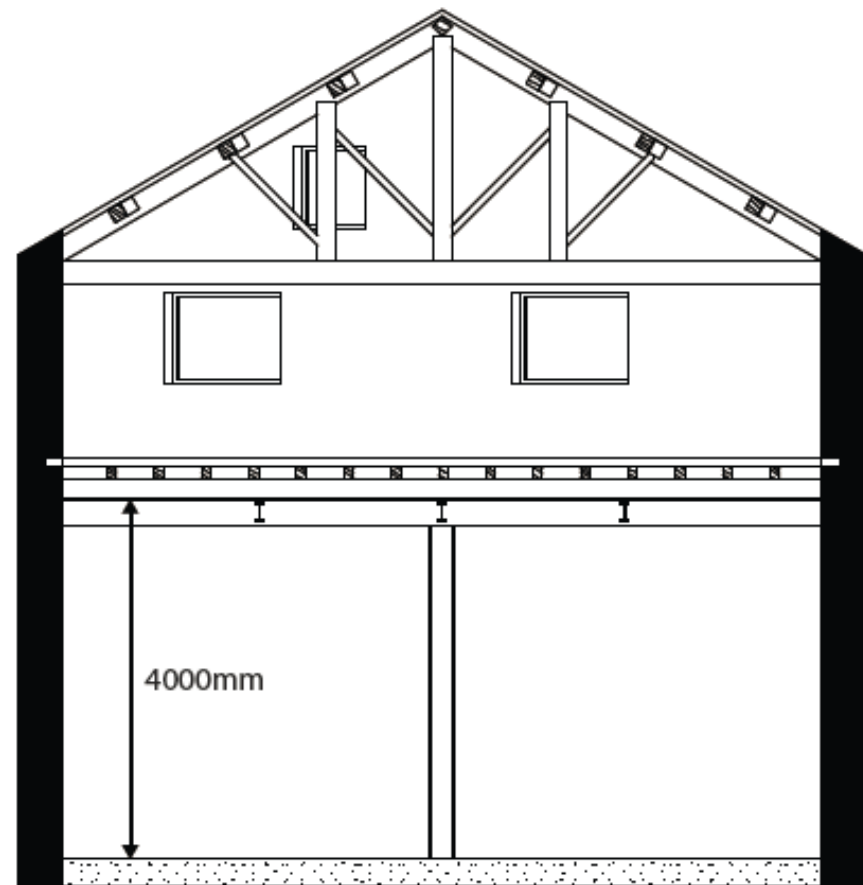


EAST ELEVATION

# Existing Sections - Large Mill Building



Section A:A

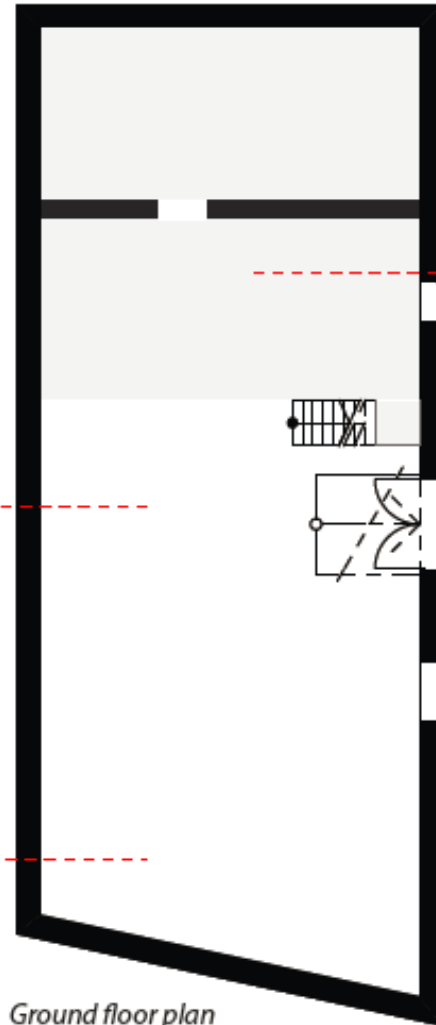


Section B:B

# Existing Ground Floor Plan - Large Mill Building

The ground floor has 100m<sup>2</sup> space with a very high ceiling of 4m.

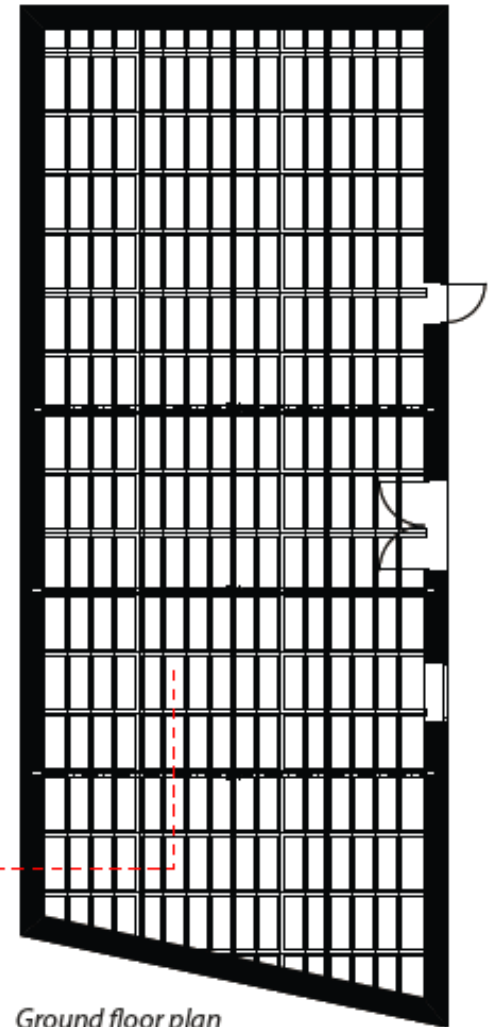
There is also a temporary steel mezzanine structure towards the south of the building.



*Ground floor plan*

There is a raised mezzanine level with 60m<sup>2</sup> of floor space.

