Appendix E

OPUS

Flood Risk Assessment for Shell Filling Rooms

Priddy's Hard, Gosport, Hants

Flood Risk Assessment for

Shell Filling Rooms

Priddy's Hard, Gosport, Hants

Prepared By

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Contents

Appendices

1 Introduction

1.1 Instructions were received from Haxted Estates Ltd to undertake a Flood Risk Assessment (FRA) for the development of nine residential dwellings on land at the former Shell Filling Rooms, Priddy's Hard, Herritage Way, Hampshire.

1.2 This assessment has been prepared by W L Fielder MEng

1.3 The client's attention is drawn to the conditions and limitations contained in Appendix D.

2 Development Description & Location

2.1 The development site comprises some 0.8 Ha of land at the former Shell Filling Rooms, Priddy's Hard, Herritage Way, Hampshire (grid reference SU 61372 00975). The land is identified on the aerial photograph in Appendix.

2.2 The site currently comprises the site of a number of demolished, previously disused buildings, previously owned by the Ministry of Defence.

2.3 The proposed development is a revised proposal for which a Flood Risk Assessment was prepared by Cowan Consultancy for Bayview Developments (ref BPW/26672/LAC revision 8/2/07) The former application and FRA related to 9 new dwellings with a sea defence to the access road and plot frontage and retention of a large earthwork to provide the rear defence. The current application is very similar in flood risk terms and uses the same principles, albeit the position of 3 of the dwellings has been adjusted slightly. Reference is made throughout this FRA to the previous FRA.

The currently proposed layout of the site is shown on JPA drawing in Appendix A.

3 Local Development Documents & Strategic Flood Risk Assessment

3.1 The Partnership for Urban South Hampshire (PUSH) Strategic Flood Risk Assessment (SFRA) has been reviewed (refer to appendix for local mapping) and this indicates the following:

3.2 SFRA map set 1A indicates the site wholly within undefended FZ2 (tidal).

3.3 SFRA map set 1B indicates that the dwelling positions are not within a hazard zone. The historic earthwork moat to the rear is within the hazard zone together with land immediately to the rear of the current shoreline .

3.4 SFRA map set 1D indicates the site is not in an area that has a breach index.

3.5 SFRA map set 1E indicates the site lies in 2115AD Climate change FZ3 (undefended).

3.6 SFRA map set 1F1 indicates that the land to the south of the site, immediately abutting the coastline, is subject to low wave energy.

3.7 SFRA map set 1F2 indicates the site overlies moderate permeability bedrock and is not in an historic groundwater flooding area.

3.8 SFRA map set 1F5 indicates no observed sewer flooding incidents at the site.

3.9 SFRA EA flood zone map set indicates the southern part of the site is within FZ3 (tidal), with the majority of the site within FZ2 (tidal).

3.10 SFRA EA historic flood zone map set indicates the site is not in an historic flood zone.

3.11 SFRA EA pluvial flood zone map set indicates the site does not contain any pluvial flood risk areas.

3.12 SFRA EA surface water flood zone map set indicates the site does not contain any surface water flood risk areas.

3.13 Flood mapping data has also been reviewed from the EA website (refer to Appendix for local mapping). This indicates the following:

3.14 The EA mapping indicates the land to the south and north of the site is within FZ3, with the majority of the site within FZ2.

3.15 The EA mapping indicates the site is not in an area at risk of flooding from reservoirs.

3.16 The EA mapping indicates the site is not located in a Source Protection Zone.

3.17 The EA mapping indicates the site is not within a safeguard zone for drinking water.

3.18 The EA mapping indicates the groundwater is not within a groundwater safeguard zone for drinking water.

4 Catchment Flood Management & Shoreline Management Plans

4.1 The South East Hampshire Catchment Flood Management Plan summary – December 2009 (CFMP) indicates the site falls within Policy sub-area 1 Portsmouth and Langstone Harbours. The CFMP states that Policy 5 is the preferred policy approach:

- *"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."*

4.2 Overall the CFMP does not present any issues that would prohibit the development of this site with respect to flood issues provided the surface water drainage is based on SuDS principles.

4.3 The North Solent Shoreline Management Plan(SMP) indicate the site frontage lies in policy unit 5a25. SMP Figures 16-18 indicate the unit policy to be Hold the Line for all three epochs. Unit 5a25 policy unit mapping and details indicate the development site as an important heritage site which has contributed to the Hold the Line policy. This also indicates national and international designations to the tidal land to the south of the site. The previous FRA predates the current SMP but was aligned to the previous SMP. The current development proposal retains the principle of defending the heritage assets and retaining the international designations on the tidal land to the south. The current proposals are therefore still consistent with SMP policy.

5 Catchment Data

5.1 The BGS Geology of Britain viewer indicates the site bedrock geology to be Wittering Formation (sand silt and clay) with superficial River terrace deposits.

5.2 The site is on the coast and has a nominal generic fall towards the shoreline.

6 Sewerage Authority Data

6.1 Prior to the recession the previous planning permission was partially implemented inclusive of the construction of the access road to Searle Way and the installation of a foul water rising main connecting to Searle Way. The apparatus is not currently live as the houses were not completed. It is proposed to retain this discharge albeit with slightly amended position to three of the houses.

7 Walkover Survey

7.1 The site remains in a partially complete state from the previous permission. The access road, utility supplies and sea wall were constructed to the entry point into the main site area. Within the main site area no flood defence walls have yet been built and the houses were not progressed far beyond ground floor level.

8 Source-Pathway-Receptor Assessments

8.1 The site is in undefended tidal FZ2, but with the previously agreed defences would be protected up to 2114_{AD} 0.5% AEP + freeboard tidal events.

8.2 The site is not in the vicinity of surface water courses and is not considered to be at risk of fluvial flooding

8.3 The site is not located in the vicinity of any reservoirs and EA flood risk from reservoirs mapping does not indicate any reservoir flood risk to the site.

8.4 The site is not in a location with sewer flooding incidents and is not considered to be at risk of sewer flooding.

8.5 The SFRA data does not indicate the site to be at risk of groundwater flooding.

8.6 The SFRA and EA mapping indicate the site is not within a pluvial or surface water flood risk area.

8.7 The governing flood mode for the site is tidal.

8.8 The new flood receptors of the development would be:

- The new residential dwelling
- Residents in the new dwelling

8.9 The proposed development and existing site classifications to Table 2 of NPPF Technical Guidance are as follows:

- Extant permitted residential use — More vulnerable
- Proposed residential use — More vulnerable

8.10 Overall with the construction of the seawall, the proposed dwellings will be a low flood risk.

9 Flood Probability

9.1 The Environment Agency (EA) flood zones, shown on the outputs and included in the Appendix, represents current best estimates of zone 2 and zone 3 flooding as defined in Table 1 of the Technical Guidance to the National Planning Policy Framework. It does not take account of potential climate change impacts.

Zone 2	Medium Probability of tidal flooding (0.5%-0.1%)
Zone 3a	High Probability of tidal flooding (>1%)
Zone 3b	Functional Floodplain (>5% probability of flooding)

- The flood map does not differentiate between zones 3a and 3b.
- Zone 3b is only considered appropriate for water-compatible development.
- Zone 3a is additionally considered appropriate for less vulnerable uses.

9.2 The site is currently FZ2 (undefended), but with the previously agreed defences would be protected up to 2114_{AD} 0.5% AEP + freeboard tidal events.

10 Climate Change

10.1 Assuming a design life of 100 years, increase in rainfall (Table 5 of NPPF Technical Guidance.) due to climate change is +30% to current rates. The SFRA mapping indicates the site would be located in FZ3 (tidal) in 2115AD, but with the previously agreed defences would be protected up to 2114_{AD} 0.5% AEP + freeboard tidal events.

10.2 The EA and the ESCP identify a predicted 2115AD still water 0.5%AEP Extreme Tidal Level (ETL) of 4.3m AOD. The previous FRA proposed a defence level of 4.76m AOD and the current proposal retains this proposed level. (The section of seawall constructed to date accords with the minimum required crest level of 4.76m AOD)

10.3 Surface water drainage strategy is discussed in section 11. The volumes and flows for this strategy have been derived in accordance with CIRIA C697 and include for climate change effects.

