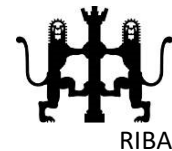


Environmental Phase 1 Statement

Conversion of barn to a dwelling for visitor accommodation
at Wilcroft Farm, Pecket Well, Hebden Bridge, HX7 8QY

27th October 2021

Thornton Architects Ltd



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Environmental Phase 1 Statement

Date: 27th October 2021

Preliminary Risk Assessment as defined by “Environment Agency Guidance on Requirements for Land Contamination Reports”
Version 1 July 2005

Introduction

This Environmental Phase 1 report has been produced by Thornton Architects Ltd to assess the potential of contamination to and from land adjacent to the subject site. It is proposed to convert an existing barn to a dwelling for visitor accommodation. The report is intended to be read in conjunction with the planning application documents as a whole.

Legislative Context

DETR Planning Policy Statement (PPS) 23: Planning and Pollution Control (2004) states that pollution issues should be taken into account as appropriate in planning decisions. Under PPS 23, there is a responsibility for developers to demonstrate to the Local Planning Authority (LPA) that the potential for contamination at a given site and any risks arising are properly assessed and that the development incorporates any necessary remediation and subsequent management measures to deal with unacceptable risks, including those covered by *DETR Circular 02/2000, Environmental Protection Act (EPA) 1990: Part IIA Contaminated Land (2000)*.

Part IIA of the EPA 1990 provides a regime for the identification, assessment and any required remediation of contaminated land. A risk-based approach using the ‘source pathway-receptor’ methodology is advocated for the assessment of contaminated land. The first phase of contaminated land assessment is often referred to as a ‘Phase 1 Desk-Study’ or a ‘Land Quality Statement’. This level of assessment considers relevant baseline geo-environmental information regarding the site in order to determine the risk of the site being contaminated, and if so the requirements for further assessments.

