

Havant Road, Hayling Island

Flood Risk Assessment

For

Euro Garages Ltd

Project Number: 12633

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Campbell Reith Hill LLP
No.1 Marsden Street
Manchester
M2 1HW

T: +44 (0)161 819 3060
E: manchester@campbellreith.com
W: www.campbellreith.com

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Author	Naomi Ward
Project Partner	Chris Brady
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1.0 EXECUTIVE SUMMARY

Euro Garages Ltd. are proposing alterations to an existing petrol filling station located off Havant Road on Hayling Island. The proposed development comprises a Change of Use of a Car Wash to Ancillary A1 land-use (a Greggs Bakery Store) with a Minor Extension (22m²) and Alterations to the Car Park.

This proposed Change of Use will not alter the Flood Risk Vulnerability classification of the development – 'Less Vulnerable' – in accordance with the National Planning Policy Framework (NPPF).

The Site lies within Flood Zone 3 and is located within an area which may have a 1 in 200 chance of flooding each year (0.5% annual probability), although the Environment Agency (EA) have no record of flooding to the area.

Predicted tidal flood levels have been provided by the EA and used to assess the risk of flooding to the Site. The proposed development cannot be elevated above the predicted tidal flood levels due to the Change of Use nature of the proposed development and its relationship to the existing building and existing Site levels. The floor level of the proposed Bakery store will be set no lower than the existing shop floor level.

Flood resilient and resistant construction techniques can be employed to mitigate the effects of flooding.

The Site lies within a 'Flood Alert Area' and a 'Flood Warning Area' and as such, free flood warnings can be received from the Environment Agency, who monitor any changes in the surrounding tidal levels on a permanent on-going basis, 24 hours per day; 7 days per week. A minimum of 2 hours warning would therefore be provided by the EA to all staff working on the Site (subject to them being registered to receive such warnings) providing ample time for safe evacuation to areas of refuge, which exist to the north and south.

Appropriate measures can therefore be put in place to provide ample warning to users of the Site and allow time for safe egress to areas of refuge to the north and south of the Site.

The NPPF confirms that this classification of development is appropriate within Flood Zone 3 and a number of further recommendations are made within this Report to mitigate the effects of flooding on the Site.

2.0 BACKGROUND

2.1. Development Context

- 2.1.1. CampbellReith was appointed by Walsingham Planning on behalf of Euro Garages Ltd. to prepare a Flood Risk Assessment (FRA) to accompany a Full Planning Application for a Change of Use and minor development on a Site in the north-west of Hayling Island. Hayling Island is an island off the south coast of England in the Borough of Havant. This FRA has been written to assess the risk of flooding both to and from the Site.
- 2.1.2. The Site is located south of Havant and is bounded to the east by the Havant Road (A3023). The Site lies approximately 90m east of Langstone Harbour and 4.30km north of the English Channel. There are also two drains noted west of the Site (Appendix 1).
- 2.1.3. The Site is currently used as a petrol filling station and a car wash and extends to an area of approx. 0.17ha.
- 2.1.4. The proposal comprises the change of use of a car wash to ancillary A1 land-use (to be occupied by a Greggs fast-food bakery) with a minor extension (22m²) and alterations to the car park. The change of use does not introduce development of a higher flood risk vulnerability.
- 2.1.5. An initial review of the Environment Agency's flood maps show that the Site is located in flood zone 3, having a high annual probability (>1%) of flooding from rivers or the sea in any year and would therefore require a Flood Risk Assessment in accordance with the National Planning Policy Framework (NPPF).
- 2.1.6. As the proposal only involves a change of use within the same Vulnerability Classification, the FRA needs to consider the flood risk to and from development and the provision of safe emergency access and egress plans for the development. The FRA needs to demonstrate that any additional flood resistance and resilience requirements can be provided.

2.2. Sources of Information

- 2.2.1. Elements of this Assessment are based on information supplied or provided by others from the following additional sources:

Source of Information	Author / Originator	Date
The Partnership for Urban South Hampshire (PUSH) Strategic Flood Risk Assessment	Eastern Solent Coastal Partnership	February 2016
The Partnership for Urban South Hampshire (PUSH) Strategic Flood Risk Assessment – 2016 Update; Guidance Document: Havant Borough Council	Havant Borough Council	2016
North Solent Shoreline Management Plan (NSSMP)	New Forest District Council, in partnership with the operating authorities in the Solent	December 2010
Havant Borough Core Strategy (Adopted)	Havant Borough Council	March 2011
South East Hampshire Catchment Flood Management Plan (CFMP)	Environment Agency	December 2009
Hampshire County Multi Agency Flood Response Plan. Version 1.0	Hampshire County Council Emergency Planning Unit	September 2012
Multi Agency Flood Plan (Response and Recovery) PART ONE (HIOW LRF)	Hampshire and Isle of Wight Local Resilience Forum	May 2015

Table 2-1: Sources of Information

- 2.5.1. CampbellReith has endeavoured to assess all information provided to them during this Assessment but this report summarises information from a number of external sources and CampbellReith do not offer any guarantees or warranties as to the completeness or accuracy of information relied upon.

2.6. Limitations

- 2.6.1. This Report has been prepared for exclusive use by Euro Garages Ltd. and Walsingham Planning, for the purpose of assisting them in evaluating the potential risk of flooding associated with the Site. CampbellReith accepts no liability for any use of this document other than by its Client and only for the purposes stated in the document, for which it was prepared and provided. No person other than the Client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of Campbell Reith Hill LLP. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole.
- 2.6.2. This Flood Risk Assessment addresses the flood risk posed to and from the proposed change of use, the extent and type of which is described herein. This Assessment has been undertaken on the assumption that the Site will be developed in accordance with these proposals without

significant change. The conclusions resulting from this Assessment are not necessarily indicative of future conditions or operating practices at or adjacent to the Site.

3.0 PLANNING POLICY

3.1. National Planning Policy

National Planning Policy Framework (NPPF)

- 3.1.1. The National Planning Policy Framework (NPPF)¹ and its associated Planning Practice Guidance (PPG)² were introduced in March 2012 and set out the Government's national policies on land-use Planning in England and how land-use Planning should be applied in relation to flood risk. The NPPF clearly identify flood risk as a specific material consideration in the Planning Process and in the allocation and release of sites for development or re-development.
- 3.1.2. The Framework seeks to strengthen the co-ordination between land-use planning and development planning and the operational delivery of flood and coastal defence strategy. Through the Framework Local Planning Authorities will continue to use their existing powers to guide, regulate and control development in relation to flooding and flood risk. The NPPF places a presumption in favour of sustainable development whilst meeting the challenge of climate change, flooding and coastal change. In accordance with Tables 1, 2, and 3 of the Planning Practice Guidance, inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk through application of the Sequential Test.
- 3.1.3. The NPPF and Planning Practice Guidance revoke the previous Planning guidance document, PPS 25 'Development and Flood Risk', although the technical criteria for Flood Risk Assessments remained largely unchanged. The Practice Guidance sets out the vulnerability classification of development in relation to flooding and encourages development to be located in areas of lower flood risk where possible.
- 3.1.4. The Practice Guidance also states that sources of flooding, other than fluvial flooding, should be considered, including Groundwater, sewers, reservoirs etc. and reinforces the importance of ensuring that new development does not result in an increased flood risk either to the Site itself or to the wider catchment.
- 3.1.5. Tables D.1, D.2, D.3, B.1, and B.2 from PPS 25, covering flood zone definition, flood risk vulnerability, and climate change have been directly reproduced in the NPPF, and the Environment Agency's 'Standing Advice' still applies.
- 3.1.6. Local Plans will continue to be supported by Strategic Flood Risk Assessments (SFRA) and should follow a sequential approach in the allocation of development sites. The Exception Test, when applicable, no longer includes a requirement for development to be located on previously developed, brownfield land, and now contains only two objectives relating to sustainability and the safety of a development and its users [para. 102 NPPF].
- 3.1.7. In addition, the Flood and Water Management Act (2010)³ Schedule 3, Paragraph 7 requires developments 'with drainage implications' to have a drainage system which has been approved by an approving body – a SuDS Approving Body (SAB) – and designed in accordance with the new National SuDS Standards, prior to construction.

¹ National Planning Policy Framework, DCLG, March 2012

² <http://planningguidance.planningportal.gov.uk/>

³ <http://www.defra.gov.uk> - Flood and Water Management Act 2010 received Royal Assent 8 April 2010

- 3.1.8. The intention is that where Planning Permission is required, SAB approval of any drainage system must also be obtained, either by applying separately to the SAB or by combining the SAB application with the application for Planning Permission. The SAB is to be appointed by the Secretary of State, although presently there is no secondary legislation to support the Act and facilitate formation of the SAB's.
- 3.1.9. The National SuDS Standards went out for consultation some time ago and received considerable comment. Because of this, along with various other factors, DEFRA has advised that the implementation of the SUDS Approval Body has been put back indefinitely⁴.
- 3.1.10. However, on 18 Dec 2014 the Department for Communities and Local Government (DCLG) issued a written statement (HCWS161)⁵ confirming that:

"As part of the Government's continuing commitment to protect people and property from flood risk, the DCLG and the Department for Environment, Food and Rural Affairs (DEFRA) recently consulted on a proposal to make better use of the planning system to secure sustainable drainage systems. Today we are publishing our response to the consultation explaining how we will be strengthening existing planning policy. This will make clear that the Government's expectation is that sustainable drainage systems will be provided in new developments wherever this is appropriate.

To this effect, we expect local planning policies and decisions on planning applications relating to major development - developments of 10 dwellings or more; or equivalent non-residential or mixed development (as set out in Article 2(1) of the Town and Country Planning (Development Management Procedure) (England) Order 2010) - to ensure that sustainable drainage systems for the management of run-off are put in place, unless demonstrated to be inappropriate.

Under these arrangements, in considering planning applications, local planning authorities should consult the relevant lead local flood authority on the management of surface water; satisfy themselves that the proposed minimum standards of operation are appropriate and ensure through the use of planning conditions or planning obligations that there are clear arrangements in place for ongoing maintenance over the lifetime of the development. The sustainable drainage system should be designed to ensure that the maintenance and operation requirements are economically proportionate.

To protect the public whilst avoiding excessive burdens on business, this policy will apply to all developments of 10 homes or more and to major commercial development. The Government will keep this under review, and consider the need to make adjustments where necessary. The current requirement in national policy that all new developments in areas at risk of flooding should give priority to the use of sustainable drainage systems will continue to apply.

These changes will take effect from 6 April 2015. For avoidance of doubt this statement should be read in conjunction with the policies in the National Planning Policy Framework. This statement should be taken into account in the preparation of local and neighbourhood plans, and may be a material consideration in planning decisions."

- 3.1.11. Therefore, all Planning Applications for 'major development' submitted after 6 April 2015 will need to consider the use of Sustainable Drainage Systems ('major development' being development carried out on a site over 1 hectare, where the number of dwelling houses to be

⁴ http://www.sustainabledrainagecentre.co.uk/suds-approval-body-sab_c1299.aspx

⁵ <http://planningguidance.planningportal.gov.uk/>

provided is 10 or more; or the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development will be providing 10 or more houses).⁶

- 3.1.12. The Site extends to an area of approx. 0.17 hectares and is for the proposed commercial change of use including a minor extension (22m²). Therefore the provision of SuDS is not a mandatory requirement; however LPAs and LLFAs strongly encourage the use of SuDS where applicable.
- 3.1.13. Flood Zone mapping, prepared by the EA and available through their website⁷, shows the Site to be located within Flood Zone 3 (high probability of flooding respectively), ref. Figure 3.1.

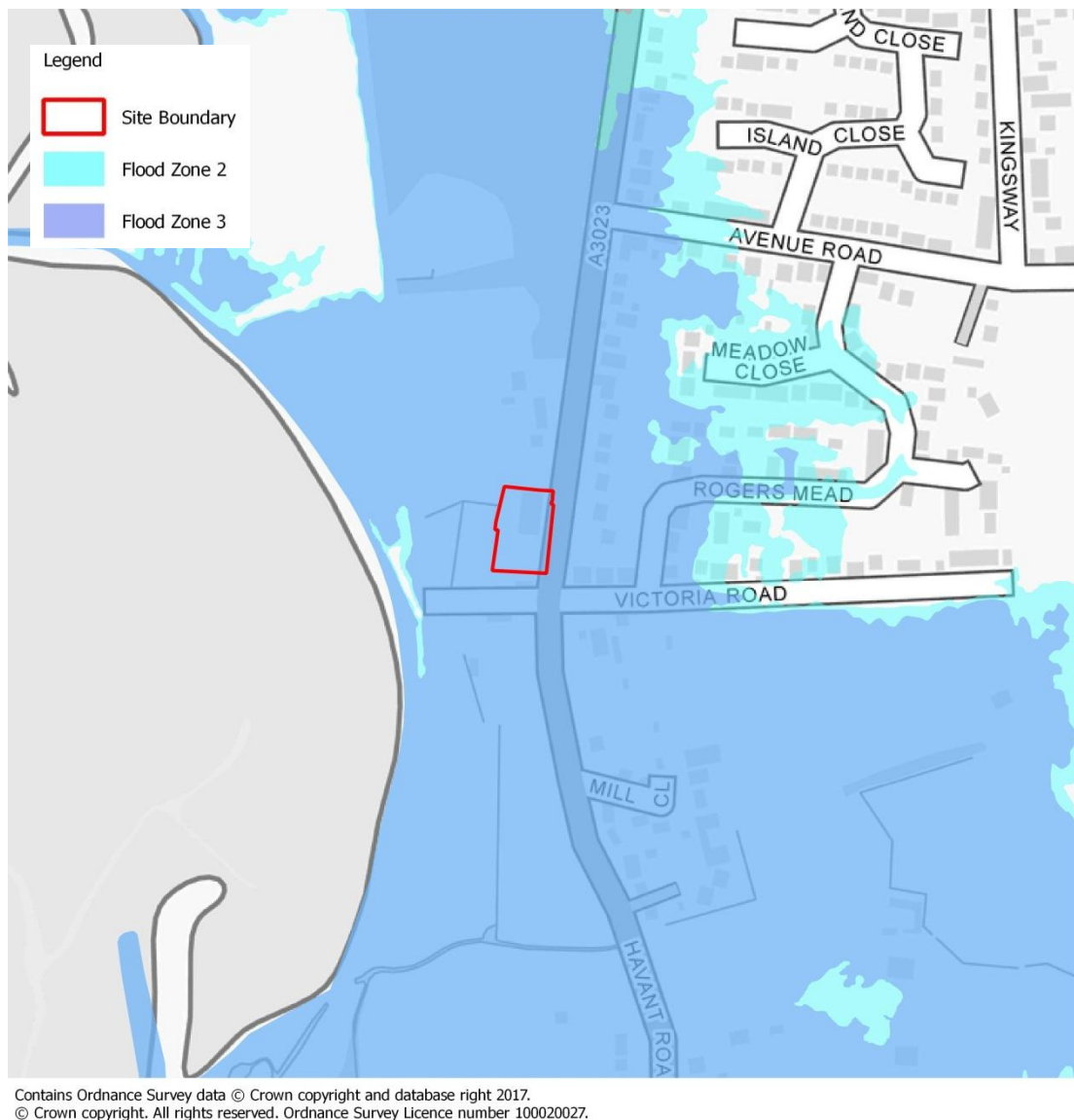


Figure 3.1: Current EA Flood Zone Map (not to scale)

- 3.1.14. Flood Zone 3 is defined in the NPPF as “land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%, or a 1 in 200 or greater annual probability of flooding from the sea (.05%) in any year”.

⁶ <http://www.legislation.gov.uk/uksi/2015/595/part/1/made>

⁷ <https://www.gov.uk/planning-applications-assessing-flood-risk>

- 3.1.15. The NPPF states that *“A site-specific flood risk assessment is required for proposals of 1 hectare or greater in Flood Zone 1; all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3, or in an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the Environment Agency); and where proposed development or a change of use to a more vulnerable class may be subject to other sources of flooding”*⁸
- 3.1.16. The NPPF also outlines the importance of applying the Sequential approach within the Planning process. The approach aims to ensure that development is located in flood zones appropriate to the vulnerability of the proposed land use and that flooding is considered at the earliest possible stage. The NPPF Planning Practice Guidance states that:
- *“The Sequential Test ensures that a sequential approach is followed to steer new development to areas with the lowest probability of flooding. The flood zones as refined in the Strategic Flood Risk Assessment for the area provide the basis for applying the Test. The aim is to steer new development to Flood Zone 1 (areas with a low probability of river or sea flooding). Where there are no reasonably available sites in Flood Zone 1, local planning authorities in their decision making should take into account the flood risk vulnerability of land uses and consider reasonably available sites in Flood Zone 2 (areas with a medium probability of river or sea flooding), applying the Exception Test if required. Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 (areas with a high probability of river or sea flooding) be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required”.*
- 3.1.17. The National Government Policy on Flood Risk and Coastal Change provides guidance on the Sequential Test. The guidance is part of the Planning Practice Guidance and was published in March 2014. Paragraph 033 of the Planning Practice Guidance ‘Flood Risk and Coastal Change’ document⁹ ‘Applying the Sequential Test to Individual Planning Applications’ states the following:
- *“The Sequential Test does not need to be applied for individual developments on sites which have been allocated in development plans through the Sequential Test, or for applications for minor development or change of use (except for a change of use to a caravan, camping or chalet site, or to a mobile home or park home site).”*
- 3.1.18. As the proposal is for minor development and change of use, under National Government Policy, this Site does not meet the requirements for a Sequential Test to be carried out.
- 3.1.19. Consultation with the Technical Support Officer and Senior Planning Officer for this Application confirmed that this proposal would not require the Exception or Sequential Test (Appendix 3).

Environment Agency Guidance / Standing Advice

- 3.1.20. Paragraph 032 of the Planning Practice Guidance ‘Flood Risk and Coastal Change’ document¹⁰ notes that *“To assist the developer, the local planning authority should set out and agree the*

⁸ National Planning Policy Framework, DCLG, 2012 – Para 103.

⁹ [Sequential-Test-to-individual-planning-applications](#)

¹⁰ <http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/>

scope of the flood risk assessment, using the Environment Agency Standing Advice on flood risk”.

- 3.1.21. Flood risk is an issue that needs to be considered at the early stages of planning a new development (whether a home extension or something bigger, or even a change of use). The Local Planning Authority will make a decision on whether a development is suitable and the Environment Agency helps in this process by providing advice, either on a case by case basis, or for lower risk developments, via a series of standard comments known as 'Standing Advice'.
- 3.1.22. The EA provide 'Standing Advice'¹¹ as a tool to help Local Planning Authorities establish the level of environmental risk associated with Planning Applications. Proposed developments that are classed as high risk by the Standing Advice will continue to be dealt with by the EA but on a case-by-case basis.
- 3.1.23. The NPPF requires that the EA's Standing Advice must be observed if the proposed development falls into one of the following categories:
- *“a minor extension (household extensions or non-domestic extensions less than 250 square metres) in flood zone 2 or 3;*
 - *‘more vulnerable’ development and up to 1 hectare (ha) in flood zone 2 (except for landfill or waste facility sites, caravan or camping sites);*
 - *‘less vulnerable’ development and up to 1ha in flood zone 2 (except for agriculture and forestry, waste treatment, and water and sewage treatment);*
 - *‘water compatible’ development and up to 1ha in flood zone 2;*
- This includes developments involving a change of use into one of these vulnerable categories or into the water compatible category.”*
- 3.1.24. Development categories are defined in Table 2 [para. 068] in the Planning Practice Guidance 'Flood Risk and Coastal Change' document¹². Commercial change of use of the type proposed on the Site is classified as 'less vulnerable'. The minor extension extends to approximately 22m² and is in Flood Zone 3 and thus within the Standing Advice threshold. EA Standing Advice does therefore apply and the EA are unlikely to be consulted in this case as the EA does not usually comment on minor development in this category.

3.2. Local Planning Policy

South East Hampshire Catchment Flood Management Plan (CFMP)

- 3.2.1. Catchment Flood Management Plans (CFMP's) are not specifically required by the Water Framework Directive and are prepared voluntarily by the EA (under Government sponsorship). A CFMP is a high-level plan for an area which aims to develop policies to manage flood risk over the next 50 to 100 years. These policies take into account the likely impacts of climate change and the effects of land-use and land management, and identify a range of benefits which

¹¹ <https://www.gov.uk/flood-risk-assessment-standing-advice>

¹² <http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-2-flood-risk-vulnerability-classification/>

contribute towards sustainable development. The CFMP's policies establish whether action should be taken to increase, decrease or maintain the current level of flood risk.

