

SITE DEVELOPMENT

60 – 66 West Street, Havant, Hampshire

FLOOD RISK ASSESSMENT

Planning Consultant: Vail Williams

On Behalf of: Verisona Law

EG/362279/EG

1 August 2014

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INTRODUCTION

Instructions were received on 8th July 2014 to carry out an updated Flood Risk Assessment on this site. The site was subject to a previous flood risk assessment report carried out in April 2008

We believe that a Planning Application is being submitted in connection with the proposed re-development on this site. The planning consultants working on behalf of the client have asked for a Flood Risk Assessment in accordance with the current recommendations given in the National Planning Policy Framework, which has now superseded PPS25, to submit with the planning application.

Following a desk study and discussions with the environment agency, this report has been prepared to determine the risk of flooding on the site for the proposed development and to put forward recommendations to protect the development and its residents from any potential flood risk.

THE SITE AS EXISTING

Appendix A contains a location plan for the site. The property on the site can be found at grid reference SU 7154 0633.

Appendix B contains a plan showing the existing ground levels on the site at appropriate positions. The levels were calculated using Southern Water record drawings to obtain datum information and cross checked. Therefore the levels on the sketch are related to Ordnance Survey datum and show that the existing properties finished floor level is 8.104m AOD.

The existing building is an office building for Verisona Law Solicitors. It comprises of 3 storeys and the entire building is used as offices with associated communal areas.

THE PROPOSED DEVELOPMENT

The proposed re-development consists of a change of use of the existing office building. The ground floor of the existing re-developed building will consist of an entrance foyer to new domestic flats on all floors. The exact proposals for the changes to the existing building layout are currently not finalised but it is not proposed to change the building foot print and the floor levels will remain as existing.

PREVIOUS FLOOD RISK ASSESSMENT REPORT

The previous FRA was under taken in April 2008. The reason for this previous study was a proposed a change of use of one half of the existing office building. The ground floor of the existing re-developed building will consist of an entrance foyer to new domestic flats on the first and second floors and also a small shop.

In order to carry out the FRA flood data was obtained from the Environment Agency which provided detailed flood levels. This flood data has since been superseded with the flood data appended to this report.

The previous FRA found that according to the Environment Agency flood map the proposed redevelopment lies within flood zone 3. The flood mapping available at the time predicted flood water level for a 1/100 year event, when allowing for climate change, is 7.803m. Therefore the finished floor level at the existing property, 8.104m AOD, was higher than the predicted flood event level and was found to not be at danger during the potential flood event.

POLICY BACKGROUND

The Government's sustainable development strategy makes it a requirement to assess appropriate forms of developments for areas at risk of flooding. This is to avoid any unnecessary increase in the requirement for flood defences. A requirement of the National Planning Policy Framework is that developers making planning applications on sites that are potentially at risk from flooding should consult with the Environment Agency, and where appropriate produce a flood risk assessment (FRA). The Environment Agencies flood matrix was consulted and showed that a flood risk assessment is appropriate for this site.

FLOOD RISK MAPS AND AVAILABLE INFORMATION

Appendix C contains a copy of the Environment Agency Flood Map for this area this data shows the following:

The site may be affected by the 1in100 year and 1in1000 year flood event. According to the Environment Agencies published flood map, which provides a general estimate of the likelihood of flooding across England & Wales, the property is shown to be very close to an area of Flood Zone 3 - an area which may have a 1% chance of flooding annually (1 in 100), ignoring the presence and effect of any flood defences. However the building itself is actually shown just outside the flood effected zones, i.e. flood zone 1.

The Environment Agency is aware of flooding to this area in 1991, but have no specific details. Further information on this flood event could not be found.

Defences – See attached map within Appendix D. The EA reported that the defences were found to be in good to fair condition when they last inspected them.

Flood Levels – The attached flood data map also given within Appendix E gives flood levels for the various flood model events that could affect the site. These flood levels were taken from the Havant and West Street flood model mapping study that was provided to us by the Environment Agency. We understand that the flood risk mapping study for the Havant area included consideration of catchments, flood history, flooding

mechanisms, flood modelling and mapping. It included the Lavant Stream adjacent to our site, and within the provided study information was flow modelled to obtain flood levels for the 1 in 100 year flood event, 1 in 100 year flood event plus allowance for climate change and also the 1/1000 year flood event, the flood map and level data extracts can be found in Appendix E. The map shows a zoomed in view of our site and show the line of the water course and the flooded area in dark blue shading for the 1/100 year event and in light blue shading for the 1/1000 year. The map also shows various point references along the water courses which then relate to a flood level as given in the accompanying table.