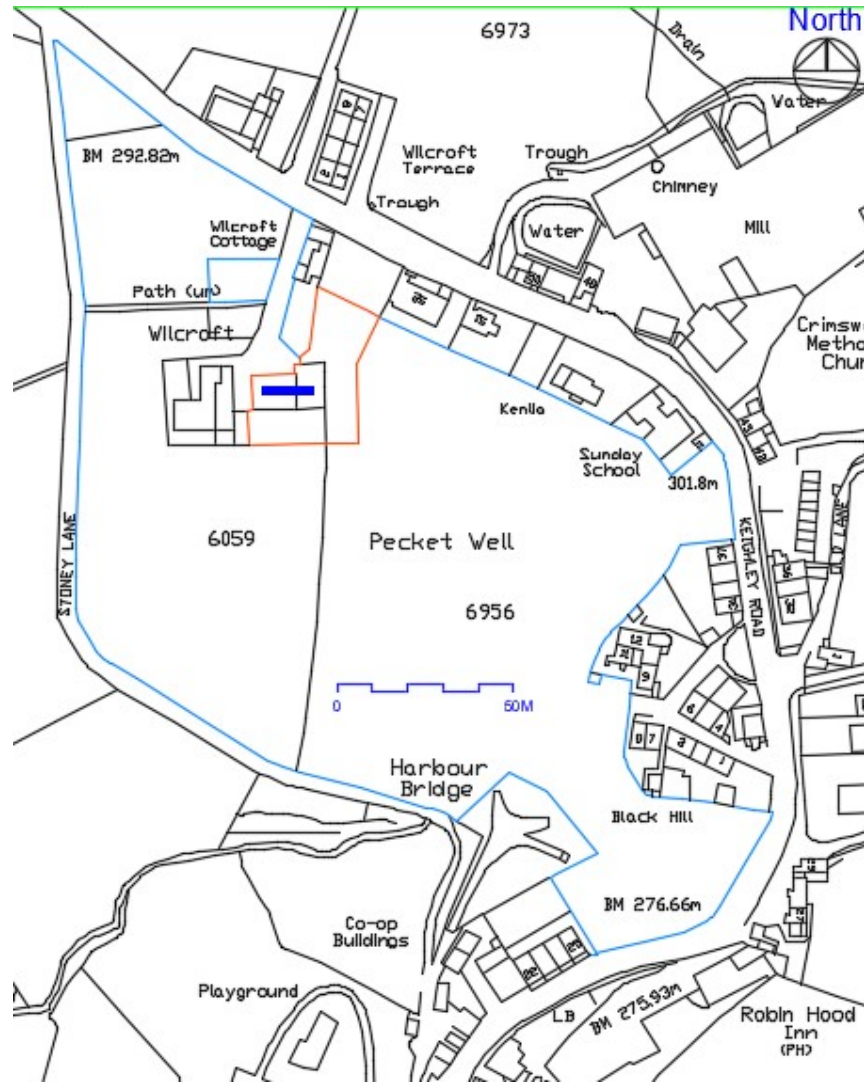
Report Context

This Phase 1 Environmental report has been prepared in accordance with PPS 23 and associated legislation. The following has been included:

- A desktop study (a search of available historical and current records and maps to identify possible sources of contamination);
- A site walkover survey following guidelines of the Association of Geotechnical and Geo-environmental Specialists (a basic survey of the site as it currently exists to reveal any features which may suggest possible sources of contamination);
- If contamination is identified, a conceptual model using the information gathered to identify possible pollutant linkages and a basic risk assessment of any linkages; and
- Recommendations for future site development and/or the need for any further assessments.

Please note that whilst every attempt has been made to place the information used in this report in a modern, geo-environmental context, Thornton Architects Ltd cannot be held responsible for the quality and accuracy of any information supplied by other parties.

1. Location: Wilcroft Farm and barn is located at the northern end of the village of Pecket Well just to the south of Keighley Road. The grid reference is Easting 399628, Northing 429631. The postcode is HX7 8QY



Location Plan



P1 Wilcroft House (left), Wilcroft Farmhouse and Barn viewed from south 05.08.2021



P2 Aerial view of Wilcroft House, Wilcroft Farmhouse and Wilcroft Barn (1982)

2. Description The subject building is that of a traditional nineteenth century barn with loadbearing coursed sandstone walls and a sandstone slate pitched roof. The roof structure collapsed around 1996 under the previous owner but the walls remain. There is a mid 20th Century lean-to byre on the east side. The collapsed roof would have been carried over the barn on two queen post trusses with supporting purlins between. The trusses would have divided the entire space between the gables into 3 equal structural bays. The original cart entrances, each with a stone arch, remain on the north and south sides. These define the central structural bay. There are internal stone cross-walls remaining that divide the central bay, originally made for hay loading and cereal threshing, from the milking parlours and dairy bays on either side.



P3 Internal view of north cart entrance with remains of stone cross-walls either side

3. Full Description of Wilcroft Barn from the Listing Description:

Barn, 5 metres to east of Wilcroft House

Address: Barn 5m East Wilcroft House Keighley Road Pecket Well Hebden Bridge
West Yorkshire

Grade: II

Group detail: Pecket Well

Full description:

Barn, dated 1861. Punch dressed stone, stone slate roof. Elliptical arched cart entry with rusticated voussoirs. 2-light window over with arched lights and false keystones bears date. To right mistal doorway with sill-tie to left of small window. 2 lunettes with keystones. Left hand return wall has owl hole to apex. Rear in small coursed stonework may be earlier. This has quoins, segmental arched cart entry with chamfered surround and mistal doorways to either side with chamfered surrounds. 3 bays of queen-post trusses.

Full description of adjacent listed farmhouse: from listing

Wilcroft Farmhouse and eastern part of Wilcroft House

Address: Wilcroft Farm Keighley Road Pecket Well Hebden Bridge West Yorkshire HX7 8QY

Grade: II

Group detail: Pecket Well

Full description:

House, c1728 (first deed) now in 2 occupations. Hammer-dressed stone, stone slate roof. 2 storeys. 2-room front, double-depth. South front has 4-light double chamfered mullioned window lacking 2 mullions and with lowered sill, similar altered window over to 1st floor. This bay is occupied by Wilcroft House. 6-light double chamfered mullioned window with king mullion to right, 4-light window over to 1st floor. Quoins. Right hand return wall has wide gable with central doorway with double tie-stone jambs and monolithic lintel, chamfered surround. All windows are chamfered mullioned. 2-light over doorway and oculus to apex (blocked); 6-light with same over to 1st floor. One gable stack and 3 others. Attached to west end is early C20 house (Wilcroft house) of no particular interest.