- 3.2.2. The Site is located on the north west coast of Hayling Island, approx. 3km south of central Havant and approx. 7.8km east of Central Portsmouth.
- 3.2.3. The main sources of flooding in the South East Hampshire CFMP area are from groundwater and surface water although there is also a risk from river flooding (fluvial flooding) which can be made worse by tidal conditions.
- 3.2.4. The EA have produced the 'South East Hampshire Catchment Flood Management Plan' in December 2009. The South East Hampshire CFMP notes *"The area of the South East Hampshire CFMP has a population of approximately 460,000 covers 500 square kilometres and is drained by the River Hamble, River Meon, Wallington River, River Alver, West Brook and Hermitage and Lavant Streams. It is a mixture of rural and urban areas with three quarters of the land used as agricultural. The main urban areas are located at Havant, Waterlooville, Portsmouth, Fareham, Gosport, and Hedge End. The catchment also includes the South Downs Area of Outstanding Natural Beauty (AONB) to the north. Here it is mainly rural, with the population generally dispersed across small towns and villages. The catchment drains into a number of designated sites of national and international importance for nature conservation, such as the Solent and Southampton Special Protection Area/Ramsar site or the Solent Maritime Special Area of Conservation. It also contains important wetland sites such as the Titchfield Haven Site of Special Scientific Interest. The northern part of the catchment lies on chalk while the southern part of the catchment consists of tertiary deposits, such as more impermeable clays. The River Meon flows over chalk for approximately half of its length. Tributaries of the other large sub-catchments also flow over chalk but are ephemeral (short-lasting) streams that only appear when groundwater levels are higher. The underlying geology has a significant impact on the hydrology of the area. Rainfall on chalk areas tends to soak into the ground, recharging groundwater stores rather than rapidly entering the river system as run-off."*
- 3.2.5. The CFMP indicates Portsmouth and Langstone Harbours as being located in an area where 'The main inland flood risk in this sub-area comes from surface water flooding where the urban drainage network is overwhelmed or unable to fully discharge to sea' as such, subject to Policy 5: *"Areas of moderate to high flood risk where we can generally take further action to reduce flood risk This policy will tend to be applied to those areas where the case for further action to reduce flood risk is most compelling, for example where there are many people at high risk, or where changes in the environment have already increased risk. Taking further action to reduce risk will require additional appraisal to assess whether there are socially and environmentally sustainable, technically viable and economically justified options."*
- 3.2.6. Relevant Extracts from the 'South East Hampshire Catchment Flood Management Plan, Summary Report December 2009' are attached in Appendix 2.

[The Partnership for Urban South Hampshire \(PUSH\) Strategic Flood Risk Assessment \(2016 Review\)](#)

- 3.2.7. This document has been produced by the Eastern Solent Coastal Partnership for the Partnership for Urban South Hampshire.

- 3.2.8. The PUSH sub-region covers almost 600 km² in area, the south Hampshire sub-region includes 270 km of tidally influenced coastline, along which is situated key urban areas of Southampton, Portsmouth, Gosport, Fareham and Havant. The proximity of large parts of these communities to the extensive coastline puts them at risk of flooding from the sea, with predicted sea level rise due to climate change and post-glacial rebound likely to increase these risks in future. In addition, the sub-region contains approximately 350 km of designated 'Main River' and associated fluvial floodplain, including the Rivers Test, Itchen, Hamble, Meon and Wallington, and extensive areas of chalk geology that are susceptible to groundwater flooding.
- 3.2.9. The Partnership for Urban South Hampshire (PUSH) commissioned a joint Strategic Flood Risk Assessment for the sub-region. The dataset is presented on an interactive website and it is based on flood risk data available from the Environment Agency and other risk management authorities from February 2016. As such, the information may since have been superseded by more recent flood risk data. This can be viewed on the PUSH Strategic Flood Website¹³
- 3.2.10. The website allows for an interactive view of a large Flood Mapping Dataset including:
- Historic Flood Maps;
 - Hazard Maps – Undefined Flood Hazard;
 - Flooding from Other Sources – including Surface Water, Groundwater, Sources of Overland Flow ;
 - Flood Warning Areas;
 - Climate Change - Outlines for years 2025, 2055, 2085 and 2115;
 - Breach data overlays.
- 3.2.11. Although the PUSH SFRA did not specifically refer to Hayling Island, Appendix C of the SFRA contained Authority specific guidance notes and advice, this is referred to below.

PUSH Strategic Flood Risk Assessment – 2016 Update Guidance Document: Havant Borough Council

- 3.2.1. The content of this guidance document is designed to encourage the use of the SFRA by summarising its key findings and tailoring them for the specific flood risks found in Havant. The document also makes particular reference to Hayling Island.
- 3.2.2. The SFRA has shown that the primary source of flood risk to Havant is from the sea. Flooding due to wave overtopping is historically known to occur on Hayling Island, particularly along the southern frontage. The secondary source of flood risk to Havant Borough is from fluvial sources including the Lavant Stream, the Hermitage Stream and associated tributaries. These watercourses flow through the town centre of Havant and discharge into Langstone Harbour. Historically, Havant has also been susceptible to flooding from other sources including; groundwater, surface water and flooding caused by infrastructure failure.
- 3.2.3. The borough of Havant covers a total area of approximately 55 km² which is split between the mainland and Hayling Island. The council has approximately 56 km of coastal frontage

¹³ <http://maps.hants.gov.uk/push/>

(including 42 km around Hayling Island) and 32 km of main river. At present, approximately 22% of the Borough's land area is designated as within Flood Zones 2 and 3¹⁴.

- 3.2.4. Historically, Hayling Island has experienced flooding caused by extreme wave overtopping, in November 2005 and 2013/14.
- 3.2.5. This guidance document also reiterates using the Flood Mapping Dataset on the PUSH Strategic Flood Website as a valuable resource for site specific flood risk assessments and emergency planning.

Havant Borough Core Strategy March 2011

- 3.2.6. The Havant Borough Core Strategy is the principal document in the council's Local Plan. It covers the Borough of Havant, setting out the spatial planning strategy for the area up to 2026.
- 3.2.7. The Havant Borough Core Strategy retains 2 Policies that are relevant to the development of this Site: Policy CS15 Flood and Coastal Erosion Risk.
- 3.2.8. Policy CS15 Flood and Coastal Erosion Risk requires: *"Development in areas at risk of flooding now and in the future as identified on the latest Environment Agency flood risk maps and Strategic Flood Risk Assessment climate change maps will only be permitted where:*
 - 1. *It meets the sequential and exception test (where required) in relation to PPS25.*
 - 2. *The site is located in a low hazard area as defined in the Strategic Flood Risk Assessment.*
 - 3. *A site-specific flood risk assessment demonstrates that the development will be safe, including the access, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.*
 - 4. *The scheme incorporates flood protection, flood resilience and resistance measures appropriate to the character and biodiversity of the area and the specific requirements of the site.*
 - 5. *Appropriate flood warning and evacuation plans are in place.*
 - 6. *New site drainage systems are designed taking account of events which exceed the normal design standard.*

All development will be required to ensure that there is no net increase in surface water run off. Priority should be given to incorporating Sustainable Drainage Systems (SuDS) to manage surface water drainage, unless it is proven that SuDS are not appropriate. Where SuDS are provided arrangements must be put in place for their whole life management and maintenance.

The council will work with partners to implement the Coastal Policy Zones in the North Solent Shoreline Management Plan to ensure that development avoids areas at risk from coastal erosion and coastal flooding and that areas required to offset coastal squeeze and prevent habitat fragmentation, to allow species to adapt to climate change, are identified and protected from development."

¹⁴ https://maps.hants.gov.uk/push/Reports/PUSH_SFRA_FBC_Guidance_for_Upload.pdf

3.2.9. Relevant extracts from the Havant Borough Core Strategy can be viewed in Appendix 2.

4.0 SITE CONTEXT

4.1. Site Location

- 4.1.1. The Site is located immediately west of Havant Road (A3023) and north of Victoria Road. The Site is approximately 90m east of Langstone Harbour and 4.30km north of the English Channel. The Site is centred at Ordnance Survey co-ordinates 471797mE, 102997mN and within Postcode PO11 0LG, ref Figures 4.1 and 4.2 below, and extends to approx. 0.17 hectares in area.

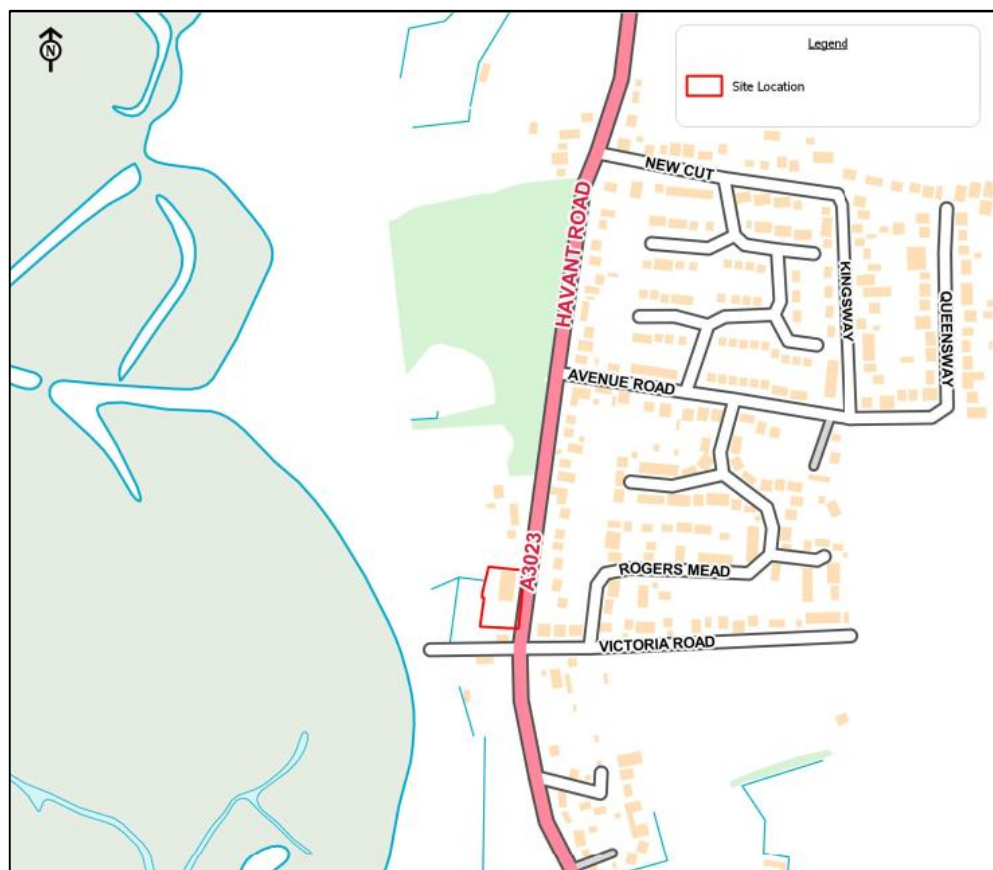


Figure 4.1: Site Location (not to scale)



Figure 4.2: Aerial Image (not to scale)

Image provided courtesy of Google 2017 via Google Earth Professional. ©Google Image © 2017 Landsat

4.2. Site Characterisation

- 4.2.1. The Site and surrounding conditions are shown on the aerial image in Figure 4.2.
- 4.2.2. The application Site comprises an operational ESSO petrol station and Spar shop. Within the Site there was also a partially dismantled car wash. The Spar shop is a small rectangular building, generally in good condition, with some superficial damage and linear drainage channels noted around the extent of the fuel pumping area. Fencing was also noted; however, the fencing did not restrict access to any parts of the Site.
- 4.2.3. There was one existing vehicular exit and entrance from the Site with a footway that ran along the east boundary cutting across both the entrance and exit.
- 4.2.4. The Sites immediate surroundings comprise residential housing to the east and south and a cleared area to the west.

4.3. Existing Site Topography

- 4.3.1. A topographical survey was carried out in May 2017. The survey indicates the existing ground levels of the partially dismantled car wash and area proposed for a Greggs to vary between 2.70m AOD in the south-west corner of the building, to 2.78m AOD in the north-east corner of the building.
- 4.3.2. The existing ground levels across the entire Site vary between 2.91m AOD in the north-west; 2.60m AOD in the centre and 2.35m AOD in the south-east of the Site. Further west, outside of the Site boundary, levels vary between 3.00m AOD and 4.00m AOD along the edge of the nearby ditch. The levels along the nearby Havant Road (bordering the east of the Site) vary between 2.35m AOD and 2.60m AOD. The Site appears to gradually fall to the east.

4.4. Existing Watercourses / Water Bodies / Drains

- 4.4.1. There were two ditches noted to the west of the Site, both were heavily overgrown during the Site walkover but appeared to be approximately 2-3m wide. These ditches appeared to contain standing water.
- 4.4.2. The Site is also in close proximity to two watercourses classified as Main EA Rivers - the 'Pound Croft', a tidally influenced watercourse which appears to drain to Langstone Channel (90m west of the Site), and 'Lavant Stream' (2km north of the Site) which appears to flow through the town centre of Havant and discharge into Langstone Harbour.

4.5. Existing Drainage infrastructure / SW Run-Off Regime

Sewer Records

- 4.5.1. The Sewerage Company for the existing business is Southern Water. As the proposal is for the Change of Use from a car wash to a Greggs with a 22m² extension, the existing drainage infrastructure currently in place will remain unaltered.

SW Run-Off Regime

- 4.5.2. The Havant Borough Core Strategy provides guidance on minimum requirements of FRA's submitted and when a FRA for Surface water is required. The guidance outlines the main flood risk considerations to be met for an FRA for Surface Water to be required. Policy CS15 Flood and Coastal Erosion Risk requires:

- *"All development will be required to ensure that there is no net increase in surface water run off. Priority should be given to incorporating Sustainable Drainage Systems (SuDS) to manage surface water drainage, unless it is proven that SuDS are not appropriate. Where SuDs are provided arrangements must be put in place for their whole life management and maintenance."*

- 4.5.3. No increase in impermeable areas or change of use to existing Greenfield land is proposed; as such there will be no increase in surface water runoff. The proposal only includes the provision of a Change of Use and minor extension and as such no further assessment of surface water run-off is required.
- 4.5.4. The EA 'Flood Risk from Surface Water' map shows there is a 'Very Low' risk of surface water flooding at the Site¹⁵. A 'Low to Medium' risk was identified along the adjacent Havant Road (A3023). The PUSH SFRA interactive mapping identifies the same 'Very Low' risk to the Site as the EA mapping.

4.6. Existing Ground conditions

- 4.6.1. The walkover revealed the majority of the Site to comprise hardstanding or blockwork paving (approx. 80% of the Site). A small area of the Site comprised grass and trees in the west (approx. 5%). The soil was also noted as consisting of heavily compacted Made Ground.

¹⁵ <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map> Surface Water

- 4.6.2. Information on soil characteristics within England and Wales can be obtained from the UK Soil Observatory (UKSO)¹⁶. The maps produced by UKSO indicate that the Site falls within an area underlain by Loamy soils with naturally high groundwater.
- 4.6.3. The soil is described as being “Naturally wet” and mostly draining to Local shallow groundwater.
- 4.6.4. A review of the local geology indicates that the underlying geology likely comprises Lewes Nodular Chalk Formation Bedrock overlain by Raised Marine Deposits (Sand And Gravel) in the south and west and River Terrace Deposits (undifferentiated; Sand, Silt And Clay) superficial deposits in the north east.

4.7. Existing Flood Alleviation Structures & Hydraulic Structures

Flood Alleviation Structures

- 4.7.1. The ‘What’s in your Backyard’ EA website shows the Site to be in proximity to a Shoreline Protection Plan (SMP) policy (550m west). A SMP Policy describes how a stretch of shoreline is most likely to be managed to address flood and/or erosion – although this is subject to conditions. Stretches of coast are divided into ‘management units’. There is a SMP Policy in proximity to the Site and the agreed management policy for this nearby SMP is as follows:
 - *‘Hold the (existing defence) line’*– An aspiration to build or maintain artificial defences so that the position of the shoreline remains. Sometimes, the type or method of defence may change to achieve this result.
- 4.7.2. It should be noted that a policy does not mean that public funding is secured or guaranteed. The North Solent Shoreline Management Plan (2010) provides additional information regarding the start and end of the unit and its likely status (regarding a management unit) over the next 100 years.
- 4.7.3. The PUSH SFRA shows the Site to reside within the catchment area of an EA Capital Scheme for the improvement to tidal defences.

¹⁶ <http://ukso.org/maps.html>

5.0 PROPOSED CHANGE OF USE & MINOR EXTENSION

5.1. Indicative Site Layout

- 5.1.1. The Site area extends to approx. 0.17 hectares (0.42 acres) and currently comprises an operational fuel filling station, including a shop unit and kiosk, petrol forecourt with canopy and a dismantled car wash.

Proposal

- 5.1.2. The proposal comprises the Change of Use of a Car Wash to Ancillary A1 (a Greggs) with a Minor Extension (22m²), and Alterations to the Car Park. The floor levels will be set no lower than the existing shop floor level.
- 5.1.3. This proposed Change of Use will not therefore be changing the flood risk vulnerability classification of the development.

5.2. Proposed SW Drainage Strategy

- 5.2.1. As of 6 April 2015, all Planning Applications for 'major development' (residential developments of 10 dwellings or more) will need to consider the use of Sustainable Drainage Systems (ref. Section 3.1 of this Report). Any Application will need to provide an assessment of which types of SuDS are considered appropriate for use on the proposed site or conversely, provide evidence / justification to demonstrate that their use is not appropriate. The Havant Borough Core Strategies Policy CS15 (Flood and Coastal Erosion Risk) requires: *"All development will be required to ensure that there is no net increase in surface water run off. Priority should be given to incorporating Sustainable Drainage Systems (SuDS) to manage surface water drainage, unless it is proven that SuDS are not appropriate. Where SuDs are provided arrangements must be put in place for their whole life management and maintenance."*
- 5.2.2. As the proposal is for Change of use from Change of Use of a Car Wash to Ancillary A1 (a Greggs) with a Minor Extension and Alterations to the Car Park, there will be no increase in built footprint - this Application does not therefore require an assessment of SuDS.

6.0 FLOOD HAZARDS & SOURCES OF FLOODING

6.1. Potential Flood Hazards

- 6.1.1. Prior to undertaking an FRA, the different types of flooding mechanisms which may affect the Site need to be identified and then assessed to determine whether the application Site is located within an area which is at risk of flooding from one or more of the applicable mechanisms. CIRIA Report C624 describes the various flood mechanisms:

Category	Flood Mechanism
Fluvial Flooding	Exceedence of the flow capacity of the channel of a river, stream or other natural watercourse, typically associated with heavy rainfall events. Excess water spills onto the flood plain
Coastal & Tidal Flooding	High tides, storm surges and wave action, often in combination
Estuarial flooding and watercourses affected by tidelocking	Often involving high tidal levels and high fluvial flows in combination
Groundwater Flooding	Raised groundwater levels, typically following prolonged rain (may be slow to recede). High groundwater levels may result in increased overland flow flooding
Flooding from overland flow	Water flowing over the ground surface that has not reached a natural or artificial drainage channel. This can occur when intense rainfall exceeds the infiltration capacity of the ground, or when the ground is so highly saturated that it cannot accept any more water
Flooding from artificial drainage systems	Blockage or overloading of pipes, sewers, canals, and drainage channels or failure of pumping systems. Typically following heavy rain or as a result of high water levels in a receiving watercourse
Flooding from infrastructure failure	Structural, hydraulic or geotechnical failure of infrastructure that retains, transmits or controls the flow of water

Table 6-1: Categories of Flood Mechanisms (from Box 2.3 CIRIA C624)

- 6.1.2. CIRIA Report C624, Table A2.1, lists a number of key factors that should be considered during a Level 1 FRA. This table can be used to summarise the findings of a Level 1 FRA study and to identify those flood hazards which may be applicable to the Site in question.
- 6.1.3. Those boxes shaded grey indicate those sources of flooding which are unlikely to be identified for each question. If sufficient information is not available to identify the specific source of flooding, then all possible sources should be ticked. If a tick is placed below any flood hazard then a Level 2 FRA will be required to assess flood risk issues relating to that hazard in more detail. Table 6-2 below identifies the flood hazards applicable to the Site:

Question	Fluvial	Sea	Estuaries	Groundwater	Overland flow	Artificial drainage systems	Infrastructure failure
Is the development site next to the sea or any watercourse shown on Ordnance Survey maps?	ü	ü	ü				
Is the development site, or part of the development site, identified as being at risk of flooding within available documentation?	ü	ü	ü	ü	ü	ü	ü
If a strategic flood risk assessment is available, is the development site, or part of the development site, identified as being at risk of flooding?	ü	ü	ü	ü	ü	ü	ü
If a flood zone map is available, is the development site, or part of the development site, within a High Risk zone?	ü	ü	ü				
If a flood zone map is available, is the development site, or part of the development site, within a Low to Medium Risk zone?	ü	ü	ü				
If a flood zone map is not available, is the development site, or part of the development site, situated on alluvium based on consideration of geological maps of the area?	ü	ü	ü				
If there is an existing property on, or next to the site at the same level, is the property within a flood warning area?	ü	ü	ü	ü			
Are the LPA / FDA aware of any existing, historical or potential flooding problems that may affect the site?	ü	ü	ü	ü	ü	ü	ü
Do the physical characteristics of the site suggest that it may be prone to flooding?	ü	ü	ü	ü	ü	ü	ü
If a flood zone map is not available, is the development site, or part of the development site below 10m AOD AND does the FDA consider the development to be at risk of tidal flooding?		ü	ü				
Is the development located within a natural or artificial hollow, or at the base of a valley or at the bottom of a hill slope?				ü	ü		
Does examination of historical maps indicate any likelihood of flood risk at the site?	ü	ü	ü	ü	ü		
Do the names of surrounding roads, areas or houses suggest the possibility of seasonal or historical flooding?	ü	ü	ü	ü	ü		
Is the site likely to involve excavation / construction below existing ground levels (excluding foundations)?				ü			
Is the land use upslope of the site such that the generation of overland flow may be encouraged, and can water from this area flow onto the site?					ü		
Are there any artificial drainage systems on or next to the site, at the same level, or upslope of, the site?						ü	ü
Is the development site protected by an existing flood defence?	ü	ü	ü			ü	ü
Is the development site protected by a flood control structure (eg flap valve, sluice gate, tidal barrier etc)	ü	ü	ü			ü	ü
Is the development site located upstream of a culvert which may be prone to blockage?	ü		ü	ü	ü	ü	ü
Are water levels in a watercourse located in or next to a development site controlled by a pumping station?	ü	ü	ü	ü	ü	ü	ü
Is the development site next to or downstream / down slope of a canal?						ü	ü
Is the development site downstream / down slope of a reservoir or other significant water body?						ü	ü
FURTHER COMMENT ON FLOOD RISK WITHIN THIS FRA?	ü	ü	ü	ü	ü	ü	ü

Table 6-2: Flood Hazard Identification

6.2. Summary of Site Specific Assessments

- 6.2.1. Based on the CIRIA Report C624, Table A2 assessment, 3 potential flood mechanisms are considered to apply to the Site:

Flood Hazard	Flood Mechanism
Fluvial Flooding / Coastal Flooding / Estuarial flooding and watercourses affected by tidelocking	To be assessed further- The risk of flooding at the Site is considered to originate from the Langstone Harbour which is an inlet of the English Channel. Therefore the risk to the Site could be classed as Estuarial flooding. The EA have provided tidal flood levels based on the revised data from 'Extreme Sea Levels for Estuaries and Harbours', April 2016.
Groundwater Flooding	To be assessed further- The underlying soils, strata alongside local Flood Risk policies highlight Groundwater flooding to be an issue in this area.
Flooding from Overland Flow	The PUSH SFRA highlights the Site as being at a 'Moderate' risk from overland flow.
Flooding from Artificial Drainage systems	Discounted on the basis that no change to any artificial drainage system is proposed.
Flooding from Infrastructure Failure	Discounted on the basis of Site location – not in close proximity to any water-related infrastructure.