11 Detailed Development Proposals & Surface Water Strategy

11.1 The current proposal will retain a seawall to the southern and western sides of the site contiguous with the existing seawall constructed to date. However the alignment of the proposed seawall on the southern side will be revised inland to accommodate ecological considerations on the land. The defence of the central part of the southern side will utilise the remaining elements of the historic masonry blast wall and earthwork left from the demolition work on the previous scheme. The flood gate in the wall to the western end of the site, required by the previous planning permission will be retained in the new proposal. As per the previous FRA the earthwork between the proposed buildings and old moat is massive and of ample elevation to provide the majority of the defence to outflanking flows from this direction. A small section of the northern edge of the proposed car park is slightly below 4.76m AOD and it is proposed to introduce a small earthwork to this location to provide contiguous protection up to 4.8m AOD. The defences are summarised on the schematic contained in Appendix C.

11.2 Rainwater falling within the site will be incepted by the site surface water drainage system. The access road elements for this are already installed in accordance with the previous planning permission and will be retained. The system for the remainder of the development is partially complete and it is proposed to retain as much of this as practicable and to utilise the same principles as the previous planning permission arrangement. In terms of detail the pick up points eg RWP positions will alter slightly to suit. There were previously two discharge positions. One from the car park out to the moat serving the access road and car park; the second collecting the remainder of the plot runoff and discharging to the ditch just outside the western site boundary. Both systems will continue to pass beneath the sea defences and be protected from backflow by a double flap valve arrangement. Both systems will use a stone/rock filled trench to act as a diffuser. The discharge to the East is already complete and includes a petrol interceptor, it is proposed to add an interceptor to the western discharge. The discharge to the west was located there to satisfy a request from the operators

of the adjacent land for delivery of surface water to them as for ecological reasons they had a shortfall of water sources for their habitat needs. In both cases surface water discharges outside the defence and due to the tidal nature of the flood source flood levels are determined by meteorological circumstances and will not be affected by the discharges.

11.3 A copy of the drainage layout is contained in Appendix C.

12 Sequential & Exception Tests

12.1 Development at the site is necessary to deliver the defences to protect the heritage assets and deliver SMP policy for SMP unit 5a25. This is consistent between the previous flood management strategy/SMP/planning permission and the current strategy/SMP/planning proposal. Pre application consultation was undertaken with East Solent Coastal Partnership to verify the continuing suitability of the amended scheme with respect to current plans and policy. This has been confirmed by ESCP.

12.2 With respect to the Exceptions Test:

- Wider sustainability benefits are provided by the protection of the heritage assets.
- The proposed seawall of minimum crest level 4.76m AOD is consistent with the previous FRA and agreed defence levels and accords with defence requirements for 2114_{AD} 0.5% AEP flood levels plus freeboard. The development will therefore be safe for its lifetime.
- As set out in section 11 the development will not increase flood risk elsewhere, and the delivery of the complete sea defence section will provide defence to a wider area beyond the site reducing flood risk overall.

13 Flood Risk Management Measures

13.1 The source pathway receptor assessment is contained in Chapter 8.

13.2 Paragraph 8.7 identifies that tidal is the governing flood source.

13.3 The delivery of the remaining elements forming a complete and continuous local sea defence asset will protect the site to 2114_{AD} 0.5% AEP + freeboard flood events. This comprises:

- Completion of additional seawall section to minimum crest level of 4.76m AOD.
- Installation of approved flood gate in western boundary defence wall.
- Short length of small earthwork embankment between the car park and moat to minimum crest level of 4.76m AOD.
- Utilisation of existing southern blast wall base to form defence to minimum crest level of 4.786m AOD.
- Flap valve protection to the two discharges beneath the defences.

14 Off Site Impacts

14.1 The surface water discharges to land in the coastal margin beyond the defence line. Flooding of these points is tidal and the discharge will not affect tidal flood levels or durations.

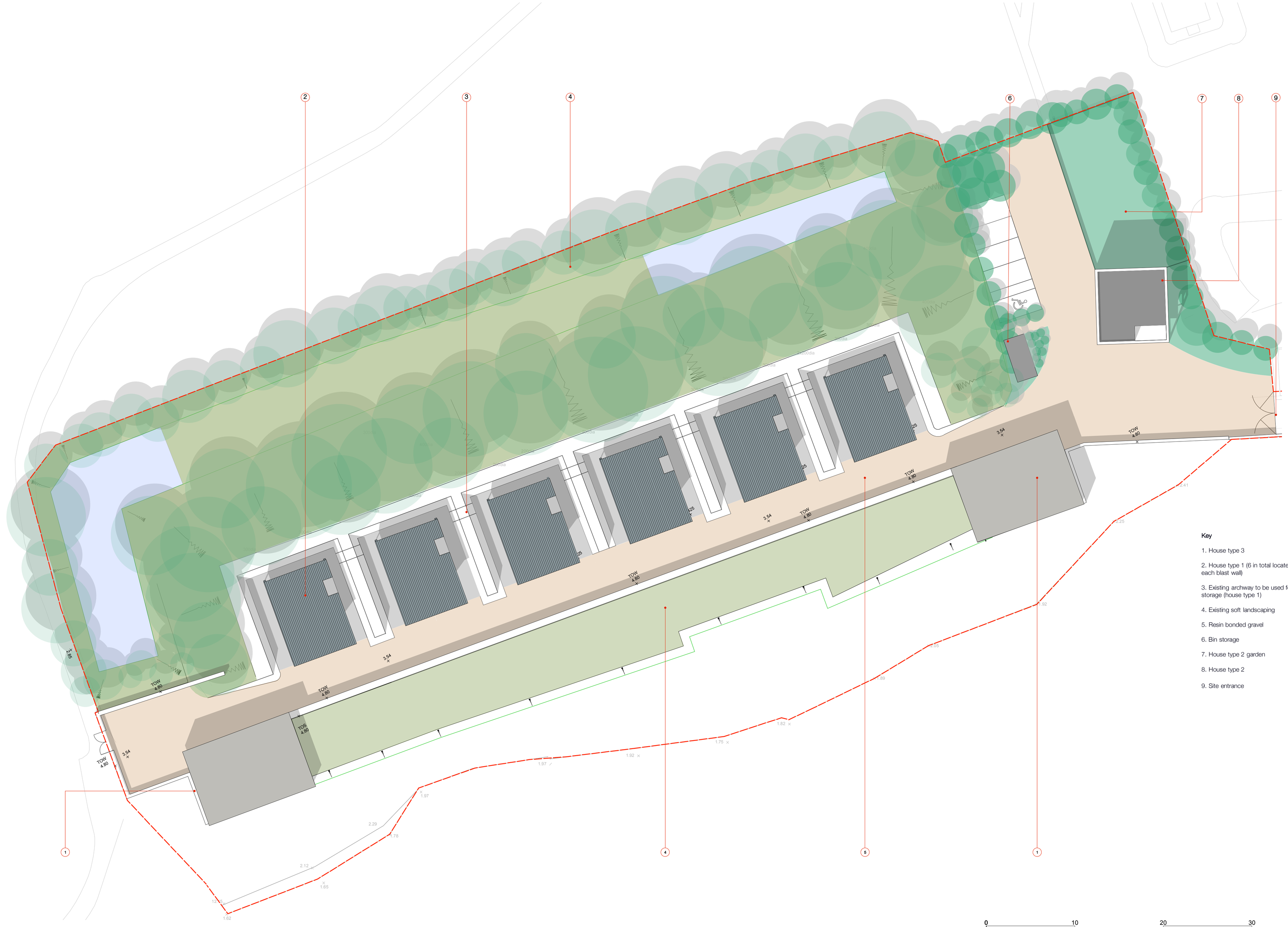
15 Residual Risks

15.1 The surface water discharges to land in the coastal margin beyond the defence line. Flooding of these points is tidal and the discharge will not affect tidal flood levels or durations. The proposed flood management strategy for the development provides for flood events up to 2114_{AD} 0.5% AEP plus freeboard. The residual flood risk is therefore events in excess of 2114_{AD} +0.5% AEP .

