



RICHMOND MOTOR GROUP, WEST STREET HAVANT TEMPORARY PARKING AREA

FLOOD RISK TECHNICAL NOTE

May 2023

Richmond Motor Group

COMMERCIAL
RICHMOND MOTOR GROUP, WEST STREET HAVANT

FLOOD RISK TECHNICAL NOTE

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FLOOD RISK ASSESSMENT
RICHMOND MOTOR GROUP, WEST STREET, AHAVNT

FLOOD RISK ASSESSMENT

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Appendices

- Appendix A: Topographical survey
- Appendix B: Product 4 Data
- Appendix C: updated Flood Extents

1. INTRODUCTION

- 1.1 This Flood Risk Assessment (FRA) has been prepared by Paul Basham Associates on behalf Richmond motor Group to support a retrospective planning application for the temporary use of the site for storage of New Cars at West Street Havant for the Richmond Motor Group. The land is located to the north of West Street and is bisected by the Hermitage Stream. The nearest postcode is PO9 1LR.

2. SITE DETAILS

- 2.1 The overall plot size is approximately 0.736ha and the land is split into 3 parcels, Parcel 1 currently is a car showroom and open parking (3015 sq.m.), Parcel 2 is open parking (1521sq.m.) and parcel 3 is rough hardstanding (2825 sq.m.). See **Figure 1** for site location of the full site.



Figure 1: Site location plan

- 2.2 As the site is largely impermeable at present there is minimal increase in impermeable areas.

Site Geology

- 2.3 A review of the British Geological Survey (BGS) mapping indicates that the bedrock geology beneath the site is generally London Clay formations with Superficial deposits of 'River Terrace Deposits – Sand, silt and clay'. See **Figure 2** for the BGS map extract.



Figure 2: BGS Map Extract

- 2.4 There are two boreholes situated along the Eastern border. They are: SU70NW73 with a depth of 6.8m which shows sands and clays with a ground water level of approx. 1.5m, and SU70NW56 with a depth of APPROX 45.7m and shows Reading beds down to 30.5m with upper chalk below..

3. FLOOD RISK

Fluvial/tidal flooding

- 3.1 Flood mapping obtained from the government's 'flood map for planning' website has identified that the site falls partially within Flood Zone 1, 2 and 3. As a result we have obtained the product 4 Data. See **Figure 3** for this extract.