Table 6-3: Potential Sources of Flooding

- 6.2.2. As the Application Site is located in an area influenced by both tidal and fluvial flooding from the Langstone Channel (90m east of the Site), the risk of estuarial flooding will also be assessed within this report. The EA have provided tidal flood levels based on 'Extreme Sea Levels for Estuaries and Harbours, April 2015'. They have also provided climate change data based on 2016 climate change allowances. The risk of flooding Fluvial Flooding / Tidal Flooding and Estuarial flooding is therefore assessed in more detail in the following Section of this Report.
- 6.2.3. The risk of flooding from groundwater and overland flow has also been identified and is assessed further below.

7.0 FLOOD RISK ASSESSMENT

7.1. Fluvial, Tidal, Estuarial Flooding & Watercourses affected by Tidelocking

- 7.1.1. CIRIA Report C624 provides clarification on 'Estuarial Flooding and Watercourses affected by Tidelocking'. The CIRIA report says the following: *"Flooding along estuaries may occur either under the influence of tidal factors or as a result of tidal influence in combination with fluvial flows. In most cases the tidal flows will have the dominant effect on estuarial flood levels. Local conditions within an estuary can have a significant effect on flood levels."*
- 7.1.2. The nearby Langstone Harbour is considered to be tidal and an inlet of the English Channel. The Site is also in close proximity to two watercourses classified as Main EA Rivers - the 'Pound Croft', a tidally influenced watercourse which appears to drain to Langstone Channel (90m west of the Site), and 'Lavant Stream' (2km north of the Site) which appears to flow through the town centre of Havant and discharge into Langstone Harbour.
- 7.1.3. The Site is located south of Havant and lies approximately 90m east of Langstone Harbour and 4.30km north of the English Channel. The Langstone Channel connects the Lavant Stream with the English Channel and is also designated as a tidal Main River under the Environment Agency's jurisdiction.
- 7.1.4. An enlarged extract of the Flood Zone Map provided by the Environment Agency shows the Site to be within Flood Zone 3, denoted by the darker blue shading, and therefore potentially affected by both fluvial and tidal flooding.

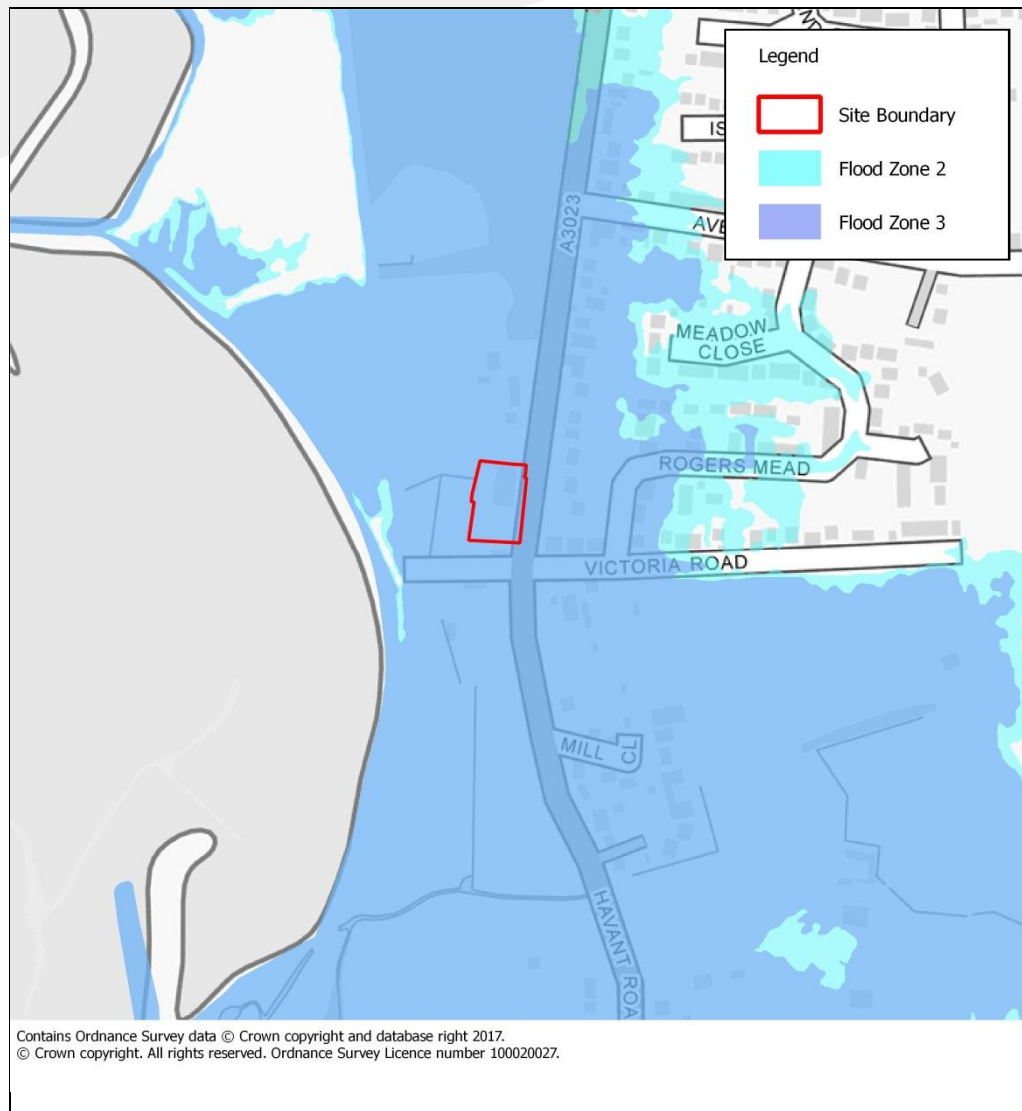


Figure 7.1: Extract from current EA Flood Zone Map (2017)

- 7.1.5. The areas of darker blue shading indicate Flood Zone 3 – those areas likely to be affected by a major tidal flood that has a 0.5% or 1 in 200 or greater annual probability of occurring each year. The areas of lighter blue shading indicate Flood Zone 2 – those areas likely to be affected by an extreme flood that has a 0.1% (1 in 1000) or greater chance of occurring each year.
- 7.1.6. The EA confirmed that the Site is located within Flood Zone 3, an area which may have a 0.5% chance of flooding annually (1 in 200), ignoring the presence and effect of any flood defences. The EA also have no record of flooding to this area.
- 7.1.7. As part of its consultation response, the Environment Agency provided Sea levels (still water design estimates) for the 0.5% (1:200) and the 0.1% (1:1000) annual exceedance probabilities relevant to the Site. Table 7.2 sets out the Tide Level for different return periods at the nearest Chainage Point to the Site (161). See Appendix 2 for the EA's detailed flood maps.

Chainage point: 161	Easting: 468789	Northing: 100080
Year	Tide Level (m AOD*)	
	0.5 % annual exceedance probability/1 in 200 Year (Flood Zone 3)	0.1 % annual exceedance probability/1 in 1000 Year (Flood Zone 2)
2010	3.2	3.4
2070	3.7	3.9
2115	4.4	4.5

Table 7-1: Sea levels (still water design estimates)

- 7.1.8. These values are based on 2011 base data, and take into account:
- Revised epochs as per 'Flood risk assessments: climate change allowances - guidance for Sustainable Places and Partnerships and Strategic Overview teams' 08/02/2016
 - Revised data from 'Extreme Sea Levels for Estuaries and Harbours', April 2015
- 7.1.9. A topographic survey was carried out in May 2017 and is attached in Appendix 1. The survey revealed the existing ground levels of the partially dismantled car wash and area proposed for a Greggs to be between 2.56 m AOD in the south west corner of the building, to 2.78 m AOD in the north east corner of the building. The floor levels for the proposed Greggs will be set no lower than the existing floor level of the Car Wash.
- 7.1.10. The lowest ground level recorded in the area of the partially dismantled car wash is therefore approx. 1.84m below the Tide level (still water design estimates) for the 1:200 year plus Climate Change event.
- 7.1.11. The existing ground levels across the entire Site range between 2.91 m AOD in the north west, 2.60 m AOD in the centre to 2.35 in the south east. Topographic levels across the Site range between 1.49 and 2.05m below the Tide level (still water design estimates) for the 1:200 year plus climate change flood event. It should be noted that the still water design estimates do not take the presence and effect of any flood defences into account.
- 7.1.12. The EA also provided a Defence condition map. The defences were found to be in good to fair condition when they last inspected them in January 2016 (See Appendix 2). The defence in closest proximity to the Site appears to be a shingle embankment. It should be noted that the still water design estimates do not take defences into account.
- 7.1.13. Flood resilience and resistance measures have also been considered for the Site based on an estimation of the depth of flood water predicted in the building during an extreme flood event.

Extra flood resistance and resilience measures

- 7.1.14. Flood resilience and resistance measures are applied to developments that cannot be raised above the existing ground floor levels (for example a Change of Use related to an existing development or building). The flood resistance and resilience measures undertaken are based on the estimated depth (m) that flood water will reach in the building. Different options have been presented below based on Government guidance provided for 'Flood Risk Assessments in

Flood Zones 2 and 3¹⁷. The most relevant measure based on approximate flood depths is highlighted below.

	Water depth up to 0.3m	Water depth 0.3m - 0.6m	Water depth above 0.6m
Recommended flood resistance and resilience measures	<p>Design your building or development to keep water out as much as possible. Do this by using materials that have low permeability (i.e. materials that water can't pass through such as impermeable concrete).</p>	<p>Design your building or development to keep water out (unless there are structural concerns) by:</p> <ul style="list-style-type: none"> · using materials with low permeability to at least 0.3m · using flood resilient materials (e.g. lime plaster) and design (raised electrical sockets) · making sure there's access to all spaces to enable drying and cleaning 	<p>Design your building or development to allow water to pass through the property to avoid structural damage by:</p> <ul style="list-style-type: none"> · using materials with low permeability to at least 0.3m · making it easy for water to drain away after flooding · making sure there's access to all spaces to enable drying and cleaning

Table 7-2: Extra flood resistance and resilience measures based on anticipated depth the Flood Water

Flood Hazard

- 7.1.15. The Environment Agency 'What's in Your Backyard' website also shows the Site to reside within both a 'Flood Alert Area' and a 'Flood Warning Area'. As such, free flood warnings can be received as the Site is an area that is monitored 24/7 by the EA for any changes in the surrounding tidal levels.
- 7.1.16. Correspondence with the Environment Agency confirms that the three stages of Flood Alerts they issue (Flood Alert, Flood Warning, Severe Flood Warning) can be received by phone, email, text or page. It is recommended that a phone number that is reachable and has coverage 24/7 is primarily used to receive the flood warnings, as well as the Staff member's mobiles. Action is recommended following the receipt of a 'Flood Warning'¹⁸ (See Figure 7.4). Severe Flood Warnings will only be issued to forecast major incidents where flooding is likely to pose danger to life and property or at least 100 homes or businesses may be flooded. The Environment Agency aims to give 2 hours flood warning where it can forecast flooding, however, this is not always possible.

¹⁷ <https://www.gov.uk/guidance/flood-risk-assessment-in-flood-zones-2-and-3#extra-flood-resistance-and-resilience-measures>

¹⁸ <https://www.fws.environment-agency.gov.uk>

Online Flood Forecast	What it means Be aware. Keep an eye on the weather situation.	When it's used Forecasts of flooding on our website are updated at least once a day.	What to do <ul style="list-style-type: none"> • Check weather conditions. • Check for updated flood forecasts on our website.
	What it means Flooding is possible. Be prepared.	When it's used 2 hours to 2 days in advance of flooding. Issued when tidal levels and / or weather conditions dictate the possibility of flooding.	What to do <ul style="list-style-type: none"> • Be prepared to act on your flood plan. • Prepare a flood kit of essential items. • Monitor local water levels & weather reports and the flood forecast on our website.
	What it means Flooding is expected. Immediate action required.	When it's used Half an hour to 1 day in advance of flooding. Targeted at specific communities.	What to do <ul style="list-style-type: none"> • Move family, pets and valuables to a safe place. • Turn off gas, electricity and water supplies if safe to do so. • Put flood protection equipment in place. • Protect yourself and help others.
	What it means Severe flooding. Danger to life.	When it's used When flooding poses a significant threat to life.	What to do <ul style="list-style-type: none"> • Stay in a safe place with a means of escape. • Be ready should you need to evacuate from your home. • Co-operate with the emergency services. • Call 999 if you are in immediate danger.
Warning No Longer in Force	What it means No further flooding is currently expected for your area.	When it's used When river or sea conditions begin to return to normal.	What to do <ul style="list-style-type: none"> • Be careful. Flood water may still be around for several days. • If you've been flooded, ring your insurance company as soon as possible.

Multi Agency Flood Plan
(Response and Recovery)

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PART ONE

Version 1.0
May 2015

Figure 7.2: Warning Codes – Extract from HLOW LRF May 2015

- 7.1.17. It has been agreed that an evacuation route shall be communicated to all staff members so as to enable rapid egress from the Site following the receipt of a Flood Warning from the EA (to be confirmed following discussion with Hampshire County Council Emergency Planning Unit). It is the responsibility of the Site owner to communicate the route to all staff members. The EA also issue Flood Alerts for anticipated Groundwater Flood events, however the Hampshire Multi Agency Flood Response Plan shows the Site to be outside of the area at risk of Groundwater Flooding.
- 7.1.18. Plans are expected to show that occupants can leave the building if there is a flood and that there is enough time for them to leave after a flood warning (Agency aims to provide 2 hours flood warning).

Safe access and Egress

- 7.1.19. Due to the predicted flood hazard at this Site; it may not be possible to provide dry access and egress for the entirety of the route leading from the Site to a proposed Safe Refuge Area (large area in Flood Zone 1) to the east.
- 7.1.20. As action is recommended following the receipt of a 'Flood Warning' and the three stages of Flood Alerts can be received by phone, email, text or page, it is recommended that a phone number that is reachable and has coverage 24/7 is also used to receive the flood warnings, as well as the Staff member's mobiles.

- 7.1.21. As well as ensuring every member of staff was subscribed to the EA's Flood Warning Service¹⁹, it is recommended that any Formalised Flood Drill Procedure be implemented in conjunction with an agreed escape route and the designation of a 'Flood Refuge Area'.
- 7.1.22. This should be carried out in accordance with the formalised evacuation procedures and following a designated escape route (to be agreed with Emergency Planners).

Evacuation by Car

- 7.1.23. If the Site is evacuated promptly and road conditions have not yet deteriorated (check with Emergency Services) then the Site can be evacuated by car. Firstly, travel out of the petrol station heading directly north on Havant Road (A3023) for approximately 0.27 miles (437m). This route will lead in to a large area in Flood Zone 1. Alternatively travelling south on Havant Road for 0.30 miles (490m) will also lead to a large area in Flood Zone 1 as well as a Bed & Breakfast (Waratah Lodge) should overnight stay be required. It should be noted that the route leading south on Havant road (A3023) will include driving over an area that the Pound Croft flows beneath (a designated Main EA river). This could potentially cause road flooding during an extreme flood event. See Figure 7.5 route in dashed orange line.

Evacuation by Foot

- 7.1.24. If travelling by foot, staff members and customers should follow the same route as above (approx. 6 minute walk). It should also be noted that the majority of the large residential area to the east of the Site is also in Flood Zone 1 (Avenue Road, Island Close, New Cut, Kingsway, Queensway and the eastern section of Victoria Road).
- 7.1.25. This route and Safe Refuge Areas should be communicated to all staff and the Site owners should ensure the all members of staff are subscribed to the EA Flood Warning Service.

¹⁹ <https://fwd.environment-agency.gov.uk/app/olr/home>

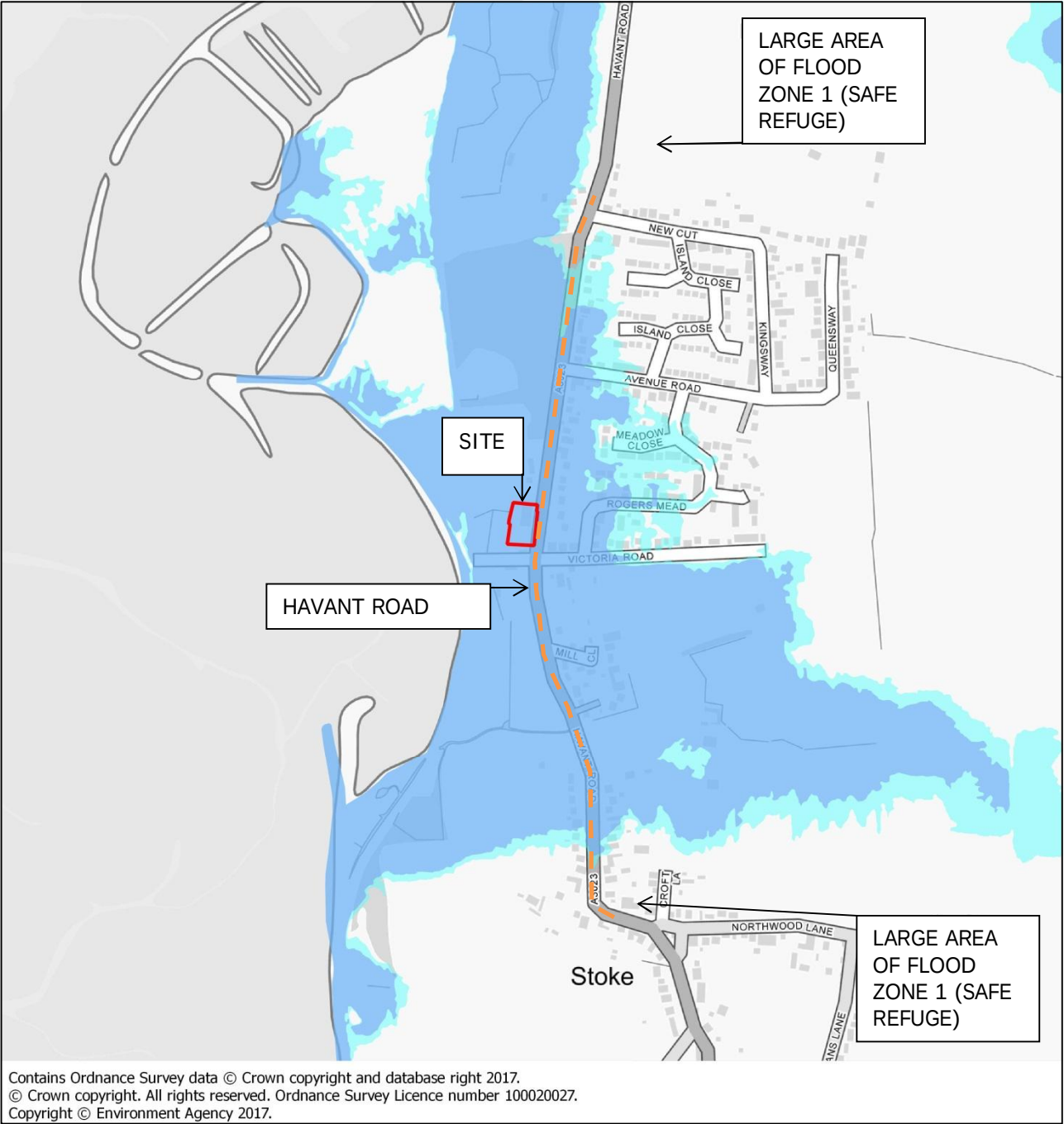


Figure 7.3: Extract from current EA Flood Zone Map (2017) & Escape Routes to Refuge Areas

7.1.26. The following publications are available through the relevant agencies' website. The Personal Flood Plan and associated guidance produced by the EA is a helpful template to complete when anticipating potential arising issues following a flood at the Site.

