

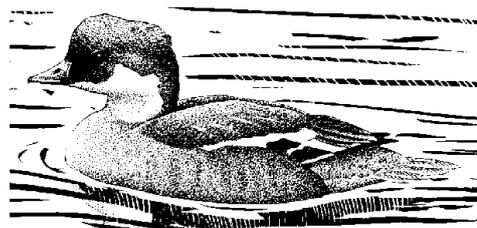
Bat Scoping Survey to
Kexbrough Hall Farm
Churchfield Lane
Kexbrough
S75 5DU

30th September 2020

Revised and updated 26th May 2021



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1. Summary

- 1.1 In October 2019, a bat scoping survey to Kexbrough Hall Farm, Kexbrough was commissioned to establish the likelihood of the buildings being used by roosting bats ahead of proposed development works. The results of the survey classified the buildings as low to medium roost potential which required further survey work at the appropriate time of year. A subsequent survey was carried out in August 2020 which identified bats present on the site but concluded they were roosting off site and simply commuting through the site. Activity surveys have been undertaken in May 2021 and have produced similar results to those of August 2020 concluding that bats forage on site post emergence but that bats are roosting elsewhere and are not on site.
- 1.2 The original scoping survey was undertaken at a time of year which is considered outside the optimal season for bat occupancy but concluded that a summer activity survey would be required. The subsequent activity survey was carried out on 20th August 2020 and established that common pipistrelle were entering the site from the direction of residential dwellings and that whiskered bats were foraging around one of the agricultural units but were not roosting there. A brown long-eared bat was seen briefly but is considered very likely to be a transitional record. The whiskered bats were considered likely to be roosting in Jacob's Hall adjacent to the survey site but this was not confirmed as the hall is outside the development footprint.
- 1.3 The survey site comprises a series of stone barns arranged around a courtyard and they have a mix of roof coverings from stone to corrugated tin. There are also some large agricultural units adjacent to the stone barns. The scoping survey classified the buildings as being of low interest to bats for reasons specified in the original report and summarised in the table below:

Building 1	Barn	
Feature	Description	Classification
Building		
Barn 1	Large, two storey agricultural unit with unlined stone roof. Potential in stone work and tiles	Medium
Barn 2	Single storey stone barn (probably modern construction) with hipped slate roof	Low
Barn 3	Period stone barn with stone walls and a corrugated tin roof	Low
Barn 4	Large modern unit, corrugated roof and walls	Negligible
Building 5	Small open fronted unit with stone roof tiles	Low
Barn 6	Large unit with corrugated sides & roof	Negligible

- 1.4 The three stone barns all have some degree of roost potential due to their age and construction, although interior inspection found no evidence of bat occupancy such as droppings, feeding remains, urine staining or individual bats. A dusk emergence survey was undertaken and established that bats are not using the buildings but there was good bat activity on site of three species of bats. Common pipistrelles were observed flying into the site from the north and there were a group of whiskered bats in the SE corner along with a single brown long-eared bat. Consideration was given as to whether the whiskered bats may have emerged from the adjacent period dwelling known as Jacob's Hall based on their emergence pattern and entry into the survey site. However, in May 2021, no whiskered bats were recorded from this location. Furthermore, there has some development works undertaken at Jacob's Hall since August 2020 that appears likely to have removed any roosting potential for whiskered bats from the hall.

- 1.5 Three surveys have now been undertaken in line with the guidelines, no bat roosts have been identified and it is clear that there are no maternity roosts in any of the buildings on site and no bats have been seen to emerge. Bats are active in the area and do use parts of the site for foraging after emerging locally and before moving further afield. Therefore, whilst the site is likely used as part of a larger foraging area by bats resident in the wider area, the habitats on site are limited in extent and of limited ecological value and loss of these habitats is not considered critical to foraging bats resident in the wider area. Land take of this habitat is considered to represent an impact to foraging bats at no more than the site level.
- 1.6 There was no evidence to suggest bats are using the buildings and the habitat is of limited ecological importance but consideration should be given to bats; creating gardens with native planting schemes, siting permanent roosting features in new dwellings and in the renovated listed buildings along with a limited lighting scheme will improve the site's appeal to bats resulting in a net biodiversity gain.

