

JRC Residential Ltd

Proposed Conversion & Residential Development:
15 Sheep Market, Spalding, PE11 1BE

Flood Risk Assessment



1. Introduction

This Flood Risk Assessment has been prepared in support of proposals at 15 Sheep Market, Spalding, Lincolnshire, PE11 1BE. The application relates to the reuse and internal conversion of an existing three-storey building situated within Spalding town centre. The building was formerly occupied by a Building Society and comprises existing commercial and office accommodation together with associated staff and storage areas.

The proposals comprise the continued use of the ground floor for a commercial Class E purpose, specifically as a Vape Shop, together with the conversion of the first and second floors to provide two self-contained one-bedroom flats falling within Use Class C3. The proposed first floor flat has an approximate internal floor area of 39.95m², while the second floor flat has an approximate internal floor area of 53.61m².

The development is contained entirely within the existing building envelope. No extension to the property is proposed, there will be no increase in the existing building footprint and no material alteration to external ground levels is required. The proposal will consequently not result in any loss of floodplain storage or increase in impermeable area.

The purpose of this assessment is to identify the potential sources of flooding affecting the site, assess the vulnerability of the proposed uses and demonstrate that the development can be occupied safely without increasing flood risk elsewhere.

2. Site Location and Existing Development

The application property is located on the northern side of Sheep Market within the centre of Spalding, at approximately National Grid Reference 524580, 322705. The property lies to the west of the River Welland within the established built-up area of Spalding town centre.

The application site is entirely developed and occupied by an existing building. The ground floor comprises the former Building Society accommodation, including an entrance foyer, serving area, offices, administration and ancillary accommodation, while the upper floors have previously been used as office, staff and storage accommodation.

Available level information indicates that Sheep Market immediately to the south of the property is approximately 4.90m ODN, while Swan Street to the north is approximately 5.20m ODN. The existing ground floor level within the application building is approximately 5.00m ODN.

The property therefore occupies relatively elevated ground within the centre of Spalding when compared with a number of surrounding areas.

3. Proposed Development

The proposed ground floor will remain in commercial use and will comprise a customer-facing retail area towards the Sheep Market frontage together with a serving counter and ancillary office, store, WC, staff and kitchen accommodation. A separate common lobby provides access to the residential accommodation above, with cycle and refuse storage incorporated within the existing ground floor.

The first and second floors will each accommodate a single self-contained one-bedroom residential flat. Importantly in flood risk terms, no residential sleeping accommodation is proposed at ground floor level. All bedrooms, living areas and principal residential accommodation are located at first floor level or above.

The development therefore adopts an appropriate vertical distribution of uses, with the less vulnerable commercial accommodation retained at ground floor level and the more vulnerable residential accommodation positioned on the upper floors.

4. Planning Policy and Flood Risk

National planning policy requires development to be directed away from areas at the highest risk of flooding where practicable and requires development within areas of flood risk to be safe throughout its lifetime without increasing flood risk elsewhere.

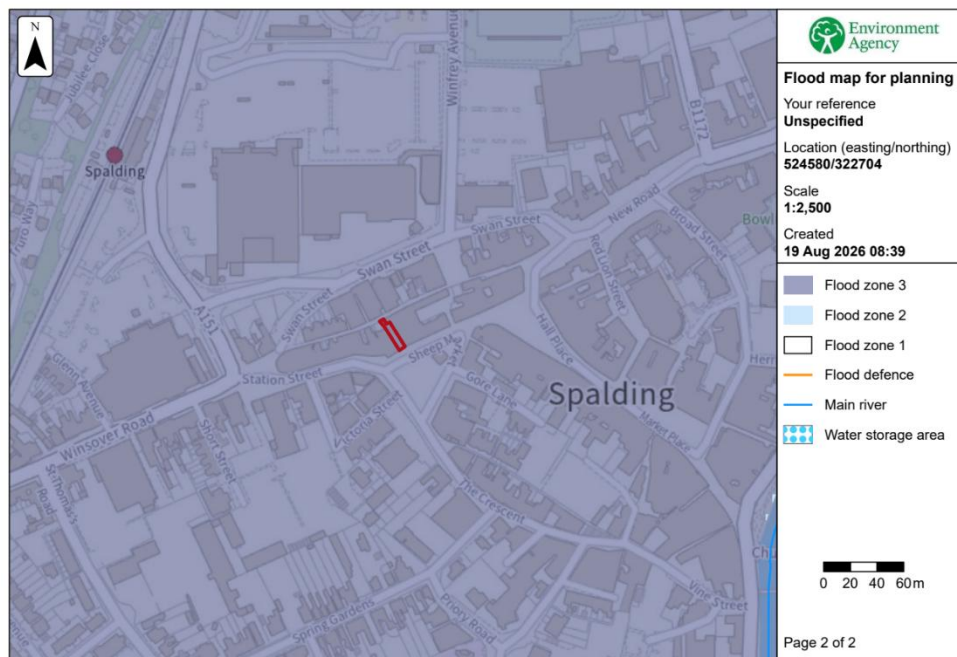
A site-specific Flood Risk Assessment is required for development within Flood Zones 2 and 3 and should consider all relevant sources of flooding, the vulnerability of the proposed development, climate change, the potential consequences of flooding and suitable mitigation measures.