Source of Information	Author Originator /	Date
Hampshire County Multi Agency Flood Response Plan. Version 1.0	Hampshire County Council Emergency	September 2012

	Planning Unit	
Multi Agency Flood Plan (Response and Recovery) PART ONE (HIOW LRF)	Hampshire and Isle of Wight Local Resilience Forum	May 2015
Personal Flood Plan Template ²⁰	Environment Agency	May 2014

Table 7-3: Sources of information for planning for flooding

Assessment

- 7.1.27. The proposed development cannot be elevated above the tidal flood levels provided due to the Change of Use nature of the proposed development and its relationship to the existing building / Site levels.
- 7.1.28. Flood resilient and resistant construction techniques can be employed to mitigate the effects of flooding.
- 7.1.29. The Site lies within a 'Flood Alert Area' and a 'Flood Warning Area' and as such, free flood warnings can be received from the EA, who monitor any changes in the surrounding tidal levels on a permanent on-going basis, 24 hours per day; 7 days per week. A minimum of 2 hours warning would therefore be provided by the EA to all staff working on the Site (subject to them being registered to receive such warnings) providing ample time for safe evacuation to areas of refuge, which exist to the north and south.
- 7.1.30. Whilst the risk of flooding to the Site cannot be mitigated, the effects of flooding can and acceptable warning systems put in place to allow staff to evacuate should the EA deem it appropriate.
- 7.1.31. There is therefore a residual risk of fluvial / tidal / estuarial flooding which is assessed in greater detail in Section 8 of this report.

²⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444659/LIT_4112.pdf

7.2. Flooding from Overland Flow

- 7.2.1. CIRIA Report C624 defines 'Overland Flow Flooding' as "*water flowing over the ground surface that has not entered a drainage channel or artificial drainage system.*" The CIRIA report elaborates explaining that this mechanism of flooding occurs when "*the intensity of rainfall exceeds the infiltration capacity of the surface onto which it falls (infiltration excess overland flow) or when, during prolonged periods of wet weather, the soil is so saturated it cannot accept any more water (saturation-excess overland flow)*".
- 7.2.2. The PUSH SFRA highlights the Site as being at a 'Moderate' risk from a potential source of overland flow. The hazard mapping indicates the risk may originate from the residential area to the north-east of the Site that is predominantly in a 'Very High' risk zone from overland flow. The Google Earth Elevation tool shows the Site to be approximately 2m below the residential area to the north-east. Both the 'Historic Flood' mapping layer and the 'Flood Map for Surface Water' layer does not show the majority of the residential area to the north east to be at risk of flooding from any of these sources. The EA WIYBY website indicates that approximately 5% of the area to the north-east is either at a 'Low' or 'Medium' risk of flooding from surface water, with the large majority of this area residing within in a 'Very Low' risk area. The areas of risk that have been identified are mainly restricted to the roads. Using the Google Earth Street view tool, it can be seen that these roads benefit from gullies. Therefore, it is likely that any overland flow generated in this area following a pluvial flood event would likely be captured by the existing highway drainage system either in the residential estate or along Havant Road.

Assessment

- 7.2.3. On this basis, the risk of flooding from overland flow has been discounted.

7.3. Groundwater Flooding

- 7.3.1. CIRIA Report C624 defines 'Groundwater Flooding' as "*increased groundwater levels caused by prolonged periods of rainfall*". The CIRIA report also goes on to say "*Generally groundwater flooding may be a problem where developments are underlain by permeable soils or rocks*". The PUSH SFRA does show the Site to be underlain by bedrock with high permeability, however the SFRA shows the Site to be outside of all recorded EA Groundwater flooding incidents in the PUSH region.
- 7.3.2. The PUSH SFRA – 2016 Update Guidance Document states that "*within the PUSH region the key areas at risk of groundwater flooding are the north of Havant Borough in East Hampshire, Winchester, Eastleigh and Test Valley where highly permeable geology meets lower permeability geology*". The north west of Hayling Island is not considered to be an area that is particularly at risk of flooding from this source.

Assessment

- 7.3.3. On this basis, the risk of flooding from groundwater has been discounted.

7.4. Flood Risk Assessment - Summary

- 7.4.1. In summary therefore, a commercial Change of Use of the type proposed on the Site would be considered “*Less Vulnerable*” in the Flood Risk Vulnerability Classification, detailed in Table 2 of the Practice Guidance to the NPPF. Based on this classification, and the proposed development confirmed as being within Flood Zone 3, redevelopment for commercial use would typically be considered sustainable in terms of Flood Risk and in accordance with Table 3 of the Practice Guidance to the NPPF (Table reproduced below):

Flood Risk Vulnerability classification (See Table 2 PPG)		Essential Infrastructure	Water Compatible	Highly vulnerable	More Vulnerable	Less Vulnerable
Flood Zone (see Table 1 PPG)	Zone 1	ü	ü	ü	ü	ü
	Zone 2	ü	ü	Exception Test required	ü	ü
	Zone 3a	Exception Test required	ü	ü	Exception Test required	ü
	Zone 3b Functional Floodplain	Exception Test required	ü	ü	ü	ü

Table 7-4: Flood Risk Vulnerability & Flood Zone Compatibility (Table 2 Practice Guidance)

- 7.4.2. On the basis that no redevelopment or change in vulnerability rating is proposed, it is considered that the Sequential is deemed unnecessary. Moreover, correspondence with the Technical Support Officer and Senior Planning Officer for this Application also confirmed that the Exception and Sequential Test would not be necessary for this proposal due to the nature of this Change of Use (See Appendix 3).
- 7.4.3. As the proposal is for a Change of Use with no change in vulnerability rating (remaining as ‘Less Vulnerable’) there will be no proposed change in existing floor levels.

8.0 RESIDUAL RISKS

8.1.1. Table 8-1 outlines the initial qualitative assessment of risk posed by the potential source of flooding, the mechanisms for flooding and the likely consequences. The Table also includes a review of possible mitigation measures and what effect, if any, the mitigation measures are likely to have on the residual risk posed by the potential flood source.

8.1.2. Categories of risk have been qualitatively defined as:

- 'High' Risk: flooding is likely to result in significant damage to property and pose a significant risk to life;
- 'Medium' Risk: flooding may result in possible minor damage to property but flood progress would allow adequate time for residents to be warned and safely evacuated to higher ground or appropriate places of safety;
- 'Low' Risk: flooding is unlikely to result in any damage to property damage and pose little or no risk to life.

Flood Hazard	Flood Mechanism & Possible Consequences	Initial Assessment of Risk (based on Assessment in Section 7)	Comments / Recommended Mitigation Measures	Residual Risk
Fluvial flooding/ Estuarial flooding and watercourses affected by tidelocking	<p>The Site is in Flood Zone 3. The EA have provided Sea levels (still water design estimates).</p> <p>The impact of climate change on increasing sea levels has a significant effect on the extents of Flood Zones 2 and 3 by 2115, especially on frontages around Hayling Island.</p> <p>The NPPF expects consideration to be given to both current and future flood zones at the Site specific level, taking account of climate change.</p>	High	<ul style="list-style-type: none"> Provision of robust flood warning evacuation plan to be communicated to all Staff and Site Owners; Significant betterment can be achieved through the implementation of appropriate warning procedures and the formalisation of a safe egress route to the north or south of Havant Road; Routes into large areas of flood zone 1 identified as potential areas of Safe Refuge; WIYBY EA website shows the Site to reside within both a 'Flood Alert Area' and a 'Flood Warning Area'. As such, free flood warnings can be received as the Site is an area that is monitored 24/7 by the EA for changes in tide levels; Registering every staff member to receive Flood Alerts; Production of a Summary Table (Appendix 4) to anticipate potential issues, and make clear action points for steps to follow once a flood warning is received; The implementation and regular execution of 'Flood Drills' to alert any occupants that a Flood Warning has been received and to take formal action; Production of clear map (Figure 7.5) showing a simple route by foot or car to the proposed 'Area of Safe Refuge' to be reproduced and circulated so every member of Staff and every Site user is aware of the designated evacuation route; should Site evacuation occur. 	Moderate

Table 8-1: Qualitative Assessment of the Residual Flood Mechanisms

9.0 CLIMATE CHANGE

9.1. Climate Change Impacts

9.1.1. The NPPF sets out how the planning system should help minimise vulnerability and provide resilience to the impacts of climate change on flooding and coastal change. The NPPF and the supporting planning practice guidance on Flood Risk and Coastal Change explain how flood risk will be managed over the lifetime of the development, taking climate change into account. Local planning authorities refer to this when preparing local plans and considering planning applications.

- The climate change allowances are predictions of anticipated change for:
- Peak river flow by river basin district
- Peak rainfall intensity
- Sea level rise
- Offshore wind speed and extreme wave height

9.1.2. The allowances are based on climate change projections and different scenarios of carbon dioxide (CO₂) emissions to the atmosphere over the next century.

9.1.3. There is a single regional allowance for each epoch or time frame for sea level rise.

9.1.4. The EA expect sea level rise to increase the rate of coastal erosion. The EA have provided climate change allowances for the Sea levels (still water design estimates) for the 0.5% (1:200) and the 0.1% (1:1000) annual exceedance probabilities relevant to the Site including allowances for climate change.

9.1.5. In addition, the proposed safe access and egress plan, outlined in Section 7.1 of this Report, has also included appropriate allowances for Climate Change in terms of formalising a route that leads to a large area of 'Safe Refuge' (to be agreed with Emergency Planners) that leads to a large area in Flood Zone 1.

9.1.6. Due to the nature of the proposal (Change of Use) there will be no change in finished floor levels, however a part of forward planning in case of flooding, provisions have been made to ensure any valuable items, equipment and confidential paperwork will either remain or be moved elsewhere when a Flood Warning has been received. This will raise these items above the modelled flood levels for the 1:200 year + Climate Change event. These measures are intended to remain usable and appropriate due to the effects of Climate Change over the lifetime of the proposed Change of Use.

9.1.7. It is therefore considered that the effects of Climate Change have been allowed for in the design of the proposed safe access and egress strategy and Flood Warning Evacuation Plan where possible.

10.0 CONCLUSIONS & RECOMMENDATIONS

10.1. Conclusions

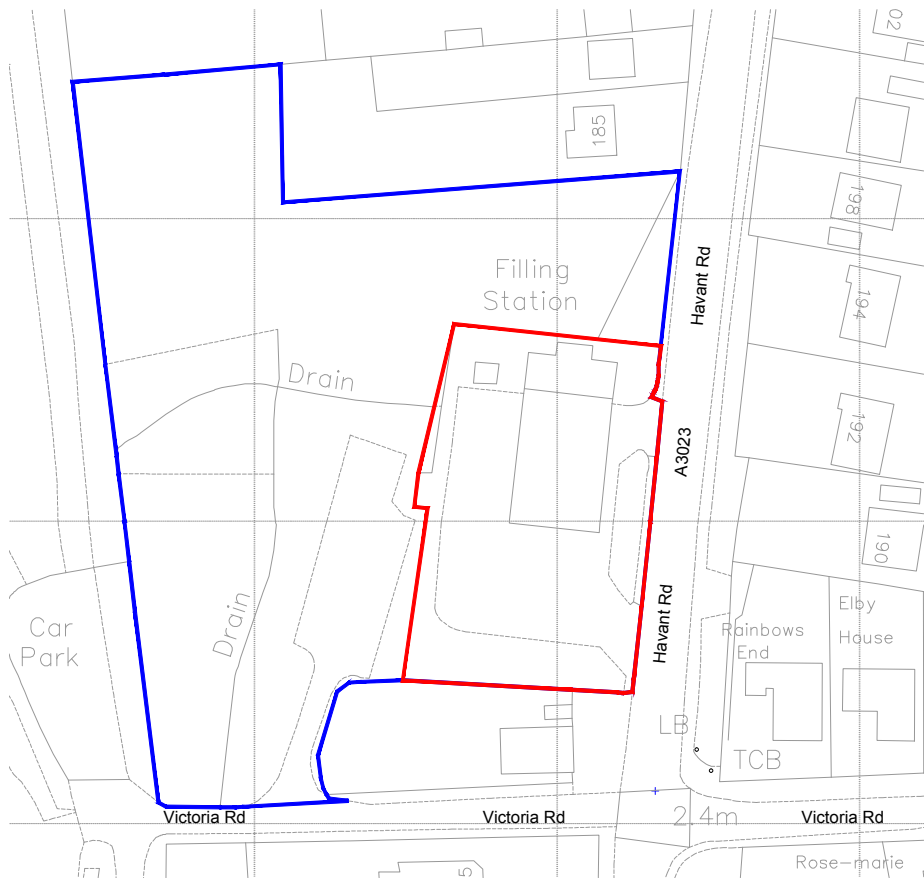
- 10.1.1. Euro Garages Ltd. are proposing alterations to an existing petrol filling station located off Havant Road on Hayling Island. The proposed development comprises a Change of Use of a Car Wash to Ancillary A1 land-use (a Greggs Bakery Store) with a Minor Extension (22m²) and Alterations to the Car Park. The floor level of the proposed Bakery store will be set no lower than the existing shop floor level.
- 10.1.2. The Site lies within Flood Zone 3 and is located within an area which may have a 0.5% chance of flooding annually (1 in 200), ignoring the presence and effect of any flood defences. The EA have no record of flooding to the area.
- 10.1.3. This proposed Change of Use will not alter the Flood Risk Vulnerability classification of the development – 'Less Vulnerable' – in accordance with Table 3 of the Planning Practice Guidance to the NPPF.
- 10.1.4. The proposed development cannot be elevated above the predicted tidal flood levels due to the Change of Use nature of the proposed development and its relationship to the existing building and existing Site levels.
- 10.1.5. Flood resilient and resistant construction techniques can be employed to mitigate the effects of flooding.
- 10.1.6. The Site lies within a 'Flood Alert Area' and a 'Flood Warning Area' and as such, free flood warnings can be received from the Environment Agency, who monitor any changes in the surrounding tidal levels on a permanent on-going basis, 24 hours per day; 7 days per week. A minimum of 2 hours warning would therefore be provided by the EA to all staff working on the Site (subject to them being registered to receive such warnings) providing ample time for safe evacuation to areas of refuge, which exist to the north and south.
- 10.1.7. Appropriate measures can therefore be put in place to provide ample warning to users of the Site and allow time for safe egress to areas of refuge to the north and south of the Site.
- 10.1.8. Whilst the risk of flooding to the Site cannot be mitigated, the effects of flooding can and acceptable warning systems put in place to allow staff to evacuate should the EA deem it appropriate.
- 10.1.9. Based on the Flood Risk Vulnerability classification of 'Less Vulnerable' and the Site being within Flood Zone 3, the NPPF confirms that this classification of development is appropriate within Flood Zone 3.
- 10.1.10. Subject to the following recommendations being enacted, the proposed development accords with National Planning Policy and is deemed appropriate at this location.

10.2. Recommendations

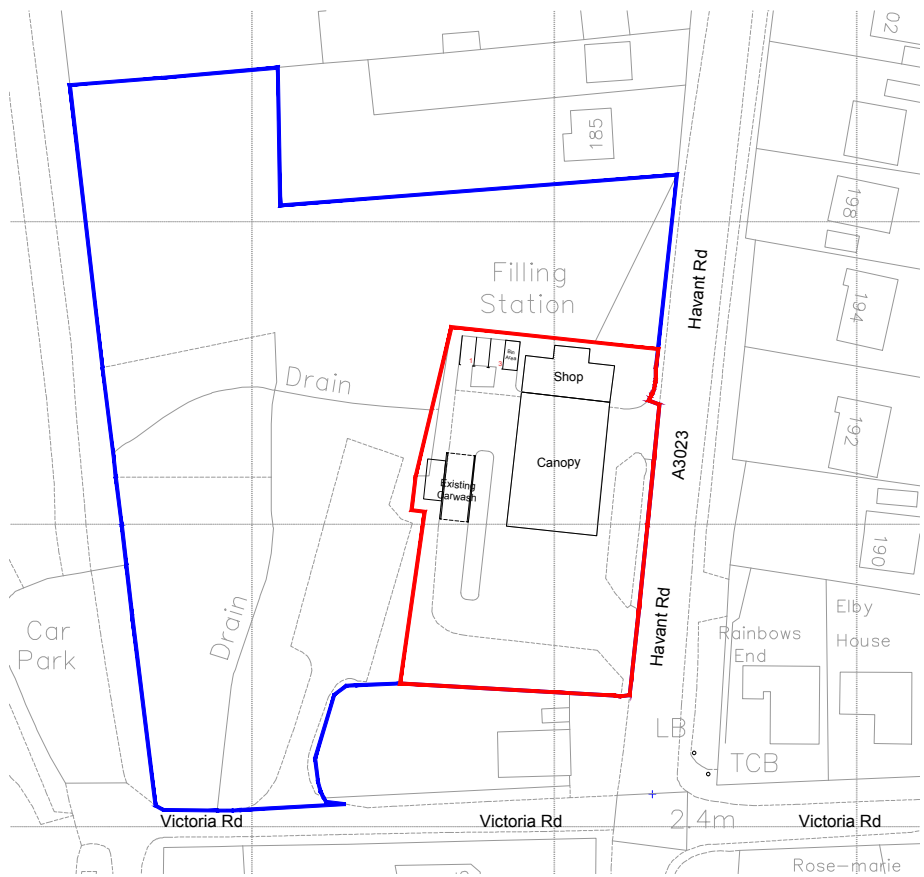
10.2.1. The following recommendations should be further considered at the appropriate stage of design development:

- Formulation of a robust, bespoke Flood Evacuation Plan and communication to all Staff members;
- Erection of Emergency Flood Evacuation Route signs and signs and maps showing the Flood Evacuation Route distributed around the buildings and placed in key locations across the Site;
- Regular Flood Evacuation Drills;
- All members of Staff register to receive Flood Evacuation Warning Alerts;
- Installation of visual and audible warning / alarms which are triggered automatically upon receipt of a Flood Alert notification from the EA or LLFA.