P4 Wilcroft Barn, north side

4. Observations.

4.1. The adjacent eighteenth century farmhouse has been repaired and renovated for use as visitor accommodation in accordance with the Listed Building Consent 13/00410/LBC see P1. There is a yard approximately 5M wide between the east side of the farmhouse and the west gable of the subject barn.



P5 Wilcroft Barn, north and west sides

4.2. The barn has loadbearing coursed sandstone walls. As noted in the listing description, the stonework and dressing of stonework around the openings appears to be older on the north elevation indicating that the barn was rebuilt in the nineteenth century.

4.3. Although the roof would have been carried on a pair of queen post trusses these decayed and rotted following the roof collapse. The upper parts of the gable walls collapsed down to wall plate level in 1996, approximately 5m height presently remaining above ground floor level.

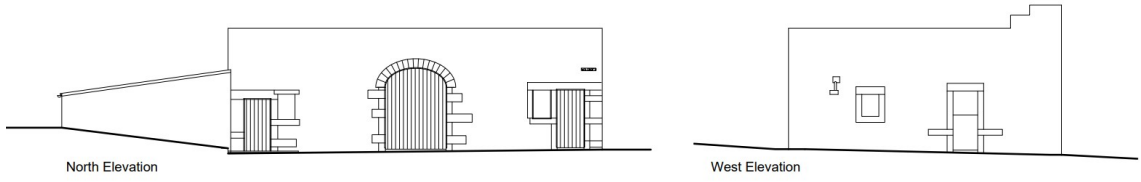
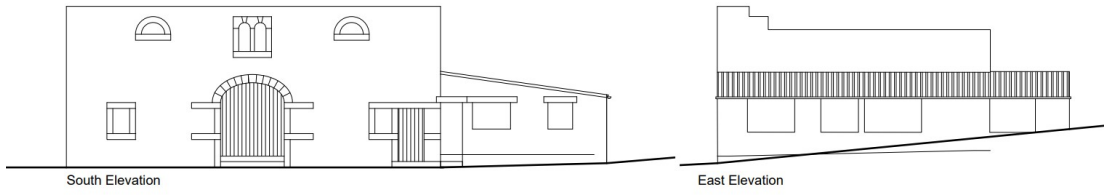


P6 Wilcroft Barn, south side

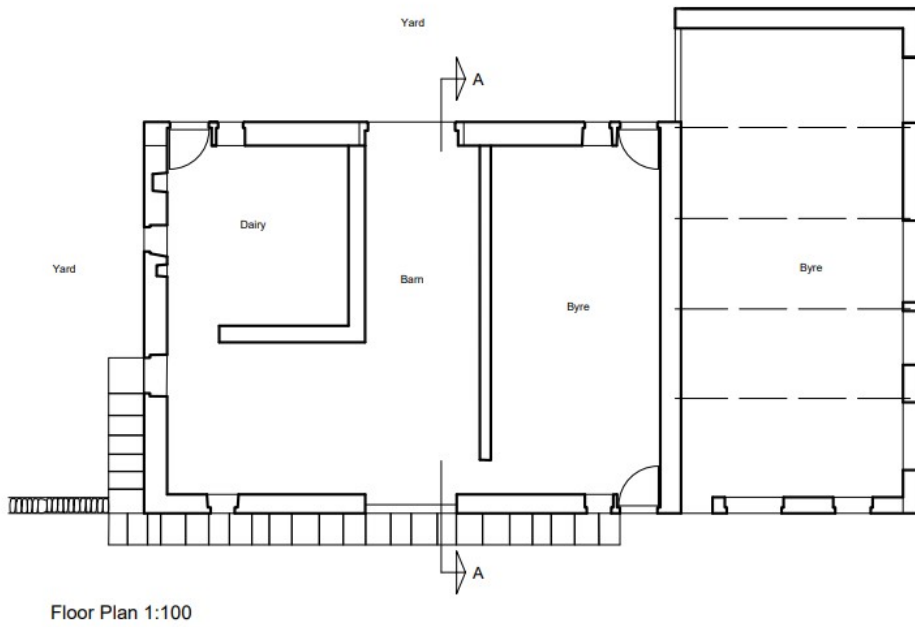
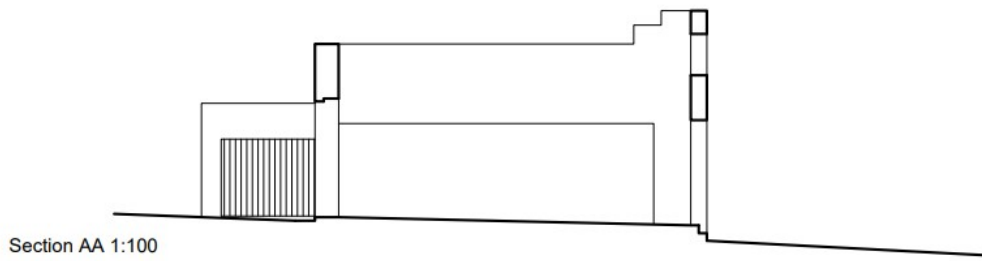
4.4. The north, west and south elevations of the barn remain as described in the listing except for the gable apex. The owl hole, referred to in the listing, is missing but may be recoverable amongst the stored walling stone within the barn.

