

Spotters' Guide to **Mud & Stud**



The Mud & Stud Buildings Project



Historic England



Lincolnshire
COUNTY COUNCIL
Working for a better future

The Mud & Stud Buildings Project
is funded by Historic England and
managed by Lincolnshire County
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INTRODUCTION

Lincolnshire has a long history of building in an unusual way, we call it 'mud and stud'.

We know that it was once common all over the county, but most of the buildings have been lost over time and many of them have been altered so much that their origins aren't immediately obvious.

The Mud and Stud Buildings Project aims to find out what survives. We want to identify and record as many examples as we possibly can, so that we can better understand and protect this precious aspect of our county's heritage.

You can play your part too; as you travel around the parts of the



© Naomi Field

county which you know (or even a bit beyond) keep your eye out for any buildings which fit the pattern in this guide and let us know about them. All the details about how to do that are on the back page.





WHAT IS MUD & STUD?

Mud and stud is a way to build houses, barns and other buildings. It uses a combination of earth (mud) and timber (stud) to produce a building which can be a wide variety of shapes and sizes, although the limited amount of woodland in Lincolnshire means that these buildings are rarely large.

Mud and stud buildings were very common in Lincolnshire (and a little beyond the county boundary) before the modernisation which happened after the Second World War, although they had been under threat since the Victorian period (the Victorians loved to be horrified by traditional building, particularly mud and stud, which they often saw as unsanitary and insecure). We know that there were thousands of examples in, say, 1820 but there are fewer and fewer surviving now. Often this is because they have been extensively altered over time,

meaning their significance is not recognised until they are demolished.

HOW DOES IT WORK?

If you wanted to build a mud and stud house, you would first build a simple timber frame from the trees you might find in the hedgerows around your village (be sure to ask the permission of the landlord first!) The timbers probably won't be very straight but that doesn't matter.

Next you need to find a source of good, probably clayey, soil. Chop up the straw left over from last year's harvest (or use reeds if you live

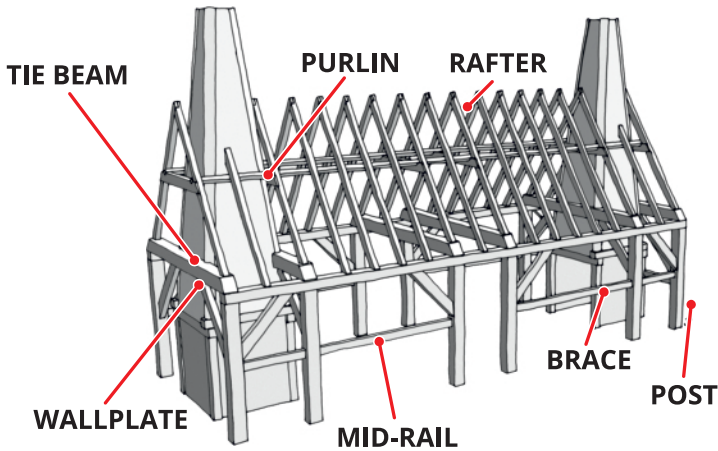
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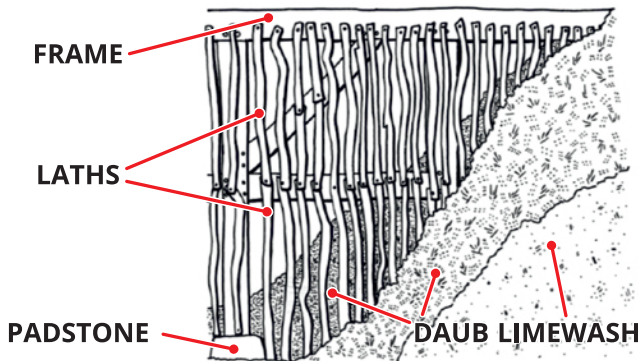
near the fen-edge) and 'puddle' (mix) the mud, straw and plenty of water until the material is a sticky and well mixed daub.

While you're letting the mix mature, collect hundreds of straightish hazel wands or make riven ash laths and nail them to the frame all over (don't forget to leave spaces for the windows and doors).

Now you can thatch the building, but don't forget to build your chimney stack first if you're having one. You can make that out of mud and stud too if you don't have any bricks.



Once your daub is ready, cover the whole of the outside of the building in mud, including all of the timber frame to a depth of several inches and simultaneously do the same on the inside (you'll probably end up with the major posts and other timbers still visible internally). Now let it all dry out, then you can limewash the interior and exterior to protect the daub.