APPENDIX A:

Existing & Proposed Site Layout

Aerial view on site.



Key

1. House type 3
2. House type 1 (6 in total located between each blast wall)
3. Existing archway to be used for outdoor storage (house type 1)
4. Existing soft landscaping
5. Resin bonded gravel
6. Bin storage
7. House type 2 garden
8. House type 2
9. Site entrance

KEY:

EXISTING FOUNDATIONS TO BE DEMOLISHED

PROPOSED NEW TREES

STATUS:	PLANNING
SCALE:	1:200 @ A1
DATE:	AUGUST 2014
DRAWING NO:	1410-PP-102
TITLE:	PROPOSED SITE PLAN / BLOCK PLAN
PROJECT:	**PRIDDY'S HARD, GOSPORT**

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APPENDIX B:

SFRA Map Data and EA Data

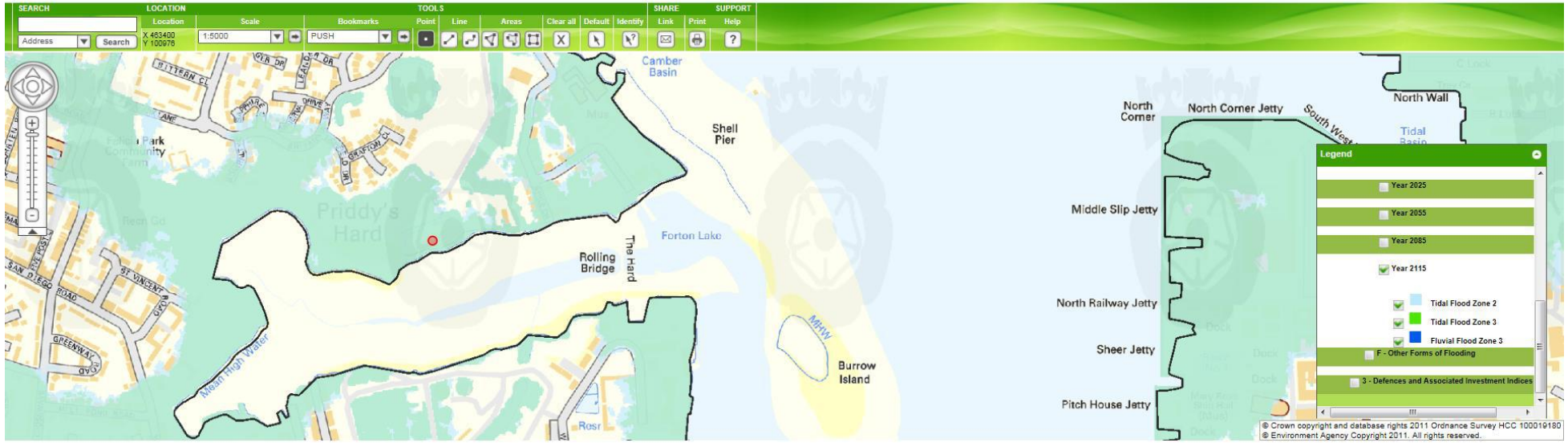
SFRA map set 1A **Flood Zones (undefended)**

SFRA map set 1B **Flood Zone 3 (undefended) hazard map**

SFRA map set 3A **Present day defence standard**

SFRA map set 3C present defence standard against 2115_{AD} tides

SFRA map set 1D **Danger from Breaching Flood Zone 3**



SFRA map set 1E Climate Change 2115_{AD} Flood Zone 3

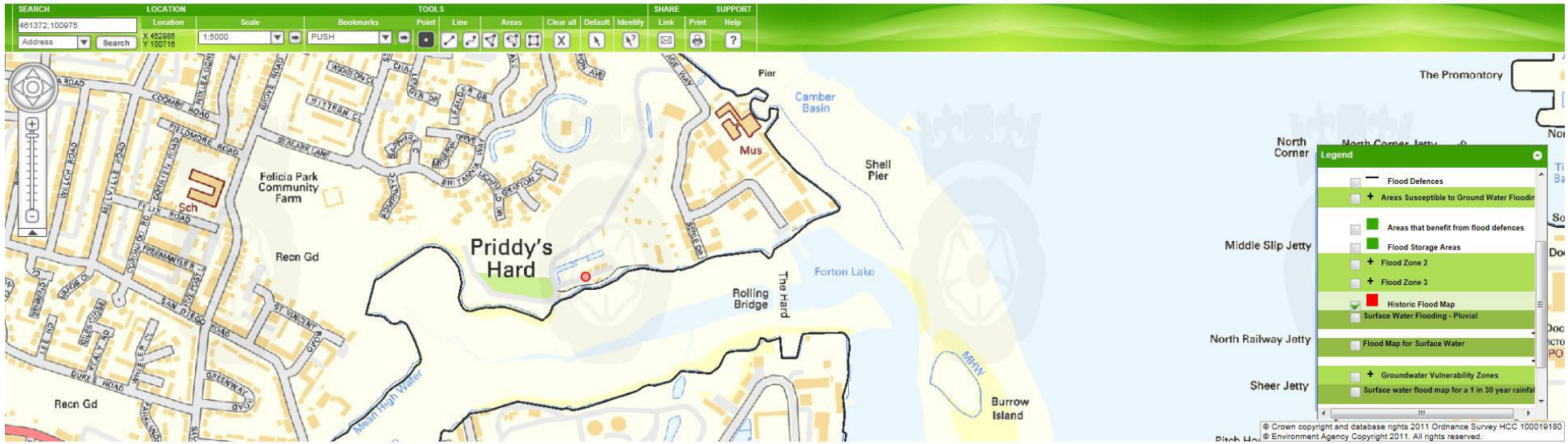
SFRA map set 1F1 Wave energy and overtopping

SFRA map set 1F2 Groundwater Flooding & Bedrock Permeability

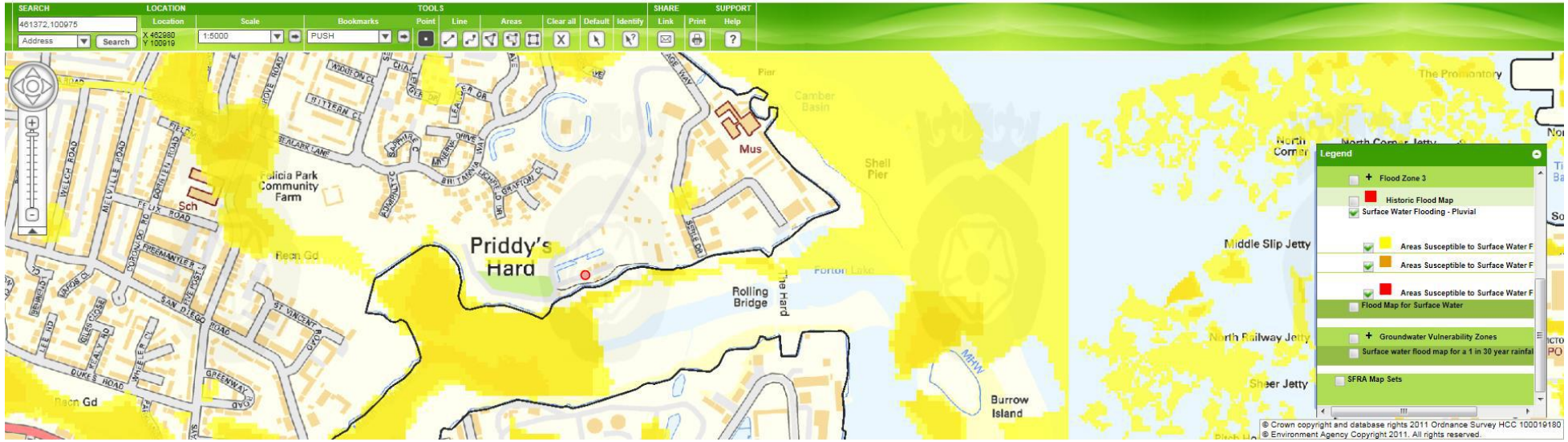
SFRA map set 1F5 Observed Southern Water Sewer Flooding