The ceiling is supported by original wooden beams



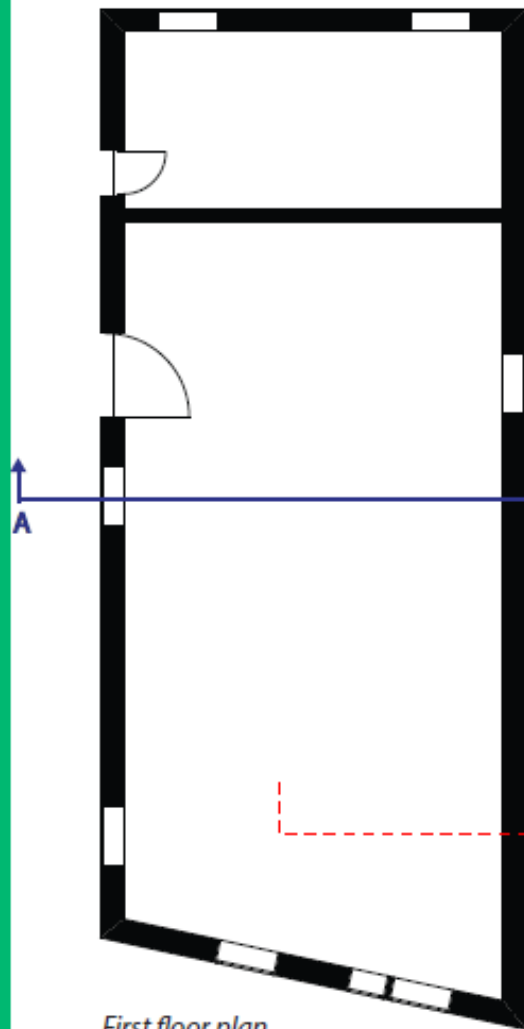
*Ground floor plan with beam detail*

# Existing Ground Floor Detail - Large Mill Building

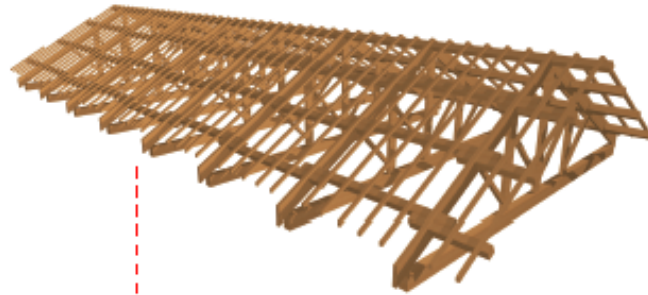
The photographs immediately to the right and below show the character features of the building. These are original arch ways that would be used when the mill was in use to transport materials from the upper floor to the lower. The picture in the corner shows the steel supporting framework.



# Existing First Floor Plan - Large Mill Building

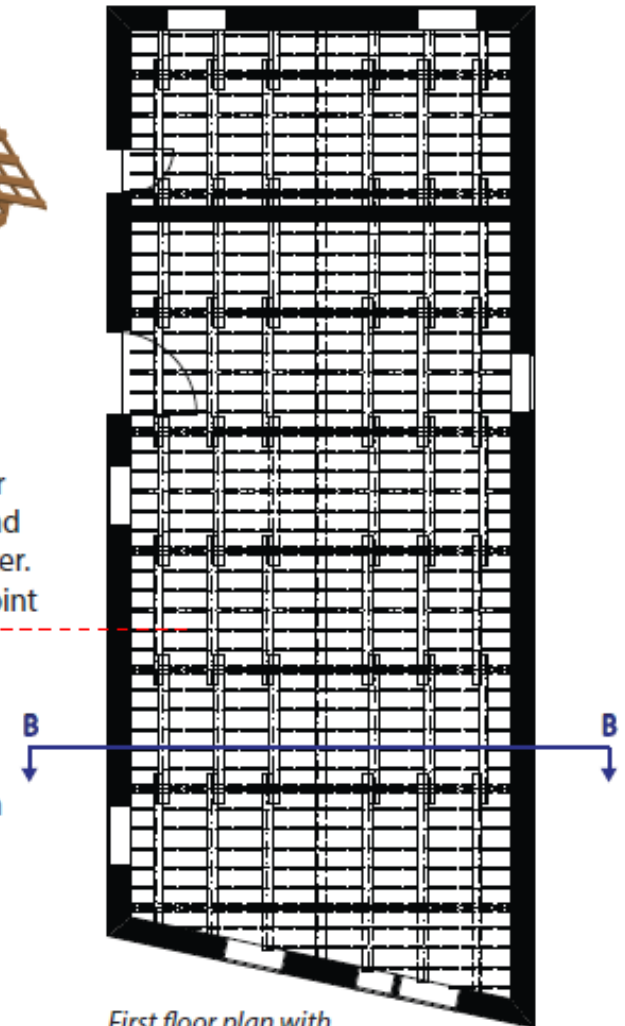


*First floor plan*



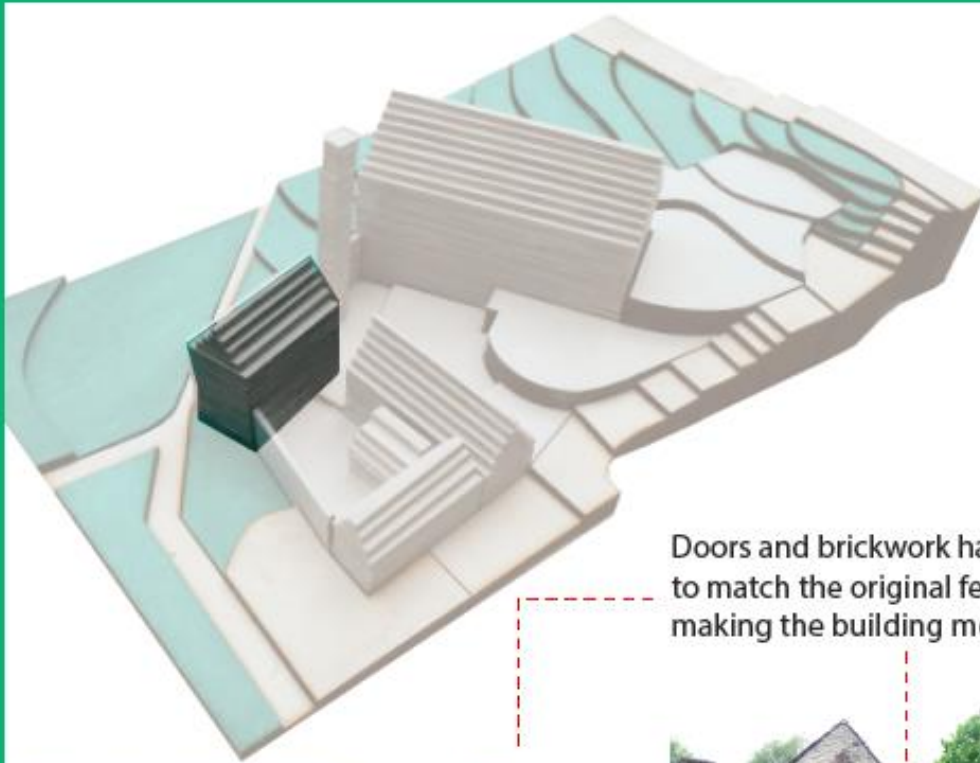
The image above shows the historic beams that hold the roof on the upper floor. They have great historic value and are a key part of the building's character. However, the height at their lowest point is only 1900mm.

