FLOOD RISK ASSESSMENT

Proposed conversion of barn and stables to a dwelling

Casa-Mia, Billingsgate, South Somercotes, Louth, LN11 7BQ

CONTENTS

DOCUMENT HISTORY

1	Planning Application	30.11.2023

Andrew Clover Planning and Design Ltd
T: 01507 307485
mail@andrewcloverplanninganddesign.co.uk

Andrew Clover Planning And Design Ltd is registered in England and Wales. Company Registration No: 13674950.
VAT Number: 392355773. Registered Office: 1 Jacklin Drive, Saltfleet, Lincolnshire, LN11 7UJ

1 INTRODUCTION

1.1 This Flood Risk Assessment (FRA) accompanies a full planning application to convert a redundant barn and stables to a dwelling. Prior approval is already in place for the barn to be converted to a dwelling, utilising Class Q of the Permitted Development Order.

1.2 The objective of this FRA is to identify, appraise, manage, and reduce the flood risk to life and property at the proposed site and has been produced in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance.

2 THE SITE & SURROUNDINGS

2.1 Casa-Mia is located on the northern side of Billingsgate, on the eastern edge of South Somercotes and at Grid reference TF 41832 94243 (Figures 1 & 2). The property currently consists of a bungalow, a brick stable block (Figure 3), and two brick barns (one of which is the subject of this application, Figure 4). The field to the north and wrapping around the buildings to the east and west is within the same ownership. A small field on the adjacent side of the road also forms part of the property.

2.2 The barn is constructed from brick and has a traditional pantile roof. It has window and door openings on all sides and has a usable first floor which is accessed via a ladder. The stables are also constructed in red brick with a pantile roof. It is split into 5 stables and there is a tall entrance into each on the southern side. Each stable also has a high-level window to the rear.

Figure 1: Aerial photograph showing the location of the site in relation to South Somercotes.

Figure 2: Aerial photograph showing the location of the buildings in more detail.

Figure 3: The existing stable block.

Figure 4: The existing barn to be converted.

3 THE PROPOSAL

3.1 Permission is in place to convert the barn to a dwelling under application reference N/162/01317/23. This latest proposal seeks to attach the barn to the stables with a single storey glass link and convert the whole building to provide a three-bedroom dwelling.

3.2 As the stable block is a more recent building and has high eaves it is possible to raise the internal floor level without compromising the internal space. It is for this reason that it will be utilised to provide the main living space and two of the bedrooms. The new entrance door within the glazed link will be at existing ground level with internal steps leading up to the raised floor (500mm) in the former stable building. The ground floor of the existing barn will not be raised as the first-floor level is too low. The ground floor of this part of the dwelling will therefore only be used for a utility room and games room. The existing first floor will be used to provide a third ensuite bedroom.

3.3 The existing vehicular access will serve the new dwelling and the other existing barn will be used as outbuildings for the property.

4 FLOOD RISK PLANNING POLICY

4.1 The NPPF sets out the Governments national policies on different aspects of land use planning and in relation to flood risk. The NPPF is also supported by web-based Planning Practice Guidance (PPG)

4.2 The PPG uses Flood Zones to characterise flood risk, and these refer to the probability of river and sea flooding, ignoring the presence of defences. They are shown on the Environment Agency's Flood Map and are as indicated in the Table 1. As can be seen in Figure 5, the buildings are predominantly within Flood Zone 2, with only a small corner of the stable being within Zone 3.

TABLE 1: FLOOD ZONES	
Flood Zone	**Definition**
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 & 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

4.3 The NPPF requires the application of a Sequential Test to steer new development to areas with the lowest probability of flooding. The Flood Zones provide the basis for applying the test.

4.4 The aim is to steer new development to Flood Zone 1 (areas with a low probability of river or sea flooding). Where there are no reasonably available sites in Flood Zone 1, local planning authorities in their decision making should take into account the flood risk vulnerability of land uses (as shown in Table 2, page 8) and consider reasonably available sites in Flood Zone 2 (areas with a medium probability of river or sea flooding), applying the Exception Test if required.

4.5 Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 (areas with a high probability of river or sea flooding) be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required.

Figure 5: Environment Agency flood map with the application site highlighted on enlarged detail.