4.5. The mid 20th Century lean-to byre on the east side, visible on the 1982 aerial view, remains intact and is used for storage.

EXISTING



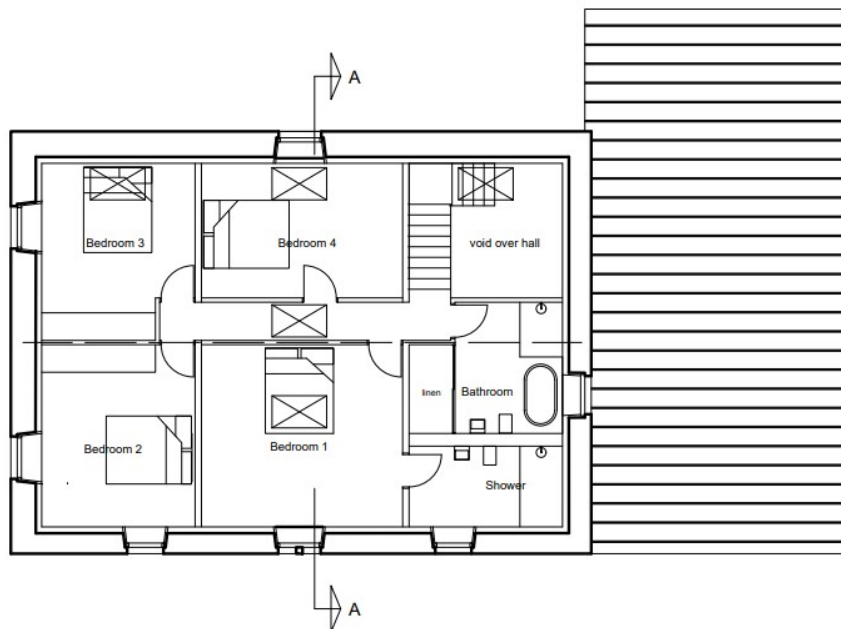
EXISTING



PROPOSED



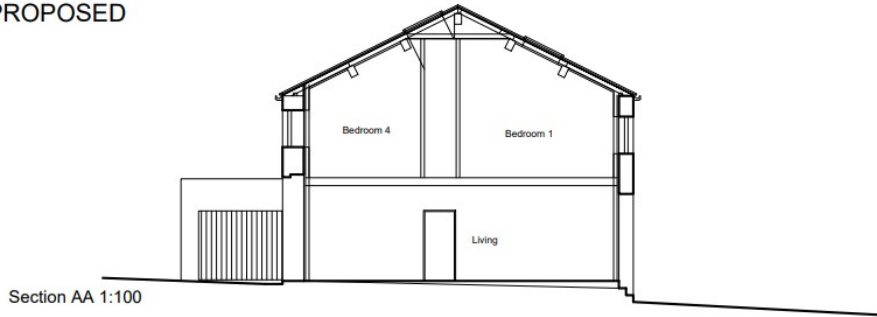
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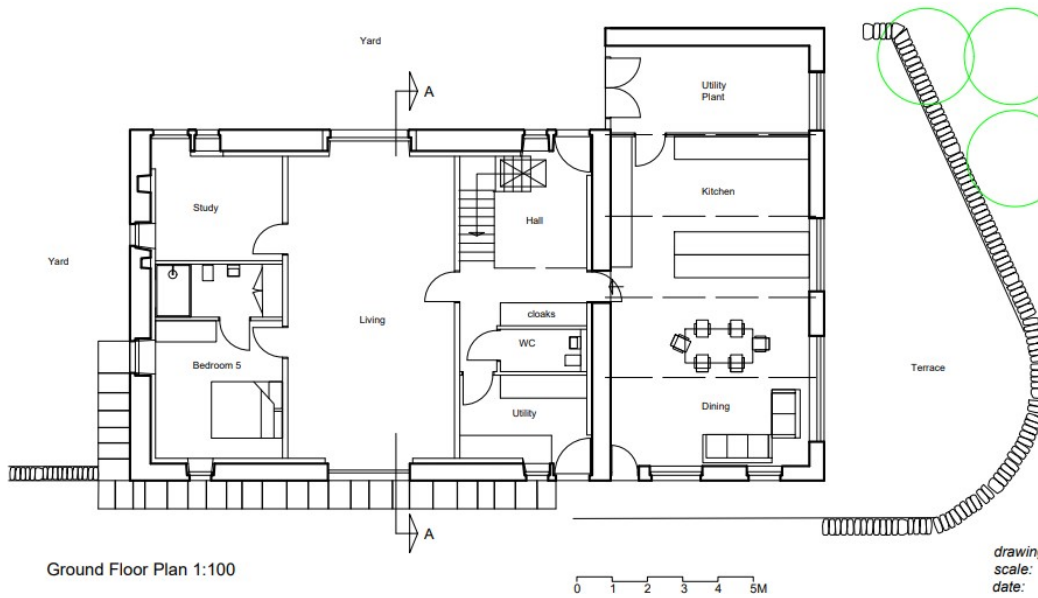
Floor Plan 1:100



PROPOSED



Section AA 1:100



Ground Floor Plan 1:100

0 1 2 3 4 5M

drawing
scale:
date:

5. Proposal: Conversion of existing barn to dwelling for visitor accommodation

- 5.1. Prop and make safe the existing structures and rebuild bowing sections of wall
- 5.2. Install internal perimeter foundations and blockwork lining walls.
- 5.3. Provide new insulated roofs and supporting structure. Install rainwater troughings and downpipes.
- 5.4. Excavate and provide a new insulated concrete floor and subfloor drainage within the barn.
- 5.5. Install a suspended timber first floor within the barn.
- 5.6. Install new painted timber external doors and windows to patterns as shown on drawings.
- 5.7. Insulate all floor wall and roof voids and provide vapour barriers and breather membranes where necessary.

- 5.8. Install new internal partition walls and door casings.
- 5.9. Install internal mechanical and electrical services.
- 5.10. Supply and fix plasterboard and skim wall and ceiling finishes
- 5.11. Install all internal joinery items including: doors skirtings, architraves, kitchen units and cupboards.
- 5.12. Form foul drain connection to adjacent farmhouse drains and/or connect to the existing main drain running through the field.
- 5.13. Make all necessary drainage and utility service connections.
- 5.14. Construct the flagged yard and enclosing drystone wall on the east side of the barn. Form the car parking and turning area on the north side of the barn to provide access to the converted barn.
- 5.15. Install a waste and recycling store.

6. Design Approach

