

# SHORE

## FLOOD RISK ASSESSMENT

3 Grand Parade,  
Poole  
BH151AD

APP/23/01230/F  
November 2023

## CONTENTS

- 1.0 Introduction
- 2.0 Sources of Information
- 3.0 Surface and Foul Water Drainage
- 4.0 Conclusion

## 1.0 INTRODUCTION

### 1.1 Flood Risk Assessment Methodology and Objectives

It is recognised that developments that are designed without regard to flood risk may endanger lives, damage property, cause disruption to the wider community, damage the environment, be difficult to insure and require additional expense on remedial works. Current guidance on development and flood risk identifies several key aims for a development to ensure that it is sustainable in flood risk terms.

These aims are as follows:

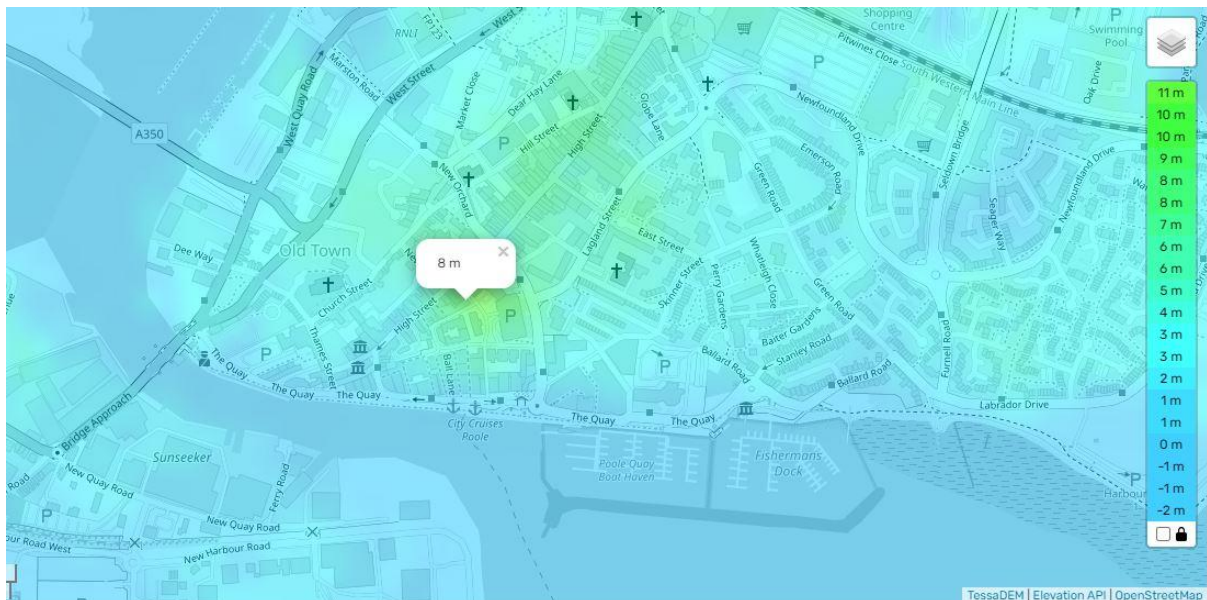
- the development should not be exposed to flood risk such that the health, safety, and welfare of the users of the development, or the population elsewhere, are threatened; the development should not be at a significant risk of flooding and should not be susceptible to damage due to flooding;
- A safe area is provided within each unit during future flood events; the development should not increase flood risk elsewhere;
- the development should not prevent safe maintenance of watercourses or maintenance and operation of flood defences;
- the development should not be associated with an onerous or difficult operation and maintenance regime to manage flood risk. The responsibility for any operation and maintenance required should be clearly defined;
- future users of the development should be made aware of any flood risk issues relating to the development;
- the development design should be such that future users will not have difficulty obtaining insurance or mortgage finance, or in selling all or part of the development, because of flood risk issues;
- The development should not lead to degradation of the environment, and the development should meet all the above criteria for its entire lifetime, including consideration of the potential effects of climate change.

## 1.2 Site Location and Features

The Ordnance Survey National Grid Reference (NGR) for the centre of the site is  $-1.994860^{\circ}$ ,  $50,710738^{\circ}$ . For clarity, a plan showing the location of the site is provided below.



The topographical map reveals that the site is at 8m above the sea level. The ground levels rise towards north east and north and fall towards the east, south east, south west and west.