SFRA **EA flood zone map**

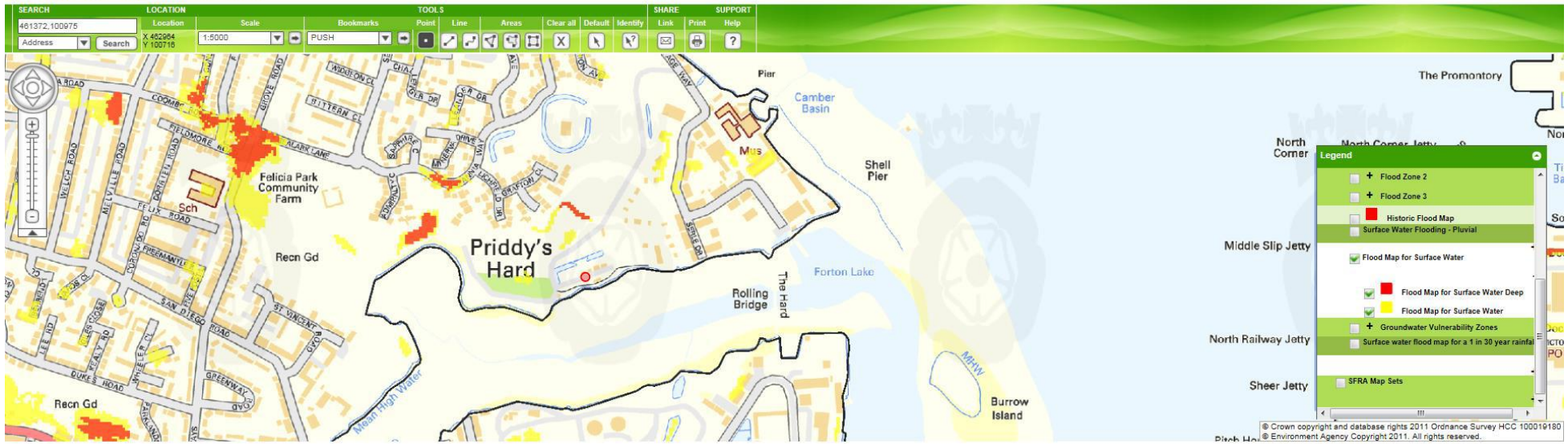
PUSH Strategic Flood Risk Assessment



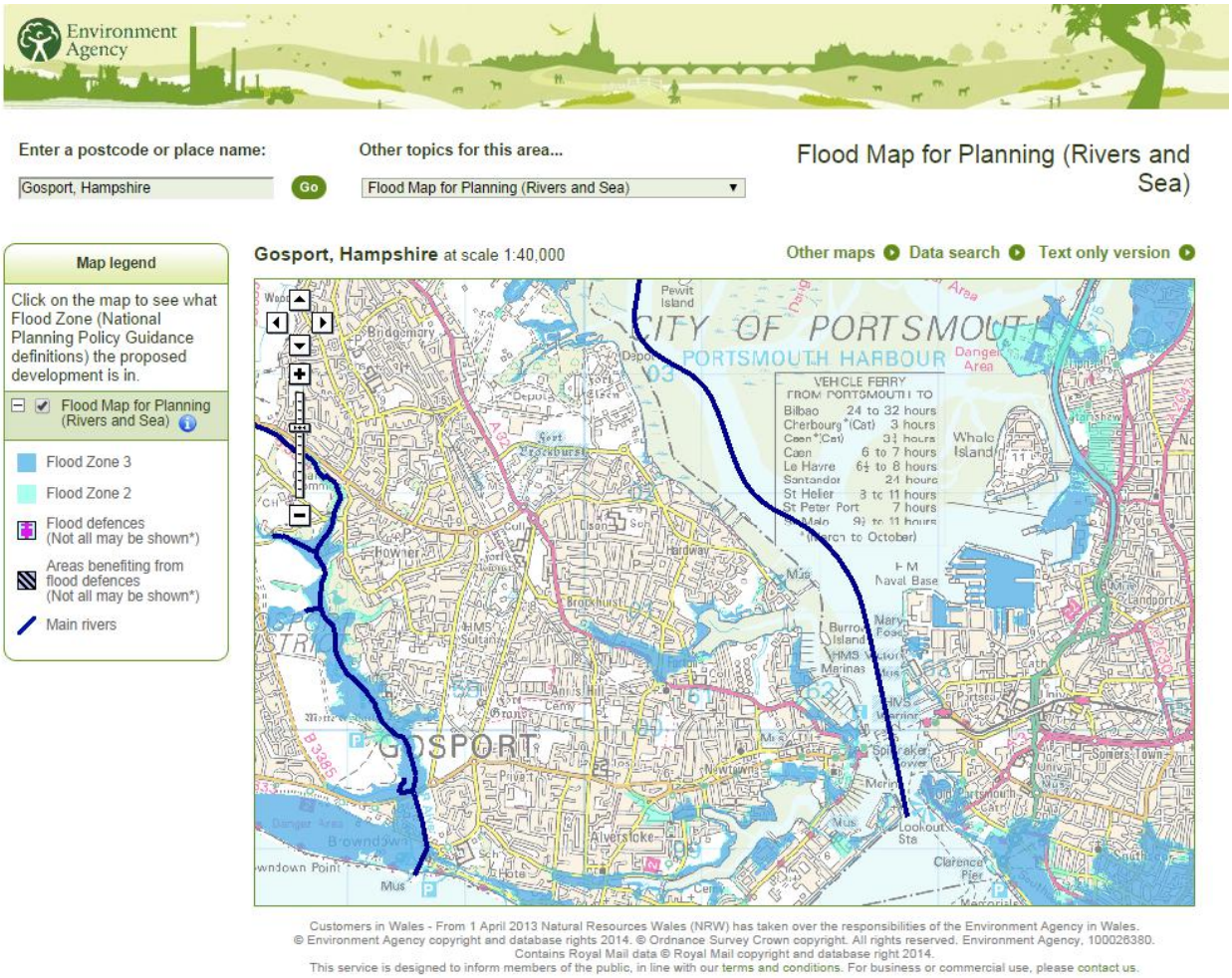
SFRA **Environment Agency Historic flood Map**