The South East Lincolnshire Local Plan also seeks to ensure that development within areas of flood risk is appropriately located and designed and does not expose people or property to unacceptable risk.

The present proposal involves the conversion and reuse of an existing town centre building. It does not increase the footprint of development, alter the surrounding land levels or introduce residential accommodation at ground floor level. The proposal can therefore be considered in terms of whether the proposed uses can be made safe and whether the development would increase flood risk elsewhere.

5. Flood Zone and Vulnerability Classification

The application site lies within Flood Zone 3 on the Environment Agency Flood Map for Planning and is considered to fall within the defended Flood Zone 3a area of central Spalding.



Flood Zone 3a comprises land with a high probability of flooding in the absence of flood defences. The Environment Agency's Flood Map for Planning does not take account of the protection afforded

by existing defences and must therefore be considered alongside more detailed flood risk information for the area.

For the purposes of flood risk vulnerability classification, the proposed ground floor retail use is regarded as Less Vulnerable, while residential dwellings are categorised as More Vulnerable.

The proposal responds appropriately to these differing vulnerability classifications by retaining the commercial use at ground floor level and locating all residential accommodation on the first and second floors.

6. Sequential and Exception Tests

The development comprises the change of use and internal conversion of an existing building rather than new-build development or an extension into undeveloped land. National planning policy does not require the Sequential Test to be applied to changes of use of this nature.

As the Sequential Test is not required, the Exception Test is also not applicable to the proposed development.

Notwithstanding this, it remains necessary to demonstrate that the proposed development will be safe throughout its lifetime, that appropriate regard has been given to the vulnerability of future occupiers and that the development will not increase flood risk elsewhere. These matters are addressed within the following sections.

7. Flood Risk from the River Welland

The River Welland represents the principal main river system within the wider area. The application property is situated approximately 400 metres from the fluvial section of the River Welland.

Detailed flood information identifies a predicted water level of approximately 4.68m ODN within the fluvial River Welland for an extreme 1 in 1,000-year event incorporating future conditions to 2115.

The existing ground floor level of the application property is approximately 5.00m ODN and is therefore approximately 320mm above this predicted extreme fluvial level.

On this basis, direct flooding of the property as a result of overtopping of the fluvial River Welland is considered unlikely. The proposal does not alter the existing ground floor level and all residential sleeping accommodation is located significantly above ground floor level.

The proposed development would therefore remain appropriately protected from the identified fluvial flood risk.

8. Tidal Flood Risk and Flood Defences

The River Welland becomes tidal downstream of Fulney Lock and the wider Spalding area benefits from a system of flood defences.

The residual risk to the application property is principally associated with the possibility of defence failure or overtopping during an extreme tidal event. However, the application site occupies comparatively elevated land within central Spalding, with substantial areas of lower lying land situated between the tidal River Welland and the site.

Available flood modelling indicates that the site is not predicted to experience flooding during the modelled extreme present-day and future flood scenarios. The property also lies outside the principal rapid inundation areas associated with the modelled failure of tidal flood defences.

A residual risk can never be entirely eliminated within a defended floodplain. Nevertheless, the location of the residential accommodation at first floor level and above provides a significant additional degree of safety should an exceptional flood event occur.