- 6.1. The alterations consequential to the change of use have been kept to a minimum. Existing external window and door positions have been retained wherever possible.
- 6.2. The works applied for include repairs and alterations that are necessary to safeguard the structure and fabric of the building.
- 6.3. In adapting the barn to a new use as a dwelling the original components of the barn where possible will be incorporated and a layout adopted that will allow for these being visually apparent in the dwelling. The proposed new cross walls will be installed close to the positions of the former queen post trusses in order to allow for the reinstatement of the 3 bay structural pattern of the barn. This is consistent with the retention of the pattern of the North and south elevations and their corresponding arched cart entrances.
- 6.4. The original traditional pattern of byre doorways will be retained at the east end of the south elevation and at either end of the north elevation.
- 6.5. The staircase hall and gallery has been positioned so that the full height of the original barn can be appreciated at both floor levels. The bedroom ceilings will be formed at the underside of the rafter position so that the purlins will be fully exposed. The intention is to retain and make visible the historic character of the roof structure within the dwelling.
- 6.6. The original openings have been retained to provide the main door and window positions. The number of new window openings has been minimised consistent with its conversion to a dwelling and with the requirement Building

Regulations requirement for fire escape windows. Roof-lights, matching those in the adjacent farmhouse, are proposed in several positions to provide adequate natural daylight whilst minimising the number of new openings to the barn walls, so that the historic character of the barn is maintained with a low ratio of window to wall area.

