

FLOOD RISK ASSESSMENT

Grid Reference: 518603E, 231184N

OLD HALE WAY
ICKLEFORD, HERTFORDSHIRE

Prepared on behalf of
PETER GEORGE TOWN PLANNING

APRIL 2024

REFERENCE: ST3481/FRA-2404
REVISION 1



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- A Site Location Plan

1. Introduction

- 1.1.1. Stomor Ltd have been commissioned by Peter George Town Planning to prepare a Flood Risk Assessment (FRA) associated with the proposed development of land to the north-east of Old Hale Way, Ickleford, Hertfordshire. A Site Location Plan is provided in **Appendix A**.
- 1.1.2. Development proposals comprise a single agricultural dwelling, with associated external areas.

2. Development Site

- 2.1.1. The site is greenfield and forms part of an agricultural holding located on the east side of Old Hale Way.

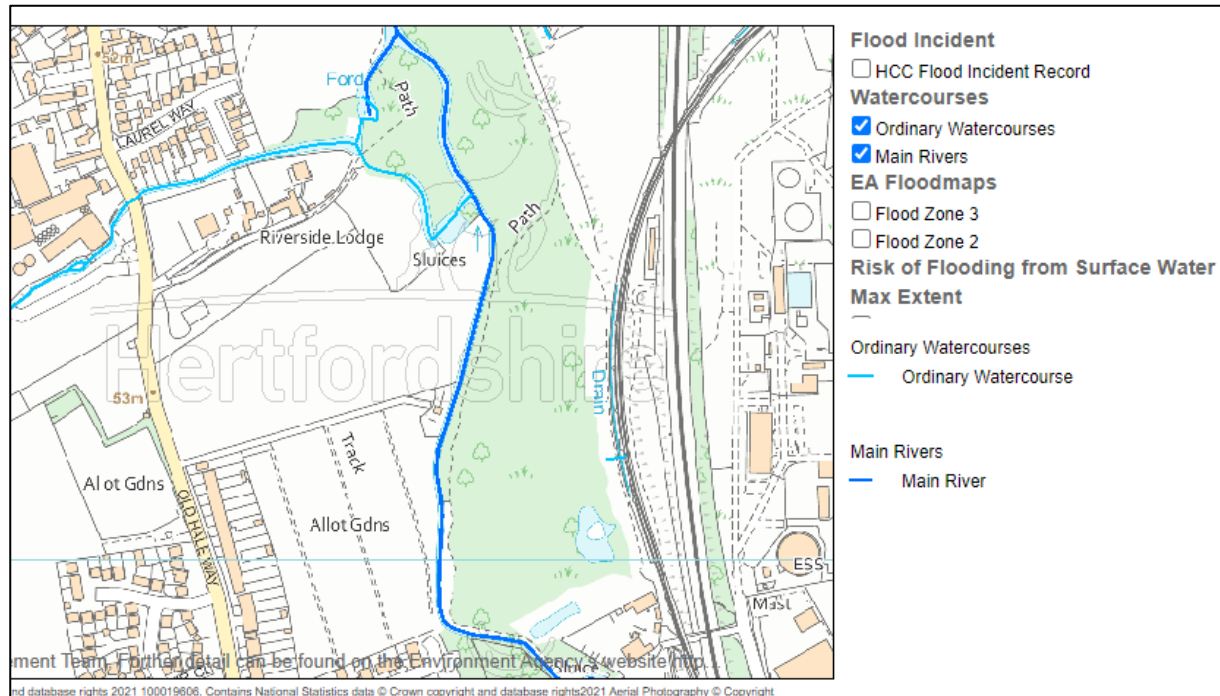


Figure 2.1: HCC Flood Risk Management Map

- 2.1.2. An Environment Agency (EA) designated Main River, the River Hiz, runs to the eastern side of the proposed dwelling, generally running from south to north.
- 2.1.3. There is no existing surface water drainage infrastructure within the development area of the site. Surface water runoff would appear to drain naturally to ground or run overland towards the River Hiz.