2. Introduction

In October 2019, an ecological assessment and bat scoping survey was undertaken to barns at Kexbrough Farm, Churchfield Lane, Kexbrough S75 5DU (NGR SE288584) in accordance with the Planning Authority's request, to determine whether bats are using or have used the property as a roost site.

2.1 The current proposal seeks planning permission to convert the farm buildings to residential and to develop the site for residential housing.

2.2 The scoping survey took place at a time considered the outside the optimal time for bat occupancy, therefore, the survey aimed to establish the following

- the likelihood of bats using the building by undertaking a daytime scoping
- identify any potential roosting areas
- determine if activity surveys are necessary
- provide an impact assessment of the development on bats
- define mitigation proposals where required
- assess the requirement for a protected species licence.
- Assess the building for use by nesting birds

2.3 Based on the scoping survey, a summer activity survey was undertaken in August 2020 to establish the use of the site by bats. This survey concluded that bats were not using the barns but were using the site for limited foraging and further surveys would confirm the findings. Two activity surveys in May 2021 resulted in similar findings in that bats were flying into the site from elsewhere and foraging briefly before moving on.

3. Methodology

3.1 The scoping survey was carried out in accordance with best practice guidelines by John Gardner, a surveyor with over 38yrs field experience in searching for bats and is registered to use the Class Survey Licence WML CL20 (Level 4). The licence number is 2015-15656-CLS-CLS.

3.2 The interior and exterior of the buildings were inspected during daylight using torches and binoculars. All normal signs of bats were looked for including bats, dead baby bats, bat droppings, prey remains, scratching and staining of entry and exit holes.

3.3 The buildings were assessed for their degree of potential to support roosting bats including assessing the building design, construction, materials and condition. This combined with an assessment of the location of the site and the surrounding habitat in terms of bat suitability allows an assessment to be made as to the potential of the building to support bats. Factors such as the proximity of good foraging areas (woodland, water bodies) and features that link the site to the wider surrounds such as linear features (hedgerows etc) were also considered.

3.4 This report sets out the findings of a daytime scoping survey carried out to the above site on Tuesday 1st October 2019 and an activity surveys carried out in August 2020 and May 2021, highlighting the ecological constraints and opportunities associated with the proposed works and appraising the potential impacts. Appropriate actions to ensure the protection of bats are identified and mitigation measures detailed where appropriate.

4. Survey constraints

4.1 During May 2021, it was not possible to carry out a dawn return survey due to exceptionally low temperatures and unseasonable weather. Air temperatures were rarely above 5°C and were down as low as -4°C. Emergence surveys were possible with temperatures between 9°C and 10°C most evenings.

5. Site Description

5.1 This site is comprised of a number of barns with three large stone barns set around a large open farmyard. There are modern agricultural barns adjacent to these and some smaller outbuildings too. The site has residential dwellings to the north side of the site and these will also offer roosting potential. Linear features connect the site to the wider landscape.