9. Internal Drainage Board Watercourses

The application site lies within the Welland and Deepings Internal Drainage Board district. Drainage within the wider Spalding area is managed through an extensive network of watercourses and pumping infrastructure.

Vernatts Drain represents one of the relevant higher level drainage channels within the wider catchment. Available flood information identifies a predicted water level of approximately 3.79m ODN within this system.

Predicted water levels within the drainage catchment controlled by the Pode Hole Pumping Station are below approximately 1.00m ODN for the relevant future flood scenarios.

These levels are substantially below the existing ground floor level of approximately 5.00m ODN at the application property. Flooding of the building from Internal Drainage Board watercourses is therefore considered to represent a low risk.

No alteration to an Internal Drainage Board watercourse, culvert or drainage channel is proposed as part of the development.

10. Surface Water Flood Risk

Environment Agency surface water mapping identifies some potential for surface water accumulation within Sheep Market immediately to the south of the application property during extreme rainfall events.

The mapping indicates the potential for shallow surface water flooding within the highway, with depths of up to approximately 300mm in parts of the wider mapped area during a low probability event. Immediately adjacent to the application property, flood depths are expected to be considerably shallower and are unlikely to exceed approximately 100mm.

The topography of the surrounding area provides opportunities for surface water to flow away from Sheep Market towards lower lying areas, including towards Station Street.

The existing ground floor is approximately 5.00m ODN and there is no evidence within the available flood risk information to suggest a significant history of surface water flooding affecting the application building.

The development will not increase the building footprint or the extent of impermeable surfacing and will not alter external ground levels. The proposal will therefore not increase the volume or rate of surface water runoff from the site.

On this basis, the risk of significant surface water flooding affecting the proposed development is considered low.

11. Groundwater and Sewer Flooding

The development does not involve the construction of a basement, substantial excavation or the formation of accommodation below existing ground level. The proposal therefore does not create any new pathway that would materially increase the vulnerability of the property to groundwater flooding.

Similarly, no increase in the impermeable area of the site is proposed. The development would therefore not increase the volume of surface water runoff entering the existing drainage network.

Internal drainage alterations associated with the residential and commercial accommodation will be designed and installed in accordance with the relevant Building Regulations and statutory undertaker requirements.

The proposal is therefore not expected to materially increase the existing risk from groundwater or sewer flooding.

12. Flood Risk from Artificial Sources

There are no alterations proposed to reservoirs, canals, raised water bodies or other artificial water retaining infrastructure as part of the proposed development.

The application consists entirely of the internal conversion and reuse of an existing building and will therefore have no effect upon the operation or integrity of any artificial water source within the wider area.

Any residual risk associated with such infrastructure would be unchanged from the existing situation.

13. Climate Change

The potential effects of climate change have been considered as part of the assessment of flood risk.

Available detailed flood information includes future scenarios extending to 2115. These indicate that the application property is not predicted to experience flooding during the extreme future scenarios assessed.

The predicted extreme fluvial water level of approximately 4.68m ODN remains below the existing ground floor level of approximately 5.00m ODN.

The proposed development will not lower the existing floor level, increase the building footprint or introduce ground floor residential sleeping accommodation. The use of the upper floors for residential purposes consequently provides a robust response to the potential effects of future flood risk.

14. Flood Risk to Other Land

The development is entirely contained within an existing building and there will be no increase in the existing footprint.

No land raising is proposed, there will be no reduction in floodplain storage, and no physical obstruction will be introduced into an existing flood flow route.

The amount of impermeable area within the site will remain unchanged and the development will therefore not increase the rate or volume of surface water runoff.

As a consequence, the proposal will not increase flood risk to neighbouring land or property and will not displace floodwater elsewhere.

15. Flood Resistance and Resilience

The existing ground floor level cannot reasonably be raised as part of the development because the proposal relates to the conversion of an established town centre building with existing access arrangements and surrounding levels.

The retention of the less vulnerable commercial use at ground floor level represents the principal flood risk mitigation measure. All permanent residential accommodation and sleeping areas will be provided on the upper floors.

As a precautionary measure, ground floor finishes within areas potentially susceptible to shallow surface water ingress should comprise suitably water-resistant and readily cleanable materials. A tiled floor or comparable waterproof and easily cleaned finish would provide an appropriate form of resilience in the unlikely event of shallow and short duration surface water flooding.