3. Flood Risk

3.1. Flooding from Rivers or Sea

3.1.1. The Indicative Floodplain Map obtained from the EA website is provided in **Figure 3.1**, which shows that the site lies within Flood Zone 1

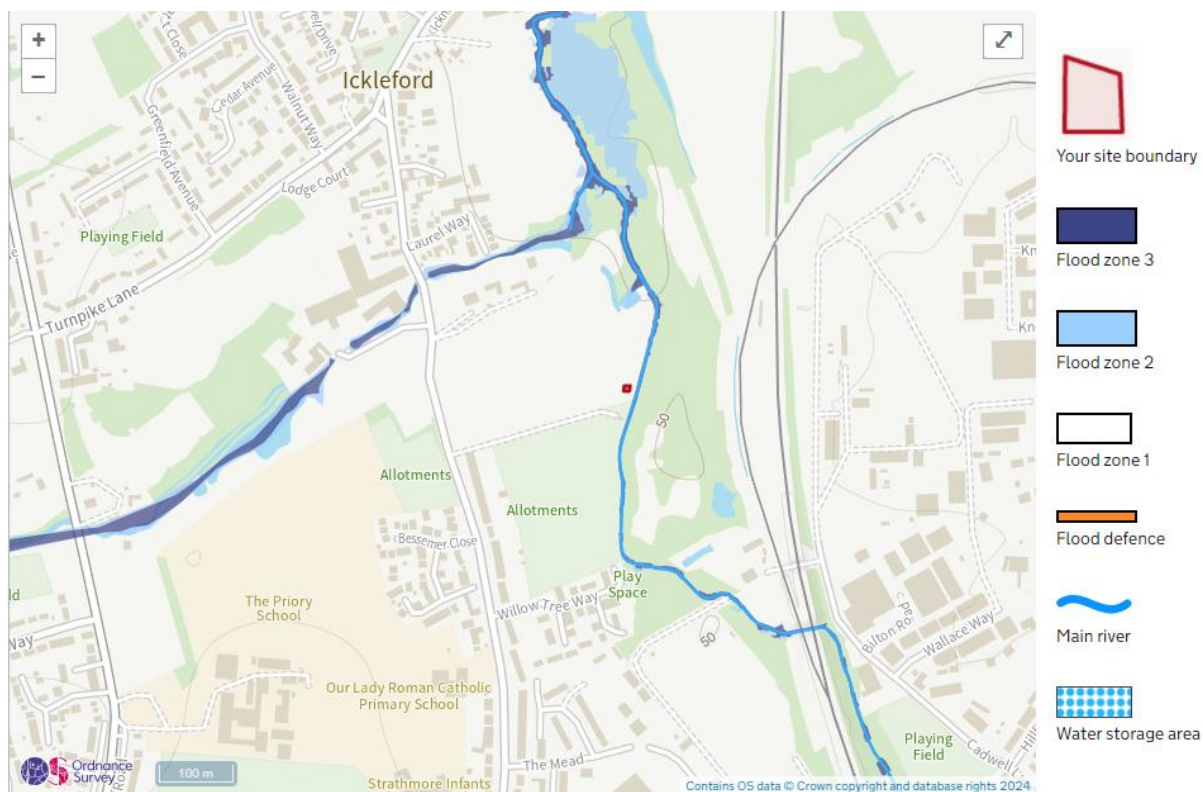


Figure 3.1: UK Government Flood Map for Planning

3.1.2. The difference between Flood Zones 1, 2 and 3 are described in Table 1: Flood Zones from the Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government Flood Risk and Coastal Change guidance (updated August 2022), reproduced below:

Zone 1 Low Probability	Land assessed as having a less than 0.1% annual probability of river or sea flooding.
Zone 2 Medium Probability	Land assessed as having between a 1% and 0.1% annual probability of river flooding, or land having between a 0.5% and 0.1% annual probability of sea flooding.
Zone 3a High Probability	Land assessed as having a 1% or greater annual probability of river flooding, land having a 0.5% or greater annual probability of flooding from the sea.
Zone 3b The Functional Floodplain	Land where water from rivers or the sea has to flow or be stored in times of flood. Normally comprises land having a 3.3% or greater annual probability of flooding, or land designed to flood (such as a flood attenuation scheme).