The upper floor has 130m<sup>2</sup> of space with an additional 30m<sup>2</sup> room currently acting as a meeting room for the council's wardens.



*First floor plan with beam detail*

# Medium Mill Building



The medium mill building has recently been refurbished by the FOMP. The building was structurally unstable and was close to collapsing but has been reinforced by steel beams and additional concrete blockwork.

Doors and brickwork have been replaced to match the original features whilst making the building more secure.

Eighteen photovoltaic panels have been installed on the south facing roof to provide renewable electricity for the building.



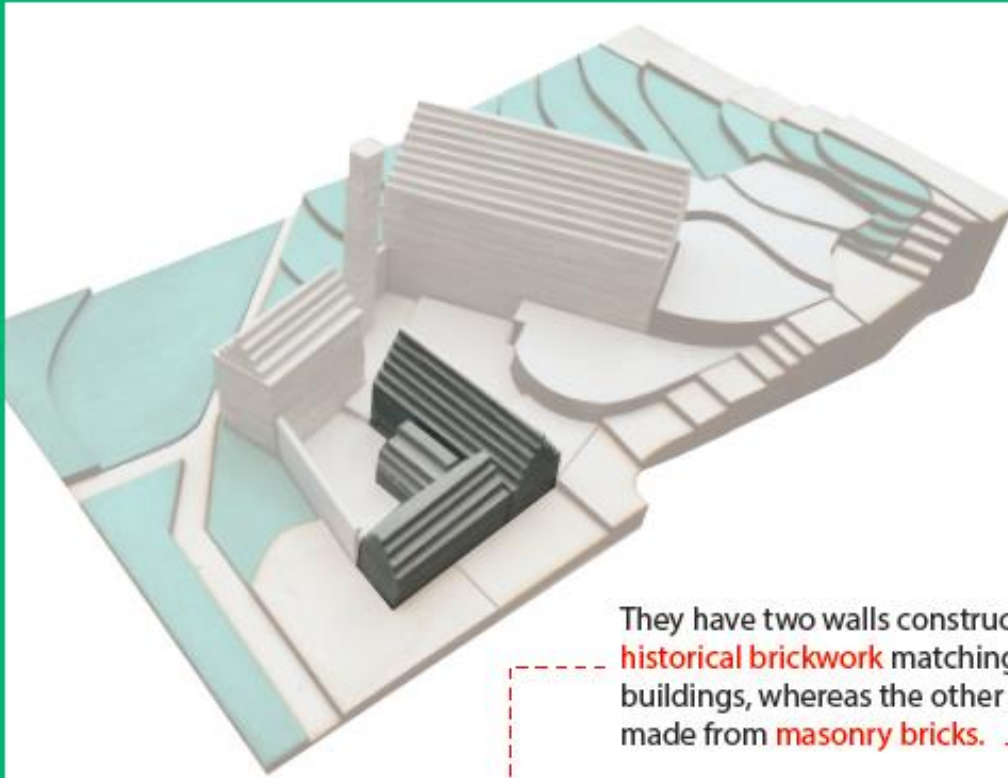


These photographs show the renovation that has been carried out on the building. Additional steel beams have been inserted as well as an inner leaf of concrete blockwork to help make the building more structurally sound.

The original beams have been re-used and made into a character feature.