Where new electrical installations or water sensitive services are introduced at ground floor level as part of the fit-out, these should, where reasonably practicable, be located above the lowest practical level or otherwise installed in a manner that reduces the potential consequences of shallow flooding.

The use of resilient materials at ground floor level, together with the position of all residential accommodation on the upper floors, provides a proportionate flood resilience strategy for the conversion of the existing building.

16. Residential Safety and Emergency Arrangements

The principal measure ensuring the safety of future residents is the location of the residential accommodation on the first and second floors. No dwelling or bedroom is proposed at ground floor level.

The proposed arrangement ensures that residents have accommodation at a level significantly above the surrounding highway and existing ground floor level. The upper floors would also provide a place of refuge in the unlikely event that shallow flooding affected the ground floor or surrounding streets.

Future occupiers should be made aware that the property lies within Flood Zone 3 and should be encouraged to register for the Environment Agency's flood warning service where an appropriate warning service is available for the area.

Where sufficient advance warning is provided and the relevant authorities advise evacuation, residents should leave the area before floodwater affects surrounding routes. Occupiers should not attempt to walk or drive through floodwater once external access routes have become unsafe.

Where evacuation is not possible or conditions outside the property have already become unsafe, residents should remain within the upper-floor accommodation and follow the advice of the emergency services.

Appropriate flood warning and emergency information should therefore be made available to residents upon first occupation and retained as part of the ongoing management arrangements for the residential accommodation.

17. Surface Water Drainage

The proposed development does not create any additional building footprint, hardstanding or other impermeable area. There will therefore be no increase in the volume or rate of surface water runoff generated by the site.

The existing surface water drainage arrangements will remain substantially unchanged.

Given that the proposal relates to the internal conversion of an existing fully developed town centre building and does not generate additional surface water runoff, the introduction of a new site wide Sustainable Drainage System would not be proportionate to the nature and scale of the development.

Any localised drainage alterations required as part of the internal refurbishment will be undertaken in accordance with the appropriate Building Regulations and drainage requirements.

18. Safe Development

The proposal represents the reuse of an existing building within an established town centre location and does not result in additional development extending into the floodplain.

The ground floor commercial use is less vulnerable in flood risk terms, while the more vulnerable residential accommodation is positioned exclusively on the first and second floors. All sleeping accommodation is therefore located well above surrounding ground levels.

The development will not increase floodplain displacement, alter flood flow routes or generate additional surface water runoff.

The use of flood resilient ground floor finishes, together with appropriate flood warning and emergency arrangements for residents, provides additional mitigation against the residual risk associated with the site's location within the defended Flood Zone 3 area.

The proposed development can consequently be occupied safely without increasing flood risk elsewhere.

19. Conclusion

The application site at 15 Sheep Market is located within the defended Flood Zone 3a area of Spalding.

Available flood information indicates that the existing ground floor level of the building is approximately 5.00m ODN, compared with a predicted extreme future fluvial River Welland flood level of approximately 4.68m ODN. The building is therefore situated above the identified extreme fluvial level.

The property occupies relatively elevated land within central Spalding and is not predicted to experience flooding within the relevant extreme modelled scenarios. The risk associated with Internal Drainage Board watercourses is also considered low, with predicted water levels materially below the existing ground floor level.

A limited residual risk of shallow surface water flooding exists within Sheep Market during extreme rainfall events. However, expected depths immediately adjacent to the application property are relatively shallow and the proposal incorporates an appropriate precautionary approach through the use of flood-resilient ground floor finishes.

The proposed Vape Shop represents a less vulnerable commercial use and will remain at ground floor level. The more vulnerable residential accommodation, including all bedrooms and principal living accommodation, is provided exclusively on the first and second floors.

The development does not increase the existing building footprint, introduce additional impermeable surfacing, raise ground levels, reduce floodplain storage or obstruct flood flow routes. It will therefore not increase flood risk elsewhere.

The development also provides upper-floor accommodation that can act as a safe place of refuge in an exceptional event, together with appropriate flood warning and emergency management arrangements for future residents.

Taking account of the nature of the development, the existing and proposed floor levels, the location of the residential accommodation and the proposed flood-resilience measures, the development is considered to be safe for its lifetime and acceptable in flood risk terms.