- 3.1.3. The Flood Risk and Coastal Change Category of the NPPG and associated documents identify that site-specific flood risk assessments should identify and assess the risks of all forms of flooding to and from the development and demonstrate how these flood risks will be managed so that the development remains safe throughout its lifetime, taking climate change into account.
- 3.1.4. The development would continue to serve residential uses, which would have a NPPF flood risk vulnerability classification of 'More Vulnerable'.
- 3.1.5. The residential dwelling is located within Flood Zone 1. NPPG identifies that all uses of land are appropriate within Flood Zone 1.
- 3.1.6. The EA flood maps and local Strategic Flood Risk Assessment (SFRA) do not identify any fluvial flood risk associated with the River Hiz as it travels through the site, with the extent of Flood Zone 2 and 3 generally confined to the river.
- 3.1.7. The proposed dwelling will be located at least 8m away from the top of bank of the River Hiz. Therefore, there would be no requirement for permit from the EA. However, as the dwelling is proposed within proximity of the Main River, Finished Floor Levels will be raised at least 300mm above the average ground level, with flood exceedance routes considered as part of the detailed design.
- 3.1.8. Based upon the above information, it is considered that the development is not at risk of fluvial flooding and there would be no increase in fluvial flood risk downstream of the site.
- 3.2. Flooding from Land (Surface Water)
- 3.2.1. Flooding from land occurs when intense rainfall is unable to soak into the ground or enter drainage systems. Local topography and built form can have a strong influence on the direction and depth of flow.
- 3.2.2. The EA Indicative Surface Water Flood Map identifies that the site lies within an area not at risk of surface water flooding:

