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MARCH 2022

**STRUCTURAL REPORT ON
FARMHOUSE AND
BUILDINGS TO
MANOR FARM
HARPHAM
DRIFFIELD
EAST YORKSHIRE
YO25 4QS**

**PROJECT NO.
MCB/PAA/JC/46963 Rpt-001**



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**STRUCTURAL REPORT ON FARM HOUSE AND BUILDINGS TO
MANOR FARM, HARPHAM, DRIFFIELD, EAST YORKSHIRE, YO25 4QS**

Prepared by: **Paul Aspden, HNC, IMAPS**

Signed:



Date:

8th March 2022

Approved by:

**Mr Mike C Blake, BSc, CEng, MICE, MCIHT, IMAPS
Director**

Signed:



Date:

8th March 2022

Issue	Revision		Revised by	Approved by	Revised Date

For the avoidance of doubt, the parties confirm that these conditions of engagement shall not and the parties do not intend that these conditions of engagement shall confer on any party any rights to enforce any term of this Agreement pursuant of the Contracts (Rights of Third Parties) Act 1999.

The Appointment of Alan Wood & Partners shall be governed by and construed in all respects in accordance with the laws of England & Wales and each party submits to the exclusive jurisdiction of the Courts of England & Wales.

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1.0 INTRODUCTION

1.1 Details

Client This report has been prepared at the request of Craig Swales, acting on behalf of Smartbuild Harpham Ltd, in consequence of the proposed development of the buildings to residential properties.

Property Manor Farm
Harpham
Driffield
East Yorkshire
YO25 4QS

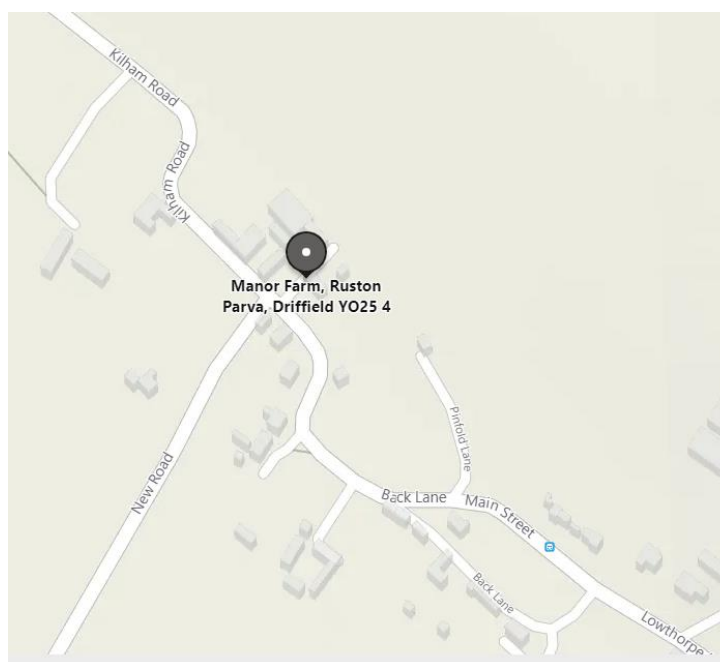


Weather Dry, overcast, light winds, 7°C

1.2 This report is intended to record the general condition of the buildings and to make any recommendations for remedial works which we consider necessary.

2.0 BACKGROUND

Location Plan



- 2.1 The site comprises a two storey brick built farmhouse which lies under a clay pantile roof covering on a traditional timber structure, along with a series of farm buildings across the site. The farm buildings are generally of brickwork construction with several of them being of two storey height, under clay pantile roof coverings on traditional timber roof structures. Please see attached plan showing plot locations and references (See Appendix B). It is noted that the farmhouse has a Grade II listing and as such all works to buildings within the curtilage of the site are subject to Listed Building Consent.
- 2.2 A previous report on the site was undertaken by ourselves in November 2015 during which foundation depths were established to some areas. Details of the trial holes can be found within Appendix C. Generally speaking the foundations to the outbuildings comprise stepped brick footings at various depths bearing onto sandy chalk with gravel.
- 2.3 The sub-soils beneath the property are not known precisely but we anticipate that they consist of gravels over chalk.

3.0 INSPECTION

General

- 3.1 An inspection of the buildings was made on 3rd March 2022 covering both external and internal aspects and a detailed record was made of the state of the buildings. This, together with photographs, is being retained on the file for the property.