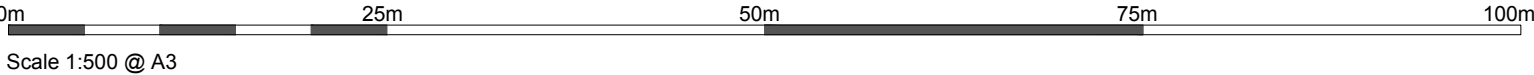
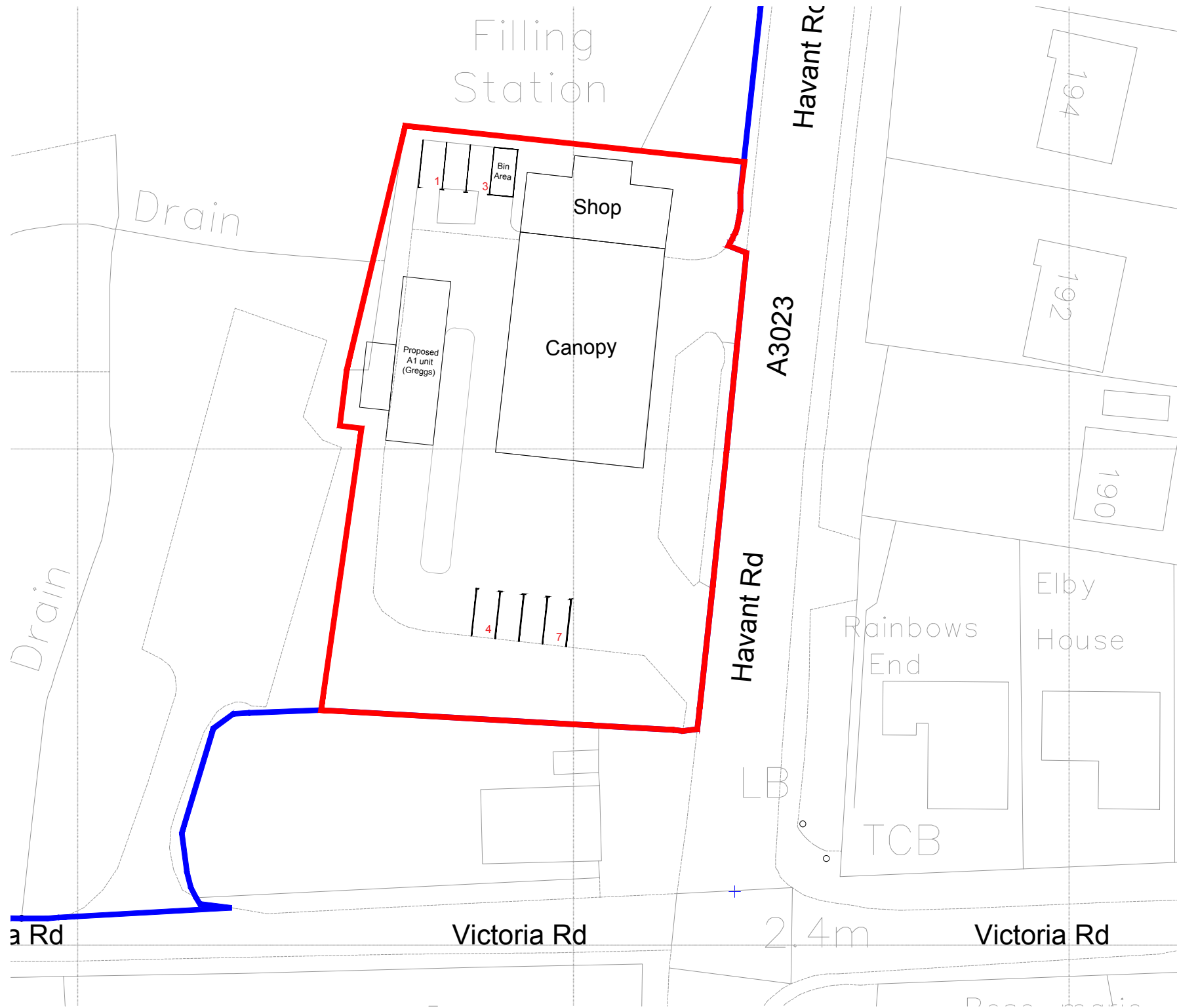
Appendix 1: Existing Site Information



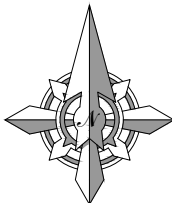
Location Plan
Scale 1:1250 @ A3



Existing Site Plan
Scale 1:1250 @ A3



Proposed Block Plan
Scale 1:500 @ A3



Euro House
Beehive Trading Park
Haslingden Road
Blackburn
Lancashire
BB1 2EE

T 01254 582111
F 01254 586358
E enquiries@eurogarages.com
W www.eurogarages.com

Site / Project Name:
Hayling Island
181 Havant Road, Hayling Island, Hampshire
PO11 0LG

Sheet Title:
Site / Location Plans

Project Group:
NA

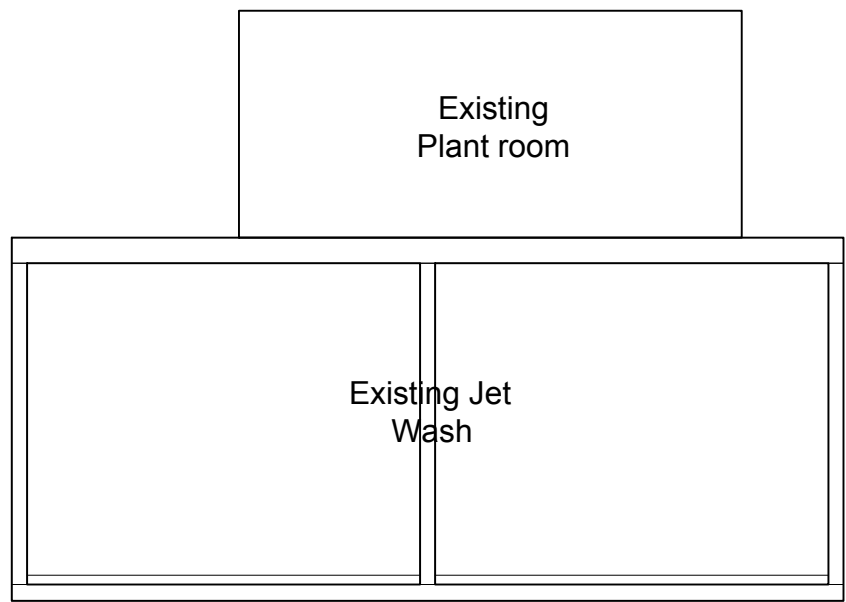
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Issue Date: 13.04.2017
Revision Date: --,--,----

Drawn: AL
Checked: --

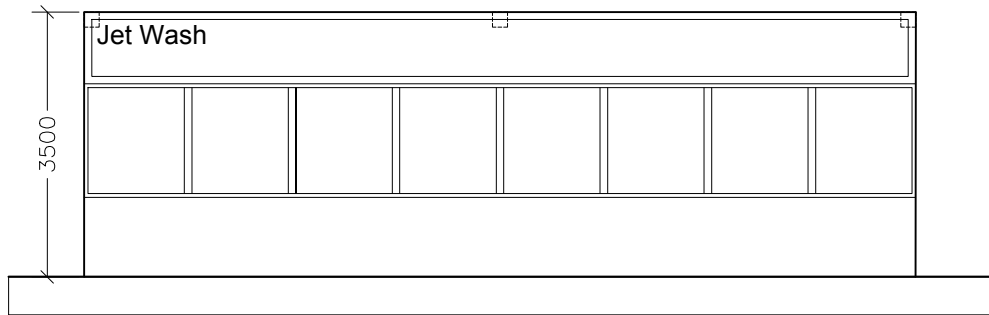
Scale:
See drawing

Revision Notes				Drawing Issue:
Date	Rev	By	Description	
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				☐ Scheme
				☒ Planning Approval
				☐ Building Regulations
				☐ Other

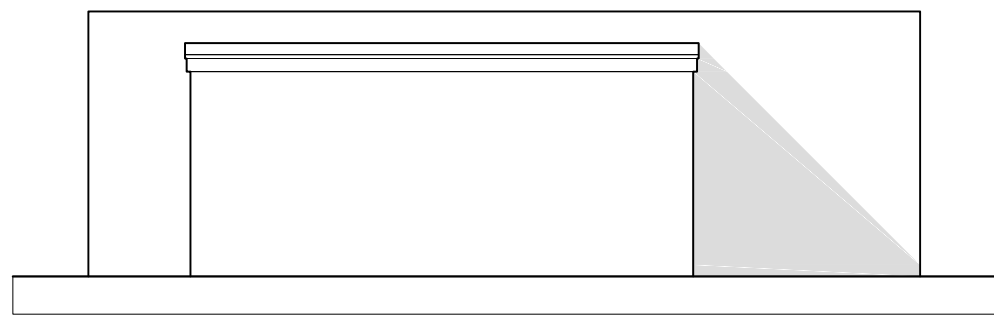
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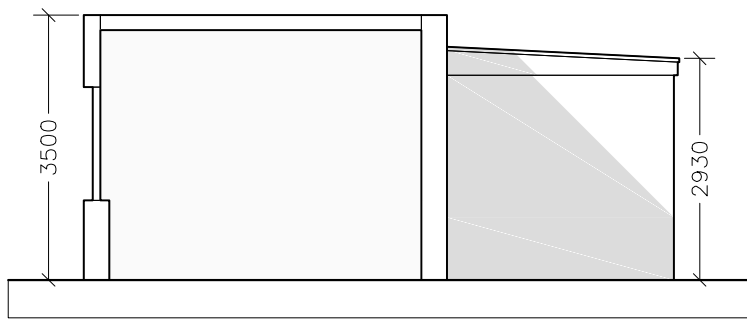
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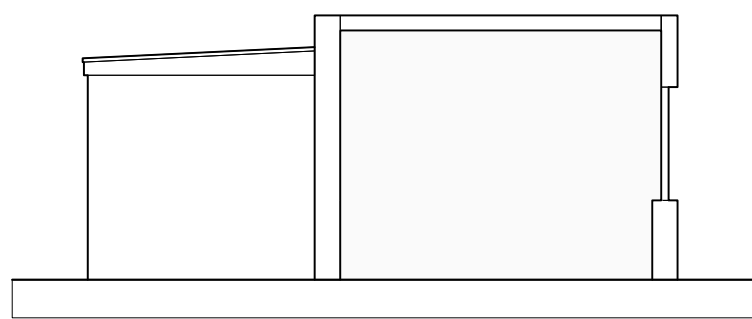
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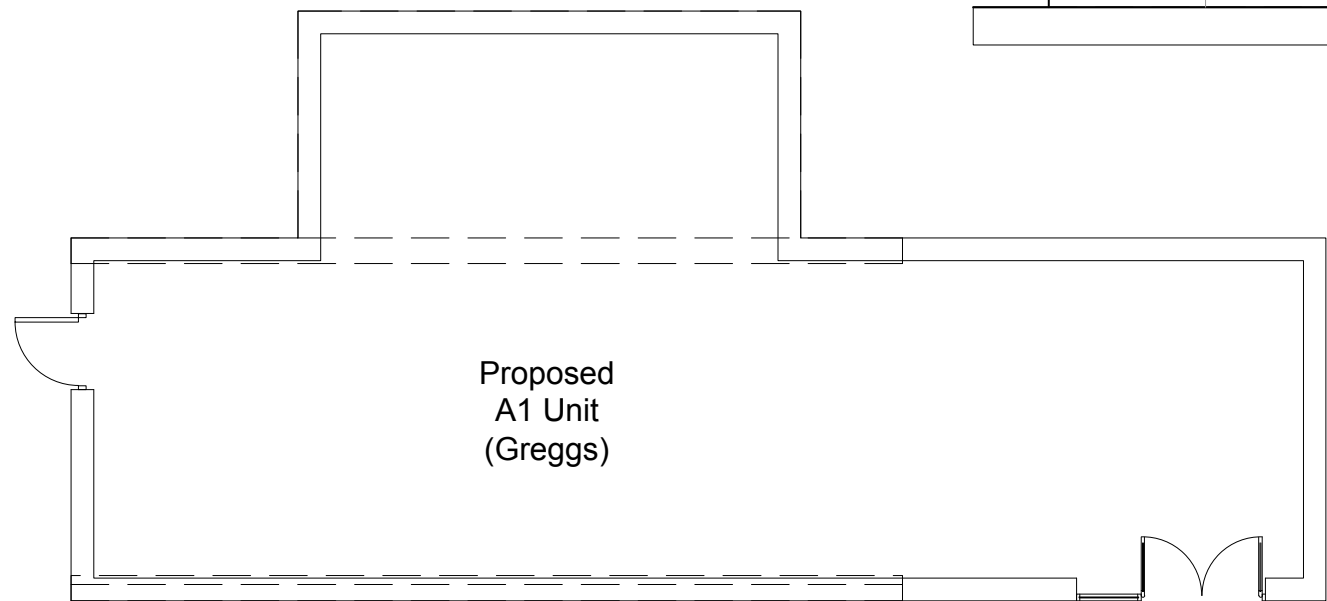
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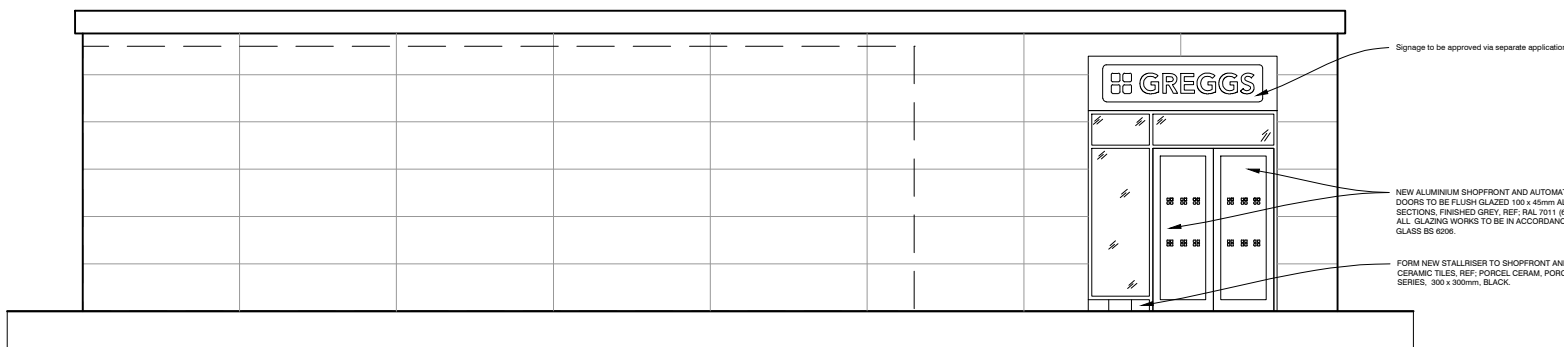
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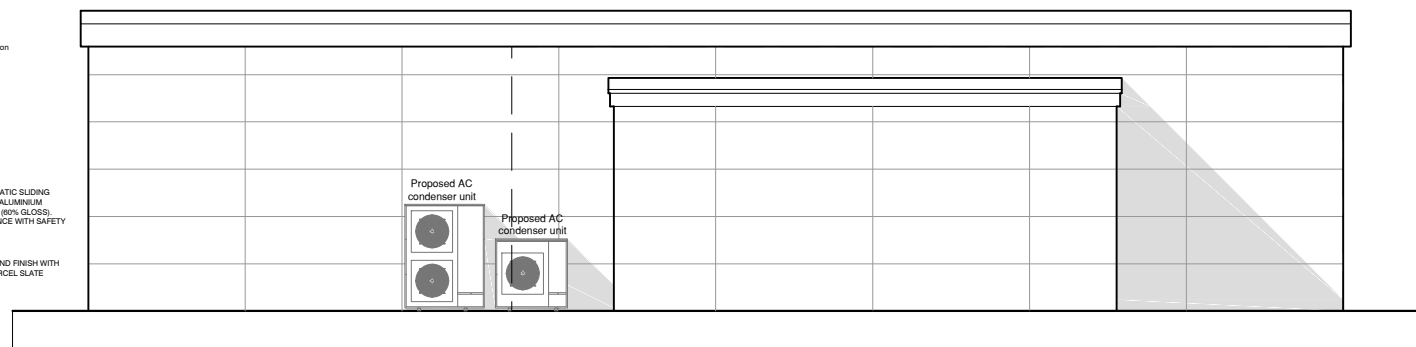
Existing Side Elevation (South West)
Scale 1:100 @ A2



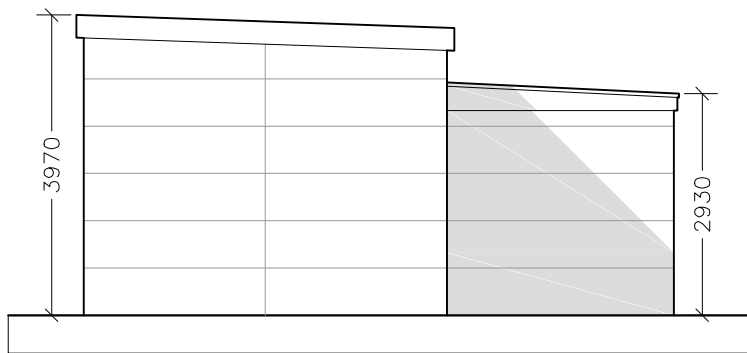
Proposed Plan
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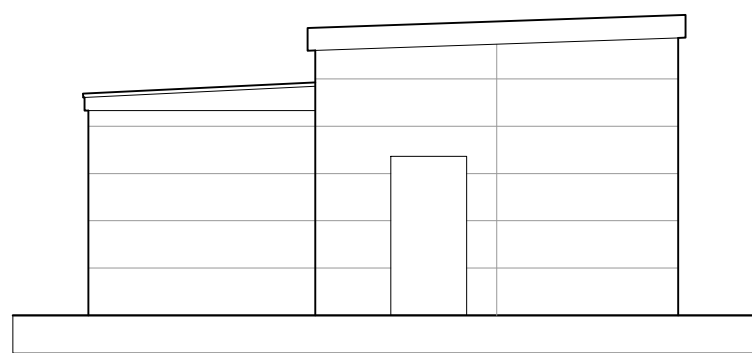
Proposed Rear Elevation (North West)
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Proposed Front Elevation (South East)
Scale 1:100 @ A2

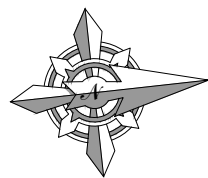


Proposed Side Elevation (North East)
Scale 1:100 @ A2



Proposed Side Elevation (South West)
Scale 1:100 @ A2

Site Info		
	Existing	Proposed
Area (sqm)	72	99
Parking Bays	3	7





Euro House
Beehive Trading Park
Haslingden Road
Blackburn
Lancashire
BB1 2EE

T 01254 582111
F 01254 586358
E enquiries@eurogarages.com
W www.eurogarages.com

Site / Project Name:
Hayling Island
181 Havant Road, Hayling Island, Hampshire
PO11 0LG

Sheet Title:
Existing / Proposed Plans / Elevations

Project Group:
NA

Drawing No: pln056.02.A2.AL
Issue Date: 13.04.2017
Revision Date: -

Drawn: AL
Checked: -

Scale:
1:100
@ A2

Date	Rev	By	Description
00.00.00	-	-	-

Drawing Issue:

- ☐ Draft Proposals
- ☐ Scheme
- ☒ Planning Approval
- ☐ Building Regulations
- ☐ Other

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	<p>Photo 1</p> <p>Entrance to site off the A3023 viewed east.</p>
	<p>Photo 2</p> <p>View across the forecourt looking north.</p>
	<p>Photo 3</p> <p>View across the south of the forecourt looking west.</p>
	<p>Photo 4</p> <p>Closer photo of the refuelling area for the tankers in the south west of the site. Viewed west. Linear drainage can be seen in the foreground of the photo.</p>
	<p>Photo 5</p> <p>Close up of the Manhole covers in this area.</p>

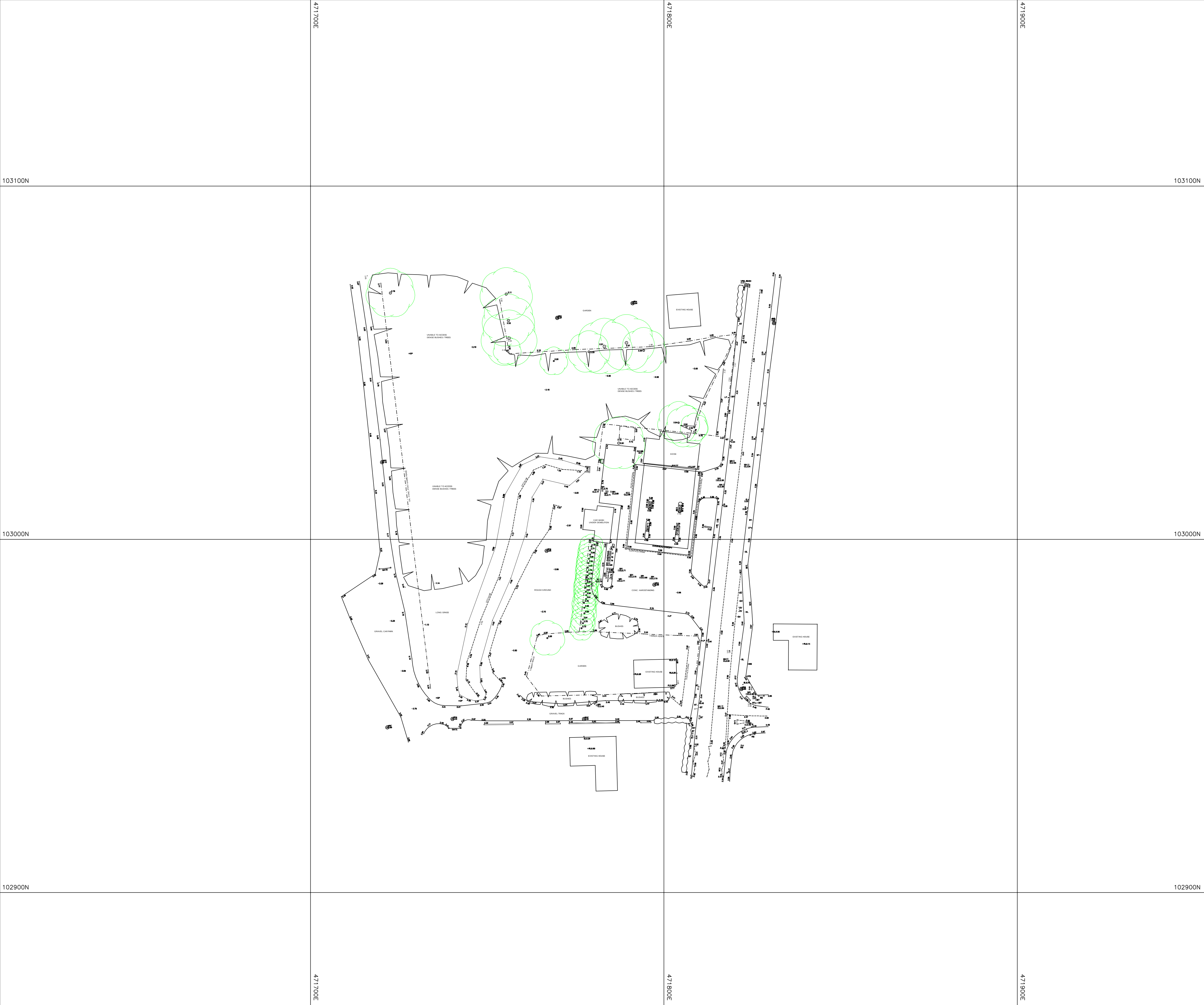
	<p>Photo 6</p> <p>View of the south of the site (large bush).</p>
	<p>Photo 7</p> <p>View of the south west corner of the site (fir trees >5m in height).</p>
	<p>Photo 8</p> <p>Fenced off area with felled trees, manhole covers the edge of the former carwash structure. Viewed west.</p>
	<p>Photo 9</p> <p>Close up photo of fuel tank refilling area.</p>
	<p>Photo 10</p> <p>Linear drainage channels extending around the entire forecourt. These are likely drain to a petrol interceptor.</p>