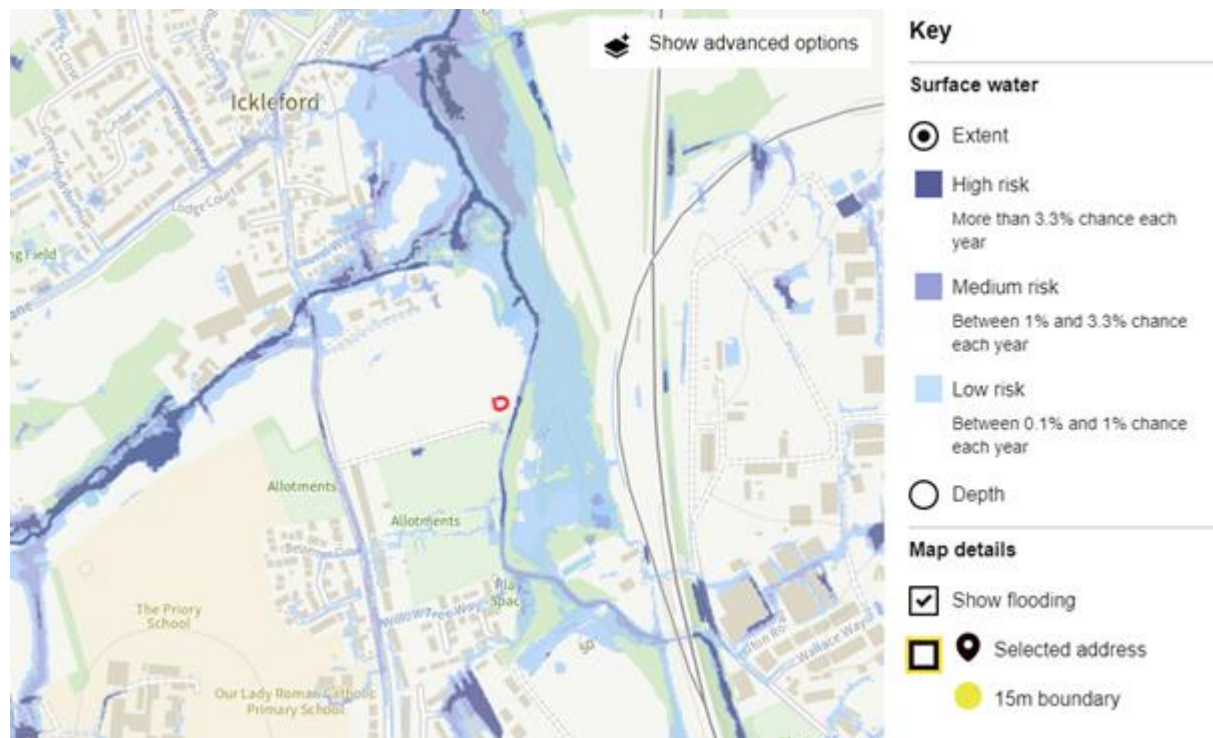


Figure 3.2 – UK Government Surface Water Flood Risk Map

- 3.2.3. Any surface water runoff generated by the proposals would be catered for by a surface water drainage strategy which will be designed to current standards.
- 3.2.4. It is considered that the site is not at risk from surface water flooding, nor would it increase the flood risk within, or downstream of, the site.
- 3.3. Flooding from Groundwater
- 3.3.1. Groundwater flooding occurs when water levels in the ground rise above surface elevations. Groundwater flooding events are most likely to occur in low lying areas underlain by permeable rocks (aquifers).
- 3.3.2. The SFRA has not identified any historic groundwater flooding events within the vicinity of the site. The development of the site is not considered to increase the risk of groundwater flooding or would the site be considered vulnerable to groundwater flooding events.
- 3.4. Flooding from Sewers
- 3.4.1. Inspection of the SFRA identifies that the recorded historic sewer flooding events did not occur within the vicinity of the site. The development proposals would not increase the flood risk associated with the local sewer network.

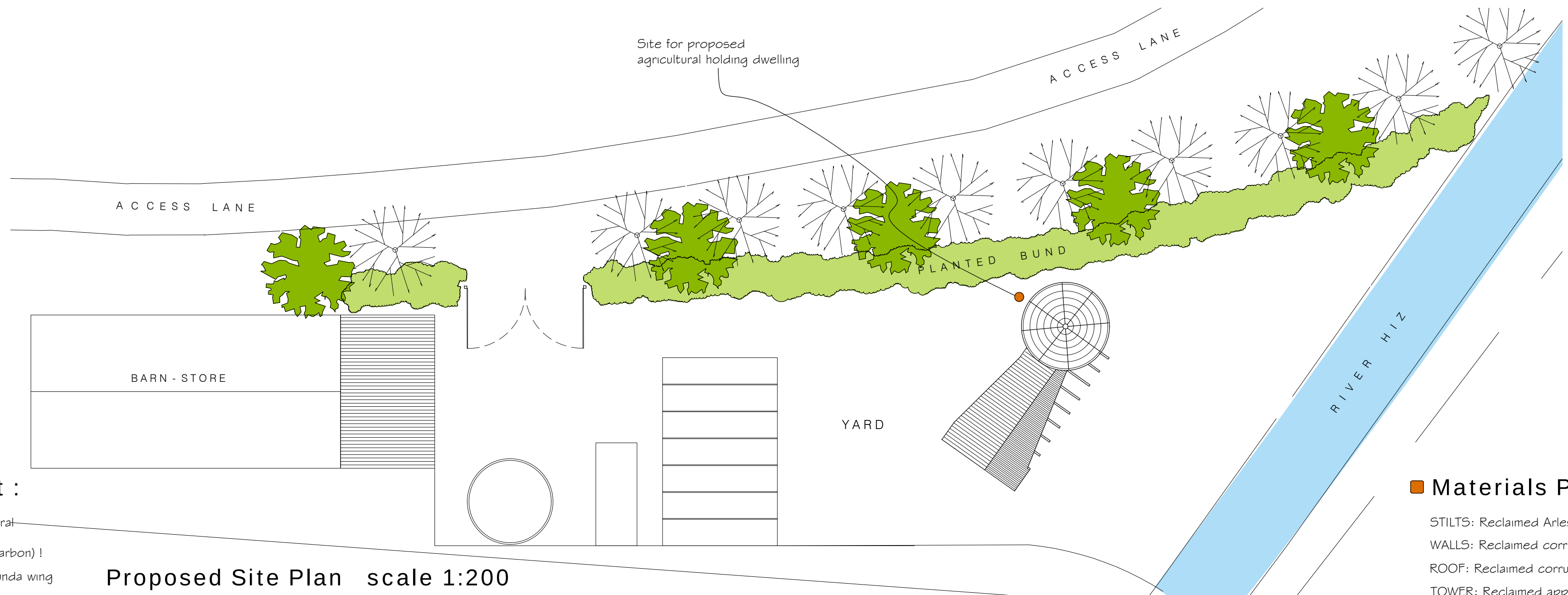
3.5. Flooding from Reservoirs, Canals and Other Artificial Sources