# Small Mill Buildings

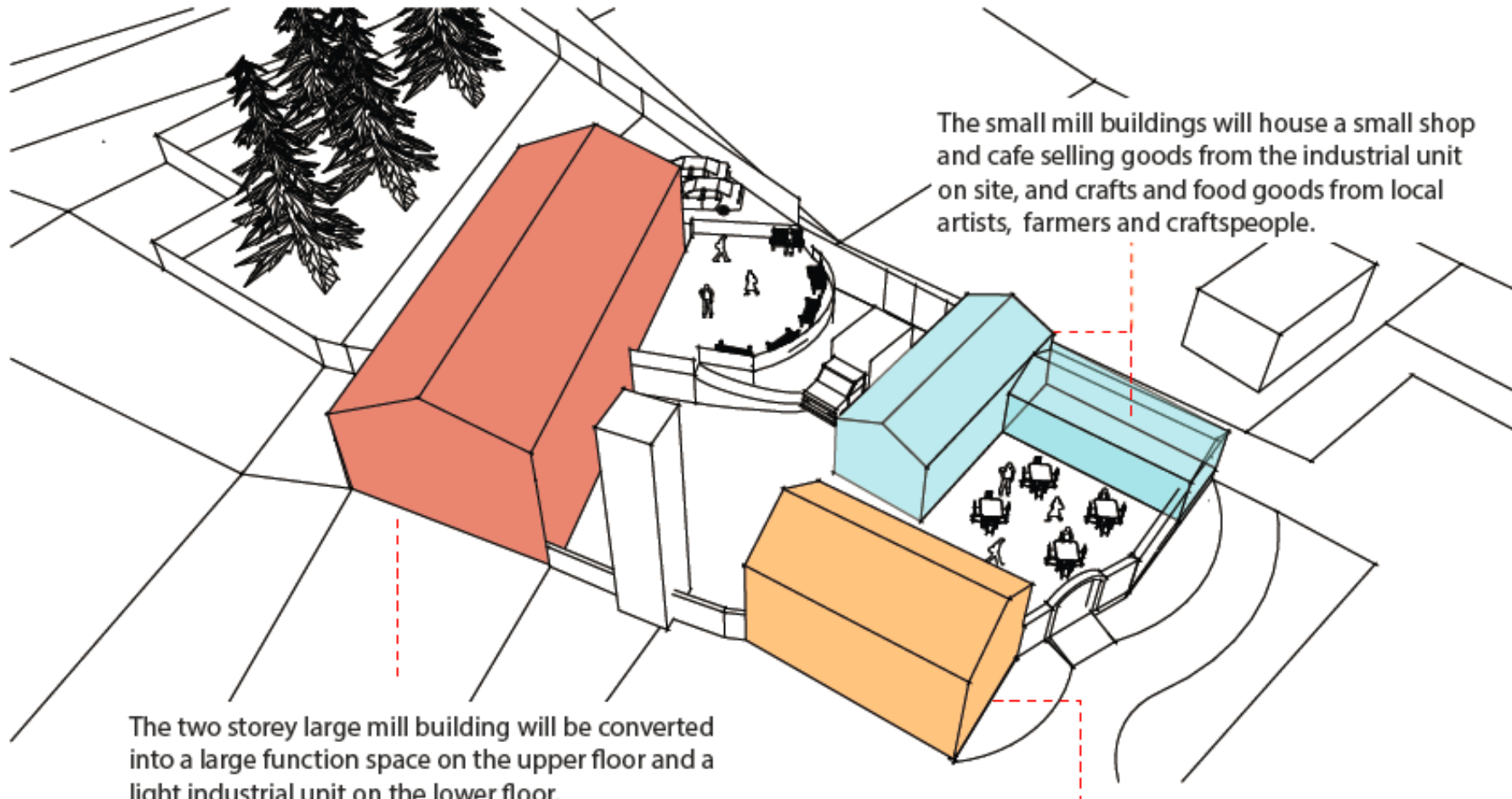


The small mill buildings are unrecognisable from their previous incarnations and have little architectural or historical value. They were however constructed on the footprint of original buildings that were once on the site.

They have two walls constructed from **historical brickwork** matching the other buildings, whereas the other walls are made from **masonry bricks**.







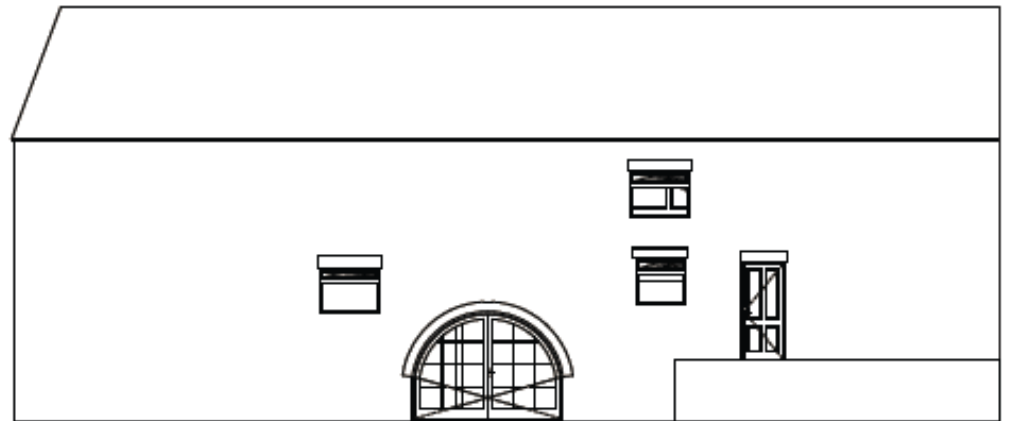
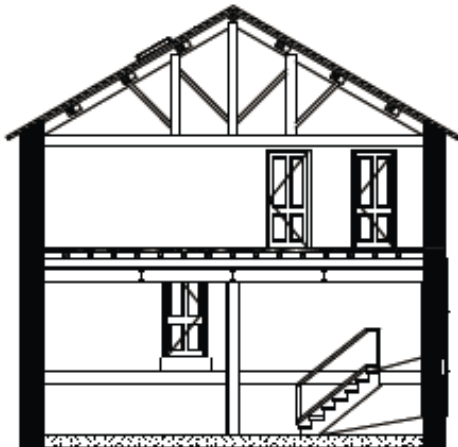
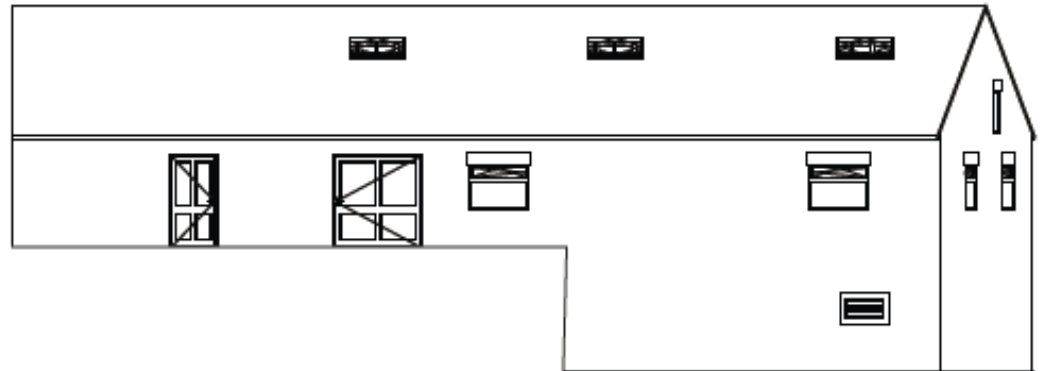
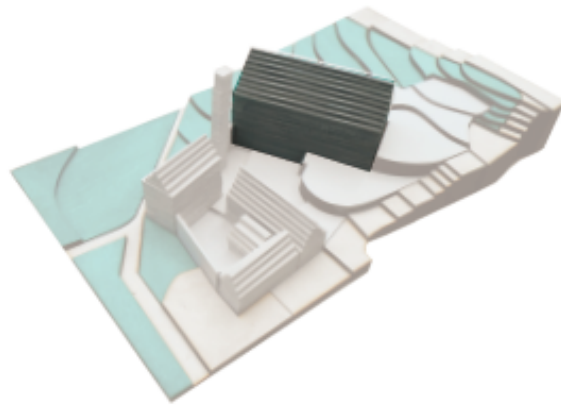
The small mill buildings will house a small shop and cafe selling goods from the industrial unit on site, and crafts and food goods from local artists, farmers and craftspeople.

The two storey large mill building will be converted into a large function space on the upper floor and a light industrial unit on the lower floor.

The two level medium sized building will provide meeting and function space for the local community.