TABLE 2: FLOOD RISK VULNERABILITY CLASSIFICATION	
Essential infrastructure	• Transport infrastructure • Essential utility infrastructure • Wind turbines.
Highly vulnerable	• Emergency Service which are required in times of flood • Basement Dwellings • Mobile Home parks • Installations requiring hazardous substances consent
More vulnerable	• Hospitals • Residential institutions (i.e., care homes, hostels, prisons) • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs, and hotels • Non-residential uses for health services, nurseries, and educational establishments • Landfill and hazardous waste management facilities • Site used for holiday short-let caravans and camping
Less vulnerable	• Emergency services which are not required to be operational during flooding • Buildings used for commercial establishments (i.e., shops, restaurants) • Land and buildings used for agriculture and forestry

4.6 In this instance as the proposal is for a change of use of an existing building it would not be appropriate to search for alternative sites. Additionally, when compared to the surrounding area, the site is already in one of the lowest areas of flood risk.

4.7 Based on the vulnerability of a development the guidance states what Flood Zone(s) the development is appropriate within. This is demonstrated by Table 3 below.

TABLE 3: FLOOD RISK VULNERABILITY AND FLOOD ZONE 'COMPATIBILITY'					
	Essential infrastructure	**Highly vulnerable**	**More vulnerable**	**Less vulnerable**	**Water compatible**
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required	×	Exception Test required	✓	✓
Zone 3b	Exception Test required	×	×	×	✓*
KEY: ✓ Development is appropriate × Development should not be permitted					

4.7 The accompanying notes to Table 3 state that the Sequential and Exceptions Tests do not need to be applied to minor developments and changes of use (except for a change of use to a caravan, camping or chalet site, or to a mobile home or park home site). Paragraph 164 of the NPPF states that whilst changes of use should not be subject to these tests, application should still meet the requirements for site specific flood risk assessments.

4.9 In accordance with the above, whilst the Sequential and Exceptions do not apply due to the proposal involving a change of use, this site-specific FRA has been produced to ensure that the development is safe and will not increase risk elsewhere.

5 FLOOD RISK SOURCES

5.1 The following sources of flood risk have been identified. Where mitigation is required to reduce the risk from flooding this is discussed in Section 6.

HISTORC FLOODING

5.2 The Environment Agency have advised that they do not have any historical records of flooding in or around the application site.

FLUVIAL

5.3 The nearest main river is the maintained South Dike over 1.5km to the south. The Environment Agency has advised that the fluvial defences reducing the risk of flooding to the site consist of earth embankments. They are said to be in fair condition and reduce the risk of flooding (at the defence) to a 10% (1 in 10) chance of occurring in any year. The Agency inspect these defences routinely to ensure potential defects are identified.

5.4 Due to the separation distance and the intervening development (roads, ordinary watercourses etc) this is not considered to be a viable source of flood risk to the application site

TIDAL

5.5 The site is over 3.0km to the west of the east coast and the flood risk to the site is reduced by the raised defences. The EA confirm at Section 5.1 of their letter that the existing tidal defences protecting this site consist of earth embankments and natural sand dunes. These defences are said to be in fair condition and reduce the risk of flooding (at the defence) to a 0.5% (1 in 200) chance of occurring in any year. Whilst the EA inspect these defences routinely to ensure potential defects are identified, there is still a risk that the defences could be overtopped or breached.

5.6 The effects of overtopping or a breach of tidal defences is shown in the hazard maps provided by the EA at Appendix A. Maps for overtopping or a breach in the present day have not been provided as the site would be unaffected.

5.7 The EA have advised that the 0.5% (1 :200) maps for an event in the future scenario year of 2115 should be used when assessing the risk to two storey developments. The

range of depths on and adjacent to the site because of a breach for such an event is shown in Figure 6. As can be seen the building could be affected by flooding to a depth of up to 500mm. It is worth noting that this depth does not change during the 0.1% scenario.