- 3.5.1. Inspection of the EA flood maps confirm the site is not at risk of flooding from reservoirs, canals or other artificial sources.
- 3.5.2. No other non-natural or artificial sources of flooding where water is retained above natural ground level, operational and redundant industrial processes including mining, quarrying and sand and gravel extraction, would appear to be located in the vicinity of the site which may cause increase floodwater depths or velocities.

4. Summary and Recommendations

- 4.1.1. Stomor Ltd have been commissioned by Peter George Town Planning to prepare a Flood Risk Assessment associated with the proposed development of land to the north-east of Old Hale Way, Ickleford, Hertfordshire.
- 4.1.2. The site is currently greenfield and in use for agricultural purposes.
- 4.1.3. The proposals for the site comprise the installation of an agricultural dwelling.
- 4.1.4. An EA designated Main River, called the River Hiz, runs adjacent to the site.
- 4.1.5. The site lies within Flood Zone 1. The development uses would have a NPPF flood risk vulnerability classification of 'More Vulnerable'. The development would be confined to Flood Zone 1, where all development uses are permitted.
- 4.1.6. It is considered that the site would not be at risk of flooding from surface water, sewer, groundwater or artificial sources.





Brief & Concept :

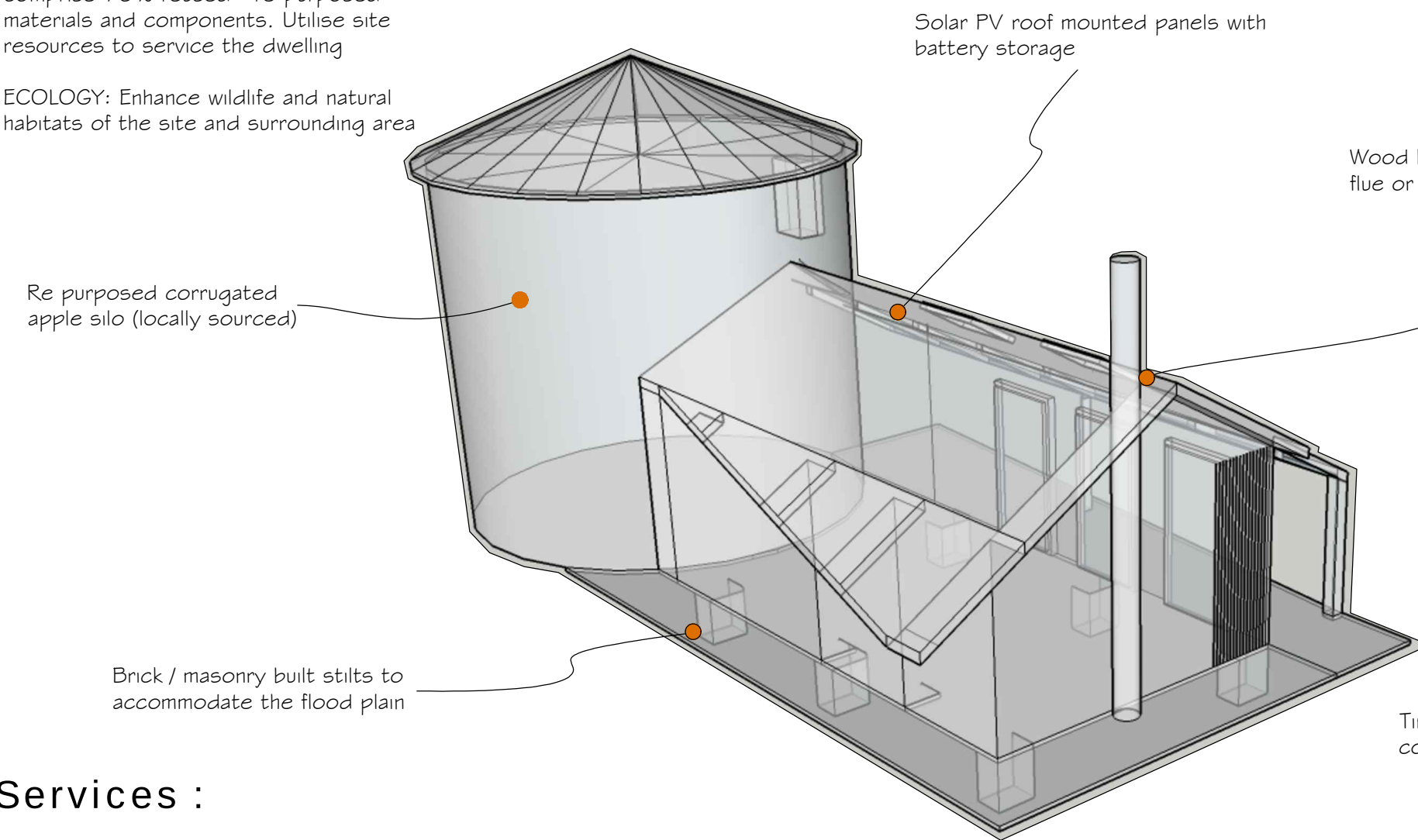
Design and construct an agricultural holding dwelling of architectural significance (aim for genuine 0 Carbon) !
FORM: Simple footprint with rotunda wing
SCALE: Modest | - 1.5 storey height