	<p>Photo 11</p> <p>West side of the commercial unit, Spar. Utility covers located outside.</p>
	<p>Photo 12</p> <p>Bin store located in the north west of the site.</p>
	<p>Photo 13</p> <p>Hardstanding area located to the north of the Spar. Fence indicates north boundary of the site.</p>
	<p>Photo 14</p> <p>Fenced off area for demolition/construction works being undertaken in the west of the site. Remains of car wash structure and jet wash located inside fencing.</p>
	<p>Photo 15</p> <p>Oak tree located to the south of the bin store.</p>

	<p>Photo 16</p> <p>Vent pipe from the former carwash interceptor.</p>
	<p>Photo 17</p> <p>Manhole covers within construction area in west of site.</p>
	<p>Photo 18</p> <p>Leaking pipe noted within construction area along western boundary of the site.</p>
	<p>Photo 19</p> <p>Remains of car wash unit located within the fenced area in west of the site.</p>
	<p>Photo 20</p> <p>Attached structure to the rear of car wash in the west of the site.</p>

	<p>Photo 21</p> <p>Open manhole within construction area.</p>
	<p>Photo 22</p> <p>East side of the Spar. An open grassed area is located to the north.</p>
	<p>Photo 23</p> <p>Access road into the north of the site with a linear drainage channel across the entrance.</p>
	<p>Photo 24</p> <p>A land drain flows south approx. 25m west of the site. The photo shows the section of the land drain adjacent to Victoria Road viewed north. The land drain was shown to kink towards the road and contained standing water at the base.</p>
	<p>Photo 25</p> <p>Pylons/telegraph poles located on Victoria Road nearby to land drain.</p>

	<p>Photo 26</p> <p>Blocked off access road off Victoria Road leading to a gravelled hardstanding area to the west of the site.</p>
	<p>Photo 27</p> <p>Excavated material and tree cuttings on hardstanding area adjacent to west boundary of site next to the demolition area. The buildings in the photo are the car wash and attached structure.</p>
	<p>Photo 28</p> <p>Overgrown area along the embankment of the land drain to the west of the site.</p>



COORDINATED STATIONS			
STATION	EASTING	NORTHING	LEVEL (m)
A	471821.921	102957.654	2.628
B	471831.143	103061.206	2.571
C	471797.288	102987.147	2.654
D	471777.367	102949.128	2.331
E	471740.188	102949.153	2.429
F	471721.748	102946.763	3.592
H	471720.246	103021.828	3.181

ABBREVIATIONS

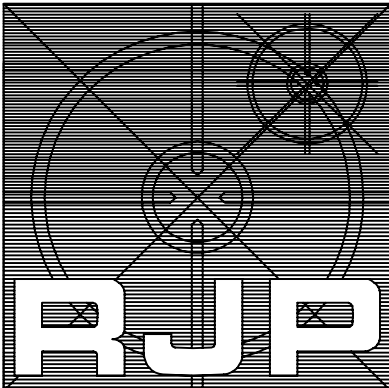
AV	AIR VALVE/VENT	IC	INSPECT CHAMBER
BOL	BOLLARD	IL	INVERT LEVEL
BB	BELISHA BEACON	JKW	JAPANESE KNOTT WEED
BM	BENCH MARK	LH	LAMP HOLE
BL	BED LEVEL	LP	LAMP POST
BS	BUS STOP	NP	NAME PLATE
BT	BRITISH TELECOM	MH	MANHOLE
CL	COVER LEVEL	PS	POST/SIGN POST
DI	DIAPHRAGM	PB	POST BOX
Dis	DISUSED	PX	UNKNOWN SERVICE
EL	EAVES LEVEL	RE	RODDING EYE
ELE	ELEC JUNCT. BOX	RL	RIDGE LEVEL
EP	ELECTRICITY POLE	RS	ROAD SIGN
FH	FIRE HYDRANT	ST	STOP TAP
FL	FLOOR LEVEL	TH	TRIAL HOLE
FOS	FULL OF SEDIMENT	TL	TRAFFIC LIGHT
FP	FLAG POLE	TP	TELEGRAPH POLE
G	GULLY	TV	CABLE TV BOX
GM	GAS METER	UI	UNABLE TO LIFT
GV	GAS VALVE	WM	WATER METER

SYMBOLS

	SURVEY STATION		TREE
	O/H ELEC CABLE		BENCH MARK
	O/H PHONE LINE		TRIAL PIT
	CANOPY/HEDGE		BOREHOLE

- NOTES
- A) ONLY MANHOLES AND SERVICES VISIBLE AT TIME OF SURVEY SHOWN
- B) O/S USED AND ORIENTATED TO TRUE NORTH
- C) LEVELS IN METRES RELATED TO G.P.S.
- D) DRAINAGE INFORMATION TAKEN FROM LOCAL AUTHORITY RECORDS. INFORMATION MUST BE CHECKED PRIOR TO WORK COMMENCING

Rev	Description	Date
PROPOSED DEVELOPMENT AT HAVANT ROAD, HAYLING ISLAND		
EURO GARAGES		
TOPOGRAPHICAL SURVEY		
EG157/T00	Drawn	S. FAIRHURST
	Date	MAY 2017
	Scale	1:500 @ A1



RJP Surveying Consultants Ltd
LAND SURVEYORS & SITE ENGINEERS

AYREFIELD COTTAGE
AYREFIELD ROAD
ROBY MILL
UPHOLLAND
LANCASHIRE
WN8 0QP

TEL: 01257 251554
MOBILE: 07710 308709
WEBSITE : www.rjpsurveyors.co.uk
E-MAIL: mai@rjpsurveyors.co.uk

Appendix 2: Relevant Planning Policies & EA Flood Data

REGULATION 25
REGULATION 27
SUBMISSION
ADOPTION



Havant Borough Core Strategy



Cleaner, Safer,
More Prosperous

Flood and Erosion Risk

Policy CS15 Flood and Coastal Erosion Risk

Development in areas at risk of flooding now and in the future as identified on the latest Environment Agency flood risk maps and Strategic Flood Risk Assessment climate change maps will only be permitted where:

1. It meets the sequential and exception test (where required) in relation to PPS25.
2. The site is located in a low hazard area as defined in the Strategic Flood Risk Assessment.
3. A site-specific flood risk assessment demonstrates that the development will be safe, including the access, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
4. The scheme incorporates flood protection, flood resilience and resistance measures appropriate to the character and biodiversity of the area and the specific requirements of the site.
5. Appropriate flood warning and evacuation plans are in place.
6. New site drainage systems are designed taking account of events which exceed the normal design standard.

All development will be required to ensure that there is no net increase in surface water run off. Priority should be given to incorporating Sustainable Drainage Systems (SuDS) to manage surface water drainage, unless it is proven that SuDS are not appropriate. Where SuDS are provided arrangements must be put in place for their whole life management and maintenance.

The council will work with partners to implement the Coastal Policy Zones in the North Solent Shoreline Management Plan to ensure that development avoids areas at risk from coastal erosion and coastal flooding and that areas required to offset coastal squeeze and prevent habitat fragmentation, to allow species to adapt to climate change, are identified and protected from development.

7.32 The borough has a coastline with a total length of 48km. The entire coastline is subject to international and national nature conservation designations. The impacts of climate change mean sea levels will rise and combining this with the natural forces of the sea, the borough's coastline will change over the life of the developments that the Core Strategy promotes. The borough is faced with the challenge of planning where and when the change could occur. As well as coastal flooding there are some areas that are subject to flooding from the borough's streams, surface water run off and rising ground water that could also be affected by climate change and these must be addressed. The likely impacts of flooding in 2115 are shown on the Flooding Map at Appendix 4.

7.33 There are few locations where construction of significant new flood defences will be economically justifiable or ecologically acceptable due to the international designations all around the coast. Managing the risks of flooding and adapting to the likely impacts of climate change is therefore a priority.

7.34 The projected impacts of climate change on the Solent Coastal Plain are that sea levels could rise by one metre over the next 100 years. The development that is planned in the HBLDF could last 100 years or more and therefore it must be located away from areas of high flood risk. Planning Policy Statement 25 (PPS25) requires the council



to follow the flood risk management hierarchy. This involves assessing the risk through a Strategic Flood Risk Assessment (SFRA); following the sequential approach to managing flood risk; controlling the risk through flood protection and mitigating risk through resistant and resilient construction. The PUSH SFRA covers in detail the whole of South Hampshire and is a critical tool that the council has used to predict the flood risks in the year 2115 as a basis for locating development. As a principle the HBLDF will not propose development in areas at risk from flood now or in the future.

- 7.35 The Core Strategy ensures that new development is located away from areas at risk of flooding or coastal erosion. The rising sea levels will impact on low-lying areas of the borough and it is therefore important to accept that natural coastal changes will dominate the future shape of the coastal zone. There is a challenge to balance the needs of both people and the environment in response to climate change. The borough will respond to climate change by mitigation (e.g. reducing greenhouse gas emissions) and adaptation. The acceptance of coastal change will mean that the coastal line will be moved landward (coastal realignment) in some areas; in others investments will be made in flood defences. The Strategic Housing Land Availability Assessment and the Employment Land Review have tested the options for avoiding flood and erosion risk identified in the Strategic Flood Risk Assessment.
- 7.36 The North Solent Shoreline Management Plan (NSSMP) currently under preparation covers the coast from Hurst Spit in the west to Selsey Bill in the east and is due for completion in 2010. The NSSMP will develop the policies outlined in the first plan completed in 1997. The NSSMP is not a statutory plan, but sets the strategic framework for future coastal investment decisions. One of its outcomes will be the identification of policies for future coastal defence investment in individual policy units. There are four national types of policy zone: **Advancement** – land reclamation and most unlikely in the NSSMP; **Hold the Line** – investment in defences and most likely where there are significant economic assets to protect; **No Active Intervention** – where there is unlikely to be public investment in defences; and **Managed Realignment** – where the current coastal line will be moved inland to provide new areas to absorb the rising sea levels. There are many existing homes, businesses, recreation areas and shops in the borough that could be flooded during the HBLDF plan period. The NSSMP will be the basis for investment decisions as to where any protection is provided. Costs involved in managing the coastline are usually met by a variety of public bodies and private interests. Where capital investment can be justified the council will seek funding/grant through central government rather than from the council's budget
- 7.37 The NSSMP, together with the South East Hampshire Catchment Flood Management Plan (CFMP), the more detailed coastal strategies like the emerging Portchester Castle to Emsworth coastal flood and erosion risk management strategy and the PUSH Integrated Water Management Strategy, will bring together a whole range of water-based strategies. These documents provide a comprehensive and evolving evidence base. The Core Strategy and development management policies will help implement many of the requirements of these various strategies and plans, for example the requirements of the Code for Sustainable Homes will reduce greenhouse gas emissions to mitigate climate change and include requirements for no net increase in surface run-off and require the provision of multifunctional measures such as SuDS, which are a flood protection and habitat creation measure.
- 7.38 A significant issue for the borough will be coastal squeeze, this is the loss of inter-tidal habitats (such as saltmarsh and mudflats) as sea levels rise, in areas where the natural landward migration of such habitats under sea level rise is prevented by man-made defences or other coastal structures. Areas of managed realignment will be used to offset coastal squeeze and these, where suitable, will be identified in the NSSMP.

Where else to look:



PPS25 Development and Flood Risk: Provides the national policy on avoiding development in areas of flood risk. It also sets out the sequential and exception test that will be applied when considering development proposals in flood risk areas. The accompanying Practice Guide provides a range of more detailed implementation advice.

PPG20 Coastal Planning: Provides policies for coastal planning and details of relevant legislation affecting development in the coastal zone. An update of this PPG will be published as a supplement to PPS25.

Havant Borough Townscape, Landscape and Seascape Character Assessment: When considering proposals for development, including flood protection, reference should be made to this document to ensure that development is sympathetic to the appropriate character type.

The East Solent Shoreline Management Plan (1997): Is the current SMP and will be replaced by the North Solent Shoreline Management Plan once it is finalised in 2010. An SMP is a non-statutory document intended to both inform and be supported by the statutory planning processes. As such it takes account of the diverse interests in the shoreline and establishes a coast defence strategy that is technically, economically and environmentally sustainable.

The government has approved The Environment Agency's River Basin Management Plans as part of the EU Water Framework Directive. The South East River Basin Management Plan covers the borough. The Environment Agency has a number of emerging strategies relevant to the borough including the South East Hampshire Catchment Flood Management Plan and the Portchester Castle to Emsworth Coastal Flood and Erosion Risk Management Strategy. Once completed they will form part of the overall evidence base for flood risk in the borough.

The PUSH Integrated Water Management Strategy: Brings together, at the sub-regional level, all the considerations on water supply, wastewater treatment and flood risk.

The PUSH Strategic Flood Risk Assessment (SFRA): Assesses the impacts of flooding now and in 2115 and is an important tool in identifying flood risks related to new development proposals.

Havant Borough Council website has extensive information on coastal defence, land drainage and flooding and links to a range of projects.

South East Hampshire Catchment Flood Management Plan

Summary Report December 2009



managing flood risk

Catchment overview

The area of the South East Hampshire CFMP has a population of approximately 460,000 covers 500 square kilometres and is drained by the River Hamble, River Meon, Wallington River, River Alver, West Brook and Hermitage and Lavant Streams. It is a mixture of rural and urban areas with three quarters of the land used as agricultural.

The main urban areas are located at Havant, Waterlooville, Portsmouth, Fareham, Gosport, and Hedge End. The catchment also includes the South Downs Area of Outstanding Natural Beauty (AONB) to the north.

Here it is mainly rural, with the population generally dispersed across small towns and villages. The catchment drains into a number of designated sites of national and international importance for nature conservation, such as the Solent and Southampton Special Protection Area/Ramsar site or the Solent Maritime Special Area of Conservation. It also contains important wetland sites such as the Titchfield Haven Site of Special Scientific Interest.

The northern part of the catchment lies on chalk while the southern part of the catchment consists of

tertiary deposits, such as more impermeable clays. The River Meon flows over chalk for approximately half of its length. Tributaries of the other large sub-catchments also flow over chalk but are ephemeral (short-lasting) streams that only appear when groundwater levels are higher. The underlying geology has a significant impact on the hydrology of the area. Rainfall on chalk areas tends to soak into the ground, recharging groundwater stores rather than rapidly entering the river system as run-off.



← Warren Dam, reducing flood risk to residents of Leigh Park, Havant.

Map 1. Overview map of South East Hampshire catchment.



‘The underlying geology is significant as chalky areas tend to soak up rainfall, recharging ground water stores rather than rapidly entering the river system as run-off.’

Current and future flood risk

Overview of the current flood risk

Flood risk is the combination of the probability of flooding and its impact, that is, the chance of it happening and the damage that occurs if it does happen. In the South East Hampshire catchment the CFMP has considered flooding from rivers, surface water and sewage flooding from the drainage system, as well as groundwater flooding. There are approximately 3,500 properties in the catchment that have a 1% chance of flooding in any one year from rivers or groundwater. We have assessed flood risk across the CFMP area using broad-scale computer modelling, through making best use of existing knowledge and models where appropriate. Flood risk figures take into account current flood defences.

The most significant flooding of recent times within the South East Hampshire catchment occurred in 2000/01. During this time, prolonged heavy rain fell over a number of months throughout late autumn and winter. The high groundwater levels from all this water was considered to be the most significant cause of the widespread flooding. While places such as Hambledon or Wallington were badly affected by the flooding, the distribution of incidents in the historic record tends to show relatively small numbers of properties flooding in a large number of places.

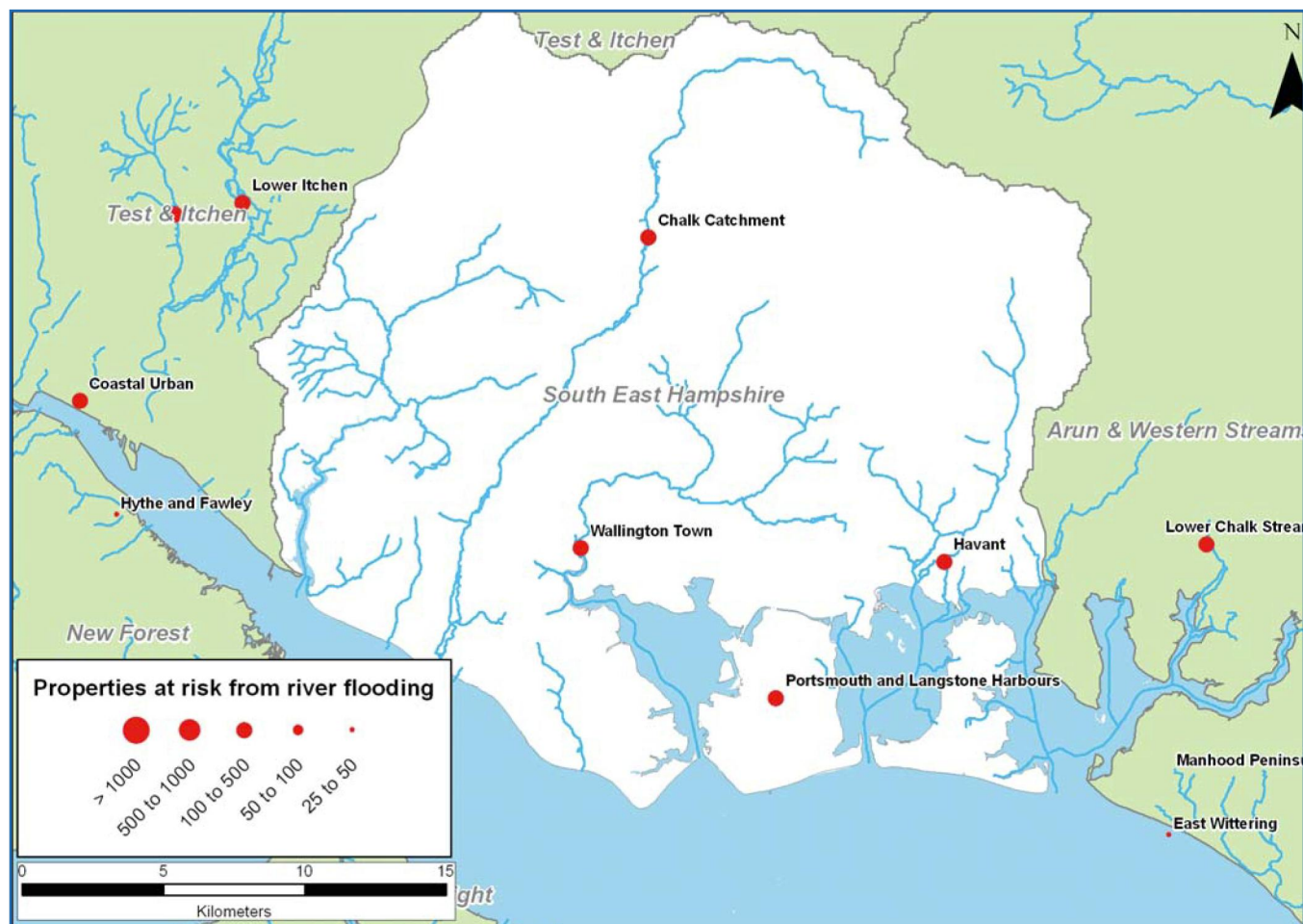
Where is the risk?

The main sources of flooding in the South East Hampshire CFMP area are from groundwater and surface water although there is also a risk from river flooding (fluvial flooding) which can be made worse by tidal conditions. The map on page 10 illustrates the consequences of a 1% annual probability event (1 in 100 year) occurring within the CFMP area. The areas with the highest concentration of properties at risk from river flooding are tabulated on page 9.



↑ Titchfield Harbour.

Map 2. Flood risk to property in a 1% annual probability river flood, taking into account current flood defences.



The impact of climate change and future flood risk

The effect that flooding will have in the future is influenced by a range of issues such as climate change, changes in land use such as development, and changes in how land is managed. Land use and land management are the main influences of change in the upper parts of the catchment. However, the underlying chalk geology means that runoff from agricultural land in this area is not a main cause of flood risk and changes are not likely to affect larger event flood peaks in the wider catchment. The test on the impact on people and property from both the climate change and urban development scenarios found that the biggest increase in impact was for the more frequent

events. Climate change has a greater impact than urban development.

Predictions of future change are based on understanding the existing condition of the catchment, an extrapolation of trends over the long term (up to 100 years), and a high level review of likely future change based on research findings and knowledge. The scenario which has the greatest effect on future flood risk is climate change with up to 20% increase in peak flood flows. This scenario is used to assess likely impacts in the catchment. In the South East Hampshire catchment the future flood risk is likely to be caused from river and surface water flooding. Our

appraisal of the future risk in the catchment reveals the number of properties at risk to the 1% annual probability event will increase from over 2600 to approximately 3500 properties by the year 2100. The majority of these properties are located in Portsmouth, Havant, Wallington and Hambledon.

The key trends are:

- More frequent and intense storms causing more widespread and regular flooding from drainage systems and some rivers.
- More rain in winter increasing the likelihood of large scale flood events.

Future direction for flood risk management

Approaches in each sub-area

We have divided the South East Hampshire catchment into seven distinct sub-areas which have similar physical characteristics, sources of flooding and level of risk. We have identified the most appropriate approach to managing flood risk for each of the sub-areas and allocated one of six generic flood risk management policies, shown in Table 3.