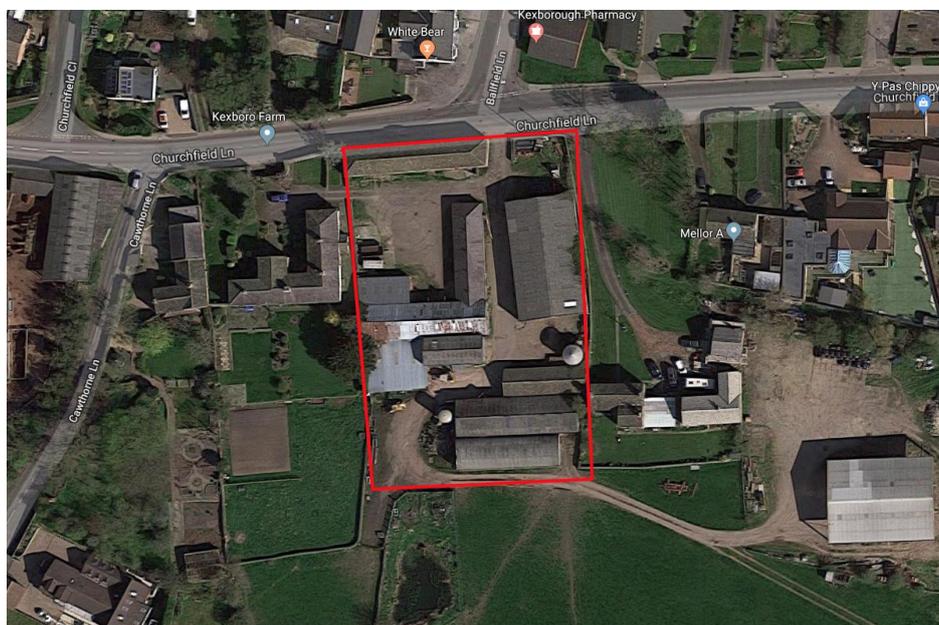
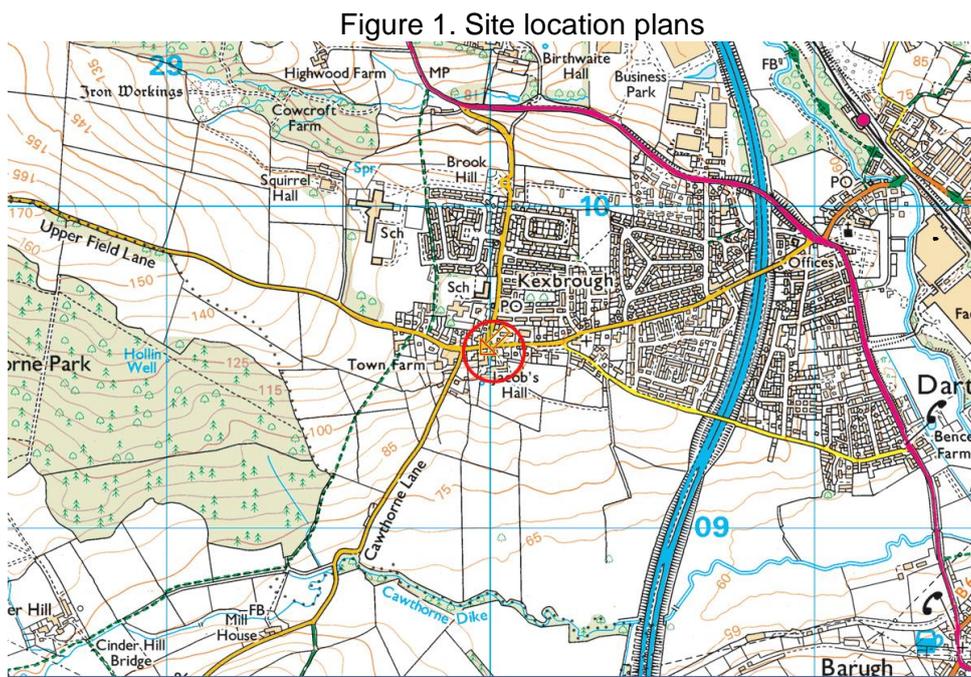


Figure 2 Aerial view of the site, surrounds and buildings surveyed

6. Desk Study

6.1 A data search covering 2km from the site centroid was requested from South Yorkshire Bat Group. This returned 158 records, none of which have any relevance to the site. The records simply plot bat worker coverage with the nearest records from Darton (c.1.5km east) and Cawthorne and Canon Hall (c.2km west). Most are historical records dating from the 80s when there was an active bat worker in Barnsley and there are very few confirmed roost sites locally with most being from Canon Hall. There are no records within 800m of the site and none from Kexbrough at all which is clearly not a true reflection of the status of bats in the village. Bat records gained from this survey relate specifically to the site and supersede all other records.

7. Activity surveys

7.1 Activity surveys were carried out on 20th August 2020 to establish a baseline of bat activity on the site with further surveys planned but adverse weather prevented this before the end of the month. Further activity surveys were carried out on 9th and 24th May 2021.