The available Environment Agency data shows that the development is potentially at risk from fluvial flooding. Flooding on the site could occur from the overtopping of the nearby Lavant Stream. The Lavant stream is situated to the East of our site running from North to South. It is contained within an open topped concrete culvert. Just north of our site at Park Road North the stream splits into two with Lavant stream continuing south past our site and Brockhampton Stream flowing West before also turning South and flowing into Langstone Harbour.

EFFECT ON EXISTING DRAINAGE STRATEGY

The new development will have only a minor effect on the existing foul drainage in the area. There will be a small increase in the foul flow from the site from the new residential areas rather than the previous offices. The storm water run-off from the site will not increase as no external alterations are proposed.

RUN-OFF AND FLOOD WATER DISPLACEMENT

The proposed re-development of the existing property only involves internal revisions, there are no proposed extensions or external building changes, therefore the modifications will not increase storm water run-off during periods of rain. As there are no external building changes the volume of displaced water should a flooding event occur will not change. There may be a slight increase in the foul water discharge from the site as additional bathrooms and kitchens are proposed, however this small increase will not have a significant effect on any flooding regime.

RISK ASSESSMENT

Discussions have been held with the Environment Agency. The advice from the Environment Agency was that the development area lies within flood zone 3, however the building itself on the site is shown to be just outside of flood zone 3 and within flood zone 1.

The obtained EA flood level data (See appendix E) provided within the Havant Flood Risk Mapping Study gives the maximum predicted 1/100 year flood level when including an allowance for climate change as 7.793m AOD.

From a level survey undertaken on the site it has been established that the FFL of the existing building is 8.104m AOD. This is greater than the maximum predicted flood level of 7.793m AOD and therefore the building is not at risk from flooding. There is a 311mm free board available to provide additional protection to the existing building during the predicted flood event.

These level findings are confirmed by the 1 in 100 year fluvial flood extent map produced within the report showing the building just outside the flood zone, the map can be seen in Appendix E. It is also of note that the 1/1000 year level event is expected to give rise to a flood level of 7.826m AOD, still lower than the existing buildings finished floor level.

Levels taken directly along the outside of the property vary from between 7.829m and 7.691m AOD. Therefore a maximum depth of flood water outside the entrance to the site would be approximately 0.108m. As shown on the flood extent map escape from the site during a flood event would be possible westwards along West Street leading occupants safely away from the flooded areas.

SEQUENTIAL AND EXCEPTION TEST

The aim of the sequential test is to steer development towards flood zone 1. The building on the site has been shown to be within within flood zone 1. There is an area of the site just outside the building which is within flood zone 3, very near the watercourse culvert, but this area is not proposed for re-development. The ground floor of the existing building will also have no effect on any flood water storage as it outside the flood zone. Therefore we believe that the re-development of the existing building passes the sequential test.

The exception test requires to prove that developments provide wider sustainability benefits to the community that outweigh flood risk. It also states that the development should, where possible, be on developable, previously developed land. The proposed building is classed as 'more vulnerable' and is within flood zone 1, with a small area of the site in zone 3. Consultation with now superseded PPS 25 table D3 shows that, to this previous guidance, the development is appropriate with regard to the exception test.

CONCLUSIONS AND RECOMMENDATIONS

It has been found that according to the Environment Agency flood map the proposed redevelopment lies within flood zone 1 with an area of the site to the East of the exiting building being just within flood zone 3. However the EA flood model data study indicates that the predicted flood water level for a 1/100 year event, when allowing for climate change, is 7.793m. Therefore the finished floor level of the existing property, 8.104m AOD, is higher than the predicted flood event level. Therefore using the available predicted flood information there is no risk of flood water inundation to the existing building during the predicted flood events.

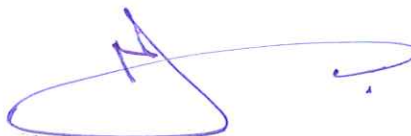
It has also been found that a 0.108m depth of water could be present on the site, outside the building, during a flood event meaning that access to and from the site is not significantly restricted. Means of escape from the building during a flood event, should it be required, would be westwards along West Street where there would be no flood water present according to the available mapping data.

Changes to both foul and storm water discharge from the site will have no significant effects on the flooding regime. This is also true of any flood water storage volumes as no external changes are proposed to the existing building currently present on the site.