SUSTAINABILITY: Construction to comprise 75% reused - re-purposed materials and components. Utilise site resources to service the dwelling
ECOLOGY: Enhance wildlife and natural habitats of the site and surrounding area

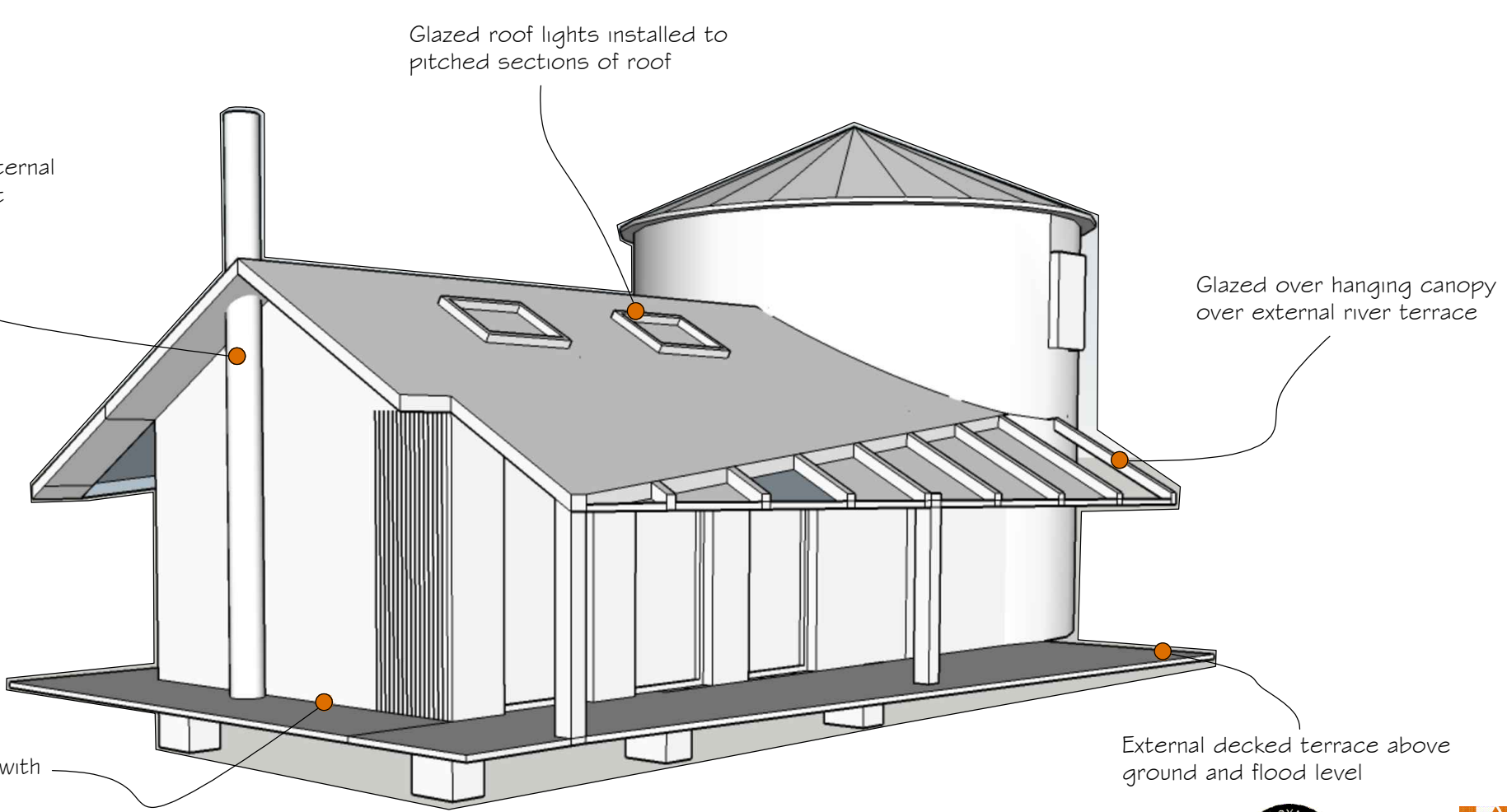
Materials Palette :