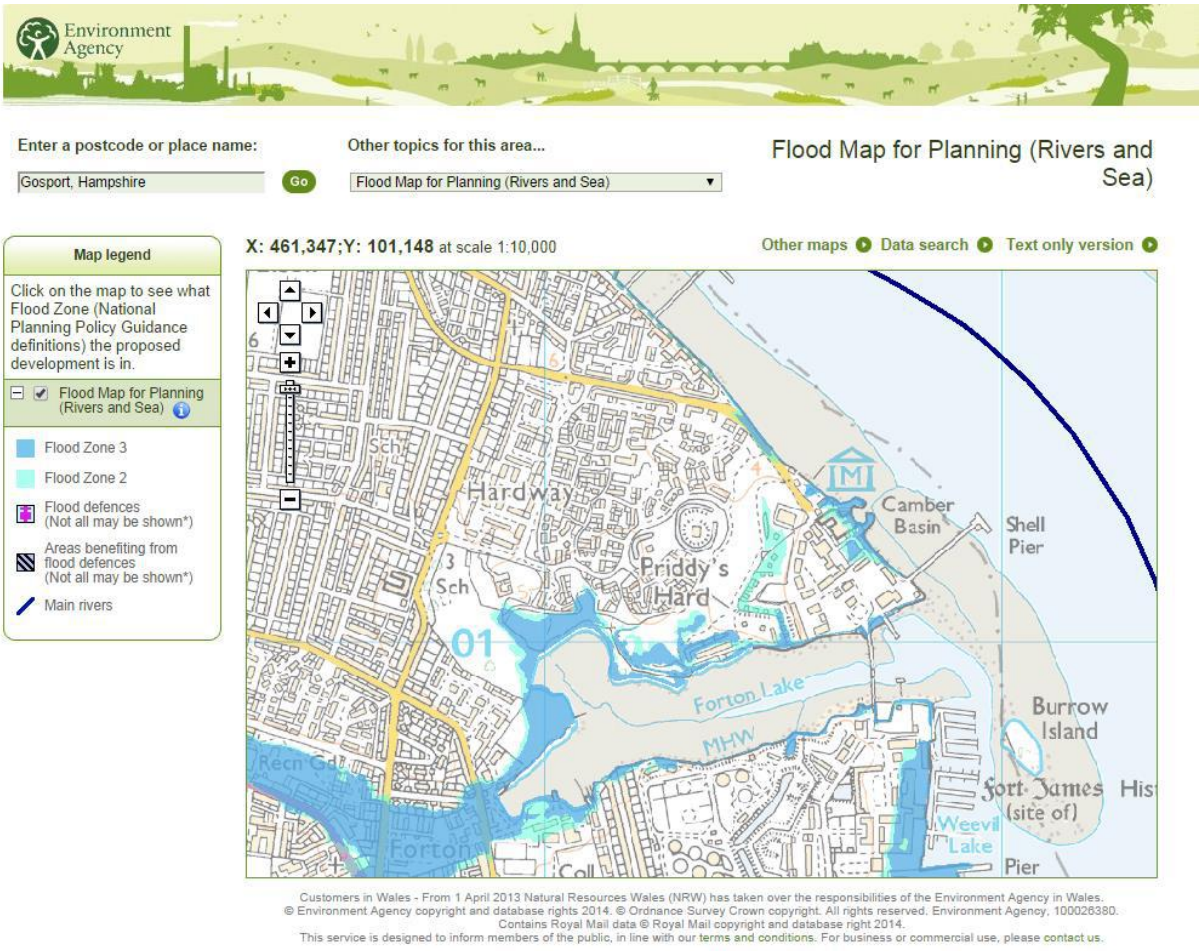
SFRA **Environment Agency Areas of Susceptibility to Pluvial Surface Water Flooding**



SFRA **Environment Agency Surface Water Flood Map**



EA web map Local Main River Network

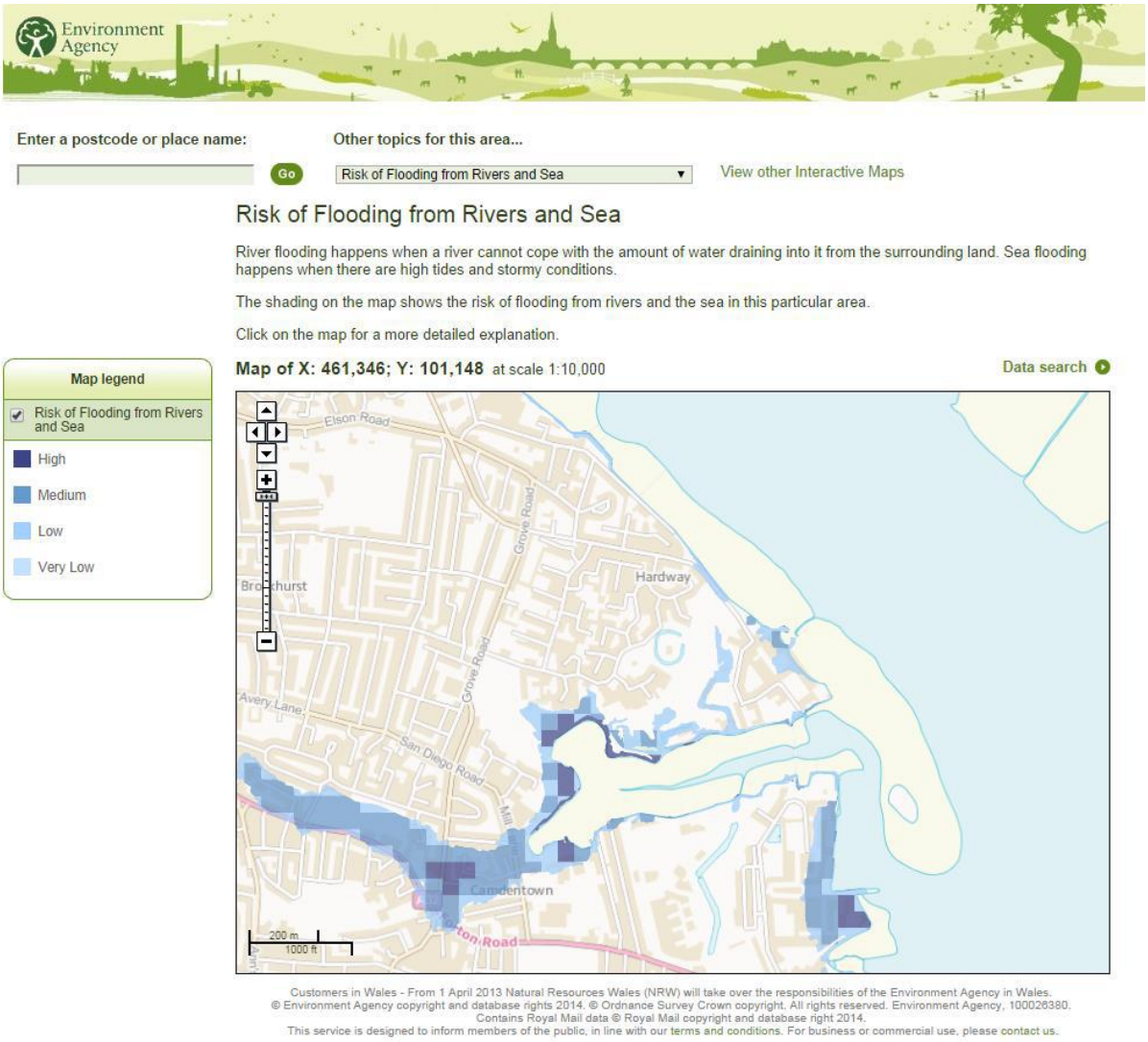


EA web map Flood Zones

Flood Zone definitions are set out in the National Planning Policy Guidance:

* Flood Zone 1 - land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)
* Flood Zone 2 - land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year
* Flood Zone 3 - 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 (>0.5%) in any year

Note: These flood zones refer to the probability of river and sea flooding, ignoring the presence of defences.



EA web map Risk of Flooding from Rivers and the Sea

What does 'very low' mean?

Very low means that each year, this area has a chance of flooding of less than 1 in 1000 (0.1%).

What does 'low' mean?

Low means that each year, this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%).