8. Survey results

8.1 The daylight survey

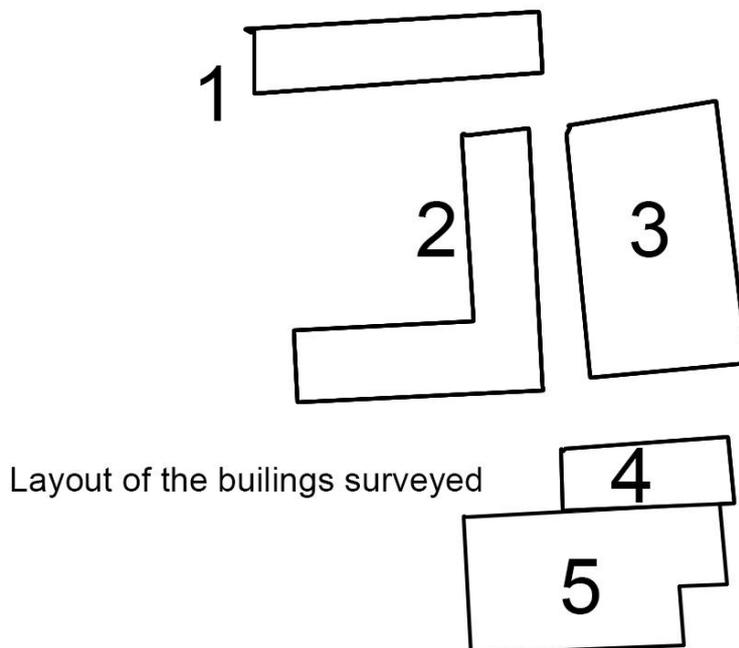


Figure 3. layout of buildings for reference

The site consists of three stone barns arranged around an open farmyard with two of the barns joined to form an L-shape (building 2). Along the outer edge of the site are a series of large, modern agricultural units and a small, open fronted building (building 4).

Buildings numbered 3 and 5 above are large agricultural units constructed around a steel frame with breeze block to the lower wall sections and corrugated tin or cement fibre to the sides and roof. These buildings are not considered to be of any interest to bats in terms of providing roost sites, though they will be used by bats as foraging areas, especially by any bats emerging locally. Both common pipistrelle and whiskered bats seem to favour hunting in this kind of units

just after emerging, but the buildings do not have the cavity walls or roof voids that bats require for roosting. These units are classed as being of negligible interest to roosting bats.

The buildings with the most potential interest to roosting bats are the stone buildings arranged around the farmyard. Building 1 is a long, two-storey building with stone roof tiles. The roof is unlined and for the most part has a heavy build-up of dirt and cobwebs on the ridge beams. The ridge tiles are all present and have had some remedial works carried out and appear to be well bedded and could be of interest to ridge dwelling species. The gable walls have also had some repointing works undertaken and have limited access points. The gable walls have a stone cap and do not have any kind of fascia other features that bats could roost beneath. The walls have some structural gaps and other minor cavities that may be used by small numbers or individual bats. Although there was no evidence to suggest use by bats, the building has some potential and is classified as being of low importance to bats.

Building 2 is an L-shaped barn consisting of a single storey unit with slate roof connected to the larger, Grade 2 listed barn which has a corrugated tin roof. The single storey section appears to be modern and has a sound slate roof which is lined with felt. It is hipped on the exposed gable and all hip and ridge tiles are present and well bedded and without gaps. The stone walls are well pointed and do not have gaps. The larger section of this barn is two storey and is a stone shell built around the original (medieval) timbers but without being connected to them. The stone roof has long been taken away and replaced with a corrugated tin roof which has gaps the whole length of the ridge. The roof is of no interest to ridge dwelling species and does not provide any kind of potential roosting site. The interior of the barn is incredibly dusty due to the presence of a milling machine that is used daily to grind fodder for the cattle. The amount of dust is likely to make this barn very unattractive to bats. It is, nevertheless, categorised as being of low interest.

To the rear of the farmyard is a small, open-fronted, single storey building used for storing farm machinery (building 4). This has a stone roof which appears to be relatively new and is lined and may provide either roosting potential or could be used as a feeding perch by brown long-eared bats. An activity survey would establish if the building is being used by bats.

8.2 The activity survey

2020

An evening emergence survey was carried out by three surveyors on 20th August 2020 using both heterodyne and time expansion detectors (Echometer Touch Pro). A detector was also placed inside the two of the barns connected to a bluetooth speaker to alert to the presence of bats inside the buildings. The weather was perfect for the survey with temperatures of 15°C and no wind and the survey took place from 60mins prior to sunset until 60mins after sunset.