## 2.0 SOURCES OF FLOODING

River/Sea Flooding  
Existing Flood Risk

### 2.1 Environment Agency mapping reveals that a small part of the site is located within Flood Zone 3.

This indicates the application site has a probability of flooding from rivers or the sea.

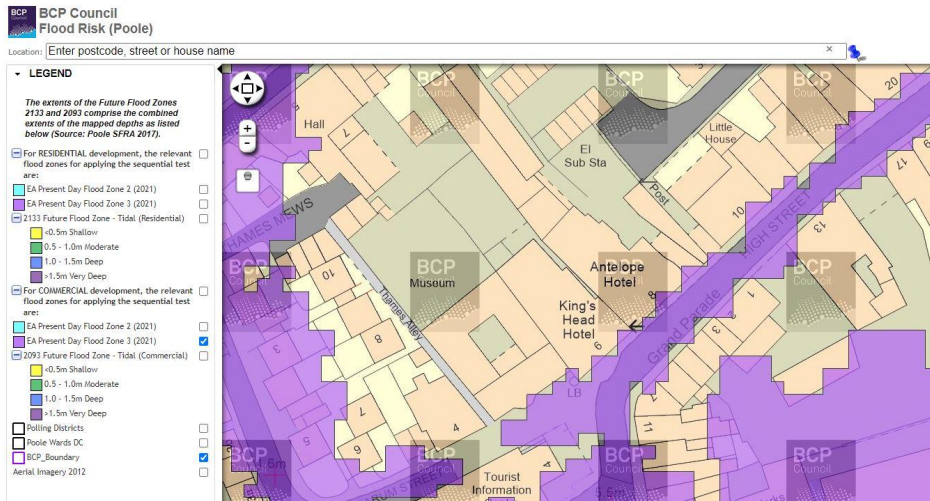
Flood Zones 1, 2 and 3 are defined as follows:

**Flood Zone 1 (FZ1)** - Land having a less than 1 in 1000 annual probability of river or sea flooding;

**Flood Zone 2 (FZ2)** - Land having between 1 in 100 and 1 in 1000 annual probability of river or sea flooding.

**Flood Zone 3 (FZ3)** – Land having more than 1 in 100 annual probability of river or sea flooding.

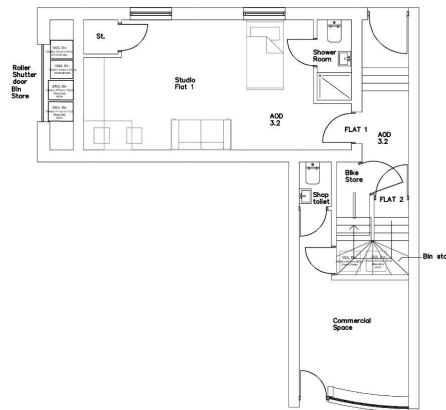




## 2.2 Future Flood Risk

In addition to considering the current flood risk, it is also necessary to consider the future flood risk. Flood Risk modelling undertaken by the Borough of Poole has modelled the future flood risk for the year 2133 (i.e., 100 years beyond the end of the Local Plan period 2013-2033), for a 1 in 200 year tidal still water event. The 2133 flood mapping reveals the application site will fall within future Flood Zone 3. To mitigate against this risk, the Poole Flood Risk Management Strategy (PFRMS) states that developments should be safe in terms of flood risk for their entire life time. To be safe, the finished floor levels (FFLs) should be above the 1 in 200 year flood level, plus freeboard allowance of up to 0.6m.

The ground floor FFLs shall be set no lower than 2.9m AOD with flood resiliency up to 3.51m AOD. To provide added protection, the finished floor level of each ground floor dwelling and commercial unit will be set no lower than 3.1m AOD with flood resiliency up to 3.7m AOD. The finished floor levels will therefore be set above the future flood level. The scheme will therefore provide residents of the ground floor flats with an internal safe haven, above the anticipated future flood level.

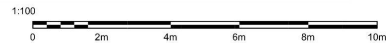


Ground Floor

Key:	Boundary
Project:	3 Grand Parade, Poole BH15 1AD
Drawing Title:	Proposed Ground Floor Plan
Scale:	1:100 @ A3
Drawing No.	316.GA.010

**SHORE**

Office 2, 91 Salters Road, BH14 8BL  
 Web - [www.shorearchitecture.co.uk](http://www.shorearchitecture.co.uk)  
 Email - [office@shorearchitecture.co.uk](mailto:office@shorearchitecture.co.uk)



These drawings are for planning application purposes only and may require additional details prior to a Building Regs application. All the dimensions to be checked on site prior to commencement of work. Do not scale from drawing.