Even though the existing building is not in danger of flood water inundation we would recommend that the site should also be registered with the environment agency online flood warning system and floodline telephone service to give warnings of any possible flood events. Local radio and television services should also be used for the same reason. Some warning of severe weather may also be available from the Met Office using its severe weather warning service.



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APPENDIX A

LOCATION PLAN

Location Plan - Scale 1:1250



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64 West Street Havant

APPENDIX B

LEVEL INFORMATION

RTH

FB

FB

+7.687
+7.052
+8.050

Boys
Brigade
Gardens

+7.924
+7.019

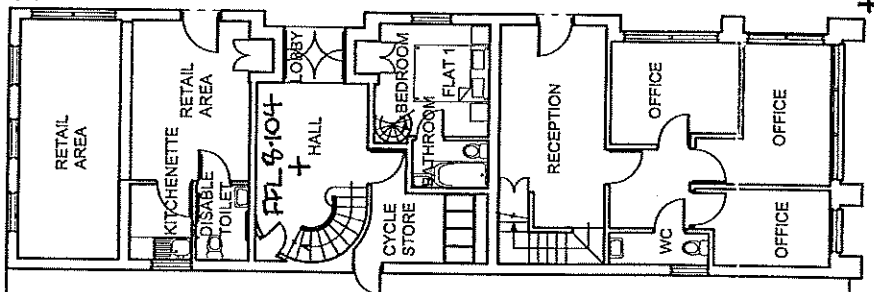
LAVANT STREAM

TCB

+7.681
+6.977
+7.959

THE SITE

+8.013



+7.829

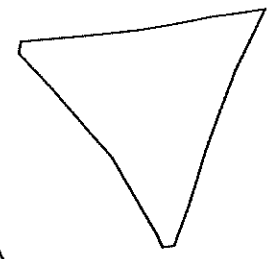
68

+7.648

PH

76 74

WEST STREET
ROMAN ROAD



7.6m

⊕7.606
SW IC.