PLOT 1

External

- 3.2 This plot comprises buildings of two differing ages, with the building to the north of the site being of earlier construction than that to the south. The northern building has a stone inner leaf and walls of greater thickness than those to the southern building. (See photo 1)
- 3.3 The roof of the building to the north of Plot 1b is distorted and has a number of displaced tiles. This has resulted in water ingress. (See photo 2)
- 3.4 The timber lintels above the external door and window openings have deflected. The roof dips between supports. (See photos 1a & 1b)
- 3.5 The majority of the roof to Plots 1a and 1b have been re-covered with a breathable felt having been installed. (See photo 3 of Plot 1a)
- 3.6 There is diagonal cracking above the brick arch door head into the former chemical store. (See photo 4)
- 3.7 There is a panel of dished brickwork to the southern end of the east elevation of Plot 1a. This brickwork bulges by approximately 40mm. (See photo 4a)
- 3.8 There is slight distortion of the brickwork to the east elevation of Plot 1b, with brickwork to the north leaning outwards at eaves level by approximately 30mm. Brickwork to the east elevation of Plot 1a has spalling brickwork evident to the north of the elevation. (See photos 5, 6 & 6a)

- 3.9 The lower level buildings to the south of Plot 1a have a partially collapsed roof covering, and a number of the openings to the west elevation have failed lintels. (See photos 7 to 9)

Internal

- 3.10 Within the tack room to the north of the building the timber boarded ceiling has decayed and water staining is evident. (See photos 10 and 11)
- 3.11 Within the barn next to the tack room, the rear wall is of random stonework at low level with a render finish above. We anticipate that the stonework is the original boundary wall onto which the building has been constructed. This stonework has weathered and the pointing is recessed or missing in areas.
- 3.12 To the dividing wall between this barn and the tack room there is spalled render above and cracking above the door opening. There is an open straight joint at the junction of the internal wall to the south and front elevation of the building. (See photos 14 to 16, 16a & 16b)
- 3.13 Within the barn to the south of Plot 1b, the dividing wall to the north is of stone and brick construction. At the junction of this wall with the west elevation there is a vertical crack approximately 20mm wide. (See photos 17 to 19)
- 3.14 To the southern barn of Plot 1b, there is a central timber beam which bears onto a pier to the west elevation. This beam has severe decay present. The timber beams above the openings to the west elevation have deflected, as has the head of the door opening to the north wall. (See photos 20, 21 and 22)
- 3.15 To the northern barn of Plot 1a, the roof is constructed of three king post trusses with a single purlin to each slope. There is slight deflection noted to the purlins. At the junction of the east wall and the dividing walls to the north and south, there was vertical cracking evident. At the current time we are unable to access this barn, though the defects noted above are likely to remain.

- 3.16 Within the former chemical store there is cracking above the infilled door opening to the northern dividing wall, and vertical cracking at the junction of the dividing walls and the east elevation. (See photos 23 & 24)
- 3.17 In the barn to the south of the passageway to Plot 1a, there is a vertical gap to the south west and south east corners of the building. The low level brickwork to the dividing wall with the passage has recessed pointing and weathered brickwork. (See photos 25 to 29)
- 3.18 The low level buildings to the south of Plot 1a have not been subject to re-roofing, and as such have suffered damage resulting in water ingress. Where safe internal access was possible, it was noted that the dividing walls were not tied to the east and west elevations of the building. The roof structure within these buildings has water staining and decay evident, and the timber door heads have decayed. (See photos 30 to 34)

PLOT 2

External

- 3.19 To the north elevation there is an area of damage to the roof verge. (See photo 35)
- 3.20 The roofs to both the single and two storey sections of the building have slight distortion to the ridge line, and there is a slight dip in the roof to the east pitch of the two storey section. (See photos 36 and 37)
- 3.21 To the south elevation of Plot 2, there is slightly damaged brickwork to the west corner of the building. (See photo 38 and 39)
- 3.22 To the west elevation there is crack damage above the northern arch, and disturbed brickwork above the central door opening at first floor level. (See photos 40 and 41)
- 3.23 There is cracking to the northwest corner of the two storey building at eaves level, and light distortion of the exposed area of the two storey northern gable. (See photo 42)

- 3.24 To the west elevation of the single storey aspect there is hairline cracking above the brick arch heads to the door and window openings. (See photo 43)