# Proposed Elevations + Sections - Large Mill Building

Large Mill Building



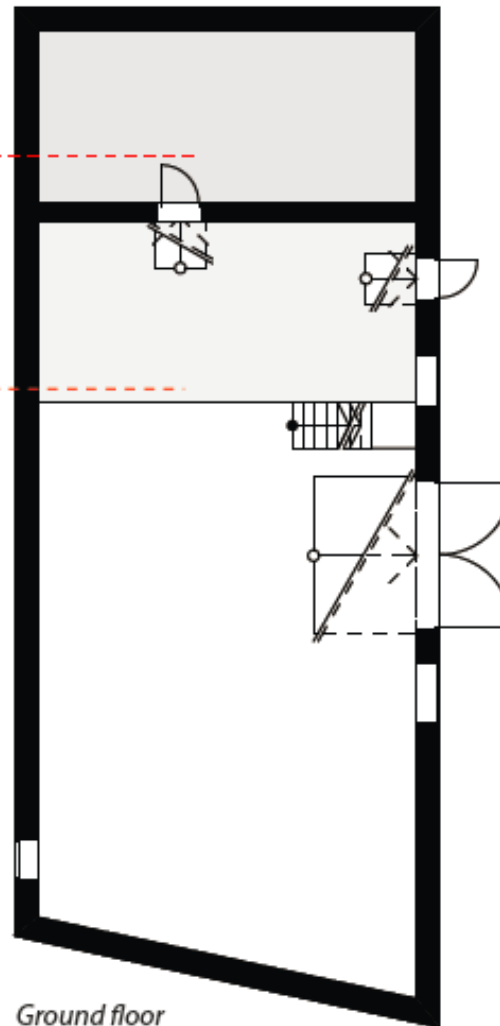
# Proposed Ground Floor Plan - Large Mill Building

The northern most part of the lower mezzanine will not be lowered as this space will be used for storage.

The temporary mezzanine steel structure will be completely removed to make the most of the double height ceiling.

Half of the mezzanine area on the lower floor will be reduced by 30cm as the roof height in this area became too low when the upper floor was lowered.

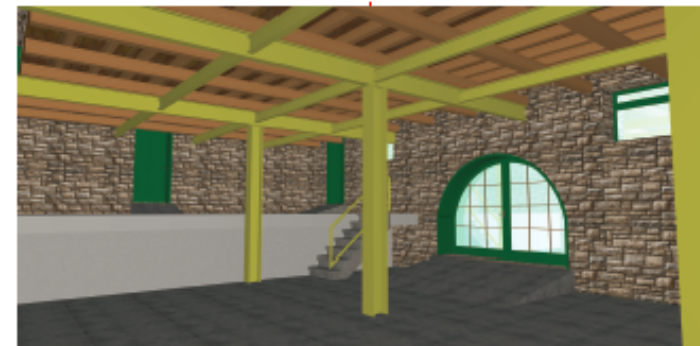
This was a difficult decision to make as the mezzanine is made of concrete and could be difficult to lower. However, we agreed that this was the best possible way of making the upper floor suitable without removing the historic beams.



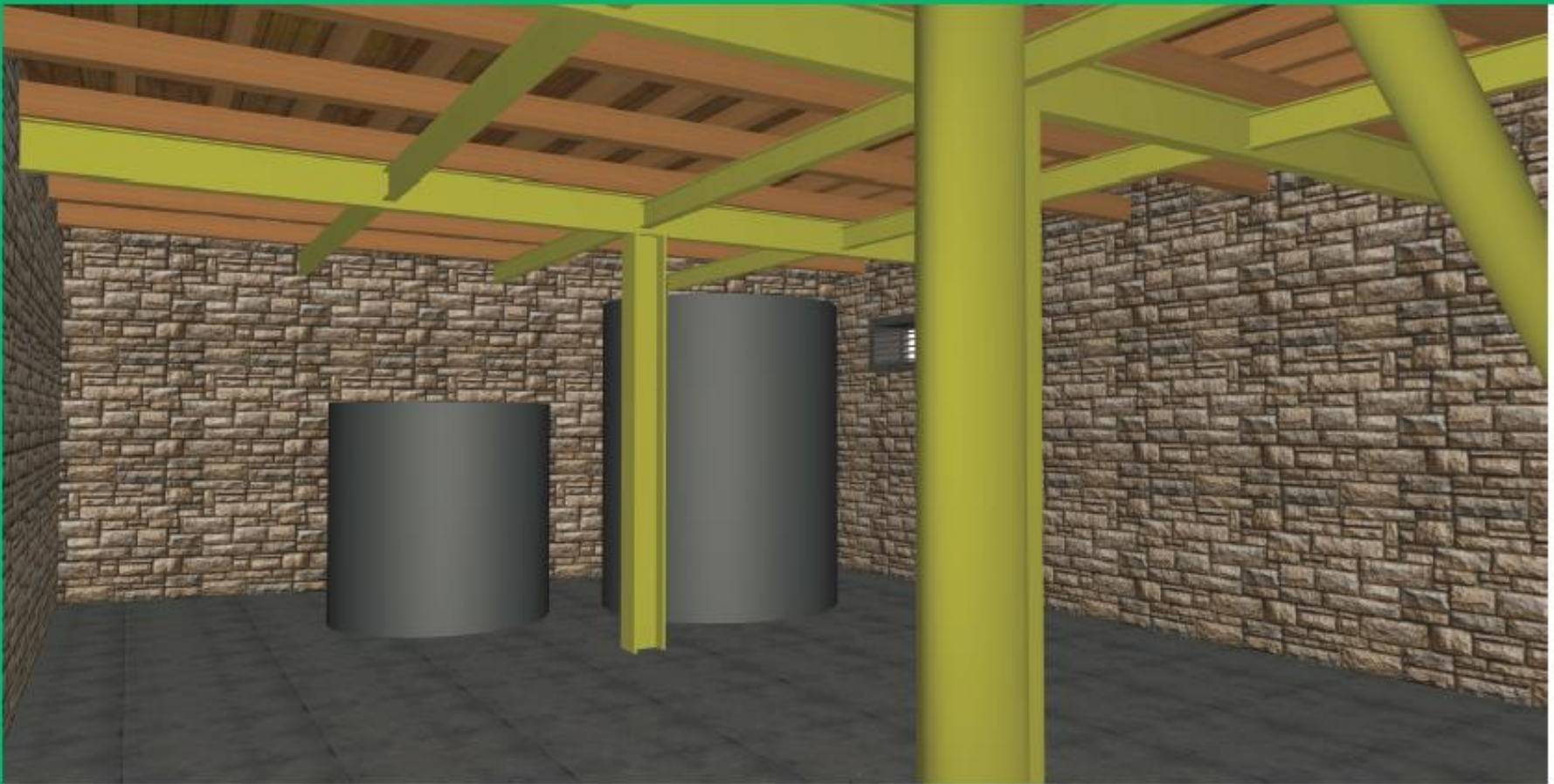
Ground floor

The top floor of the building will be converted into a function space. In order to make the room suitable for occupancy, the floor must be dropped by 30cm.

This makes the minimum roof height upstairs 2.2m and as the lower floor had a height of 4m, it does not have a negative effect on the majority of the lower floor.



The original archway has been restored to bring back the character of the former mill.