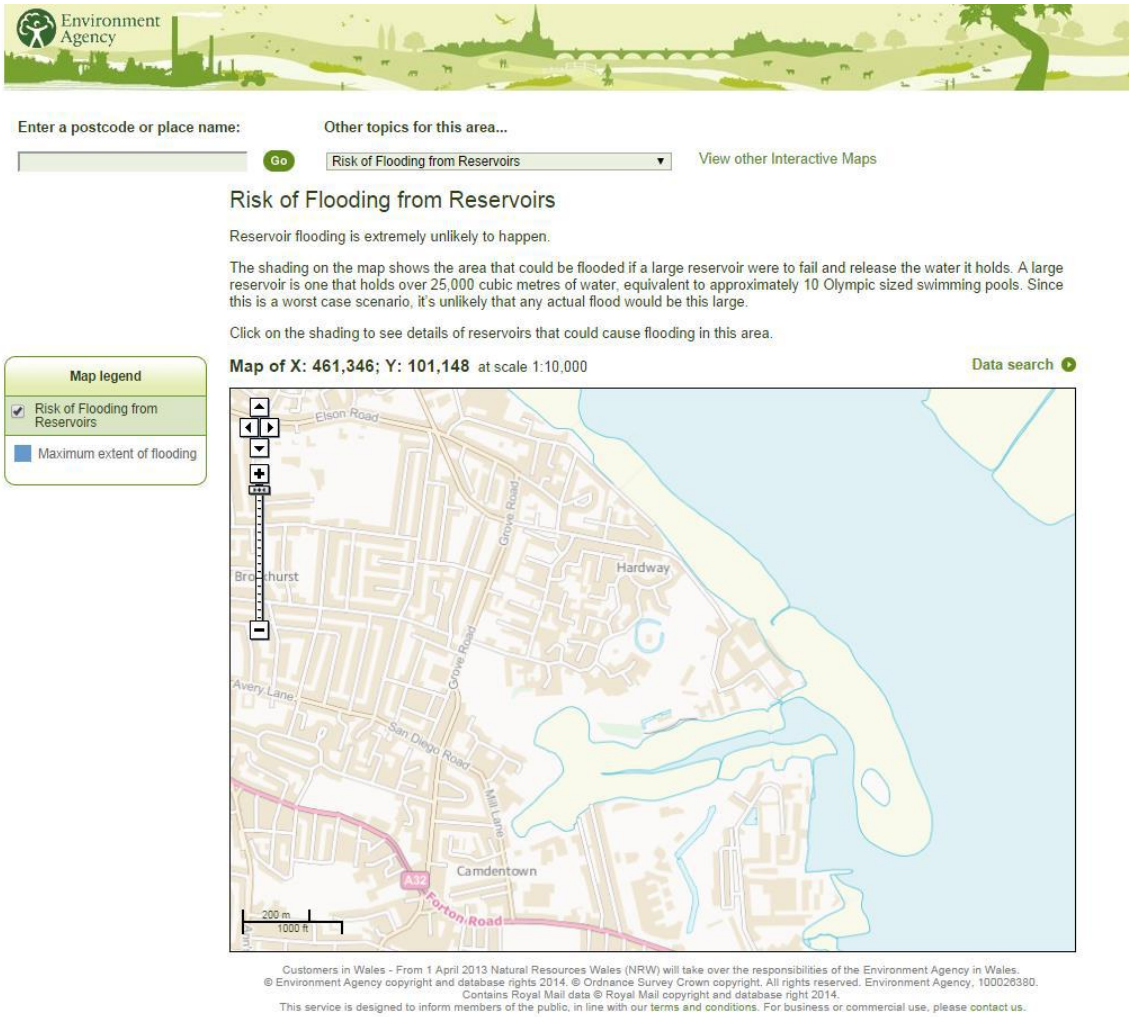
What does 'medium' mean?

Medium means that each year, this area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%).

What does 'high' mean?

High means that each year, this area has a chance of flooding of greater than 1 in 30 (3.3%).

This takes into account the effect of any flood defences that may be in this area. Flood defences reduce, but do not completely stop the chance of flooding as they can be overtopped or fail.



EA web map Risk of flooding from Reservoirs

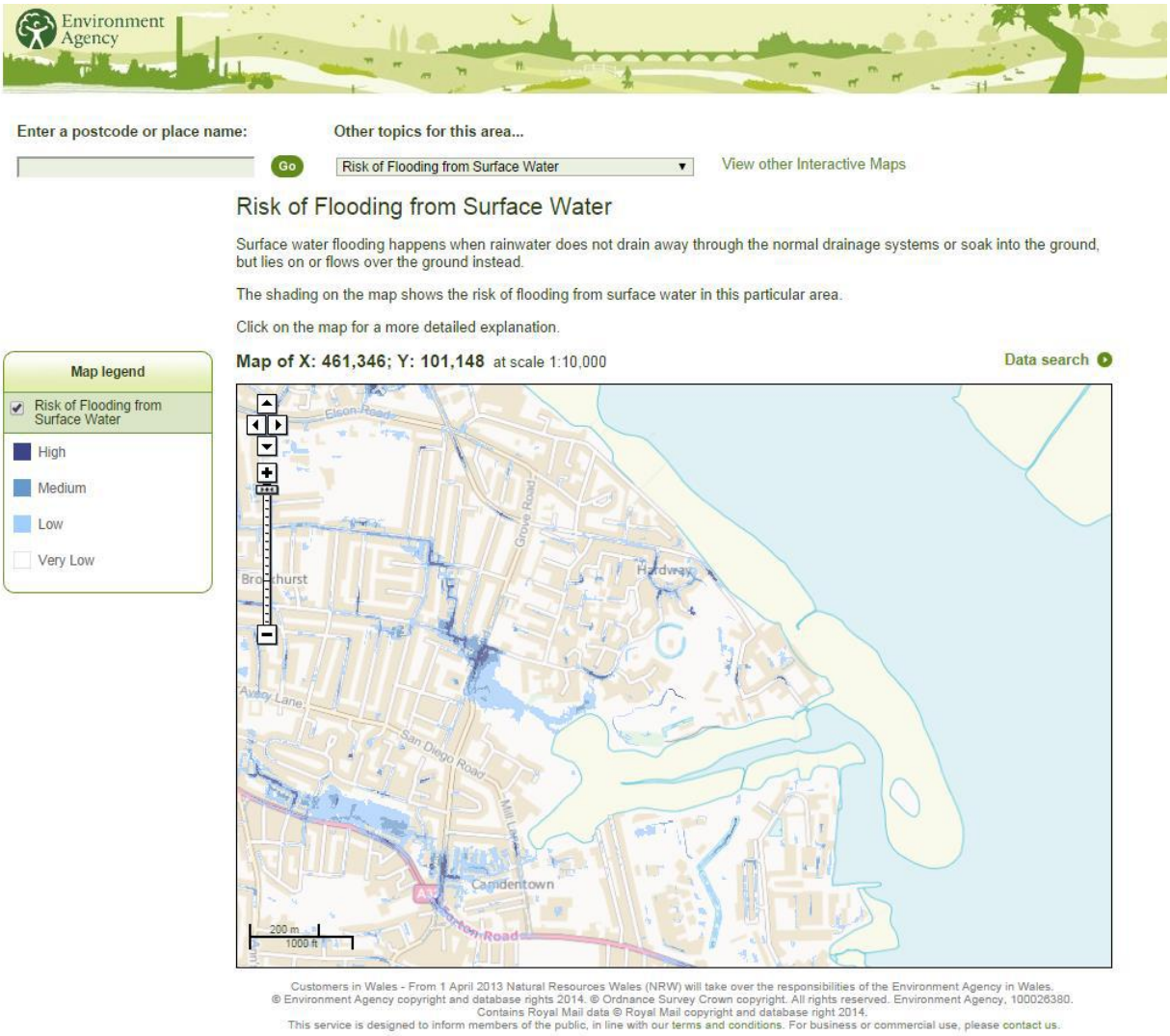
Where an extent is shown:

N/A for this site

Reservoir flooding is extremely unlikely to happen. There has been no loss of life in the UK from reservoir flooding since 1925. All large reservoirs must be inspected and supervised by reservoir panel engineers. As the enforcement authority for the Reservoirs Act 1975 in England, we ensure that reservoirs are inspected regularly and essential safety work is carried out.

However, in the unlikely event that a reservoir dam failed, a large volume of water would escape at once and flooding could happen with little or no warning. If you live or work in an area that could be affected, you should plan in advance what you would do in an emergency. You may need to evacuate immediately. Consider where you would go to safety, and be ready to follow the advice of emergency services.

To find out about local emergency plans, contact the local authority listed above. Be aware that they may not be able to give you any specific information immediately as developing reservoir emergency plans is a new responsibility.



EA web map Risk of flooding from surface water

What does 'very low' mean?

Very low means that each year, this area has a chance of flooding of less than 1 in 1000 (0.1%).

What does 'low' mean?

Low means that each year, this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%).

What does 'medium' mean?