Internal

- 3.25 There is currently no access to the northern stable to Plot 2. However we previously noted that there is no sarking felt present indicating that this roof has not been re-covered. There is a hairline aged crack in the concrete floor slab.
- 3.26 The two storey area of Plot 2 has a part ground floor of concrete, and a first floor of suspended timber. At ground floor level there are 4No. timber beams spanning east to west, which support the first floor. These bear onto piers to the west elevation. There are a number of areas where water ingress is causing decay to the first floor. (See photo 46)
- 3.27 To the eastern end of the southern beam at ground floor level there is staining, above which there is decay and water ingress evident to the first floor. (See photos 49 and 50)
- 3.28 No access was possible to the first floor however from our previous inspection there are a series of king post trusses which are located above the ground floor beams. The roof covering to the east pitch has been re-covered as a breathable felt is present. There is staining evidence to the bearing of a number of trusses, indicating previous water ingress. These areas may also be suffering decay.

PLOT 3

External

- 3.29 The roof of the south east wing to Plot 3 has in part collapsed, with the only area of remaining covering to part of the east pitch. (See photos 53 to 56)
- 3.30 To the west elevation there is distortion of the brickwork above the door and window and spalling of the brickwork below the door openings. (See photos 57 and 58)

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- 3.31 In the north eastern corner of the plot there is crack damage to the northern elevation. (See photos 59 & 44)
- 3.32 The eaves level wall plate to the western internal corner of the building has severe decay evident, and the roof above this area is distorted and partially collapsed. (See photos 60 & 61)
- 3.33 To the west of the door to the southern elevation of Plot 3 there is a near vertical crack in the brickwork. (See photos 62 & 63)
- 3.34 To the northern elevation of the plot the distortion to the east of the roof is clearly visible. (See photos 64 & 45)

Internal

- 3.35 Within the northern section of Plot 3 access was restricted by the presence of goods being stored. However the brick pier to the eastern arch has rotated outwards at eaves level and the truss which it supports has failed due to water ingress. The brickwork support to the pier has separated from the pier itself. (See photos 65 to 70)
- 3.36 Within the western barn to Plot 3, there is brickwork supported from a timber member to the western elevation. This timber is decayed. (See photo 71)

PLOT 4

External

- 3.37 There is near vertical crack damage to the east of the southern elevation to Plot 4. This cracking extends from eaves to ground level. Throughout this corner there is evidence of previous repairs as well as cracking. (See photos 72 to 77)
- 3.38 To the east elevation of the building the wall is distorted at eaves level, with cracking noted below the high level opening to the south of the elevation, and above the larger door openings. (See photos 78 to 80)

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- 3.39 To the north end of the two storey aspect the rainwater fall pipes discharge into what is thought to be a “soft water” storage tank. The wall behind this fall pipe has severe staining present. (See photos 81 to 83)
- 3.40 There are a number of pattress plates present to the east elevation of Plot 4, which tie into internal cross walls.
- 3.41 To the north of the double doors to the single storey aspect of the east elevation there is a section of missing brickwork at eaves level. (See photos 84 and 85)
- 3.42 There is crack repair evident to the northern gable elevation of the two storey building. (See photo 86)
- 3.43 To the south of the double doors to the single storey aspect there are four pattress plates which affix to similar plates on the inner leaf of the wall. (See photo 87)
- 3.44 The eaves level brickwork to the single storey aspect of the east elevation leans outwards. (See photo 88)
- 3.45 There is distortion to the ridge of the two storey aspect of the building. (See photos 89 and 90)
- 3.46 The western elevation of the two storey aspect of Plot 4 has slight distortion evident along its length. (See photos 97 & 98)

Internal

- 3.47 There is a section of roof missing to the south east corner of the two storey building, crack damage is noted to the brickwork below this area and staining is present to the corner. (See photos 91, 92 and 96)
- 3.48 There are numerous areas of the roof where tiles are displaced or missing, with staining evident to the timber roof members. The bottom boom of the roof truss has decay evident. (See photos 93 and 94 & 95)

- 3.49 No access was available to the central area of the double height aspect of Plot 4; however our previous report noted that there is a suspended timber floor which has partially collapsed and there is evidence of water ingress. It is noted that the roof above this section is open at ridge level.
- 3.50 Within the northern part of the double height area, there are tie bars present across a dividing wall. (See photo 99)
- 3.51 Within the single storey building to the north of Plot 4 there is an area of missing pointing at low level to the west elevation. To the north elevation there is a vertical crack repair at the junction of the curved section of wall and the dividing wall to the adjacent building, and to the junction with the east elevation. (See photos 100 to 103)
- 3.52 The roof truss to the centre of the single storey aspect bears onto the timber beam over the double door opening. (See photo 104)
- 3.53 Within the toilet to the northern end of Plot 4, there is a partially collapsed timber floor. (See photo 105)
- 3.54 The majority of the roof to the northern end of Plot 4, to the west of the farmhouse has been re-roofed.