To select the most appropriate policy, the plan has considered how social, economic and environmental objectives are affected by flood risk management activities under each policy option.

Map 3. Sub-areas and flood risk management policies.

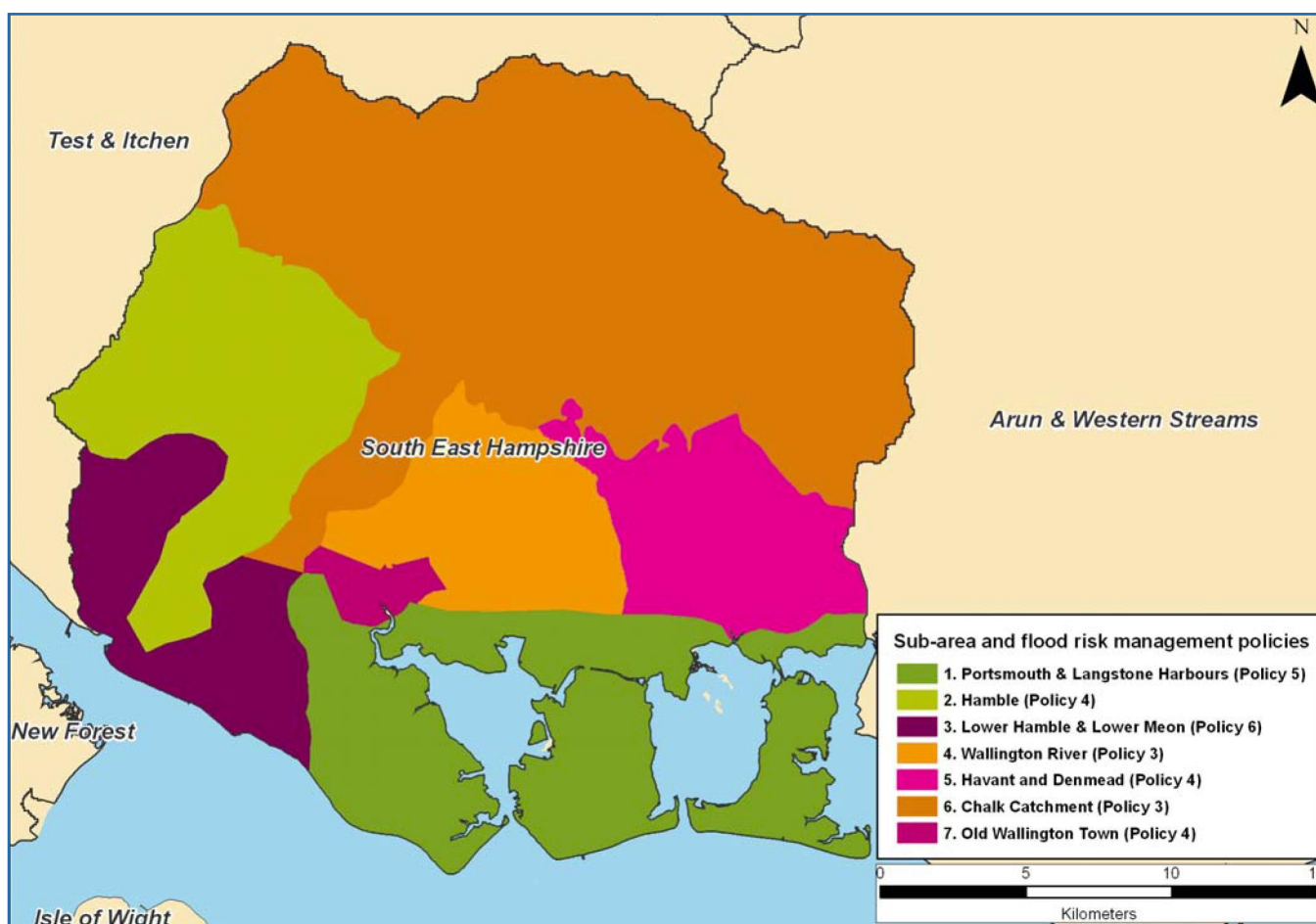


Table 3. Policy options.

→ Policy 1

Areas of little or no flood risk where we will continue to monitor and advise

This policy will tend to be applied in those areas where there are very few properties at risk of flooding. It reflects a commitment to work with the natural flood processes as far as possible.

→ Policy 2

Areas of low to moderate flood risk where we can generally reduce existing flood risk management actions

This policy will tend to be applied where the overall level of risk to people and property is low to moderate. It may no longer be value for money to focus on continuing current levels of maintenance of existing defences if we can use resources to reduce risk where there are more people at higher risk. We would therefore review the flood risk management actions being taken so that they are proportionate to the level of risk.

→ Policy 3

Areas of low to moderate flood risk where we are generally managing existing flood risk effectively

This policy will tend to be applied where the risks are currently appropriately managed and where the risk of flooding is not expected to increase significantly in the future. However, we keep our approach under review, looking for improvements and responding to new challenges or information as they emerge. We may review our approach to managing flood defences and other flood risk management actions, to ensure that we are managing efficiently and taking the best approach to managing flood risk in the longer term.

→ Policy 4

Areas of low, moderate or high flood risk where we are already managing the flood risk effectively but where we may need to take further actions to keep pace with climate change

This policy will tend to be applied where the risks are currently deemed to be appropriately-managed, but where the risk of flooding is expected to significantly rise in the future. In this case we would need to do more in the future to contain what would otherwise be increasing risk. Taking further action to reduce risk will require further appraisal to assess whether there are socially and environmentally sustainable, technically viable and economically justified options.

→ Policy 5

Areas of moderate to high flood risk where we can generally take further action to reduce flood risk

This policy will tend to be applied to those areas where the case for further action to reduce flood risk is most compelling, for example where there are many people at high risk, or where changes in the environment have already increased risk. Taking further action to reduce risk will require additional appraisal to assess whether there are socially and environmentally sustainable, technically viable and economically justified options.

→ Policy 6

Areas of low to moderate flood risk where we will take action with others to store water or manage run-off in locations that provide overall flood risk reduction or environmental benefits

This policy will tend to be applied where there may be opportunities in some locations to reduce flood risk locally or more widely in a catchment by storing water or managing run-off. The policy has been applied to an area (where the potential to apply the policy exists), but would only be implemented in specific locations within the area, after more detailed appraisal and consultation.

Portsmouth and Langstone Harbours

Our key partners are:

Portsmouth City Council

Gosport Borough Council

Fareham Borough Council

Havant Borough Council

Hampshire County Council

Southern Water

Impact of a 1% annual probability flood event

	Today	Future (2100)
Number of properties at risk	117	137*

*Future scenario figure extrapolated from similar catchment modelling in Southern region.

The issues in this sub-area

The main inland flood risk in this sub-area comes from surface water flooding where the urban drainage network is overwhelmed or unable to fully discharge to sea. There is very little fluvial flood risk from the overtopping of river banks. It is important to note however that the greater risk in the sub-area is from tidal flooding considered by the North Solent Shoreline Management Plan.

During the floods of 2000/01, 114 properties were flooded within the sub-area, particularly in Portsmouth and Gosport, causing disruption to almost 275 people. In addition it is

estimated that 2,000 people were affected by the flooding of infrastructure. The 2000/01 flood was estimated to be a 2% annual probability event. Also the surface water flood event in 2006 affected a few dozen properties. These were contaminated with sewage, posing a threat to human health.

The key future driver of flood risk within this sub-area is climate change. Increased urban development and infill will put increasing pressure on the combined sewer network. There is not expected to be increased risk to the environmentally designated sites.

The vision and preferred policy

Policy Option 5 – areas of moderate to high flood risk where we can generally take further action to reduce flood risk.

Surface water flooding will worsen with increased rainfall and more intense storms in the future. Opportunity for drains to discharge to the sea will be limited by sea level rise. More will need to be done both now and in the future which is best achieved through Policy 5.

The key messages

- Increased storminess resulting from climate change will put increased pressure on the urban drainage network.
- We will need to work with our partners to promote greater resilience to flooding through flood proofing, emergency planning and flood warning.
- New developments will need to manage drainage so that there is no net increase in flood risk.

Proposed actions to implement the preferred approach:

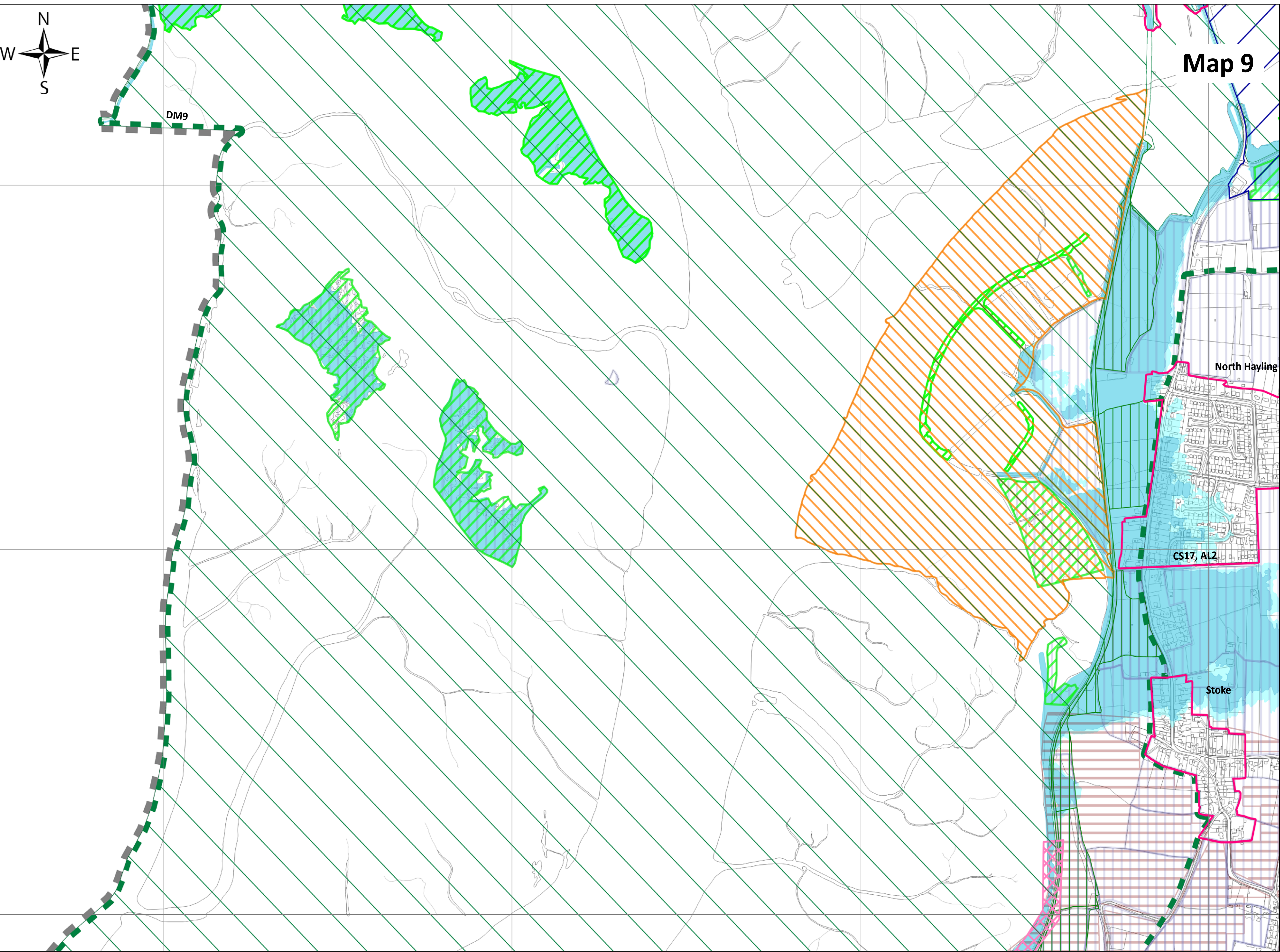
- Encourage local planning authorities to apply Planning Policy Statement 25 (PPS25), avoiding inappropriate development in the areas at risk of flooding, and influence local development frameworks.
- Seek funding partnerships in connection with new or redevelopment.
- Undertake System Asset Management Plans (SAMPs) to review maintenance regimes, to assess future investment needs and to reduce the current level of risk.
- Develop a collaborative Surface Water Management Plan (SWMP) to address current and future pressures on the drainage network.
- Develop an emergency response plan to mitigate flood risk in Portsmouth and Gosport, linking in with existing civil contingencies.



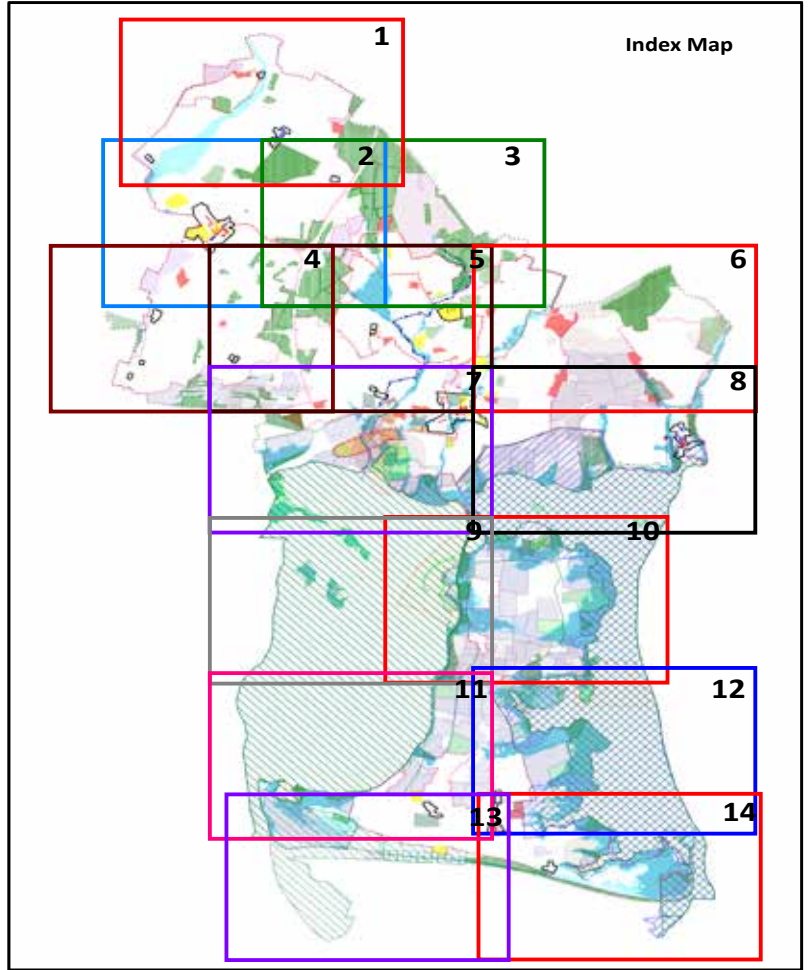
↑ Flooding in Portsmouth (copyright of Portsmouth news, Sept 2000).



↑ Langstone Harbour.



- Promoting Havant Borough's Economy (CS5)**
- (CS4) (AL3.1) Town, District and Local Centres
 - (AL3.3) Primary Frontages
 - (AL3.4) Secondary Frontages
- Protecting and Enhancing the Special Environment and Heritage of Havant Borough (CS11)**
- (AL8) Local Green Spaces
 - (CS11.3) Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPA), Ramsar, Special Areas of Conservation (SAC)
 - (CS11.3) Site of Importance for Nature Conservation (SINC)
 - (CS11.3) Local Nature Reserve (LNR)
 - (CS12) Chichester Harbour Area of Outstanding Natural Beauty (AONB)
 - (CS15) Flood Zone 2
 - (CS15) Flood Zone 3
 - (DM9) Development in the Coastal Zone
 - (CS11) (DM23) Important Sites Brent Geese and/or Waders
 - (CS11) (DM23) Uncertain Sites Brent Geese and/or Waders
 - (AL4) Coastal Change Management Areas
 - (CS6) Regeneration of the Borough
- Spatial Distribution and Strategic Sites**
- (CS17) (AL2) Concentration and Distribution of Development within the Urban Areas/Urban Area Boundaries
 - (CS18) Strategic Site Delivery
 - (AL6) Havant Thicket Reservoir Pipeline (Route)
 - (AL6) Havant Thicket Reservoir Pipeline (Underground Water Storage)
 - (AL7) Hermitage Stream
- Housing**
- Allocation EM1, HB1, HY1, LP1, LP2, WA1
- Mixed Use**
- Allocations HB3, HY2, LP3, WA2
- Employment**
- Allocations EM2, HB2
- Infrastructure, Implementation and Monitoring**
- (CS19.8) Safeguarding Requirements of Infrastructure Providers
 - (AL5) Indicative Cross - Borough Bus Rapid Transport Route (BRT)
- Hampshire Minerals & Waste Plan (HMWP)**
- Hampshire Minerals & Waste Plan (HMWP)
- Other**
- Havant Borough Boundary



Note

- . (CS4)(AL3.1) Town, District and Local Centres – large scale maps to the rear booklet.
- . The following designations are at January 2014, this information is regularly updated:-
 - (CS15) Flood Zones 2 and 3
 - (CS11.3) Site of Importance for Nature Conservation
- . (CS11)(DM23) Important and Uncertain Sites Brent Geese and/ or Waders are taken from The Solent Waders and Brent Goose Study (2010)



Flood Risk Information for Havant Road - Ref: SSD/45671
Partnership and Strategic Overview team, HIOW
26/05/2017 12:25

To:

NaomiWard@campbellreith.com

Cc:

SSD Enquiries

Hide Details

From: "Partnership and Strategic Overview team, HIOW" <psohiow@environment-agency.gov.uk>

To: "NaomiWard@campbellreith.com" <NaomiWard@campbellreith.com>

Cc: SSD Enquiries <SSDEnquiries@environment-agency.gov.uk>

5 Attachments



Defences Map.pdf Flood Map for Planning (Rivers and Sea).pdf Risk of Flooding from Surface Water.pdf Open Government Licence.pdf uFMfSW Fact Sheet.pdf

Dear Naomi,

Provision of Product 4 for Havant Road, Hayling Island, PO11 0LG

Thank you for your request to use Environment Agency data, in the development of Havant Road, Hayling Island, PO11 0LG. The information is attached.

Further details about the Environment Agency information supplied can be found on the GOV.UK website:

<https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

If you have requested this information to help inform a development proposal, then you should note the information on GOV.UK on the use of Environment Agency Information for Flood Risk Assessments

<https://www.gov.uk/planning-applications-assessing-flood-risk>

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

The site may be affected by an extreme flood. According to our published flood map, which provides a general estimate of the likelihood of flooding across England & Wales, the property is shown to be within Flood Zone 3 - an area which may have a 0.5% chance of flooding annually (1 in 200), ignoring the presence and effect of any flood defences.

The Environment Agency has no record of flooding to this area, but not all flooding events are reported to us and further information may be available from Havant Borough Council.

Defences – See attached map. The defences were found to be in good to fair condition when we last inspected them in January 2016.

Sea levels (still water design estimates) for the 0.5% (1:200) and the 0.1% (1:1000) annual exceedance probabilities relevant to your site are provided in the table below.

Chainage point: 161	Easting: 468789	Northing: 100080
Year	Tide Level (mAOD*)	
	0.5% annual exceedance probability/1 in 200 Year (Flood Zone 3)	0.1% annual exceedance probability/1 in 1000 Year (Flood Zone 2)
2010	3.2	3.4
2070	3.7	3.9
2115	4.4	4.5

* Levels in metres above Ordnance Datum Newlyn.

These values are based on 2011 base data, and take into account:

- Revised epochs as per 'Flood risk assessments: climate change allowances - guidance for Sustainable Places and Partnerships and Strategic Overview teams' 08/02/2016
- Revised data from 'Extreme Sea Levels for Estuaries and Harbours, April 2015 Please refer to 'Adapting to Climate Change: Advice for Flood and Coastal Erosion Risk Management Authorities' for the latest advice on applying sea level rise allowances to flood defence schemes

Note 1:

Extreme sea level values are for still water sea levels only. Extreme sea level values include the effect of storm surge but do not account for any local increase in sea level that may be induced by onshore wave action. Wave set-up would need to be estimated separately.

Note 2:

Annual exceedance probability describes the likelihood (chance) of being exceeded in any given year.

This information is provided subject to the enclosed *notice*, which you should read.

I hope that we have correctly interpreted your request. Please see the attached Standard Notice or licence for details of permitted use.

We respond to requests for recorded information that we hold under the Freedom of Information Act 2000 (FOIA) and the associated Environmental Information Regulations 2004 (EIR).

If you are not satisfied with our response to your request for information you can contact us within 2 calendar months to ask for our decision to be reviewed.

If you have any queries or would like to discuss the content of this letter further please call us on 08708 506506.

If you have any queries or would like to discuss the content of this letter further please contact the Partnership and Strategic Overview Team at the Environment Agency.