6.7. Thermal insulation will be added in order to reduce carbon emissions consistent with the NPPF and current Building Regulation requirements.

6.8. The layout has been determined to meet Building Regulation requirements relating to means of escape but also respecting the current pattern of structural bays.

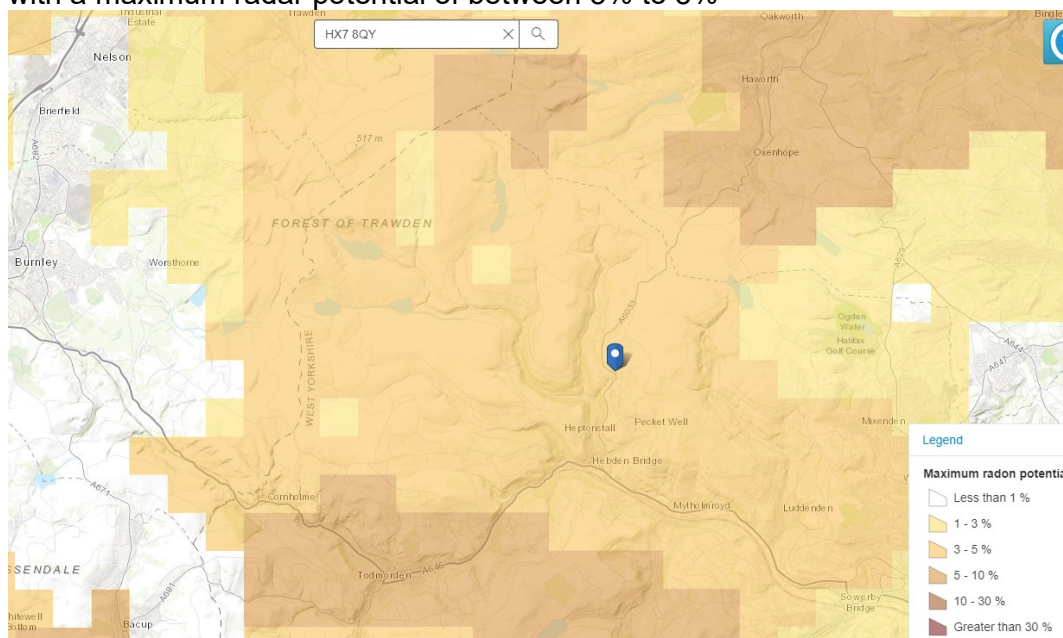
6.9. The whole scheme is intended to restore, repair and preserve the main elements of the barn with only the minimum of alterations necessary to achieve its change of use to a dwelling.

7. **Materials** for works have been selected to match those of the existing building and its environs. Stone slates for the roof and regular coursed gritstone for the minimal alterations to external walls will match the coursed stone to the existing building in colour, texture and tooling. The joinery items for the external doors and windows will be sympathetic to the existing materials and details.

8. **Mining.** The site is outside the Yorkshire Coalfield. No seams of economic importance are present below the site.

9. The **1:50 000 scale Bedrock British Geological Survey map** of the area shows the site to be underlain by undifferentiated sandstone of Carboniferous Millstone Grit.

10. **Radon Gas.** The UK Radon Map shows the subject site to be within an area with a maximum radar potential of between 3% to 5%



11. The landfill enquiry indicated that there is no landfill site less than 250M from the site.

12. Site Walkover Survey

- 12.1. The subject buildings are of traditional loadbearing construction with sandstone walls and formerly a sandstone slate pitched roof.
- 12.2. The farmhouse and barn is set within dry-stone walled pasture on the hillside on the NW side of the upland village of Pecket Well.
- 12.3. There is a functioning septic tank serving the subject adjacent house and farmhouse immediately to the west of the subject barn.
- 12.4. There is no evidence of the previous storage of hydrocarbons or related pipe-work or tanks on the subject site.