PLOT 5

External

- 3.55 This plot comprises a stable to the south east wing, a coach house building to the north, the northern part of the west wing, and an enclosed barn to the south west.
- 3.56 To the east elevation of the north wing there is cracking above the window opening. (See photo 106)
- 3.57 The roof throughout the northern and western wings is distorted and dips between supports. (See photos 107 to 109)

- 3.58 On the northern wing, the pier to the west of centre has numerous cracks evident. To the north elevation of the northern wing there is distortion evident to the length of the wall. (See photos 110,111,111a,111b,112 & 112a)
- 3.59 To the southern elevation of the west wing there are missing tiles and pointing to the verge. (See photo 113)
- 3.60 The roof to the eastern wing is distorted and dips between supports. (See photo 114)
- 3.61 There is a 20-50mm dish in the brickwork to the southern gable elevation of the east wing, and damage to the verge. (See photo 115)
- 3.62 To the east elevation of the east wing, the brickwork at eaves level is distorted. (See photos 116)
- 3.63 The ground level to the east of the east wing appears to have been reduced as there is a significant step in level to the door openings of the stables. (See photo 117)

Internal

- 3.64 Within the stables to the east wing of Plot 5, the roof purlins deflect, and the dividing wall between stables has little or no ties to the east and west elevation walls. Above the door and window to the southern stable there is a continuous timber member, beneath which are a number of displaced bricks. (See photos 118 to 123)

FARM HOUSE

External

- 3.65 To the northern elevation there is distorted brickwork and missing pointing above the window opening to the eastern ground floor window. (See photo 124)

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- 3.66 There is distorted and cracked brickwork above the high level opening to the outbuilding to the west of the northern elevation. (See photo 125)
- 3.67 There is cracking and distortion evident to the chimney stack of the west elevation. This stack also leans into the building significantly. (See photos 126 and 127)
- 3.68 We are advised that the roof covering was replaced approximately 25-30 years ago.
- 3.69 To the southern elevation of the property a large climbing plant has been removed. Above the majority of ground floor windows there is an area of re-pointing. (See photos 128 to 130)
- 3.70 There is very slight distortion of the brickwork to the east gable elevation of the property.

Internal

- 3.71 Throughout the farmhouse, the plaster finish has been partially removed, and a number of stud partition walls have been removed. A number of brickwork walls have also been removed and are currently propped.
- 3.72 Within the north east ground floor reception room a section of brickwork has failed adjacent to the door opening into the north east reception room. To the west of this room there are no lintels present above the fireplace or the adjacent recess. (See photos 131 to 134)
- 3.73 The exposed brickwork to the north east reception room has some damage to the face, which has spalled. At the junction of the north elevation of the building and the dividing wall between the entrance hall and north east reception room, there is a vertical gap evident. (See photos 135 & 136)
- 3.74 In the ground floor reception room to the south west there is partial collapse of the brickwork around the fire place, and propping is present to the brickwork within the chimneybreast reveal. A brickwork wall has been removed to the west of this room and the opening is now propped. (See photos 138 & 139)

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- 3.75 In the small store to the ground floor, west of the entrance hall, there is a poor connection between the dividing walls to this room and the north elevation. (See photos 140 to 142)
- 3.76 In the ground floor reception room to the north west, there is a gap at the junction of the north elevation and the perpendicular dividing wall to the store. (See photo 143)
- 3.77 At first floor level a number of the stud partitions have been stripped of their lath and plaster finish, with some having exposed diagonal members within the wall indicating that these are structural. We suspect that these structural studs are supporting the ceiling joists and providing some restraint to external walls. (See photos 144 & 145)
- 3.78 The exposed areas of brickwork to the first floor are generally in serviceable condition. Some timber lintels are exposed. (See photos 146 & 147)
- 3.79 In the south east bedroom there is cracking to the former fire place. (See photo 148)