Common pipistrelle were the first bats detected and these were clearly seen to fly into the site from a north direction over Churchfield Lane and into the site from both sides of building no.1. The majority of the bats flew in from the NE corner and were thought to come from residential dwellings across Churchfield Lane. Common pipistrelles were observed on site for the first 30 minutes of the survey but only in small numbers, around 4-8 bats. Within 40minutes of sunset, the greatest amount of bat activity was concentrated around the yard between building 3 and 4 and these were identified as whiskered bats. These bats hunted around this area and inside the large steel-framed agricultural building 3 but were not thought to roost in either building 3 or 4. It was suspected that these bats were emerging from a period dwelling adjacent to the site known as Jacob's Hall as bats were clearly seen flying into the site from over the fence. Also in this area, a single brown long-eared bat was seen hunting low over the ground and flying into the large steel portal unit.

Frequent forays were made inside buildings 1 and 2 to establish if ridge or void dwellings species were present. Building 1 has an exceptionally dirty ridge section and no bats were ever seen or recorded inside this building bats are not considered to be using this to roost. A single

brown long-eared bat was recorded flying in building 2 and, whilst at this time of year, a brown long-eared bat may use any crack or crevice as a transitional roost, no roosting activity was recorded on site.

Whiskered bats were recorded foraging on site until the end of the survey while pipistrelle bats gradually disappeared as the survey went on. Two barn owls flew into the site from Churchfield Lane but are not thought to be using the site to breed.

2021

An evening emergence survey was carried out on 9th May 2021 by three surveyors and was conducted from 30 minutes prior to sunset until 60 mins after sunset. The weather was just acceptable with temperatures around 9°C and a gentle breeze. A second activity survey was carried out on 24th May 2021 by two surveyors with temperatures of around 10°C and a gentle breeze. Both surveys recorded similar results.

On both surveys, a small number of common pipistrelle bats were recorded flying into the site and out to fields and other foraging areas from north of Churchfield Lane. Some foraged around the barns at the south end of the site and in the south east corner before heading further afield. Greater numbers of common pipistrelle (up to 10) were recorded during the activity survey on May 24th in the SE corner of the site in front of the large, open-fronted steel barn. It is likely that this is the most sheltered spot and provided the greatest feeding opportunity. Only common pipistrelle were recorded and these entered the area from the east over the boundary fence with Jacob's Hall. Bats continued to feed in this area from 20 mins after sunset until around 40 minutes after sunset, after which numbers thinned out. Surveyors made frequent visits inside the barns but no bat activity was recorded inside any of the barns. No whiskered or brown long-eared bats were recorded on either of the visits.

9. Interpretation and analysis

- 9.1 The 2019 scoping survey deemed that the modern units have no value to bats other than to probably provide a sheltered feeding site that might be used just after emergence or just as bats return to roost and this proved to be the case. These buildings are considered to be of no more than negligible potential for roosting bats as the lower walls are solid block while the upper walls and roof are single thickness corrugated material. During the 2020 activity survey, whiskered bats were recorded feeding inside this building and also in the yard outside the building but they were recorded entering the site from the eastern boundary and had emerged off site. It was considered likely that the whiskered bats could be coming from Jacob's Hall. However, in 2021, no whiskered bats were recorded.
- 9.2 The large Grade 2 listed barn has limited roost potential due to the tin roof with large ridge gaps and the huge amounts of dust in the interior section caused by the grinding machine are likely to penetrate roost areas. Whilst any crack or crevice may be used by an individual or transient bat from time to time, all activity surveys suggested that the original assessment was accurate and no bats were seen to emerge from this building. A single brown long-eared bat recorded inside the building briefly some 45 mins after sunset and considered likely to have entered the barn from elsewhere and, given the record was very late in the season and of a single bat, it is likely that this was a transient record. The single storey building that adjoins this barn had some potential for bats to roost behind the gutter boards but no bats emerged from this area or were seen in the roof void.
- 9.3 The large range of the stone barn on the north boundary which was thought to have the most roost potential turned out to have the least potential due to the heavy build-up of cobwebs and dust along the ridges. No bats were seen inside this building or seen to emerge from it.

9.4 Bats are clearly present in the area in much greater numbers and varieties than the data searches suggest but this is always the case. Three species were recorded on site though none were considered to be using the site as a roost. On all visits, common pipistrelles were observed commuting into the site from modern dwellings on Churchfield Lane and beyond and this fits with their preferred lifestyle and roosting habits. The whiskered bats were very active in the yard between buildings 3 and 4 but are unlikely to have emerged from the steel portal framed building 3 and also, seemed unlikely to have emerged from the single storey, open-fronted building 4. Field experience would suggest emergence of this species might be from Jacob's Hall or an associated building, however, no whiskered bats were recorded in 2021 and it may be that the animals recorded in 2020 were a transitional roost or are no longer roosting close by. There has been further work to all buildings on the Jacob's Hall site and this may have resulted loss of potential roosting sites.