The high ceilings make the lower floor of the large mill building excellent for use as a light industry such as a brewery or bakery. As there will be a function space above it is important to exhaust heat and smells out of the building. An exhaust vent has been positioned in the location of one of the former archways that were used when the mill was in use.

A light industry such as a micro-brewery is a great match for this building as it can manufacture products with ingredients sourced from local farms which gives a real sense of the community and character of the area. It also continues the tradition of manufacturing on the site.

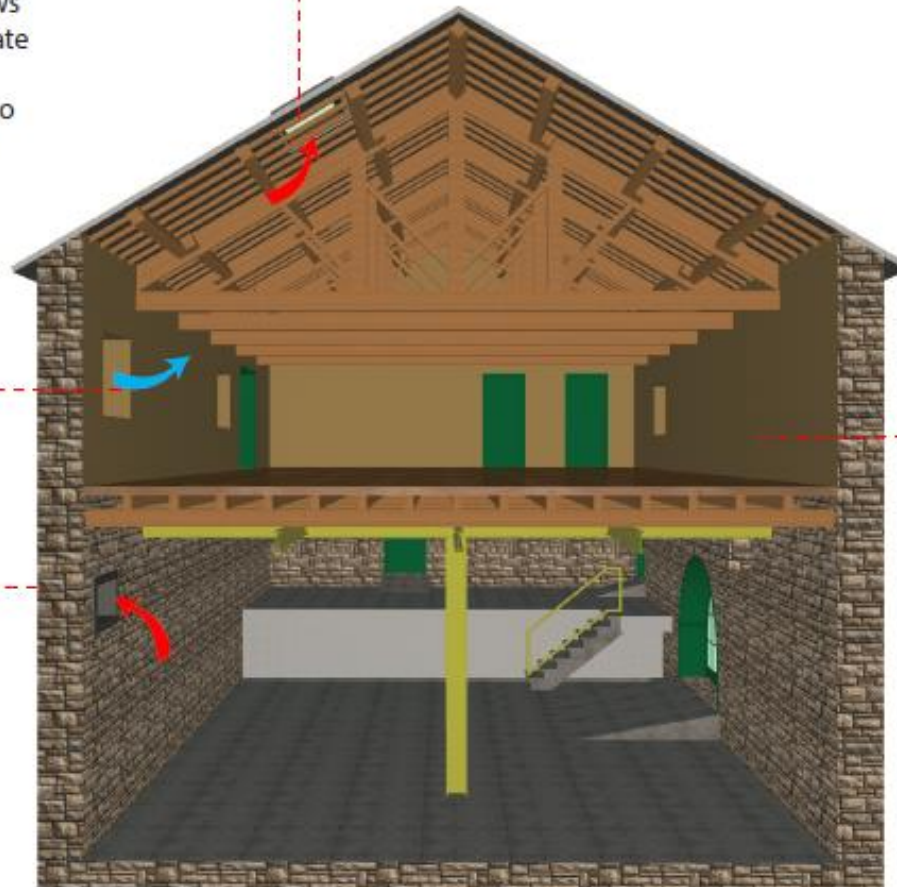
# Proposed Large Mill - Ventilation & Daylight

The original windows were in a very poor condition and were not particularly airtight or secure.

They have been replaced with modern, highly efficient double glazed windows which open to allow cool air to ventilate the upper floor.

These windows have been designed to match the aesthetics of the originals.

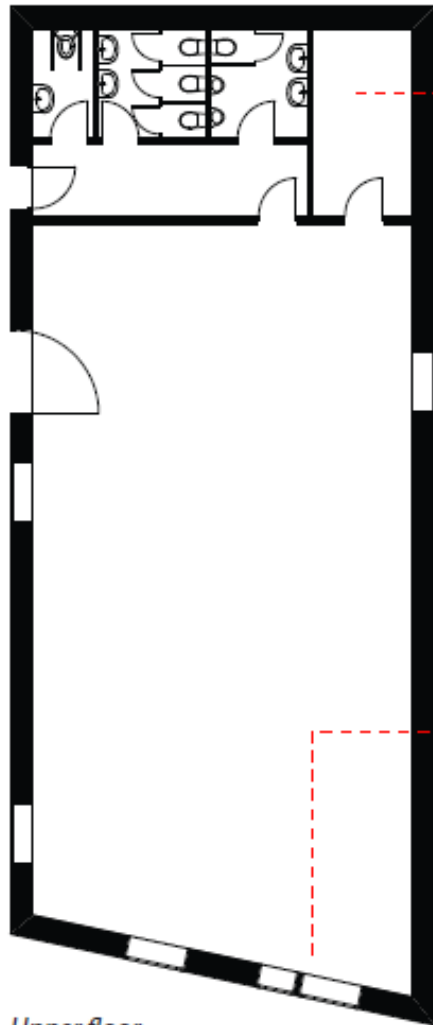
Three new skylights have been installed on the west facing facade to allow natural daylight into the building and to help ventilate the space.



One of the original openings that over time had been bricked in has been re-opened to create an exhaust vent for the light industry processes on the lower floor.

As the upper floor will consist of a function space, the occupancy of the room may be quite significant at times. It is therefore important to make sure the room is adequately ventilated and kept at a comfortable temperature.

# Proposed Upper Floor Plan - Large Mill Building



At the north of the room are toilet facilities and a storage room.

Windows on the south facade of the building allow views across the park as well as allowing sunlight to naturally heat the room.

*Upper floor*

The upper floor now has higher ceilings which make it suitable for use as a function space.



We hoped to propose photovoltaic panels on the large mill building roof but due to the orientation of the building it was deemed unsuitable.

## Art Gallery



The upper floor could be used as an exhibition space for local artist's work. Alternatively it could be used to showcase historical artifacts and the history of the mill

## Dinners and Conferences



The room would make a great space for dinners and conferences for local businesses

## Potential Use - Wedding Venue



The historic beams and building make the room excellent for wedding ceremonies and parties.  
The south facing views allow a view out over Millhouses Park.



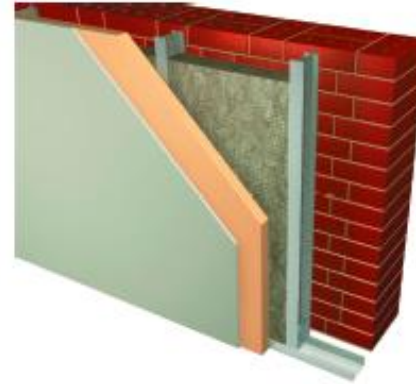
## Potential Use - Party Venue + Barn Dances



Birthday parties and barn dances could be another potential use.