4.0 CONCLUSIONS

PLOT 1

- 4.1 The water ingress and timber ceiling damage to the north of Plot 1b is due to failure of the roof covering to this building and the one to the north where no access was available. The roof coverings having failed due to a lack of maintenance
- 4.2 Cracking above door and window openings is due to there being inadequate lintels, or no lintels present.
- 4.3 The cracking at the junctions of the dividing walls with the east and west elevation walls is in part due to there being a very poor tie present to these junctions, together with the roof design exerting an outward thrust on the east and west walls at eaves level. This situation has been improved in recent times by the addition of timber ties between rafters.
- 4.4 The bulging to the east elevation wall is due to thermal expansion of this wall, together with the wall lacking restraint, with cracks having formed at the junctions with the internal cross walls.
- 4.5 The weathered condition of the stone inner and brick outer leaves of the east elevation at low level, is a result of this area being a retaining wall, and likely to be wet at all times. This has allowed the mortar to wash out of the joints, and the porous stone to deteriorate over time.
- 4.6 The poor condition of the low level barns to the south of the plot is a result of these buildings being neglected.
- 4.7 The deflection of the roof purlins is due their inadequate design.

PLOT 2

- 4.8 The damage to the single storey roof covering is likely the result of a storm. We note that there was previously evidence of aged water ingress and decay to the first floor, to an area where the roof covering has recently been replaced. As we did not have access to the first floor at the time of our inspection we cannot comment on the integrity of the roof repairs, though the presence of staining to the first floor indicates that the roof has questionable integrity.
- 4.9 The damaged brickwork to the corner of the building is a result of impact damage.
- 4.10 The crack damage above the brick arch to the west elevation is due to the slight movement of the building.
- 4.11 The distortion to the north gable and cracking to the north west corner of the two storey aspect is due to the lack of restraint to this wall. The bulging having distorted and cracked the corner of the building at high level.
- 4.12 The cracking to the concrete floor slab of the single storey aspect is due to construction settlement/shrinkage.
- 4.13 The former defective roof has allowed water to penetrate the building causing the first floor to be damaged and the timber supporting beam to be stained, as well as the staining to the ends of the roof trusses.

PLOT 3

- 4.14 The lack of roof coverings to the south east wing of the building has resulted in the exposed timber structure suffering decay and resultant distortion. The water ingress in other areas has caused the partial collapse of the roof structure to the hip on the north east corner, which in turn has contributed to the distortion of the pier and cracking to the southern wall. The lack of maintenance and general neglect of this building has resulted in its current condition.

PLOT 4

- 4.15 The rainwater pipe to the south of this building has been discharging to ground for some time, prior to its corrosion and failure. This has caused a soft spot to develop locally resulting in the downward movement of this corner of the building. This has caused crack damage which has been repaired in the past, but has also recurred, indicating ongoing movement.
- 4.16 The areas of repointing and cracking above door and window openings are indicative of there being no lintel present or an inadequate lintel is present.
- 4.17 The rainwater pipe to the north of the building has corroded allowing water to discharge around the pipe, resulting in the staining to the wall and deterioration of the wall condition, in particular the pointing.
- 4.18 The purpose of the pattress plates and through ties in the building are to add restraint due to the lack of internal walls. There are very large two storey panels of brickwork which are unrestrained. As a result there is distortion to the east and west elevations.
- 4.19 The buildings throughout the site generally have missing gutters and fall pipes. As a result the low level building to the north has defective brickwork at eaves level.
- 4.20 The cracking to the north of the two storey aspect is a result of localised roof thrust.
- 4.21 The outward lean of the eaves level brickwork to the single storey element is due to the thrust of this roof.
- 4.22 The location of the king post truss above the door of the single storey building is poor practice, as it exerts significant load onto the lintel above the door opening.
- 4.23 The missing areas of roof covering are due to the building suffering a lack of maintenance.

- 4.24 The damaged roof coverings have allowed water ingress resulting in the decay of the floor in the two storey aspect, and contributing to the distortion of the roof by weakening the roof structure due to decay.
- 4.25 The weathered pointing to the rear of the single storey aspect is a result of this wall retaining earth, hence it is constantly wet.
- 4.26 The internal crack damage to the north wall of the single storey aspect is due to the poor tie between this wall and the east and west elevations. The thrust of the roof has forced the east and west elevation walls outwards resulting in the cracking now evident.
- 4.27 The decayed floor within the toilet is a result of the damp in this area. The sub floor does not appear to be ventilated.
- 4.28 The re-roofed area to the north of Plot 4 has no flashings present at the junction of the north elevation of Plot 4. This is allowing water ingress in this area, though as no access was available to this area we are unable to advise further.