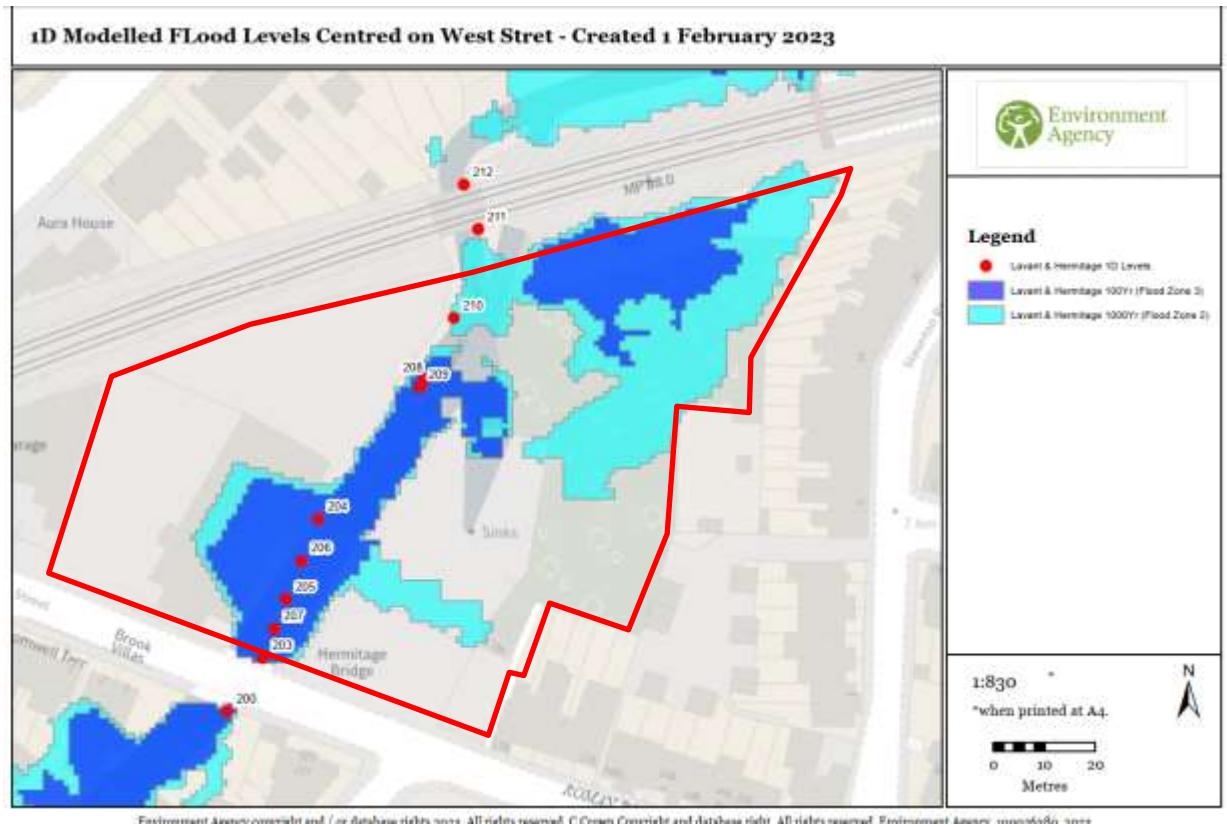


Figure 3: Flood Mapping

- 3.2 The predicted levels for the flood level at the node points is shown in **Table 1**

ID	EASTING	NORTHING	100 Year Level	100 Year Level No Dam	1000 Year Level	1000 Year Level No Dam
200	470875	106501	6.20	15.66	6.45	23.61
203	470882	106511	6.25	15.66	6.63	23.60
204	470892	106539	6.31	15.66	6.74	23.60
205	470886	106523	6.23	15.66	6.61	23.60
206	470889	106531	6.26	15.66	6.67	23.60
207	470884	106517	6.23	15.66	6.61	23.60
208	470913	106566	6.40	24.64	6.80	33.41
209	470912	106564	6.38	15.66	6.79	23.60
210	470919	106578	6.34	24.64	6.77	33.41
211	470924	106595	6.36	24.64	6.70	33.41
212	470921	106604	6.59	24.64	7.06	33.41

* Levels in metres above Ordnance Datum Newlyn

Table 1 Flood levels

Long term flood risk from rivers and seas

- 3.3 The long-term flood risk and from rivers and seas mapping shows that the site has mostly medium risk of flooding from rivers or seas meaning that each year most of the site has between a 1% and 3.3% chance of flooding each year (See **Figure 4**)



Figure 4: Extent of flooding from rivers or the sea

Long-term flood risk from reservoirs

- 3.4 The long-term flood risk from reservoirs shows that the site is outside of any impact of flooding from reservoirs (See **Figure 5**)