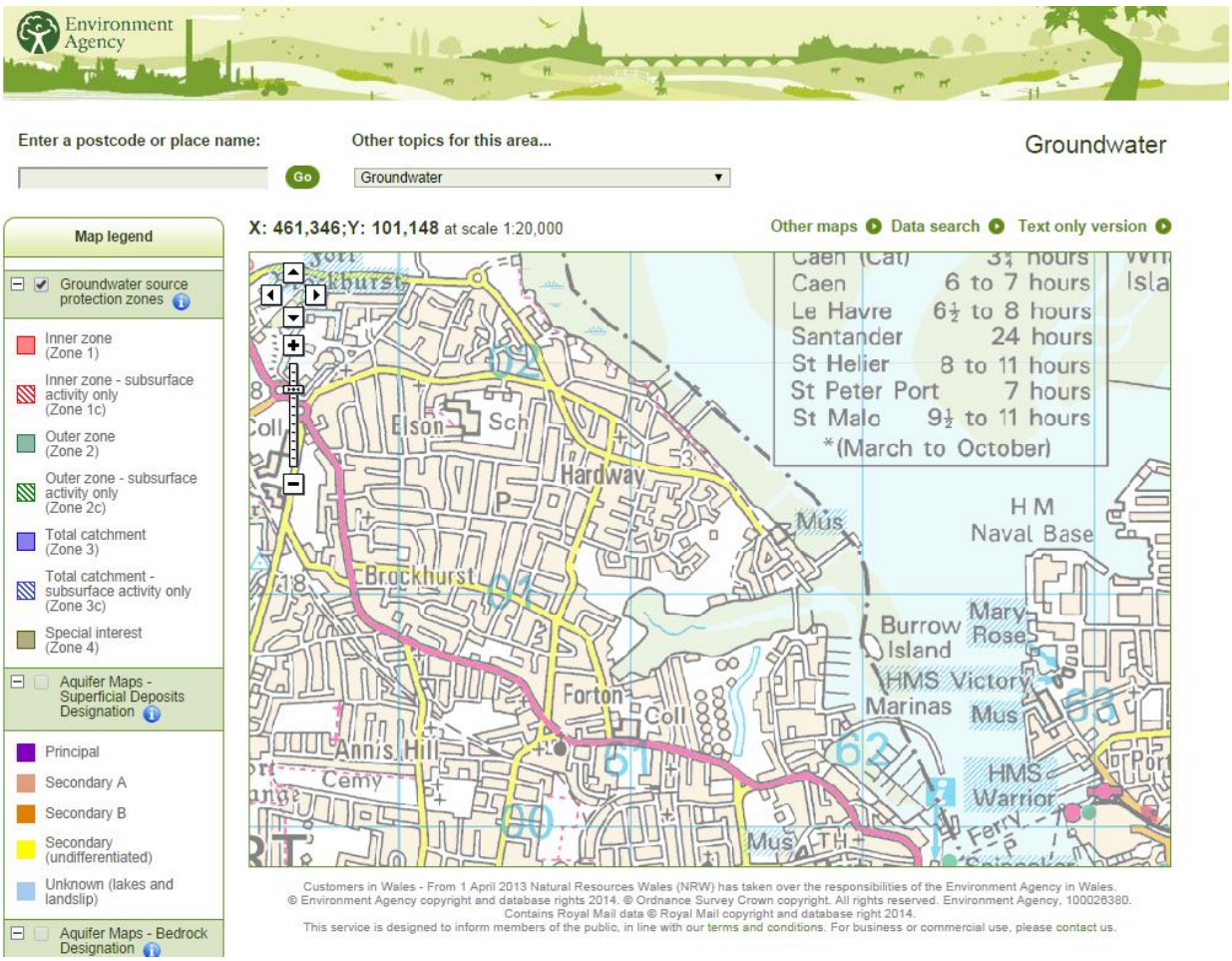
Medium means that each year, this area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%).

What does 'high' mean?

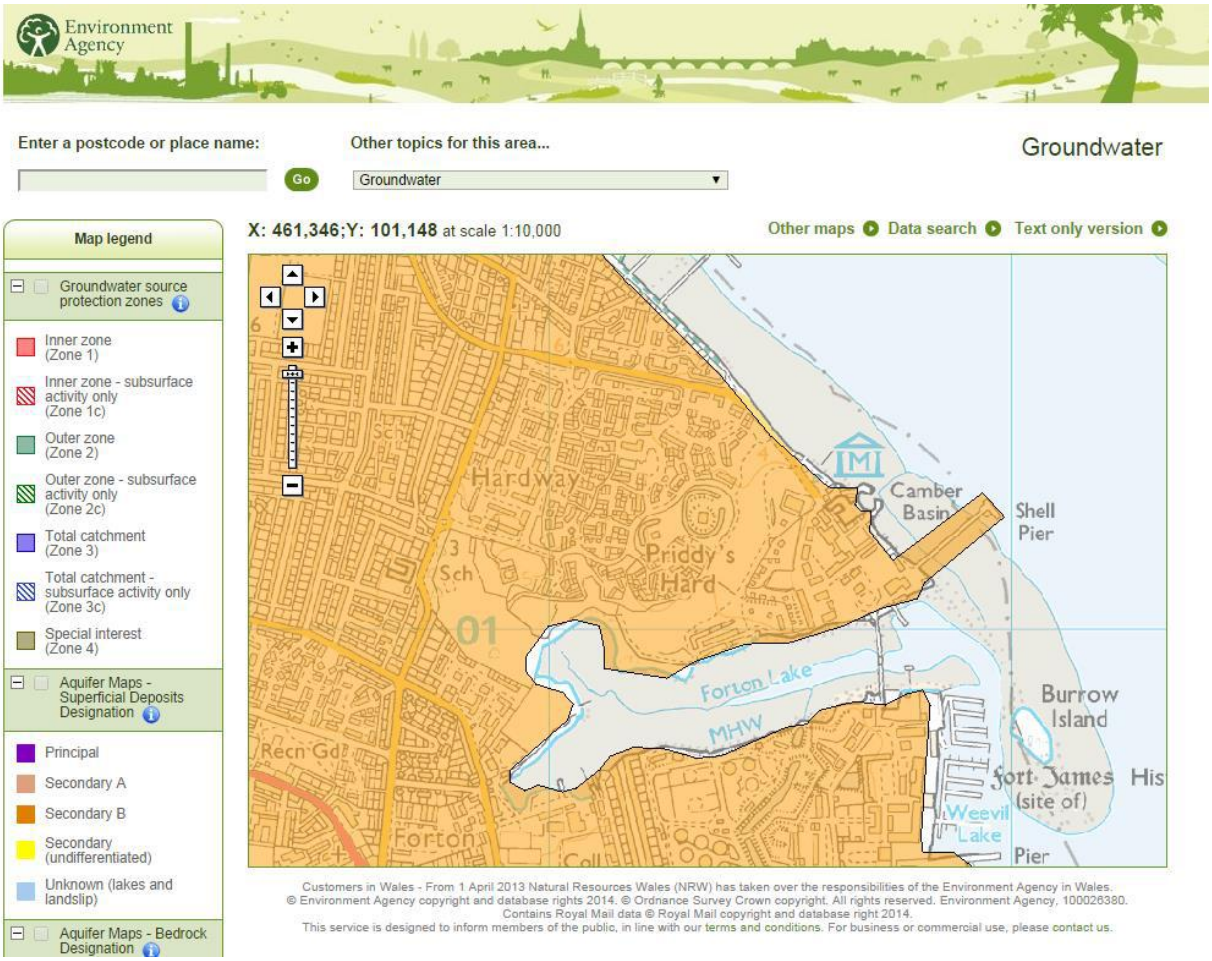
High means that each year, this area has a chance of flooding of greater than 1 in 30 (3.3%).

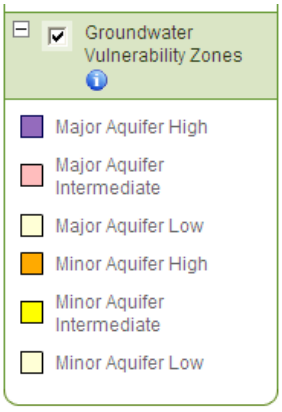
This type of flooding can be difficult to predict, much more so than river or sea flooding as it is hard to forecast exactly where or how much rain will fall in any storm.