PLOT 5

- 4.29 There are no lintels present above a number of door and window openings, or where lintels are present they are inadequate, causing the brickwork above to crack.
- 4.30 The distortion of the roofs throughout this plot are a result of the inadequate design of the roof structure. This has in turn caused damage to the roof covering resulting in water ingress, and associated damage.
- 4.31 The cracking noted to the brick pier is indicative of this pier being over stressed or suffering impact damage, or ground movement having occurred inducing stress in the brickwork. The lack of distortion to this pillar leads us to believe that ground movement has not taken place.

- 4.32 The dish in the gable wall and to the northern elevation is due to slight movement of this panel of unrestrained brickwork. The roof structure is of a design which does not provide sufficient restraint to the wall. In addition, the presence of mature vegetation to the Church Yard may be contributing to damage, with tree roots likely to be present below foundation level.
- 4.33 The distortion of the east elevation of the east wing is due to the lack of restraint to this wing. Though dividing walls are present there is little, if any, tie to the east and west elevations.

FARM HOUSE

- 4.34 Throughout the farmhouse there are either no lintels present above openings, or where they are present they are of inadequate design. As a result there is cracking or crack repair evident above most window and door openings externally.
- 4.35 The panel of weathered brickwork is likely due to water cascading over the wall in this location from a previous failed gutter.
- 4.36 The distortion to the western chimney stack is likely due to a lack of restraint to the stack. We understand that the roof covering was replaced some 25-30 years ago following its failure.
- 4.37 The slight distortion of the east gable elevation is due to slight aged ground movement in this area.
- 4.38 The cracking to fireplace openings is due to a lack of adequate support to the openings in chimney breasts.
- 4.39 The cracking noted to the walls adjacent to the chimney breasts is a result of inadequate support to these brickwork panels.
- 4.40 The gaps and poor ties noted at wall junctions are a legacy of construction.

5.0 RECOMMENDATIONS

- 5.0 As the property is Grade II Listed, we would advise that Listed Building Consent be obtained for all works including repairs, prior to their implementation.
- 5.1 As there is evidence of damp and timber infestation at various locations around the site, we recommend that a specialist damp and decay survey be obtained and their recommended repairs incorporated into the final scheme of works.

PLOT 1

- 5.2 The roof to the north of Plot 1b should be removed and replaced. This work may involve the replacement of a number of timber members due to decay.
- 5.3 Suitably designed lintels should be installed above all openings.
- 5.4 All internal walls and the roof structures should be tied to the external walls to provide restraint. Any new walls constructed should be tied to the external walls to aid restraint.
- 5.5 The damaged low level stone to the inner leaf of the east elevation should be replaced and the stonework re-pointed with suitable lime based mortar. In order to improve the conditions of this wall, the external ground level should be reduced to remove all retained material.
- 5.6 In the event that new floors are to be introduced, it is highly likely that underpinning of the existing walls will be necessary to avoid undermining of the foundation.
- 5.7 The poor overall condition of the low level buildings to the south of Plot 1a lead us to conclude that these building do not warrant salvage and should be taken down. In the event that their repair becomes essential, then extensive replacement of the roof and structure, together with the west elevation wall, and installation of wall restraints will be essential.

- 5.8 The deflecting roof timbers should be checked by calculation and a strengthening scheme prepared.

PLOT 2

- 5.9 The impact damaged brickwork to the corner of the building should be locally repaired.
- 5.10 The cracking above the arch should be stitch repaired, and consideration should be given to stitching above all the arches to avoid crack damage forming in the future.
- 5.11 The crack damage to the north west corner should be subject to a crack stitch repair.
- 5.12 The deflecting roof timbers should be checked by calculation and a strengthening scheme prepared.
- 5.13 As decay of the timber floor and infestation has been noted, we recommend that a specialist timber decay and damp survey be obtained and any recommendation made should then be undertaken.
- 5.14 The areas of decayed timber floor should be replaced.