Yours faithfully

Aimee Cox

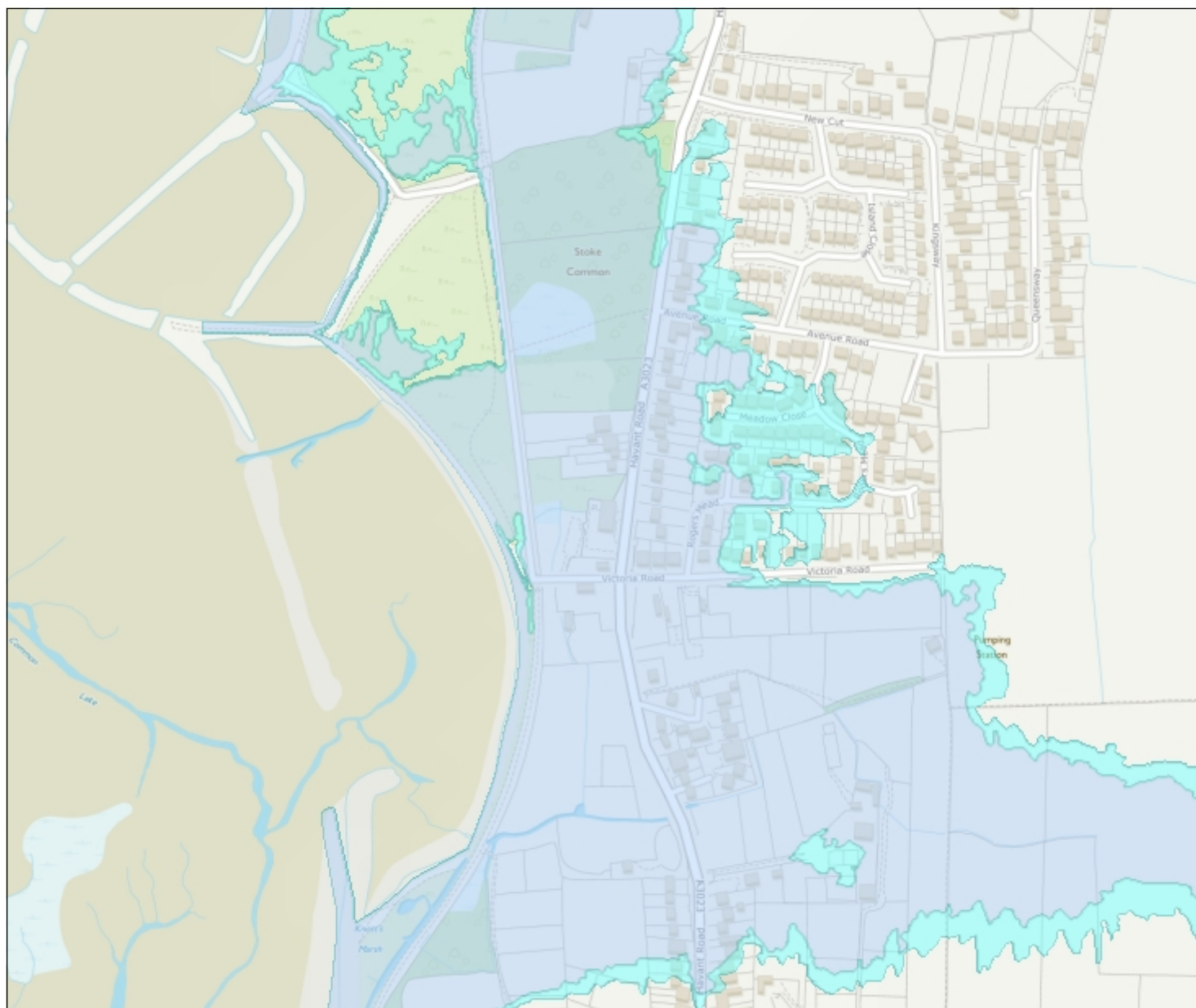
Partnership and Strategic Overview team, Hampshire and Isle of Wight
Environment Agency

Direct dial 020 8474 5815

Email psohiow@environment-agency.gov.uk

Part Time Tuesday, Wednesday, Thursday and Friday

Flood Map for Planning (Rivers and Sea) Centred on Havant Road - Created 26 May 2016



Scale 1: 6,250



Flood Map for Planning (Rivers & Sea)

- Defences
- Flood Storage Areas
- Areas benefiting from flood defences
- Flood Zone 3
- Flood Zone 2

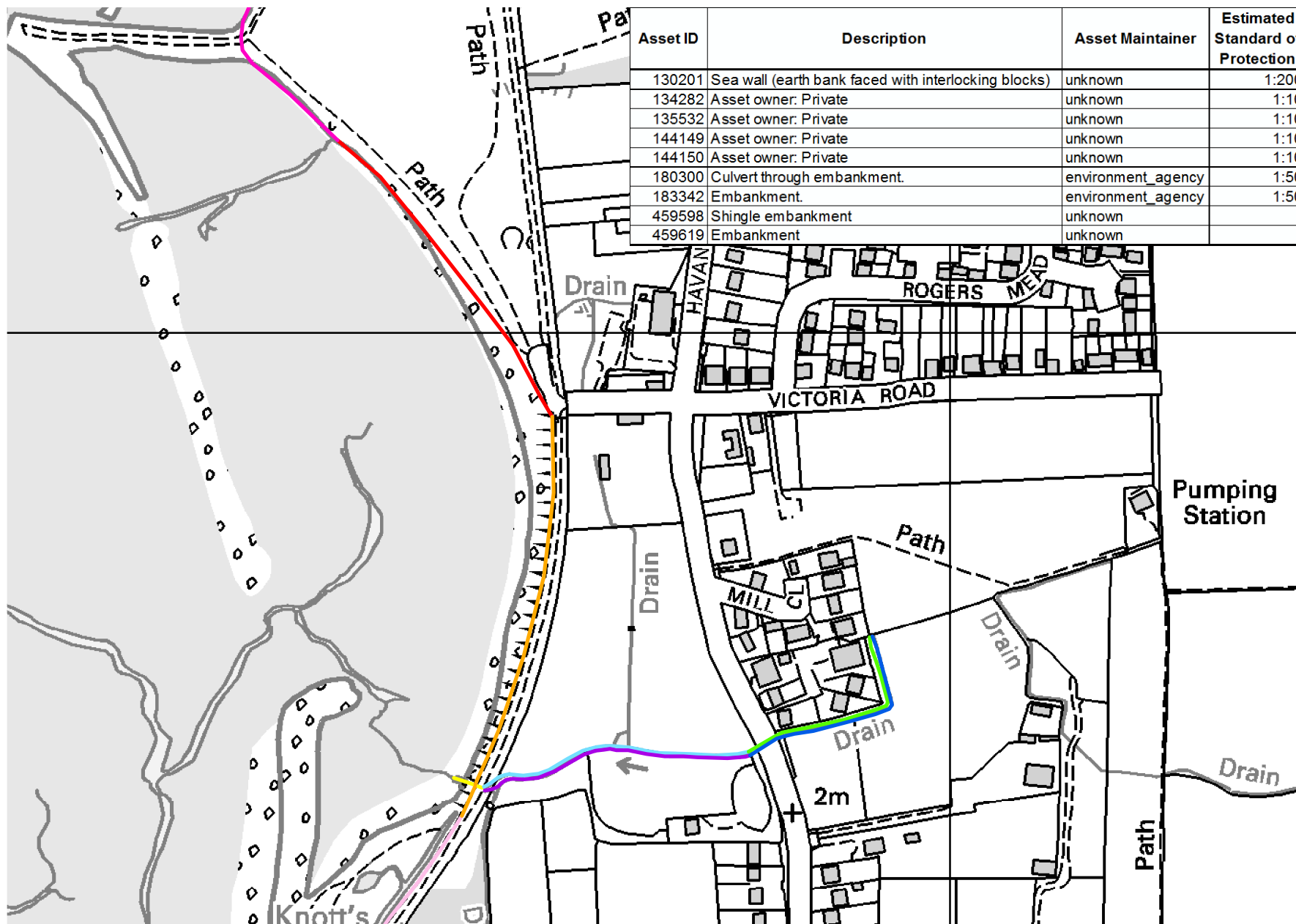
Flood Map Areas (assuming no defences)

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.

Defences Centred on Havant Road - Created 26 May 2017 (Ref: SSD/45671)



Asset ID	Description	Asset Maintainer	Estimated Standard of Protection
130201	Sea wall (earth bank faced with interlocking blocks)	unknown	1:200
134282	Asset owner: Private	unknown	1:10
135532	Asset owner: Private	unknown	1:10
144149	Asset owner: Private	unknown	1:10
144150	Asset owner: Private	unknown	1:10
180300	Culvert through embankment.	environment_agency	1:50
183342	Embankment.	environment_agency	1:50
459598	Shingle embankment	unknown	
459619	Embankment	unknown	



Legend

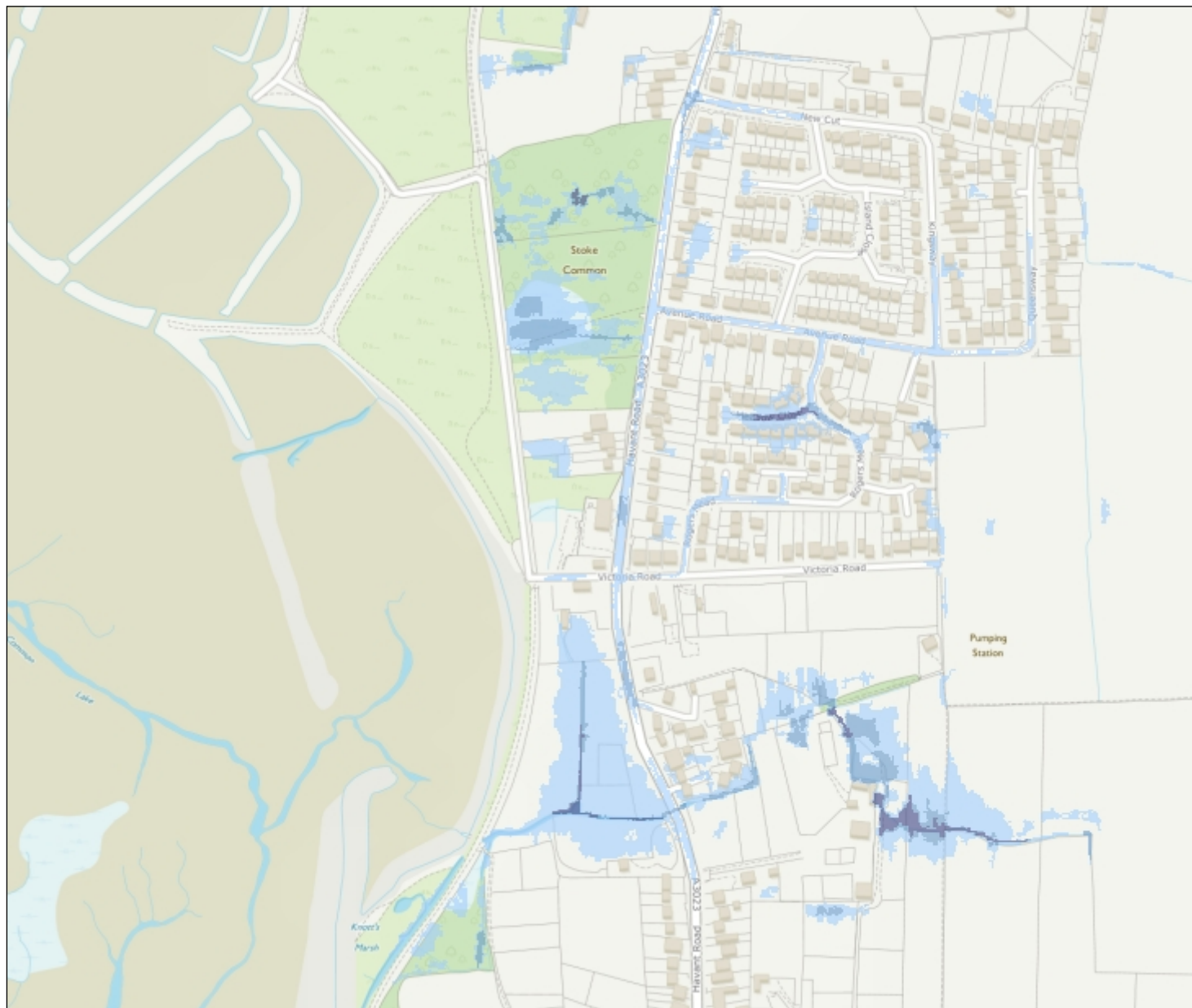
ASSET_ID

- 130201
- 134282
- 135532
- 144149
- 144150
- 180300
- 183342
- 459598
- 459619

1:3,818
(*when printed at A4)



Risk of flooding from Surface Water Centred on Havant Road - Created 26 May 2016



Scale 1:6,250



Likelihood of flooding from Surface Water

- High ($\geq 3.3\%$)
- Medium (3.3% - 1%)
- Low (1% - 0.1%)
- Very Low

Likelihood of flooding from Surface Water

- High:** Greater than or equal to 3.3% (1 in 30) chance in any given year
- Medium:** Less than 3.3% (1 in 30) but greater than or equal to 1% (1 in 100) chance in any given year
- Low:** Less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance in any given year
- Very Low:** Less than 0.1% (1 in 1,000) chance in any given year

This information is shown on the Risk of Flooding from Surface Water map on our website.

Appendix 3: Local Authority Correspondence



FW: APP/17/00420 - 181-183 Havant Road Hayling Island
Planning and Development Shared Mailbox
09/05/2017 14:47

To:

'NaomiWard@campbellreith.com'

Hide Details

From: Planning and Development Shared Mailbox <PlanningandDevelopmentSharedMailbox@havant.gov.uk>

To: "'NaomiWard@campbellreith.com'" <NaomiWard@campbellreith.com>

History: This message has been forwarded.

Naomi

Further to my earlier email I have now spoken with a senior officer who has said that we will need a more detailed flood risk assessment before validating the application. A sequential test will not be required but you should follow the EA standing advice for 'less vulnerable', see link below.

<https://www.gov.uk/guidance/flood-risk-assessment-standing-advice>

Regards

Kate

Kate Mabbs
Technical Officer
Business Support Team - Planning Services
Email: planning.development@havant.gov.uk
Tel: 02392 446530

Havant Borough Council, Public Service Plaza, Civic Centre Road, Havant PO9 2AX

www.havant.gov.uk
www.facebook.com/havantboroughcouncil
www.twitter.com/havantborough

If you are requesting information under the Freedom of Information Act, Environmental Information Regulations or Data Protection Act then please redirect your email to customer.services@havant.gov.uk. Any statutory timeframe for a response for requests will not commence until the request is received by the Customer Services Team.

Information in this message is confidential and may be privileged. It is intended solely for the person to whom it is addressed. If you are not the intended recipient, please notify the sender and delete the message from your system immediately.

Appendix 4: Summary Table

Summary Table; Evacuation Plan & Flood Warning Action Table

Safe access and Egress	Action	Recommended Next Steps
Safe Exit Route	<ul style="list-style-type: none">Proposed safe access route to be used during the 1:200yr +C.C flood event. The routes lead to large areas in Flood Zone 1; however if the Site is evacuated following a (SFW), all occupants should either be on route or in the Safe Refuge Area.Make sure all occupants are clear of the Site following the SFW.	<ul style="list-style-type: none">Draw up clear formalised procedure to follow in the event of a floodEnsure each member of staff is signed up to receive EA FW'sClearly mark the route, communicate to all Staff and ensure it is kept clear at all times.Carry out Flood Drill Procedures to ensure all Staff and occupants are clear on what to do following the receipt of a SFW.Contact Hampshire County Council Emergency Planning Unit to confirm the safe route in this report is in line with existing evacuation plans.
Safe Refuge Area	<ul style="list-style-type: none">As the existing Site is below the modelled 1:200yr +C.C flood level and the proposal does not include a change in finished floor levels, a areas of Safe Refuge have been proposed both north and south of Havant road.These areas have been identified as the most practical routes to large areas in Flood Zone 1 (Safe Refuge) for the staff within walking distance (approx. 6 minute walk) in the event of an extreme flood.	<ul style="list-style-type: none">Contact Hampshire County Council Emergency Planning Unit to confirm the suitability of the proposed refuge area outside of the Site.Consult with Hampshire County Council Emergency Planning Unit to confirm whether any shelter will be provided in the form of a local rest centre in the area.
Flood Procedures	Action	Recommended Next Steps
Flood Alert/ Flood Watch	<ul style="list-style-type: none">When flooding is possible, a Flood Alert will be issuedBe aware of the local weather, be prepared to evacuate, alert both current and scheduled visitors/ members of staffContact Floodline on 0345 988 1188 (24 hour service)Check whether flood level is rising or fallingCheck the Flood Kit has been prepared and is easily accessible.	<ul style="list-style-type: none">Ensure each member of staff is signed up to receive EA FW'sPut together a Flood Kit; this should include any essential items that may be needed following evacuation of the Site. This should include but not be restricted to:<ul style="list-style-type: none">First Aid Kit; essential meds;Waterproof boots, Jackets and Trousers; warm clothing, foil blankets;A torch (possibly multiple depending on number of occupants);Bottled water;List of emergency contact number;Tinned food items;Portable/ wind up radio and batteries.
Flood Warning (FW)	<ul style="list-style-type: none">A flood warning is issued when action is required as flooding is expected and the business/ property should be safeguarded and occupants should prepare to evacuate.Contact should be made to the emergency authorities to ensure whether the Site should be evacuatedAlert scheduled visitors/ members of staff to seek alternative accommodation.Move any valuable equipment, confidential paperwork, electrical appliances, to a location in Flood Zone 1 and prepare to turn off gas, elec, water supplies.	<ul style="list-style-type: none">Ensure a Business continuity plan is completed and kept up to date. This is to ensure key locations for services in the building are highlighted so the services and utilities can be cut off following the instruction to evacuate (e.g. switch off gas mains).If property level protection measures are installed following Change of Use; include these in the Business Continuity Plan, for example; engage flood door, and cover air bricks.

Flood Risk Assessment

Summary Table; Evacuation Plan & Flood Warning Action Table

	<ul style="list-style-type: none">· Prepare to follow instruction from Emergency Services and monitor the flood progression· If flood levels continue to rise evacuate the Site before safe access is lost	
Severe Flood Warning (SFW)	<ul style="list-style-type: none">· A severe flood warning is issued when severe flooding is expected and there is a potential danger to life; the Site should be evacuated.· The EA usually provide at least 2 hours warning between an issued alert and flooding. It is recommended to evacuate when a SFW is issued but the Emergency Services should still be contacted before the property is evacuated to ensure it is safe to do so.· Ensure all doors and windows are locked before evacuating· Call 999 if any occupants are in immediate danger· If widespread flooding is too severe and has progressed too quickly for occupants to evacuate, the EA and Emergency Services will be managing the situation, provide advice and the occupants may be advised to egress to the top floor of the dwelling and await further instruction.	<ul style="list-style-type: none">· Make sure the designated route for evacuation is used as the primary escape route and ensure it is clearly marked· Communicate to all staff and Site users that all doors, windows and internal doors should be securely closed and locked prior to evacuation· Make sure Site users aware that parts of the escape route may be flooded if the Site is not evacuated in good time. If flood levels have risen rapidly, occupants should evacuate on foot as soon as possible· If Staff have been notified of floodwaters continuing to rise, remind Staff that driving through floodwater is potentially life threatening and to follow the 'Escape by Foot' Route.
All Clear	<ul style="list-style-type: none">· This means that there are no longer any flood alerts in place for the Site.· Only return to the Site if it is safe to do so.· Be aware of sharp object, foul water in the flood water· If uncertain as to whether the Site and property is safe to re-enter; obtain professional opinion beforehand.	<ul style="list-style-type: none">· Ensure a Business continuity plan is completed and kept up to date, include next steps to be taken following evacuation of Site and/ or damage to the property
Business Continuity	<ul style="list-style-type: none">· Contact Insurance provider as soon as possible prior to cleaning and repairing the property	<ul style="list-style-type: none">· As above· Keep up to date with EA advice to businesses at risk of flooding; check for any useful information
Annual Review	<ul style="list-style-type: none">· Site owner must review the FWEP annually to keep emergency contact list up to date· Check with EA regarding any changes in flood status to the Site; any new defences in area?· Review insurance cover	<ul style="list-style-type: none">· Keep up to date with EA advice to businesses at risk of flooding; check for any useful information

London

Friars Bridge Court
41- 45 Blackfriars Road
London, SE1 8NZ

T: +44 (0)20 7340 1700
E: london@campbellreith.com

Birmingham

Chantry House
High Street, Coleshill
Birmingham B46 3BP

T: +44 (0)1675 467 484
E: birmingham@campbellreith.com

Surrey

Raven House
29 Linkfield Lane, Redhill
Surrey RH1 1SS

T: +44 (0)1737 784 500
E: surrey@campbellreith.com

Manchester

No. 1 Marsden Street
Manchester
M2 1HW

T: +44 (0)161 819 3060
E: manchester@campbellreith.com

Bristol

Wessex House
Pixash Lane, Keynsham
Bristol BS31 1TP

T: +44 (0)117 916 1066
E: bristol@campbellreith.com

UAE

Office 705, Warsan Building
Hessa Street (East)
PO Box 28064, Dubai, UAE

T: +971 4 453 4735
E: uae@campbellreith.com

Campbell Reith Hill LLP. Registered in England & Wales. Limited Liability Partnership No OC300082
A list of Members is available at our Registered Office at: Friars Bridge Court, 41- 45 Blackfriars Road, London SE1 8NZ
VAT No 974 8892 43