HOW OLD ARE THE BUILDINGS?

We don't actually know! One of the aims of the project is to begin to understand the age of mud and stud as a technique.

We believe from documentary sources that mud and stud was in use in the fifteenth century and we know that it was still in use for houses (albeit probably rarely) in 1850.



However, we don't know exactly how old any one building is, as the usual scientific means which historians use to date buildings ('dendrochronology' or tree-ring dating) don't work, because the timber isn't substantial enough.

We hope that one of the long-term outcomes of this project will be a clearer picture of just how old mud



and stud buildings are, using documentary research, architectural analysis and perhaps some of the emerging scientific dating techniques like carbon dating and isotope analysis.

Close-up of a decaying panel of mud and stud, showing the way the laths and daub interact



SO HOW CAN I RECOGNISE A MUD AND STUD BUILDING?

While mud and stud can be used in all sorts of ways, there are some common features which you're likely to see in the buildings.

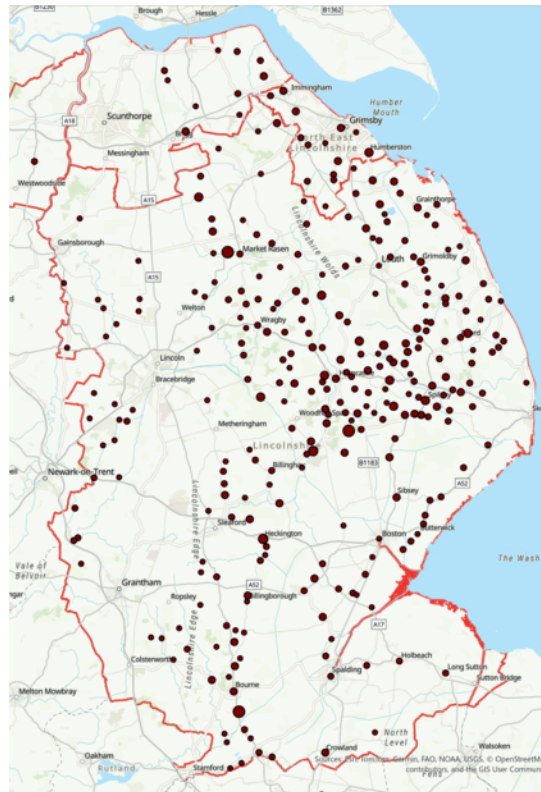
None of these are present in 100% of examples but if you have a building which is displaying a fair number of these traits, there's a good chance that it may have been built of mud and stud. It is worth checking whether it is already recorded with the Historic Environment Record (HER).

If not, do let them know so the information can be captured. Mud and stud was also used as a way to make internal partitions in buildings of other materials (stone or brick, for example) and in the past it was used to build freestanding walls in gardens and farmyards.

WHERE ARE THEY?

Mud and stud buildings are found across all parts of Lincolnshire and in a wide range of settings, including towns, villages and isolated locations.

While East Lindsey is often associated with well-known examples, they occur across the county. Hearing about isolated examples is particularly valuable, as these are the hardest to identify.



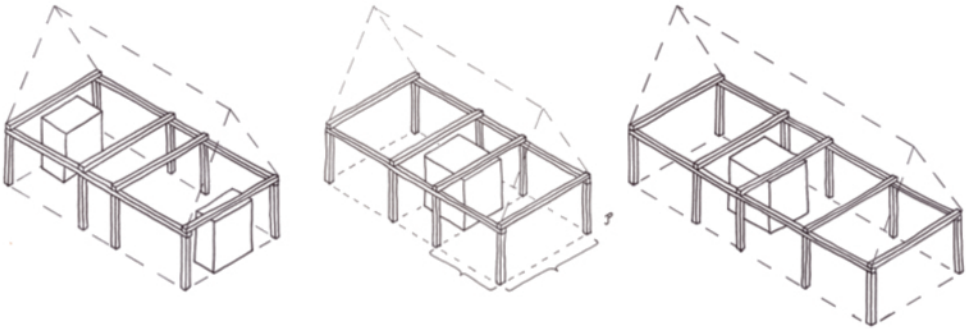
Map of locations where mud and stud is known or believed to have existed

BUILDING SHAPE

Mud and stud buildings tend to be long and thin, usually one room deep.

They might be rectangular, L-shaped, T-shaped or in one unusual case, vaguely banana-shaped but they are very rarely close to a square plan.