In addition to raising finished floor levels and installing flood resiliency, the PFRMS advises that the following options, or combination of options, can be used to reduce residual flood risk in Poole:

- Build in resistance measures (barriers/stop boards etc.) and structural soundness, against flooding loadings to new buildings. Raise electrics, water resilient plaster and flooring etc.
- Lower risk uses of ground floors – offices, shops etc.

The PFRMS advises in section 2.7.1 that for those developments at risk of flooding in the future, basements should not be used for habitation, however providing habitable accommodation at ground floor is not specifically prohibited, it is only suggested that lower risk uses are provided at ground floor level.

The proposed dwelling will incorporate flood resistance and resilience measures up to 3.7m AOD, thus reducing the impact of flood water entering the building to ensure no permanent damage is caused, structural integrity is maintained and drying and cleaning is easier.

With reference to drawing 315.GA010 the scheme will include flood doors at each ground floor access at each entry point along the High Street frontage and within the site itself. These measures will create a watertight seal around the openings to prevent flood water from entering the units, albeit the proposed finished floor levels will be set above the forecasted flood level in any event. Automatically closing air bricks will be provided which will close to create a seal against floodwater.

In addition to the resistance measures set out above, resilience measures will be incorporated up to 3.7m AOD which will include the following:

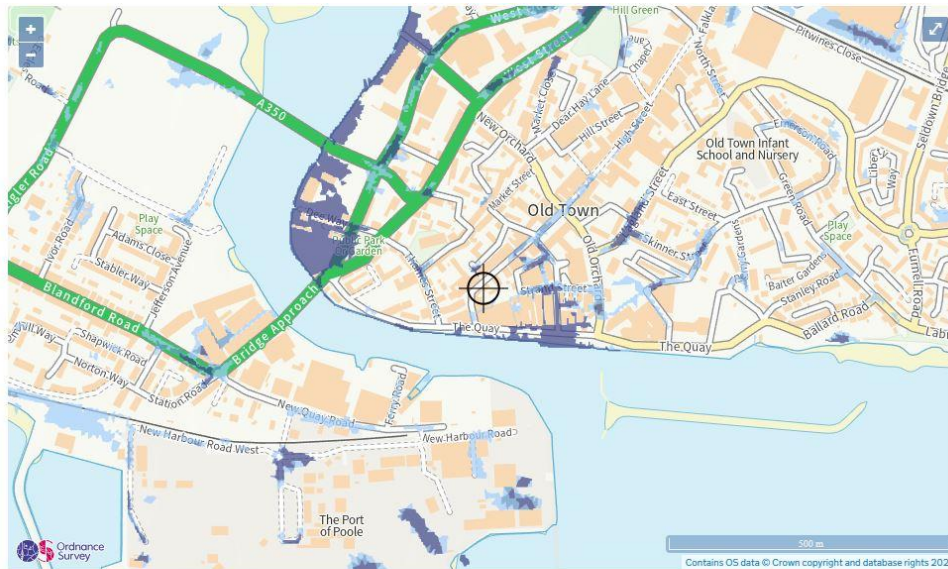
- Waterproof plaster.
- Solid concrete floors.



- Raising electrical sockets.

### 2.3 Surface Water Flood Risk

In addition to river flooding, other sources of flooding must be considered, such as surface water flood risk. This can be caused because of failure of sewer infrastructure, lack of infiltration into the ground, or natural topography routing the rainfall run-off. An extract from the EA surface water flood risk map is provided at Figure 3, revealing the application site has a very low risk of surface water flooding.