A number of sustainability issues have been considered as part of the proposal.

**INSULATION** - Interior insulation will be inserted on the large mill building to improve the U-values of the wall fabric and reduce the need for heating.



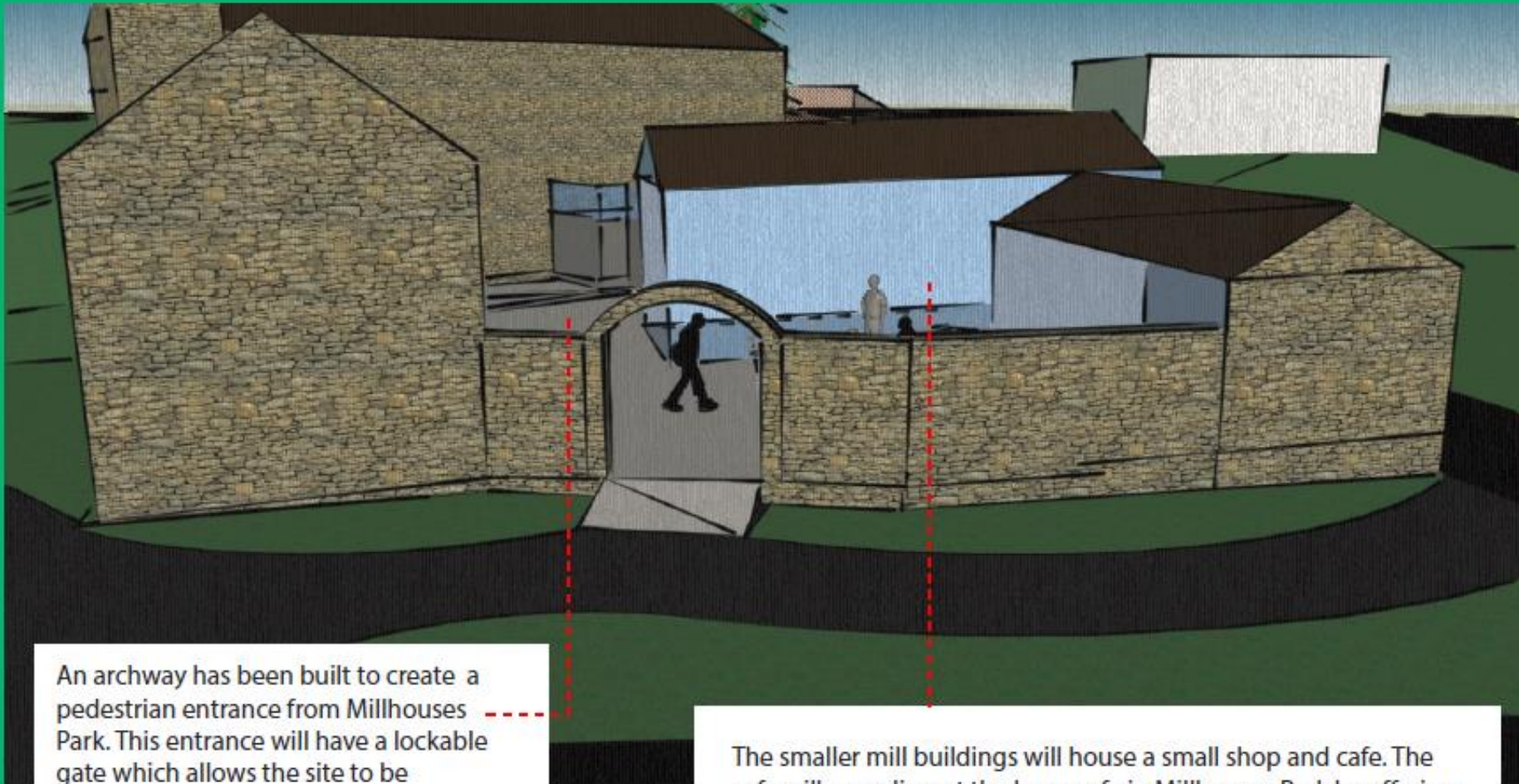
**RENEWABLE ENERGY** - Photovoltaic panels have already been installed on the south facing roof of the medium mill building. They were considered for the large mill building but were deemed unsuitable due to the orientation of the roof.



