

Flood Risk Assessment

Backland Development of 3 No. New Cottages

Land Rear of 70-76 West Street, Havant

for

Mr. L. Kane

08/08/2018

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1.0 Generally

- 1.1 This Flood Risk Assessment (FRA) is in support of an Outline Application to Havant Borough Council for 3 No. new 2 bedroom cottages and associated land at the rear of 70-72 West Street, Havant, PO9 1LN.
- 1.2 This FRA is being undertaken in line with the National Planning Policy Framework (NPPF) Section 104: *Applications for minor development and changes of use should not be subject to the Sequential or Exception Tests but should still meet the requirements for site-specific flood risk assessments.*
- 1.3 No other purpose is anticipated or accepted. Copyright of this report remains with Critchley Architecture And Design Ltd.
- 1.4 Reference should be made to the planning submission drawings for details of the proposals, re:

117023 -	131	Location and Block Plan
	132	Existing Site Plan
	133	Proposed Site Plan
	231	Example Cottage
	331	Context Elevations

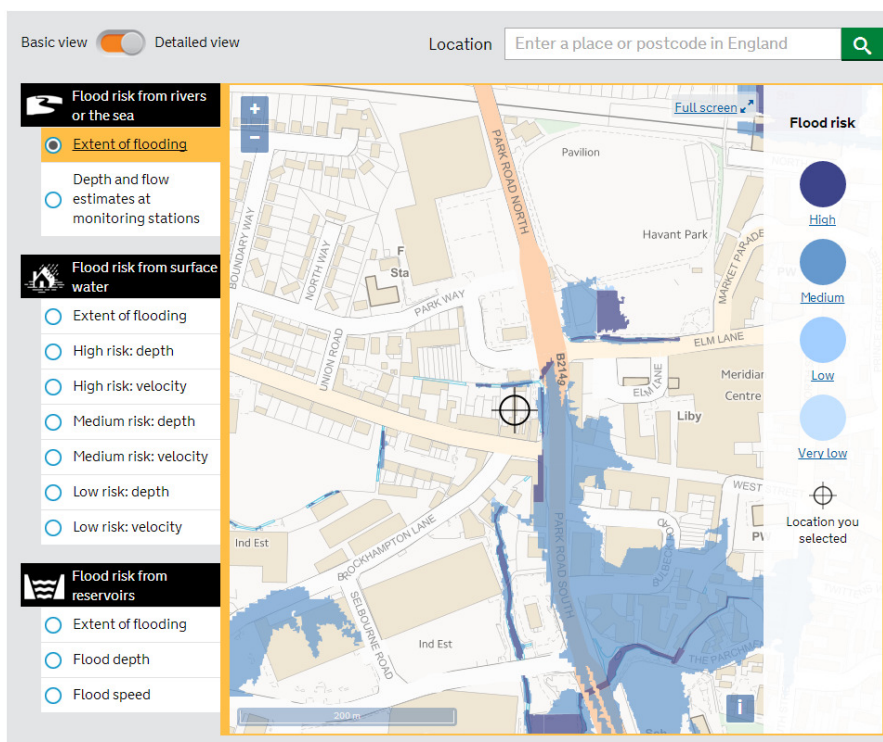
2.0 Development

- 2.1 The subject site is approximately 756 m2.
- 2.2 The proposals are for three new two-bedroom cottages.
- 2.3 The proposals will create six new bedrooms and could potentially house twelve people.

3.0 Assessment of Flood Risk

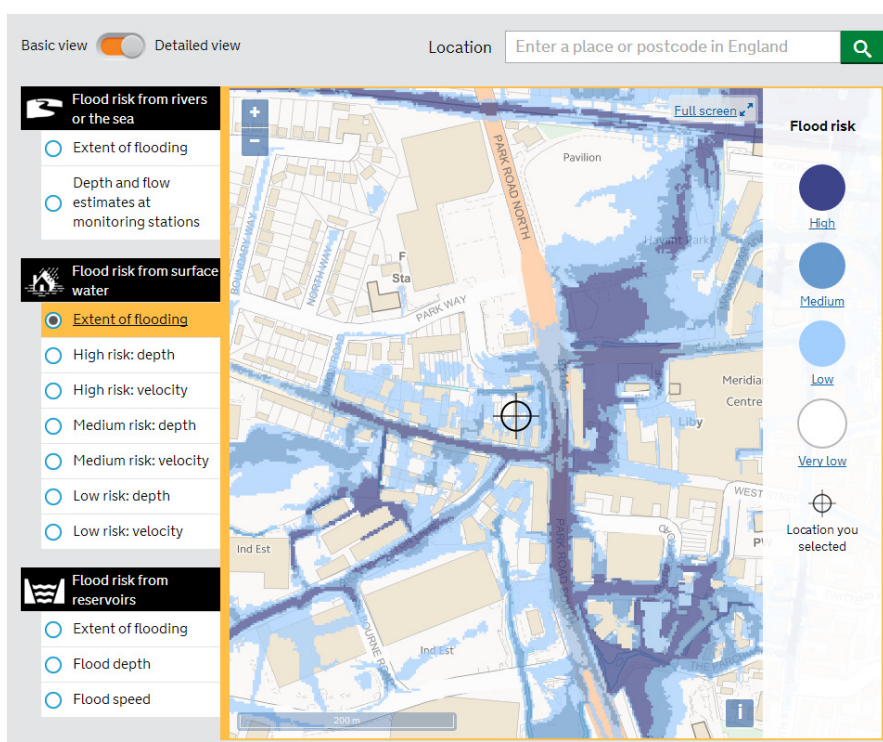
- 3.1 This FRA is being undertaken for a minor development on a site which includes land within Flood Zone 3. The risk comes from a small watercourse at the rear of the site.
- 3.2 The subject site is approximately 7.600 AOD.