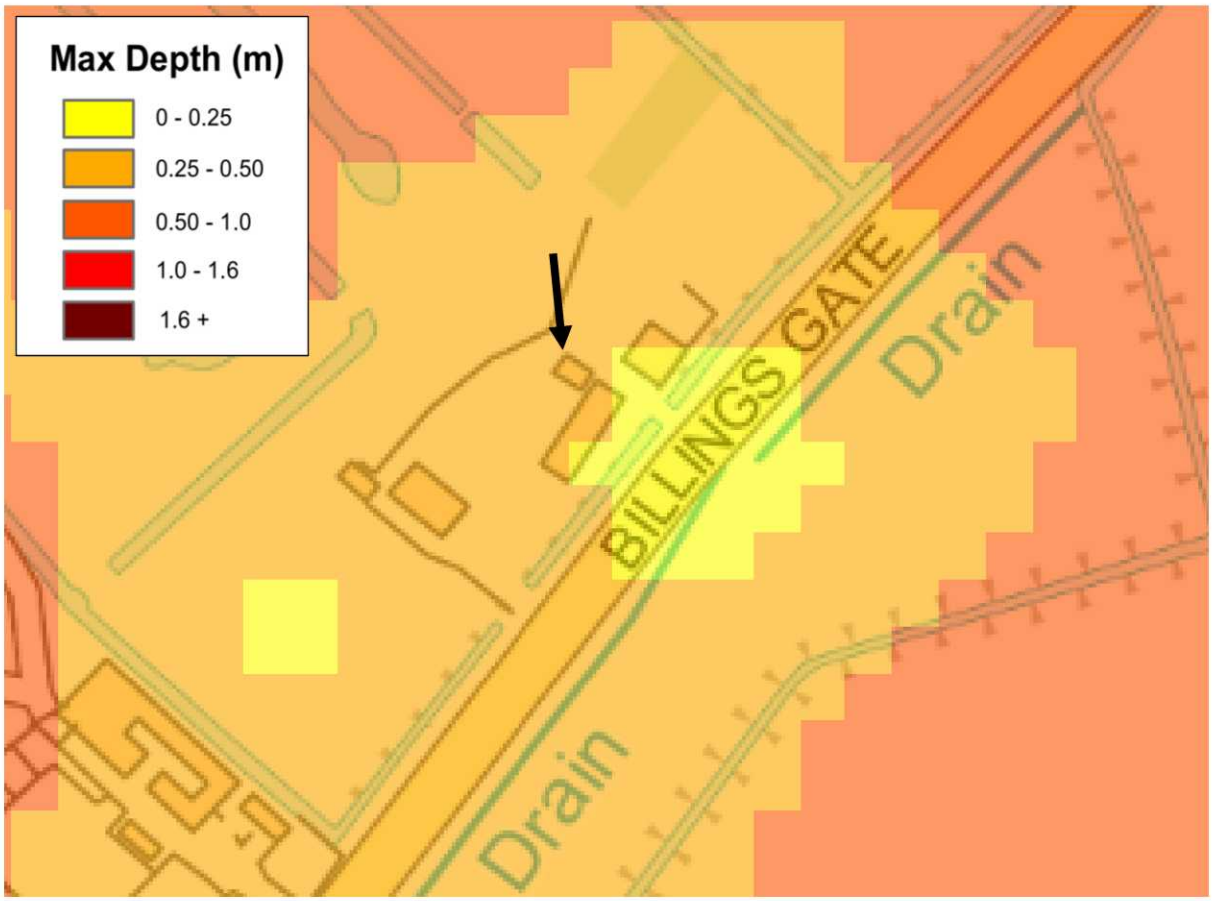

Figure 6: Hazard map for a 0.5% 2115 breach in the tidal defences (application site highlighted).

5.8 The overtopping maps are generally not used for determining what mitigation measures are required for developments such as this. Even if this were not the case, the 0.5% scenario shows that the building could be flooded to a depth of 250mm.

SURFACE WATER

5.9 The Flood Map for Planning shows that the site is at 'very low' risk of surface water flooding (Figure 7). 'Very low' risk means that each year this area has a chance of flooding of less than 0.1%.