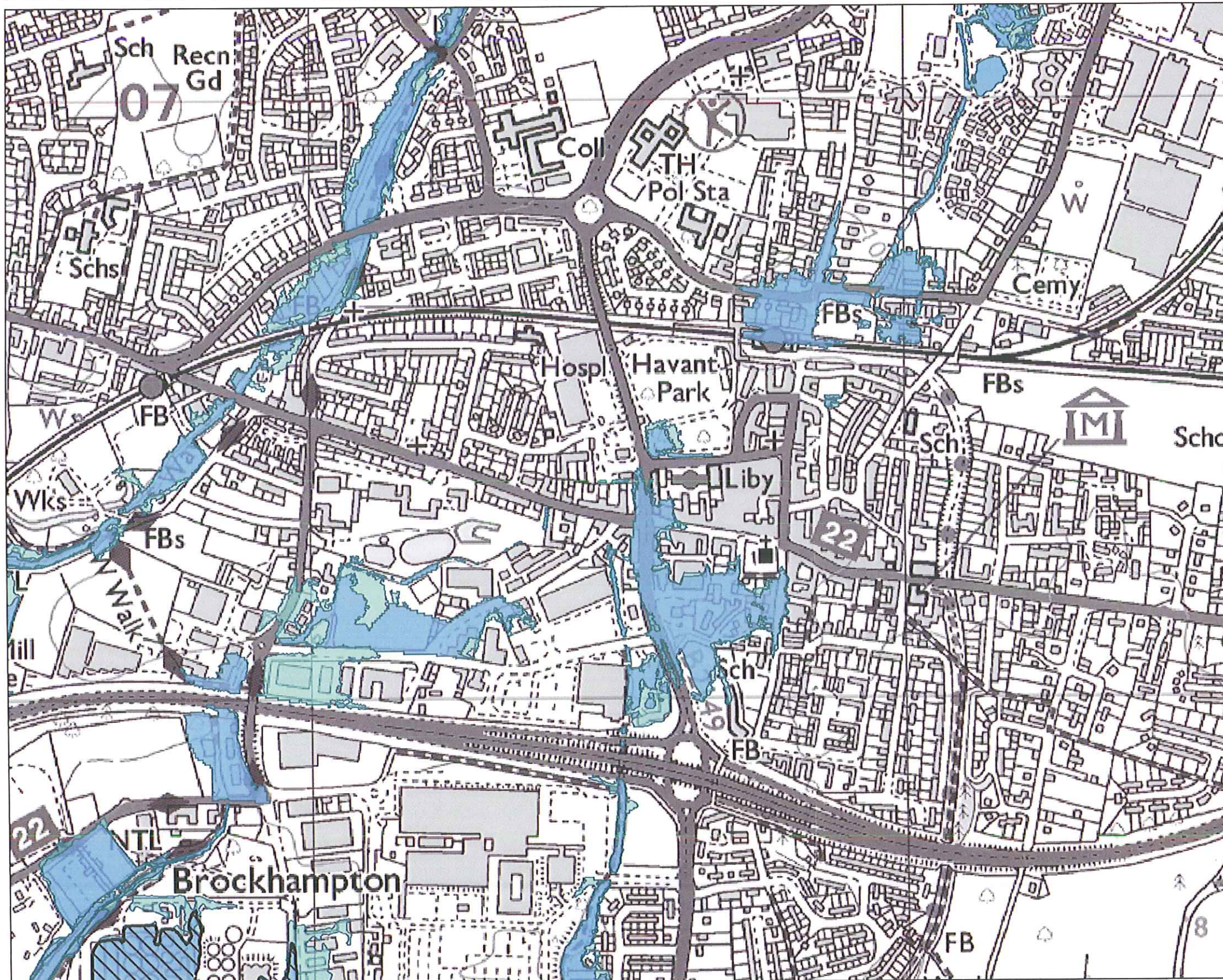
LEVEL SURVEY RESULTS

NE

APPENDIX C

ENVIRONMENT AGENCY FLOOD MAP

Flood Map (Rivers & Sea) Centered on West Street - Created 29 July 2014



Scale 1:10,001



Flood Map for Planning (Rivers and Sea)

- Flood Map - Defences
- Areas Benefiting from Flood Defences
- Flood Map - Flood Storage Areas
- Flood Map - Flood Zone 3
- Flood Map - Flood Zone 2

Flood Map for Planning (Rivers and Sea) (assuming no defences)

Flood Zone 3 shows the area that could be affected by flooding:

- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

Flood Zone 2 shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

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APPENDIX D

EXTRACTS FROM HAVANT FLOOD RISK MAPPING STUDY (Supplied by the EA)

Water course Defence details

Defences Centered on West Street - Created 29 July 2014 (Ref: SSD/4516)



Legend

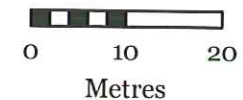
Defences

ASSET_REF

- 07128S5000103R01
- 07128S6010101R04
- 07128S6010102R01
- 07128S6010102R03
- 07128S5000104L01
- 07128S5000104R01
- 07128S6010101L07
- 07128S6010101R07
- 07128S6010102L01
- 07128S6010102R02

1:786 *

*when printed at A4.



Asset Ref.	Asset Type	Description	Location	Estimated Design Standard
07128S5000103R01	culverted channel	Culvert under road	West St. Brockhampton	1:40
07128S6010101R04	culverted channel	Culvert under carpark	Plant Hire. Brockhampton Lane	1:40
07128S6010102R01	culverted channel	Culvert under road	West Street. Brockhampton	1:40
07128S6010102R03	culverted channel	Culvert under road	Park Road North. Brockhampton	1:40
07128S5000104L01	maintained channel	Brick lined channel	D/S of Park Rd North. Brockhampton	1:40
07128S5000104R01	maintained channel	block lined channel	D/S of Park Rd North. Brockhampton	1:40
07128S6010102L01	raised defence (man-made)	Brick lined channel	West Street to Park Road North	1:40
07128S6010102R02	natural channel	Brick lined channel	West Street to Park Road North	1:40
07128S6010101L07	Natural Channel	Open Section	D/S Roman Road, Havant	
07128S6010101R07	Natural Channel	Open Section	D/S Roman Road, Havant	

