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# FLOOD RISK ASSESSMENT

Proposed Timpson Pod at Tesco Stores Ltd,  
Broadpiece, Littlehampton, West Sussex, BN17 5RA

Prepared for: Tesco Stores Ltd and Timpson Ltd  
Prepared by: Fuse 3 Ltd

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Our Reference: 2025/110614TT

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## 1. Context.

**1.1** This Flood Risk Assessment (FRA) is produced in support of the proposed Timpson Pod at the Tesco Store on Broadpiece, Littlehampton, West Sussex, BN17 5RA. The proposed development is the erection of a new small retail pod on the site of the existing Tesco Store. The Pod comprises a floorspace of 23.04 sq. metres, which will offer an extension to the store services currently provided on the site.

**1.2** The site lies within Flood Zone 2 of the Environment Agency's Flood Map for Planning, and this FRA follows the Environment Agency's guidance for domestic extensions and non-domestic extensions where the additional footprint created by the development does not exceed 250 sq. metres.

| Applicant to choose one or other of the flood mitigation measures below                                                                                                                                                                                | Applicant to provide the LPA with the supporting Information detailed below as part of their FRA                                                                                              | Applicant to indicate their choice in the box below. Enter 'yes' or 'no' |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Either ;<br><br>Floor levels within the proposed development will be set no lower than existing levels AND, flood proofing of the proposed development has been incorporated where appropriate.                                                        | Details of any flood proofing / resilience and resistance techniques, to be included in accordance with ' <i>Improving the flood performance of new buildings</i> ' CLG (2007)                | YES                                                                      |
| Or;<br><br>Floor levels within the extension will be set 300mm above the known or modelled 1 in 100 annual probability river flood (1%) or 1 in 200 annual probability sea flood (0.5%) in any year. This flood level is the extent of the Flood Zones | This must be demonstrated by a plan that shows finished floor levels relative to the known or modelled flood level.<br>All levels should be stated in relation to Ordnance Datum <sup>1</sup> | NO                                                                       |

**1.3** This Assessment details the flood proofing/resilience and resistance measures incorporated in the design of the Pod in accordance with 'Improving the flood performance of new buildings' CLG(2007) PART 3 - GUIDANCE, the Chapter concerned with the measures aimed at achieving flood resilience that can be applied at the building design level. The Guidance is provided in sections: General Principles, Building Materials, Foundations, Floors, Walls, Doors and Windows, and Fittings.

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## 2. General Principles.

2.1 The Guidance contained in 'Improving the flood performance of new buildings' CLG (2007) acknowledges that that total prevention of water ingress or 'dry proofing' to a building is very difficult to achieve, and that there are two main strategies in terms of achieving flood resilience - 'Water exclusion strategy' or 'Water entry strategy'.

2.2 The proposed Pod employs the 'Water exclusion strategy' - where emphasis is placed on minimising water entry whilst maintaining structural integrity, and on using materials and construction techniques to facilitate drying and cleaning.

## 3. Building Materials.

3.1 The Guidance explains that the characteristics which give good flood resilience to building materials are displayed in how they perform in regards to water penetration, drying ability and the retention of pre-flood dimensions and integrity.

3.2 The construction of the Pod is built around a steel substructure. Steel has excellent performance in regards to water penetration, drying ability and retention of pre flood dimensions and integrity.

## 4. Foundations.

4.1 The Guidance comments that a general principle for flood resilient design where predicted flood depths are relatively small is to minimise the entry through permeable elements of the foundation.

4.2 The Pod will be installed on to a single piece concrete raft foundation of at least 150mm thickness which is to be treated with bitumen to act as a waterproof membrane.

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## 5. Floors.

**5.1** The Guidance on flood resilient design for floors is that ‘Ground supported floors are the preferred option and concrete slabs should be of at least 150mm thickness should be specified for non-reinforced construction’, it goes on to state that ‘Damp Proof Membranes should be included in any design to minimise the passage of water’ and provides an illustration of the preferred option of a ground supported floor with a Hardcore bed, Blinding, Damp proof membrane, Concrete slab, Insulation as rigid closed cell-material, ceramic tiles or stone floor finishes.

**5.2** The Pod floor construction is the same as that of the preferred option of the guidance, with the exception of the floor finish, which will be a mixture of carpet and vinyl, both of which are easily replaced after the event of any flooding.

## 6. Walls.

**6.1** The Guidance for the constructions of walls is based on whether the materials used have good, medium or poor characteristics in regards to water penetration, surface drying and structural integrity. It suggests that standard plasterboard be avoided as it easily disintegrates and the Guidance also states in Table 6.1 Flood resilience characteristics of building materials (based on laboratory testing) that timber boards have a ‘medium’ performance in regards to water penetration and a ‘Poor’ performance in respect of the tests undergone on drying ability and retention of pre-flood dimensions and integrity.

**6.2** The Pod walls are a timber and steel construction, lined with vinyl face plasterboard. Steel has excellent performance in regards to water penetration, drying ability and retention of pre-flood dimensions and integrity. The larch timber cladding has medium water penetration and in the event of deformation after a flood can be deemed as a sacrificial material and easily replaced without jeopardising structural integrity. The plasterboard is vinyl faced and will not disintegrate like standard plasterboard.

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## **7. Doors and Windows.**

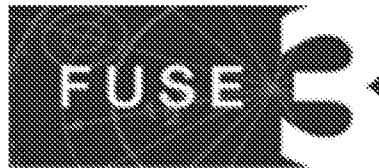
**7.1** The General advice for doors in the Guidance is that ‘Raising the threshold as high as possible, while complying with level access requirements should be considered as the primary measure. In addition, sealed PVC external framed doors should be used’. The Guidance says that ‘Special care should be taken to ensure adequate sealing of any PVC window/door sills’.

**7.2** The glass pod doors are automatically opening with a DDA compliant threshold. The doors and the windows are in sealed frames and all effort is made to ensure a good fit and seal to their frames.

## **8. Fittings.**

**8.1** The Guidance for resilient fittings states that ‘The main principle is to use durable fittings that are not significantly affected by water and can be easily cleaned.’ and ‘Ensure high quality workmanship in the application of fittings.’

**8.2** All fittings in the Pod are durable and applied using high quality workmanship.



Gainsborough House  
Sheering Lower Road  
Sawbridgeworth  
Essex  
CM21 9RG



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