Houses are often two to four rooms long, while barns can be larger. You may have heard that they are 'normally' two rooms either side of a chimney. Some are like that, there are many layouts. Usually a room corresponds with a 'bay', which is the gap between two posts.



Examples of different frame arrangements

This may be complicated by 'outshuts' – low extensions added to a building after it was originally finished. These are often on an end wall or at the rear of the building and may or may not be the full width of the building. The changing-pitched roof is known as a 'catslide'.

Mud and stud buildings tend not to be very tall – most commonly they're single-storey buildings, often with attic rooms added later (dormer windows are a good indication of this). Some examples

are a little taller, being 1½ storeys and a very few buildings are truly two-storey.

Gabled roof with catslide outshut





Half-hipped roof and axial stack with small outshut © Rodney Cousins



Gabled roof with later raking dormer window

However they often have tall, steeply pitched roofs (typically around 50-55°), giving the building a somewhat top heavy appearance.

The roofs can be a number of shapes – hipped, half-hipped and gabled (often with chimneys at the gable ends) or even a mixture of types at either end.

A few examples have obviously had their roofs changed, which often happens when rooms are added in the roof – a half-hipped roof allows you to have windows in the gable end.

Chimneys which aren't at gable ends are usually found along the ridgeline, often positioned so that the front door opens onto the stack. Chimneys along the long walls are very rare indeed and were probably added later.



Gabled roof with gable stacks and raking dormer © Rodney Cousins



Hipped roof with axial stack



Rounded corners in thatch and daub

FEATURES OF THE BUILDINGS

There are a few features which are particularly helpful in identifying mud and stud buildings. You may see the whole building displaying these or it may just be in one part.

Mud and stud lends itself to less regular shapes, so the buildings often have rounded corners. You may also notice that the wall appears to taper from ground to eaves.

The upright posts which form the frame are often placed on large flat stones ('padstones').

These can be carefully squared (some examples are even carved stones recycled from nearby monasteries) or large natural boulders. These boulders often stick out at the base of the walls, especially at the corners, and can indicate where the bays are.

Not all mud and stud buildings have completely hidden timbers externally. You might see ends of timbers sticking out of the walls (especially on gable ends under the eaves) or even whole timbers which haven't been daubed over.

There are some other features which are less reliable but still good indicators of an interesting building.



Padstone supporting post, with brick underbuilding. © Richard Croft



Exposed timber in mud and stud wall © Naomi Field



Mud and stud underbuilt in stone

Mud and stud buildings have very often been updated by having an extra skin of brick (or even stone) added around the outside or even by having the daub removed and replaced.

This makes them easier to maintain but also disguises their mud and stud origins, which was often seen as desirable in the later nineteenth and twentieth centuries.

Sometimes this is indicated by windows and doors being surprisingly deep-set in the walls. In some cases, only one or two walls have had extra skins added or only the lower parts of walls.

In other cases, all sorts of alterations have been made, including extending the buildings upwards to create a full upper storey with a new roof.



Daub replaced by brick with exposed post © Richard Croft



'Battered' wall tapering up

Most mud and stud buildings originally had thatched roofs; the majority of these have been replaced with tiles (very often pantiles).

A few examples, however, have retained their thatched roofs and had other roof coverings added over the top, either tiles or corrugated iron (often known as 'wiggly tin').



'Yorkshire slider' window

They end up being a very distinctive shape!

Because of the thatched roofs, chimneys often end up being quite tall, even when the thatch has gone.

It is very rare for mud and stud buildings to have more than two flues per chimney stack because almost none have fireplaces upstairs.

Windows, where they are original, are usually rather small.

Yorkshire sliding sash windows are common, although other types of window are known too.

Original windows, however, are rare.



Encased mud and stud with thatch and 'tin'-covered thatch



Tall chimney on a roof with tiles over thatch

INTERNAL FEATURES

Most of the features described on the previous pages can be identified seen externally.

Internal features are less accessible but if you go inside a mud and stud building there are a few tell-tale signs.