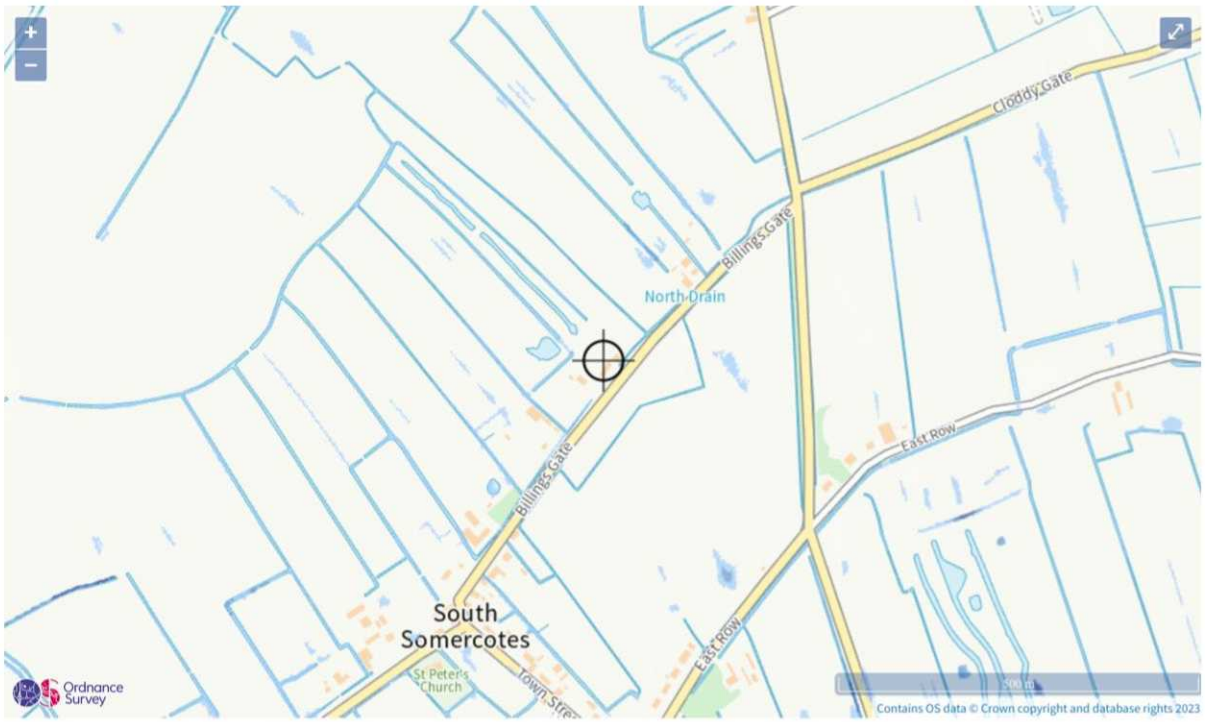

Figure 7: The Flood Map shows that the site is at very low risk from surface water flooding.

6 MITIGATION

6.1 The previous section has identified the sources of flooding which could potentially pose a risk to the site and the proposed dwelling. This section of the FRA sets out the mitigations measures which are to be incorporated within the proposed development to address and the reduce the risk of flooding to within acceptable levels.

6.2 The following physical measures have been incorporated into the proposal to ensure that there is no risk to life and to protect the building:

- The habitable finished floor level for the ground floor of the stables has been raised 500mm above the existing ground level.
- As it will not be possible to raise the ground floor of the barn without removing the first floor, non-habitable uses are proposed for this part of the dwelling. Retaining a usable first floor is considered essential for the dwelling given its location within the flood zone.
- The existing first-floor will be used for a bedroom and will provide a safe refuge for all occupants if required.
- The ground floor shall be constructed using a ground bearing concrete slab.
- The use of absorbent insulation to the ground floor level will be avoided.
- Plasterboard shall be installed horizontally for ease of replacement.
- All skirting boards and architraves at ground floor level will be treated and sealed.

- No airbricks shall be placed at low level and backwater valves and non-return valves will be installed.
- All electrical installations will be 600m above raised floor level.

6.3 In addition to physical measures it is recommended that the future occupiers of the dwelling sign up to the Environment Agency's automated early warning system 'Floodline Warnings Direct'.

7 CONCLUSIONS

7.1 This FRA is compliant with the requirements set out in the NPPF and the associated Planning Practice Guidance.

7.2 The site is largely within Flood Zone 2 with only a small corner of the stable building within Zone 3. It is protected by adequate fluvial flood defences which are maintained by the Environment Agency. These currently are in fair condition and provide a 10% level of protection.

7.3 The change of use from agricultural to residential falls within "more vulnerable" uses of land in Table 2 (Flood Risk Vulnerability Classification). A change of use is not required to pass the exception test but is still required to be safe.

7.4 The 0.5% 2115 breach maps show that the building could be affected by flooding ranging between 250mm and 500mm. On this basis the ground floor of the main building has been raised 500mm above the existing ground level.

7.5 Further to this the property will register to Floodline to receive advance warning of potential flooding.

7.6 Overall this report demonstrates that the proposed development is not at significant flood risk and will not increase the risk elsewhere. Subject to the flood mitigation measures being implemented there will be no risk to life or property as part of this development.