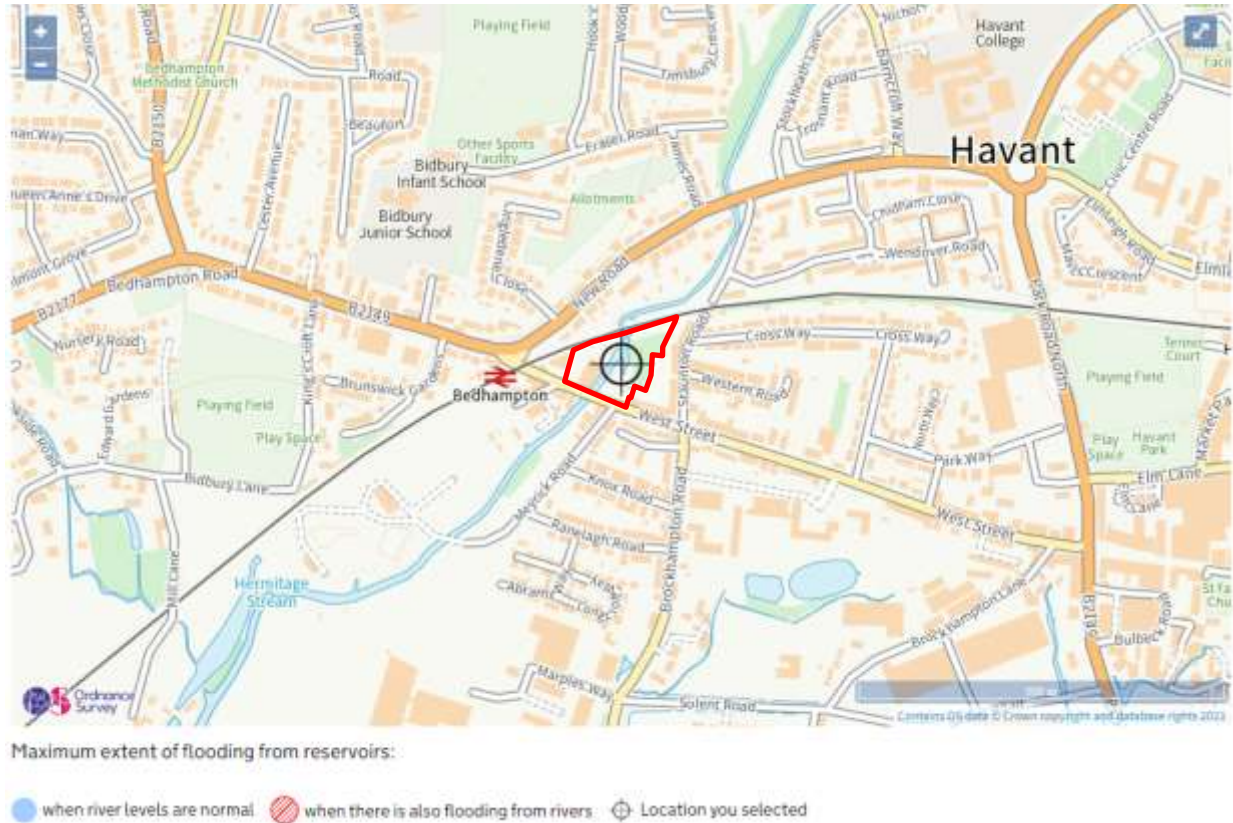


Figure 5: Long-term flood risk from reservoirs

Long-term surface water flood risk

- 3.5 Surface water or 'pluvial' flooding results from rainfall running over ground before eventually entering a watercourse or sewer. It is usually associated with high intensity rainfall events but can also occur with lower intensity rainfall or melting snow where the ground is already saturated, frozen, developed (for example in an urban setting), or otherwise has low permeability.
- 3.6 The surface water flood risk map is shown in **Figure 6** and indicates that the site has low (less than 0.1%) or medium chance of flooding (between 0.1% and 1%). the high risk area through the middle of the site represents the Hermitage stream. Flooding from the surface water is difficult to predict as rainfall location and volume are difficult to forecast.



Figure 6: Surface water flood risk

National Planning Policy Framework (NPPF)

- 3.7 This report has been prepared considering the National Planning Policy Framework (NPPF) Technical Guidance and the Environment Agency's (EA) flood risk standing advice.
- 3.8 Table 3 from the NPPF Technical Guidance has been included as **Figure 7** below. This provides the classes of development (based on flood risk vulnerability) that are permitted within each of the flood zones. This site is anticipated to be a redevelopment and the vulnerability classification is not expected to change. As the site is classified as 'Less Vulnerable' and it is in Flood Zone 3a, the development is appropriate.

Flood Zones	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓*

Table 3 - Flood risk vulnerability and flood zone 'compatibility'

Key: ✓ Development is appropriate X Development should not be permitted.

Notes to table 3:

- This table does not show the application of the [Sequential Test](#) which should be applied first to guide development to Flood Zone 1, then Zone 2, and then Zone 3; nor does it reflect the need to avoid flood risk from sources other than rivers and the sea;
- The Sequential and [Exception 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;
- Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

† In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

* "In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere

Minor development means:

- minor non-residential extensions: industrial/commercial/leisure etc extensions with a footprint less than 250 square metres.
- alterations: development that does not increase the size of buildings e.g. alterations to external appearance.
- householder development: For example; sheds, garages, games rooms etc within the curtilage of the existing dwelling, in addition to physical extensions to the existing dwelling itself. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling e.g. subdivision of houses into flats.

Figure 7: NPPF Planning Practice Guidance Table – Flood Risk Vulnerability and Flood Zone Compatibility

EA Flood level Modelling

- 3.9 Product 4 information was obtained from the EA (**Appendix F**) and indicates that in a 1-in-100-year event, the highest flood level reached is 6.59mAOD, leaving approximately 56mm of clearance from the existing FFL of 7.15mAOD. The modelled flood levels for a 1-in-1000-year event indicate a high level of 7.06mAOD, which would leave approximately 9mm of clearance to the FFL.

Redevelopment

- 3.10 As the level of the site has been raised by approximately 200mm it is proposed that a bund be provided to protect the adjoining properties.
- 3.11 As a result of the partial loss of flood storage, based on the topographic survey levels, it is estimated that in the 100 year flood event the existing parking areas within parcel 1 will be able to take the additional flood volume without impacting on the areas downstream or adjacent to the site.
- 3.12 The drawing reference 192.5007.0501-P03 indicates the original flood extents and the anticipated flood extents which whilst are shallower cover a larger area, thus maintaining the volume.-
- 3.13 In addition to the above, we have incorporated French drains adjacent to the site boundaries to the north and south to ensure that any surface run-off will not encroach on neighbouring properties.

Flood Resilience Measures

- 3.14 As there are no new buildings proposed for the site flood resilient measures are not required.

4. SUMMARY AND CONCLUSION

- 4.1 This FRA has been prepared by Paul Basham Associates to help assess the suitability of the site for the proposed use. As noted in the body of the report, the levels have been raised slightly as part of the site tidy up, but mitigation is provided to compensate for the loss of flood storage.
- 4.2 The site is partially within Flood Zone 1, 2 and 3. As the vulnerability classification is Less Vulnerable (as is the current use of the site), under NPPF guidance, the development is appropriate.
- 4.3 Based on the above, it is considered that there is no change in flood risk when compared to the existing use of the site as the changes to the site are limited. Surface water runoff generated by the site will not change from the existing situation, however we have incorporated some French drains to ensure that any surface run-off will not encroach on neighbouring properties..