13. Flood Risk

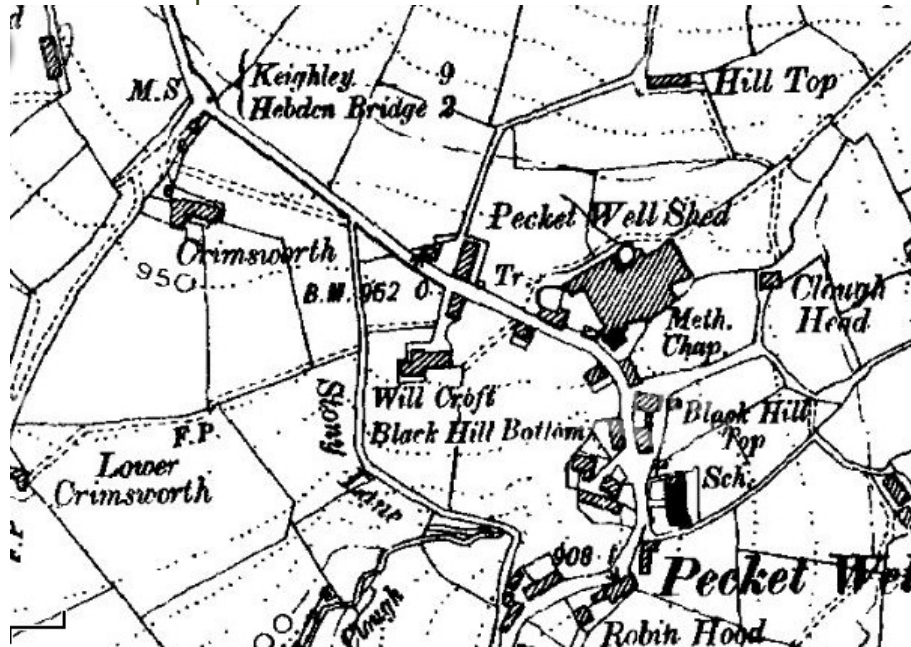
- 13.1. The subject site is not identified as an area that is subject to flooding on the Environment Agency indicative flood map.
- 13.2. The principal source of risk of flooding is surface water run-off from the accessway that is below the level of Keighley Road on the north side of the subject barn.

14. Site History

- 14.1. The Ordnance Survey Map (1851-1855) shows Wilcroft farmhouse and subject barn in approximately its present position mostly surrounded by pasture. There are nearby wells shown on either side of Keighley Road just to the north of the barn.



14.2. The Ordinance Survey Map (1894-1896) shows the enlargement of the Wilcroft Farmhouse to include the present attached Wilcroft House. To the north of the subject site it also shows the development of Pecket Well (weaving) shed and Wilcroft Terrace of houses at the bottom of the access lane to Hill Top Farm.



14.3. The Ordnance Survey Maps (1908-1912) and (1934-1938) show little alteration to the subject site and its surroundings.

15. Conceptual Model: From the desktop study and the evidence from the site history a conceptual model to identify possible pollutant linkages has highlighted the following sources:

- 15.1. Possible site contamination related to the historic use of the subject barn for animal housing.
- 15.2. Possible ongoing contamination from substrata of the subject building by radon gas.

16. Risk assessment of any linkages:

- 16.1. The whole of the ground floor of the subject building will be covered with the impermeable floor slab.
- 16.2. Possible airborne contamination by radon gas seepage from substrata requires addressing.
- 16.3. Surface water run-off from the accessway and to the north could cause damage to the subject site during storm periods.

17. Recommendations

- 17.1. All existing utility supply lines to affected areas should be identified, disconnected, diverted and made safe as necessary prior to commencement of building works. New independent utility supplies should be integrated into the construction planning and works.
- 17.2. Because of the former use of the subject outbuildings for livestock it is recommended that all existing ceiling finishes, wall renders and finishes should be removed and replaced. All retained wall surfaces should be washed down with appropriate disinfecting fluid. The existing ground floor area to the barn should be broken up, removed and excavated to allow for a new insitu concrete floor construction on a continuous sealed impervious vapour barrier with a minimum of 225mm deep, no fines, clean well compacted hardcore below.
- 17.3. The design of the dwelling as well as its surrounding garden, access forecourt, terraces and landscape must take into account capture, attenuation and dispersal of surface water run-off from the surrounding sloping site.
- 17.4. The positions and condition of any subterranean water courses, overlying fill, and historic culverts below the site should be ascertained and taken into account prior to commencement of detail design and construction works.
- 17.5. The installation of a radon barrier and the installation of perimeter ventilation to the proposed new dwelling-house is recommended.

John Thornton BA Hons B Arch RIBA

27th October 2021