Extent of flooding from surface water

- High
- Medium
- Low
- Very Low
- ⊕ Location you selected

### 2.4 Existing Watercourse

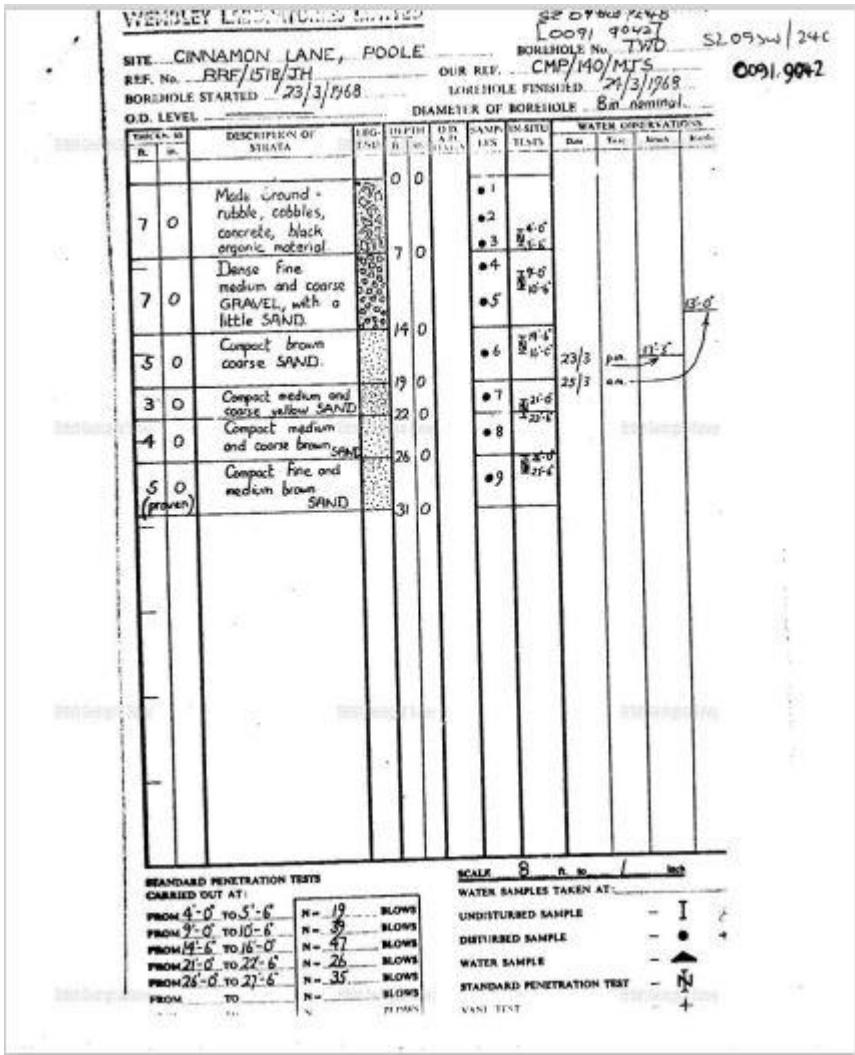
There are no existing watercourses within the boundary of the application site.

### 2.5 Existing Drainage Infrastructure

A plan showing the location of the nearby surface and foul water sewers has been obtained from Wessex Water, indicating the presence of surface and foul water sewers within the High Street.







### 3.0 SURFACE AND FOUL WATER DRAINAGE

The existing site is entirely impermeable and all surface water run-off enters the existing Wessex Water surface water sewer in the High Street. The proposed redevelopment proposed a mixture of permeable and impermeable surfaces.

Paragraph 92 of the Poole Local Plan Strategic Flood Risk Assessment (Levels 1 and 2) states that flood risk should be lowered by 'reducing the built footprint of previously developed sites and using SuDS (where appropriate)'.

The borehole log referenced previously supports the opportunity for surface water from the scheme to be discharged into the ground via infiltration. However, given the site is currently developed and no undeveloped areas exist, it is not possible to undertake intrusive ground investigations at present time.

Nevertheless, the opportunity to discharge surface water into the ground will be explored by the applicant should planning permission be granted and it is suggested a suitably worded

condition is imposed specifying that infiltration testing be carried out. Should infiltration not be possible, a suitable surface water drainage strategy can be achieved which discharges to the existing Wessex Water sewerage system, as per the existing situation.

With regards to foul drainage, no changes are proposed to the means of disposing of foul water, which will continue to be discharged to the existing Wessex Water sewerage system.

### **Maintenance and Management**

A site wide management company will be set up to ensure the continued management and maintenance of the drainage system is secured to ensure the continued protection of the surface water drainage system. Visual inspection of the drainage network will be undertaken on a regular basis to identify any siltation/blockage/disrepair of the drainage network. It is recommended that a surface water drainage management plan be drawn up as part of any planning condition as part of the approval for the site.

## **4.0 CONCLUSION**

In conclusion, some part of the application site is within the flooding zone 3. In order to make the proposal flood proof, there are certain measures going to be put in place: flood doors at each ground floor access at each entry point along the High Street frontage and within the site itself. The ground floor FFLs shall be set no lower than 2.9m AOD, In addition to the resistance measures set out above, resilience measures will be incorporated up to 3.7m AOD which will include waterproof plaster, Solid concrete floors, and raising electrical sockets.