**MATERIALS** - When possible materials will be re-used as part of the construction and renevation of the project.



## Pedestrian Entrance from Millhouses Park

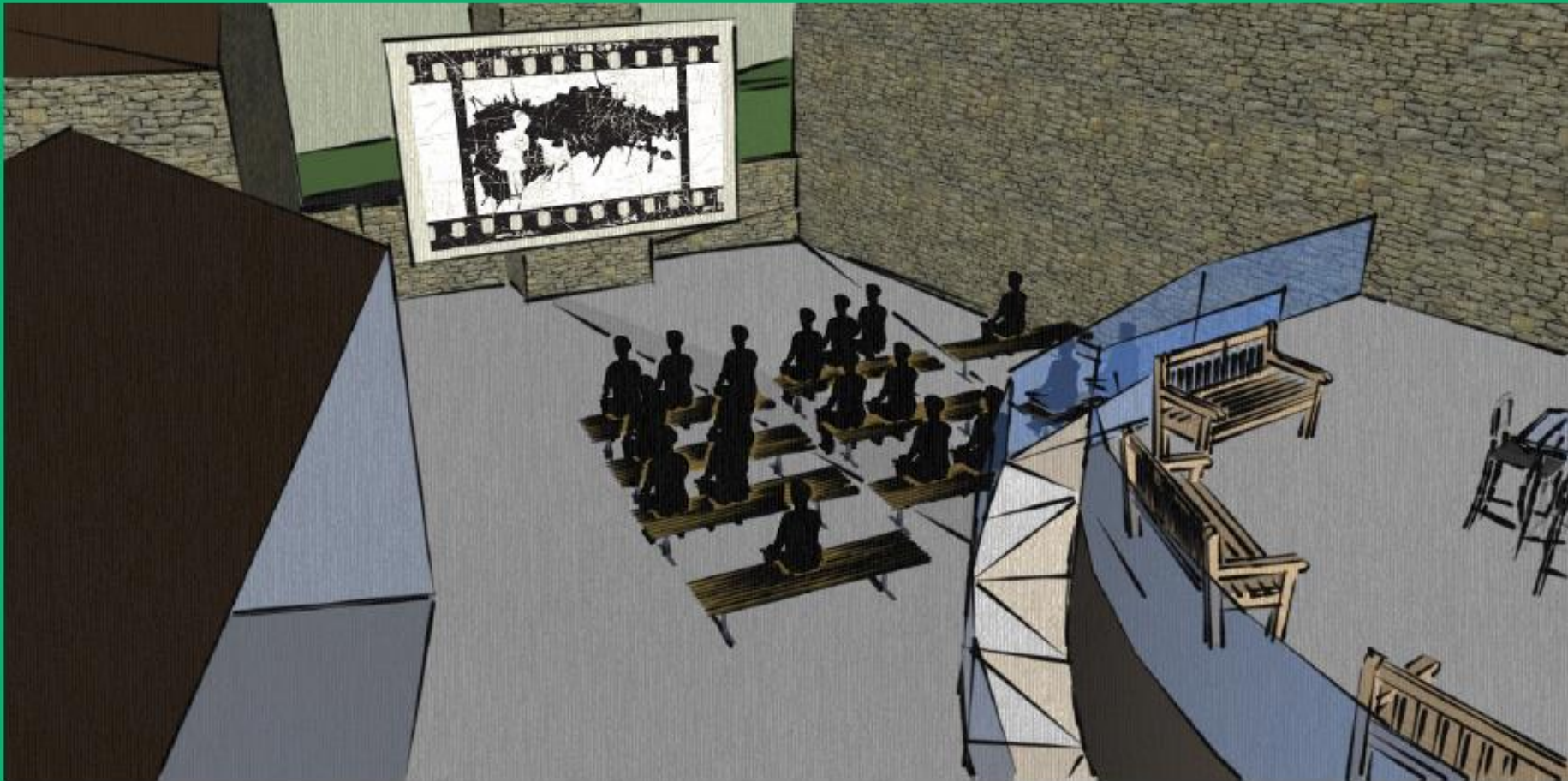


An archway has been built to create a pedestrian entrance from Millhouses Park. This entrance will have a lockable gate which allows the site to be completely secure.

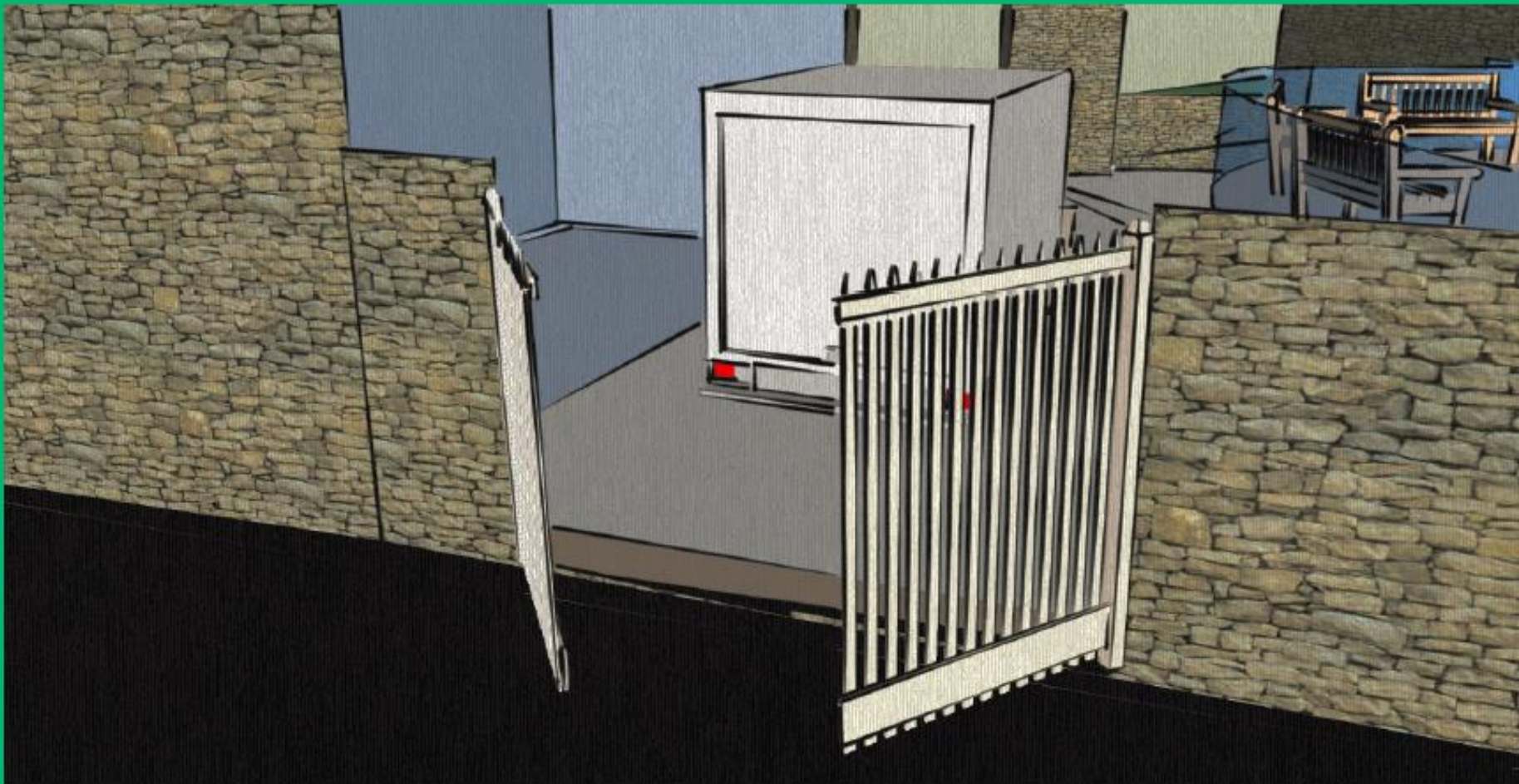
The perimeter wall has also been raised to discourage trespassing.

The smaller mill buildings will house a small shop and cafe. The cafe will compliment the large cafe in Millhouses Park by offering alternative produce, sourced locally from farms and made directly on site.

## Potential Use - Open Air Cinema



The main courtyard could be used to hold open air cinema screenings in the summer. It will help to bring the community together whilst also providing an amenity that is currently not available in the local area.



A goods entrance leading to the main courtyard allows supplies and goods to be transported in and out of the ground floor bakery.

## Potential Use - Live Music Events



The main courtyard could also be used to host live music gigs and concerts. Local food and goods made on site could be sold at the shop as refreshments for the music goers.

## Courtyard + Raised Seating Area



The renovated courtyard space is the centre of the development and creates a vibrant and lively atmosphere for visitors to the cafe and shop, and for the function guests.