PLOT 3

- 5.15 The leaning and defective brick pillar should be carefully taken down to ground level and rebuilt plumb, with the supporting brickwork tied to the pier.
- 5.16 The defective roof covering and structure should be carefully removed and replaced. The roof structure which has suffered decay and water damage should be replaced.
- 5.17 All areas of crack damaged brickwork should be subject to a stitch repair.

- 5.18 Any new internal walls introduced into the building should be tied to the existing walls to aid restraint.
- 5.19 It is likely that a new insulated ground floor will be required to this building and we anticipate that the foundations will be relatively shallow. As a result it may be necessary to underpin the existing walls to avoid them being undermined during the installation of a new floor.

PLOT 4

- 5.20 The “soft spot” of ground locally to the south east corner of the plot should be subject to underpinning, and the brickwork to this area should be rebuilt and toothed into the existing remaining brickwork.
- 5.21 Suitably designed lintels should be installed above door and window openings
- 5.22 New rainwater goods should be introduced throughout the plot. These should have a positive discharge and not discharge to ground.
- 5.23 Where new internal walls are introduced, these should be tied into the existing walls to aid restraint.
- 5.24 The defective roof coverings throughout the plot should be removed and replaced, with appropriate replacement, repair or strengthening of the existing structure being undertaken at this time. This is likely to include some restraint to the roof to prevent thrust.
- 5.25 Ties should be installed between the roof structure and the external walls to provide restraint.
- 5.26 The outward lean of the single storey element should be taken down and rebuilt plumb.
- 5.27 The beam over the door to the single storey aspect should be replaced with one designed to carry the load from the roof truss which bears onto it.

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- 5.28 The areas of weathered pointing should be raked out and re-pointed in a suitable lime mortar.
- 5.29 Where flashings are missing from the low level roof adjacent to the church yard, these should be replaced.
- 5.30 We assume that the floor within this plot will require replacement, and given that the foundations bear at a depth of 625mm below external ground level, it will be necessary to underpin the external and internal walls to a suitable depth to allow for the floor to be constructed without undermining the walls.

PLOT 5

- 5.31 Suitably designed lintels should be installed above door and window openings
- 5.32 The existing roof structure to the north and west wings is of inadequate construction and should be replaced with a suitably designed roof structure. This should incorporate ties at low level to prevent roof thrust, with ties being incorporated into the structure between walls and roof.
- 5.33 The brick pier which has failed to the south elevation of the north wing should be taken down and rebuilt to an appropriate size, on a suitable foundation. It should be noted that there is a mature deciduous tree in close proximity to this building, and this will affect the foundation design.
- 5.34 The dish to the gable wall of the east wing should be taken down and rebuilt.
- 5.35 Restraint straps should be installed between all internal and external walls, and at roof level.

FARM HOUSE

- 5.36 Suitably designed lintels should be installed above door and window openings.

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- 5.37 The chimney stack to the west of the building should be taken down to a suitable level and rebuilt plumb.
- 5.38 A suitable damp repair scheme should be implemented throughout the building. This should be a system which is sympathetic to the age and condition of the building and mindful of its listed status.
- 5.39 All cracked and severely weathered mortar joints should be raked out to a minimum depth of 30mm and be repointed with a mortar which will give some degree of flexibility such as a 1:1:6 (lime) or plasticised mortar. Any cracked, broken or severely weathered bricks should be cut out and new units, of a similar pattern and material, be built in using a mortar similar to that as used in the repointing.

6.0 LIMITATIONS

- 6.1 Our inspection and report are concerned with the structural aspects of the building, such as foundations, walls, floors and roof but we have not concerned ourselves with details of other elements such as doors, windows and other fittings. Similarly we have not commented on dampness or timber infestation or services such as electricity, plumbing, heating or drainage.
- 6.2 We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect.
- 6.3 No comment is made in the report as to the presence of new or old mine workings or tunnelling, heavy metals, chemical, biological, electromagnetic or radioactive contamination or pollution, or radon methane or other gases, underground services or structures, springs and water courses, sink holes or the like, noise or vibratory pollution, mould, asbestos and asbestos products.
- 6.4 Similarly, we make no comment on flood risk or previous flood events, invasive species of vegetation such as Japanese Knotweed, vermin or protected species, boundary conditions or materials, landscaping or any non-permanent structure.
- 6.5 The space under the ground floor has not been examined and therefore we cannot give any opinion on the condition of materials under the floor.
- 6.6 For the avoidance of doubt, the Contracts (Rights of Third Parties) Act 1999 shall not apply to this contract.