- 3.3 Based on information available from The Environment Agency, the extent of flooding from rivers and seas at the location of the subject site affects only the rear



boundary. The majority of the site, including the proposed location of the new cottages, is not within an area at risk of flooding.

- 3.4 Based on information available from The Environment Agency, the extent of flooding from surface water at the location of the subject site is low.



- 3.5 West Street itself is at a higher risk of flooding than the subject site, with a potential flood depth of up to 300mm during a high risk scenario, or up to 900mm during a low risk scenario. However, given the town centre location, there would be immediate assistance at hand for the evacuation of residents in the event of an incursion. Havant Fire Station is located immediately to the north of the subject site in the Park Way industrial estate. Adjacent land to the west and north is all rising up to Cross Hospital Way, which is clear of the Flood Risk Area.
- 3.6 With the exception of the rear boundary, designated as garden land on the proposed plans, the subject site is not at risk of flooding during high or medium risk scenarios. In a low risk scenario, parts of the subject site may potentially flood up to 300mm, with a flood velocity of less than 0.25 m/s. Garden areas by nature are fully permeable surfaces, and unlikely to be damaged by short term flooding.

4.0 Storm Drainage

- 4.1 The Stream is a natural and original water course. As 3.6 above the natural permeability of the garden areas will percolate in to the stream over time.
- 4.2 The parking and paved areas are all of permeable finishes (paving blocks and gravel) and are remote from the stream, separated from the stream by the foundations of the buildings. As with the garden rainfall, the paving run off will percolate through to the stream over time.
- 4.3 The rainfall run off from the roofs of the buildings needs to be controlled. The site is too small to accommodate conventional soakaways, and soakaways are inappropriate in the regimes of site saturation as 4.1 and 4.2 above.
- 4.4 Under 'normal' rainfall conditions it reasonable to discharge roof run off water in to the stream. To prevent scouring of the stream from the outfall, there will be attenuation and braking of the flows with below ground buffer tanks and controlled outlets. The outfall should have a flood valve to prevent silt and debris entering the buffer system during periods of flooding.
- 4.5 During periods of flooding the ground will become saturated, and as such, natural percolation and ground water dispersal will no longer be effective. Ground water run off will then discharge directly in to the stream. As in 5.3 below, the planted bank will retain particulate matter from the site from being discharged in to the stream.
- 4.6 Noting the stream to be a natural water course, the flood risks are all related to periods of excessive rainfall. During such periods, the storm water run off from the roofs, as 4.4 above, will also be excessive. The buffer tanks will fill and the out fall

will discharge directly in to the stream. In a small urban site, under excessive rainfall conditions no further attenuation of the water flows will be possible, and the safety of the buildings and the occupants can only be safeguarded by mitigation measures as described below.

5.0 Mitigation Measures

- 5.1 This application is currently for outline permission only. It would be reasonable and appropriate for the design of the proposed cottages to set the finished floor level at 400mm above ground level, a true level at 8.000m AOD. In the unlikely event of an incursion, the floor level of the cottages would therefore remain 300mm above the maximum projected flood water level.
- 5.2 Take additional physical protection measures:
- Seal all underground service entry connections.
 - All domestic service outlets and control systems within the building to be a minimum of 450mm above floor level.
 - External doors to have slotted jamb provisions for flood boards.
 - All drain and service access covers at ground level to have locking covers and frames.
- 5.3 To mitigate against damage to the site from dynamic water flows (scouring), and deposition of flotsam and debris, we propose an earth bank along the stream channel edge – the north boundary of the site - planted with waterlog resistant varieties, with spreading roots system to fully bind the bank. The bank itself will form a defence, and the planting will provide hydraulic braking, and a defence against flotsam.

12th November 2018.