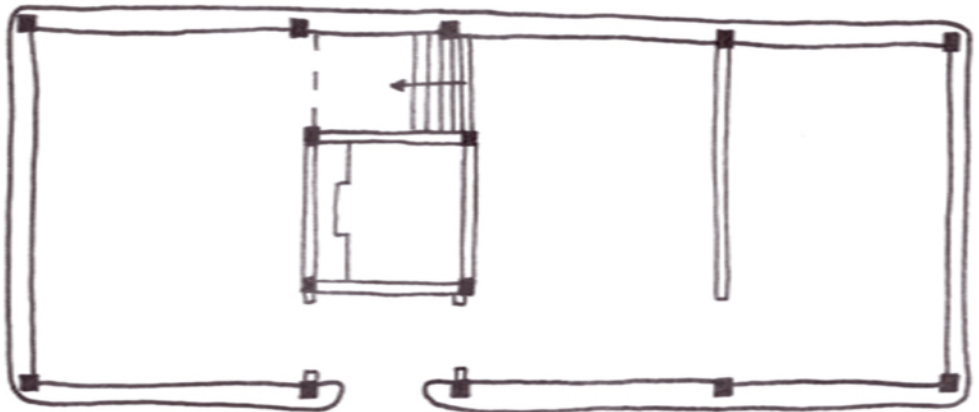
Visible timbers are not usually confined to ceilings, although wall timbers may be plastered over and concealed.

In the absence of other timbers, if there are substantial ceiling joists with holes where other timbers had been attached this may indicate a mud and stud (or other timber framing tradition) origin for the building.



Exposed internal frame

A 'lobby entry plan' (where the front door opens into a little lobby, with the chimney stack straight ahead and a narrow staircase on the far side of the stack) is common, but not ubiquitous.



Three-bay mud and stud building with mud and stud smoke hood, lobby entry and staircase behind the stack

GLOSSARY

Bay	The space between two wallposts, often equal to the length of a room
Brace	A diagonal timber running from a post to a wallplate or tie beam
Collar	Horizontal timber which stops the feet of a pair of rafters from spreading outwards
Daub or mud	A mix of mud, water and binder (eg straw) applied to the inside and outside of the building. In mud and stud it covers the whole of the outside
Dendro	Dating method using tree rings to establish when the tree was cut down – timber was usually used very soon after felling. Short for dendrochronology
Dormer	A roof window where the glass is vertical not sloping
Frame	The vertical, horizontal and diagonal timbers which form the shape of the building and which support the roof and daubed infill of the walls
Hipped roof	One where the ends slope in, usually at a similar angle to the length of the roof. A half-hipped roof is similar, but with a small gable below to allow for a window
Laths	Sticks, or split lengths of thicker trees, attached all over the outside of the building to support the mud
Lobby entry	House plan where the entrance opens onto the chimney stack, usually with a door to access a room on either side
Mid-rail	Smaller horizontal timber to attach the laths to
Outshut	A lean-to extension at the rear or end of a building
Padstones	Stones which have the posts placed on to keep them off the ground and prevent decay to the wood
Pantiles	S-shaped roof tiles, originally from the Netherlands, which became popular in the county in the eighteenth century
Post	Vertical timber supporting a tie beam and/or wallplate
Puddle	To mix daub; this was often done with the feet or by getting animals to tread in it. In Lincolnshire it rarely contains dung, unless animals have been employed...

Purlin	Horizontal timber which stops a rafter truss from leaning along the length of the building (known as 'racking')
Rafter	Major roof timber; a pair with a collar is called a truss
Riven	To split a log lengthways using wedges rather than an axe. Provides a rough surface for the daub to stick to
Stud	A lath, when applied to the outside of a building
Tie beam	Horizontal timber running across the width of a building which stops it spreading outwards. Usually joins a pair of posts, but not always
Underbuilding	Replacing the lower part of a mud and stud wall in stone or brick when it has decayed
Wallplate	Horizontal timber running the length of the building under the eaves. The tie beams usually rest on top.
Yorkshire slider	Also called a 'horizontal sliding sash' window, one which opens by sliding sideways, removing the need for counterbalances



Rare example of a two-storey building during demolition. This example from Louth illustrates many of the terms in the glossary

We hope that this guide has whetted your appetite for discovering more about Lincolnshire's mud and stud heritage.

If you come across a building which you think is mud and stud, please do let us know – especially if it's one you think we might not already know about.

We'd love to hear about any that you have seen, even if you aren't sure it contains any mud and stud. It would be far better to be told about a possible building and then discount it later on, than to never hear about an example which was a hidden gem!

You can let us know by filling out our online form, which you can find by visiting the Project's website at

<https://heritage-explorer.lincolnshire.gov.uk/mudandstud>, where you'll also find more information about mud and stud, the HER and about the current project. You can also email us on mudandstud@lincolnshire.gov.uk



One of many mud and stud pubs in the county - this is the King's Head in Horncastle - (All images © Jenne Pape unless otherwise indicated)



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