STILTS: Reclaimed Arlessey Whites bricks
WALLS: Reclaimed corrugated iron sheets
ROOF: Reclaimed corrugated iron sheets
TOWER: Reclaimed apple silo
TIMBER: Reused building timber
WINDOWS: Reused double glazing panels

Proposed Site Plan scale 1:200



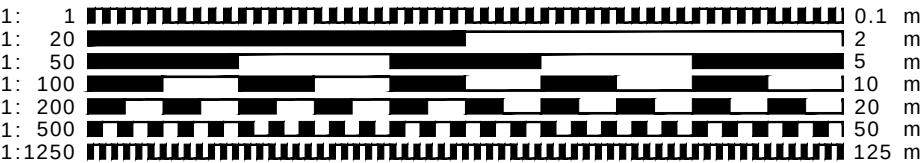
Sketch Perspective



Sketch Perspective

Services :

HEATING: Solar & Ground Source Pump & Wood Burning appliance
WATER: Bore hole
VENTILATION: Passive ventilation
DRAINAGE: Sewage treatment plant & grey water harvesting



○ CLIENT MUST SEEK SEPARATE SPECIALIST ADVICE ON PARTY WALL MATTERS IN SUFFICIENT TIME TO SERVE ALL NOTICES IF REQUIRED
○ ALL STRUCTURAL ELEMENTS ARE INDICATIVE ONLY AND SUBJECT TO FULL STRUCTURAL DESIGN BY STRUCTURAL ENGINEER - ALL DESIGN IS SUBJECT TO STRUCTURAL DESIGN TO BE PROVIDED BY OTHERS
○ THIS DRAWING IS FOR PLANNING APPROVAL ONLY AND SUBJECT TO ALL OTHER RELEVANT STATUTORY APPROVALS



PRELIMINARY

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CONTRACT
Proposed Agricultural Dwelling :
Old Hale Way, Ickleford, Hitchin,
Hertfordshire
DRAWING TITLE
FEASIBILITY - DRAFT PROPOSALS
SCALE varies@A2 DRAWING NUMBER SKO1 REVISION A
DATE Mar 2023
DRAWN JEI
JOB NUMBER RSD-22-02
checked by
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