APPENDIX E

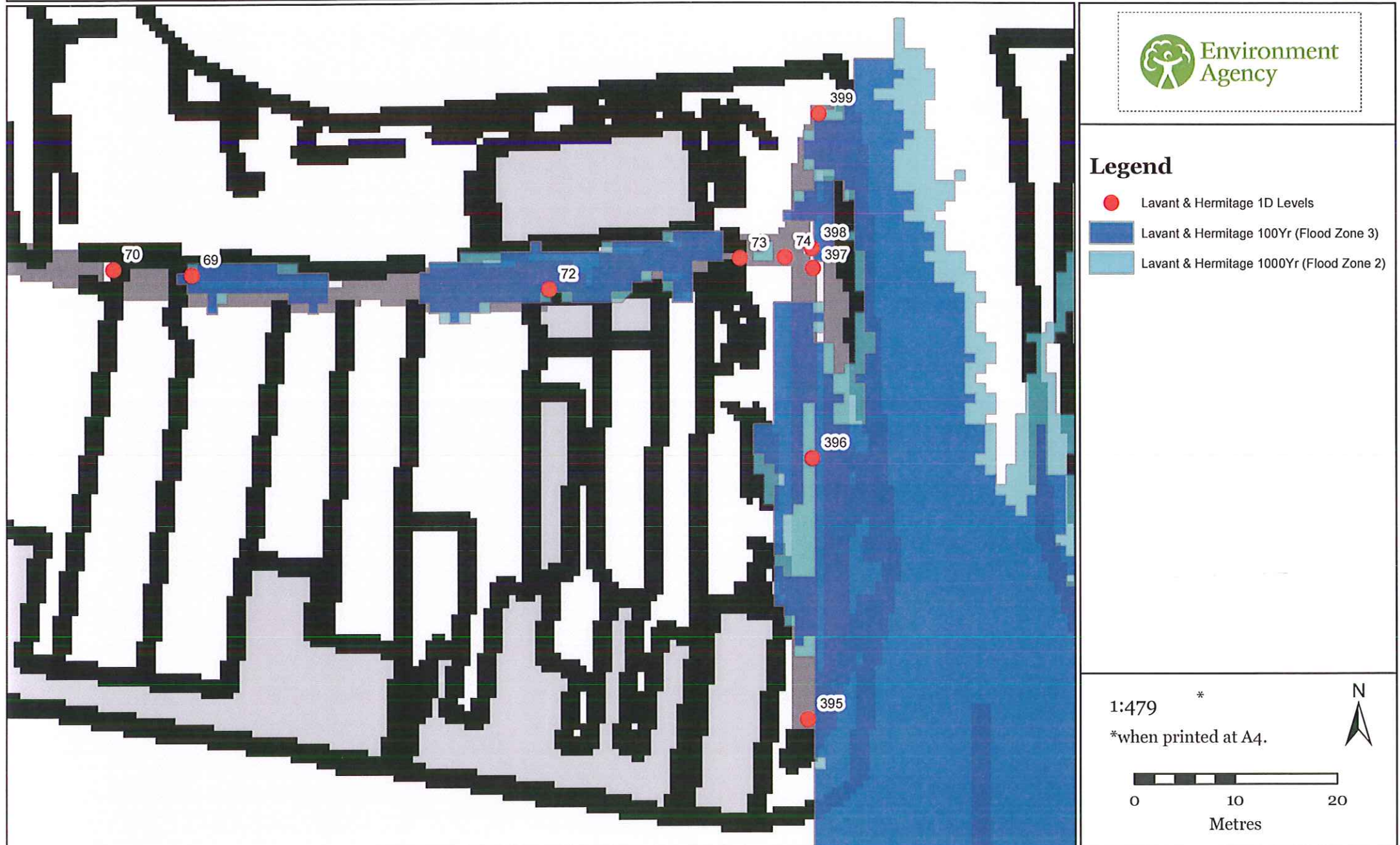
FLOOD EVENT MAP FROM HAVANT FLOOD RISK MAPPING STUDY

1 in 100 year flood outline

1 in 1000 year flood outline

Table providing flood levels at site locations

Flood Levels Taken from Lavant and Hermitage Model Centered on West Street - Created 29 July 2014 (Ref: SSD/4516)



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Flood Levels for West Street taken from Lavant and Hermitage Model - Created 23 July 2014

Object ID	100 Yr Level	100 Yr Level No Dam	100 Yr + CC Level	100 Yr + CC Level No Dam	1000 Yr Level	1000 Yr Level No Dam
69	7.645	0.736	7.663	0.768	7.696	0.831
70	7.528	0.736	7.541	0.768	7.566	0.831
72	7.718	0.736	7.737	0.768	7.773	0.831
73	7.75	0.736	7.768	0.768	7.8	0.831
74	7.774	0.736	7.792	0.768	7.825	0.831
393	7.781	1.018	7.801	1.083	7.837	1.018
394	7.784	1.018	7.803	1.118	7.838	1.018
395	7.776	1.035	7.793	1.274	7.826	1.035
396	7.776	1.369	7.793	1.643	7.826	1.469
397	7.793	1.369	7.81	1.664	7.842	1.47

* Levels in metres above Ordnance Datum Newlyn