10. Impact assessment

10.1 It is not considered that bats are roosting in the buildings on site but they are present in the wider area. Bats have been recorded foraging over the site on all three survey visits and whilst the site is likely used as part of a larger foraging area by bats resident in the wider area, the habitats on site are limited in extent and of limited ecological value and loss of these habitats is not considered critical to foraging bats resident in the wider area. Land take of this habitat is considered to represent an impact to foraging bats at no more than the site level.

10.2 Development of the barns is considered unlikely to affect the local bat population. However, following a best practice approach to development, it is recommended that buildings include permanent roost features. Increased lighting on the site could be detrimental to bats using the site and therefore, it is recommended a sympathetic lighting scheme be adopted along with a native planting scheme, particularly along boundary lines where mixed species hedging would be preferable to fencing.

11. Mitigation and compensation measures

11.1 Roosting bats are not considered to be a receptor in the development of the site but, in line with best practice, careful consideration should be given to bats during the renovation of the buildings and the development of the site going forward. The following recommendations should be adopted and implemented through any Conservation Environment Management Plan (CEMP) developed for the site.

- All contractors to be made aware of the presence of bats, particularly when stripping roof tiles
- All roof tiles to be removed by hand by lifting vertically rather than dragging.
- Permanent roosting features should be included on the south and west facing walls of all new residential buildings on site. These could be in the form of a Schwegler 3FE bat house. These should be placed high up near the eaves and away from windows.
- No luminaires to be angled upwards.
- All luminaires to have anti-spill cowls fitted.
- LED lighting should be used to avoid UV content and have a warm colour temperature (3000k) as this is considered to cause less impact to certain species of bats.
- All luminaires should be in a state of dimmed or off unless activated by motion sensor.
- Timer controllers should be used to limit the length of time the lamps remain lit once activated. This should be limited to just a few minutes.
- Consider the use of ground level or bollard lighting rather than standard lights.
- A native planting scheme should be adopted including the use of mixed species hedging along boundary lines.

- Consider the inclusion of sparrow nesting terraces and starling nestboxes along eaves or incorporated in new builds.

Appendix 1: Photographs of the survey site



north range (building 1)



north range (building 1)



roof interior (building 1)



interior building 2



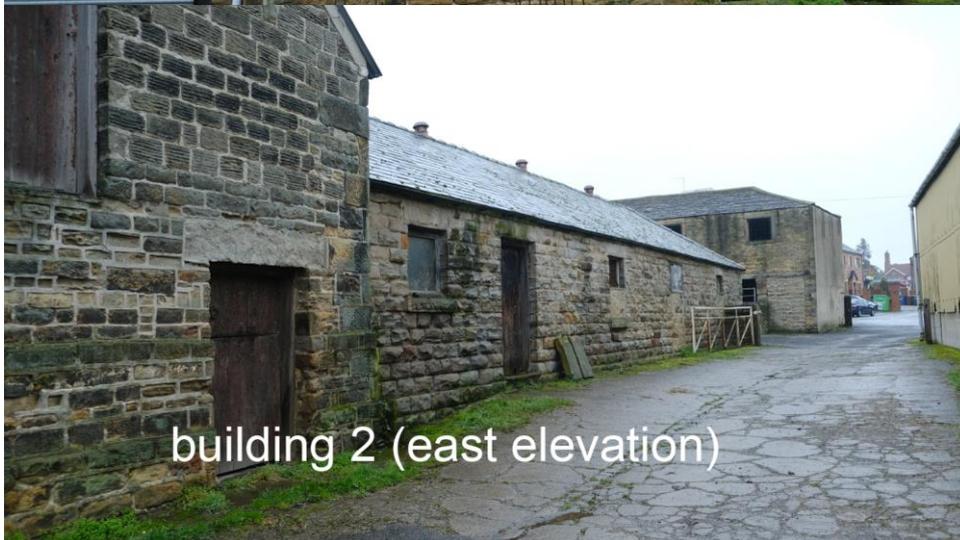
south range (Building 2)



south range (Building 2)



building 2 (east elevation)



building 2 (east elevation)



building 4 front



Building 3