This is based on the best information we have available, such as ground levels and drainage.

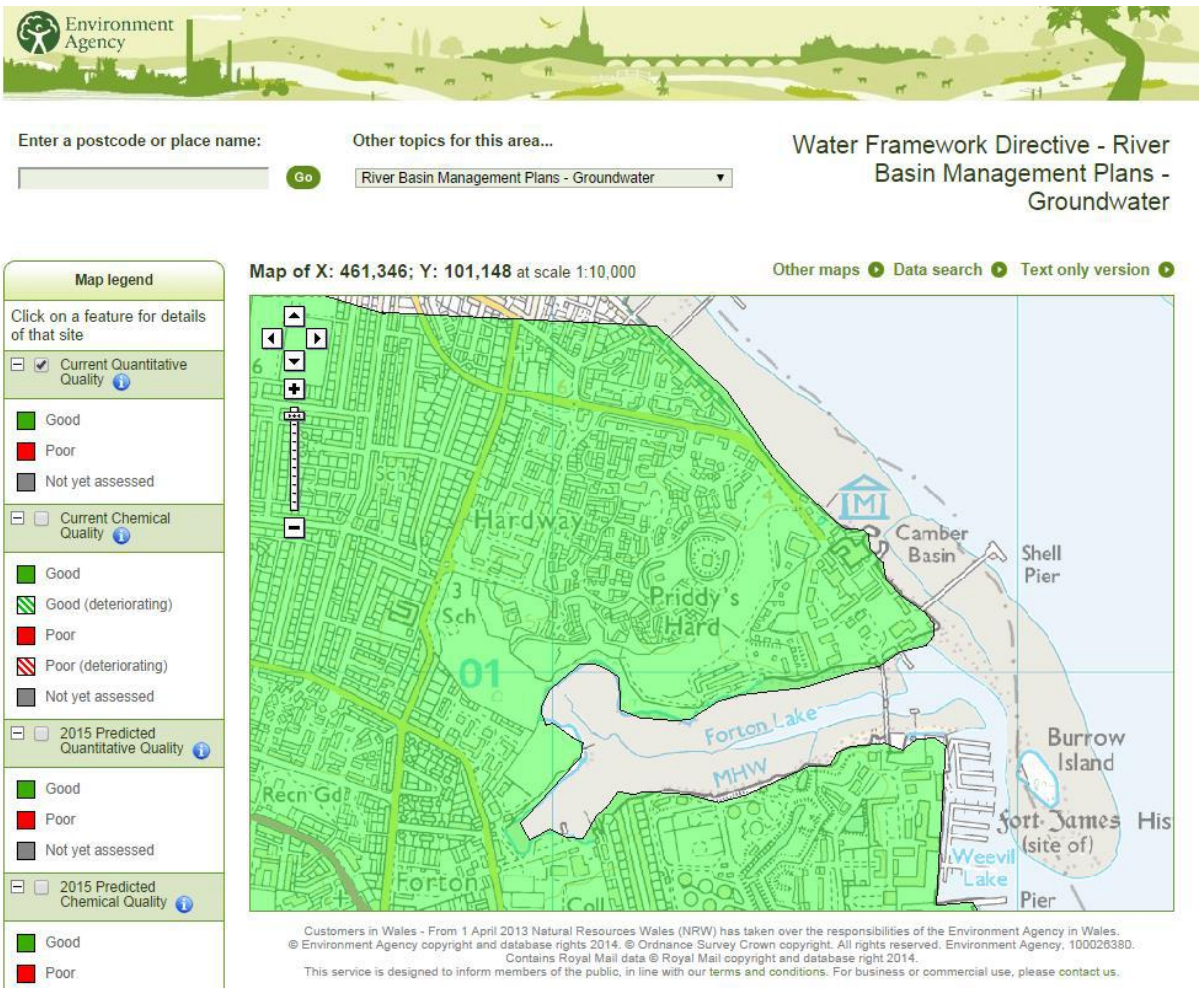


EA web map Groundwater Source Protection Zones

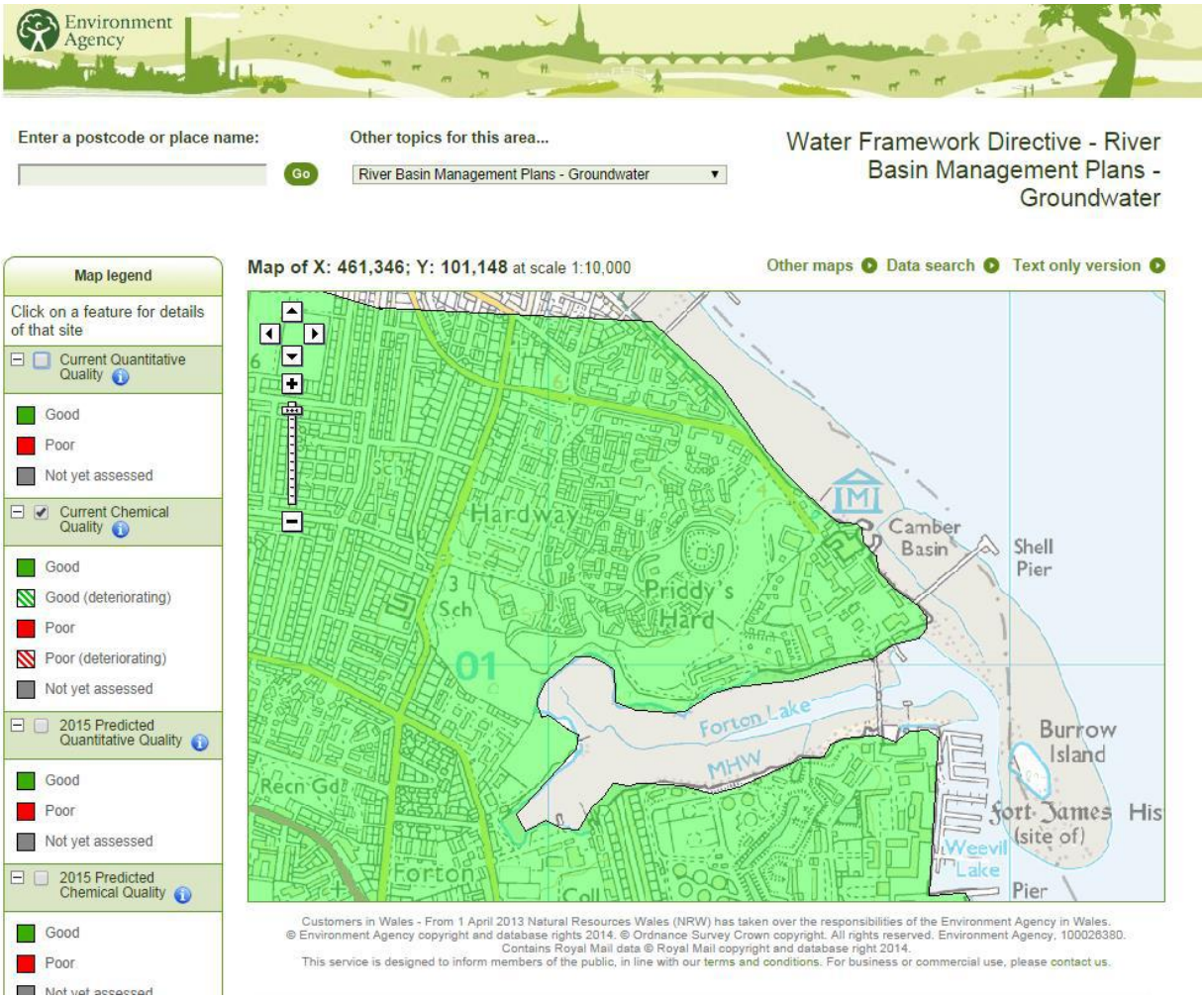




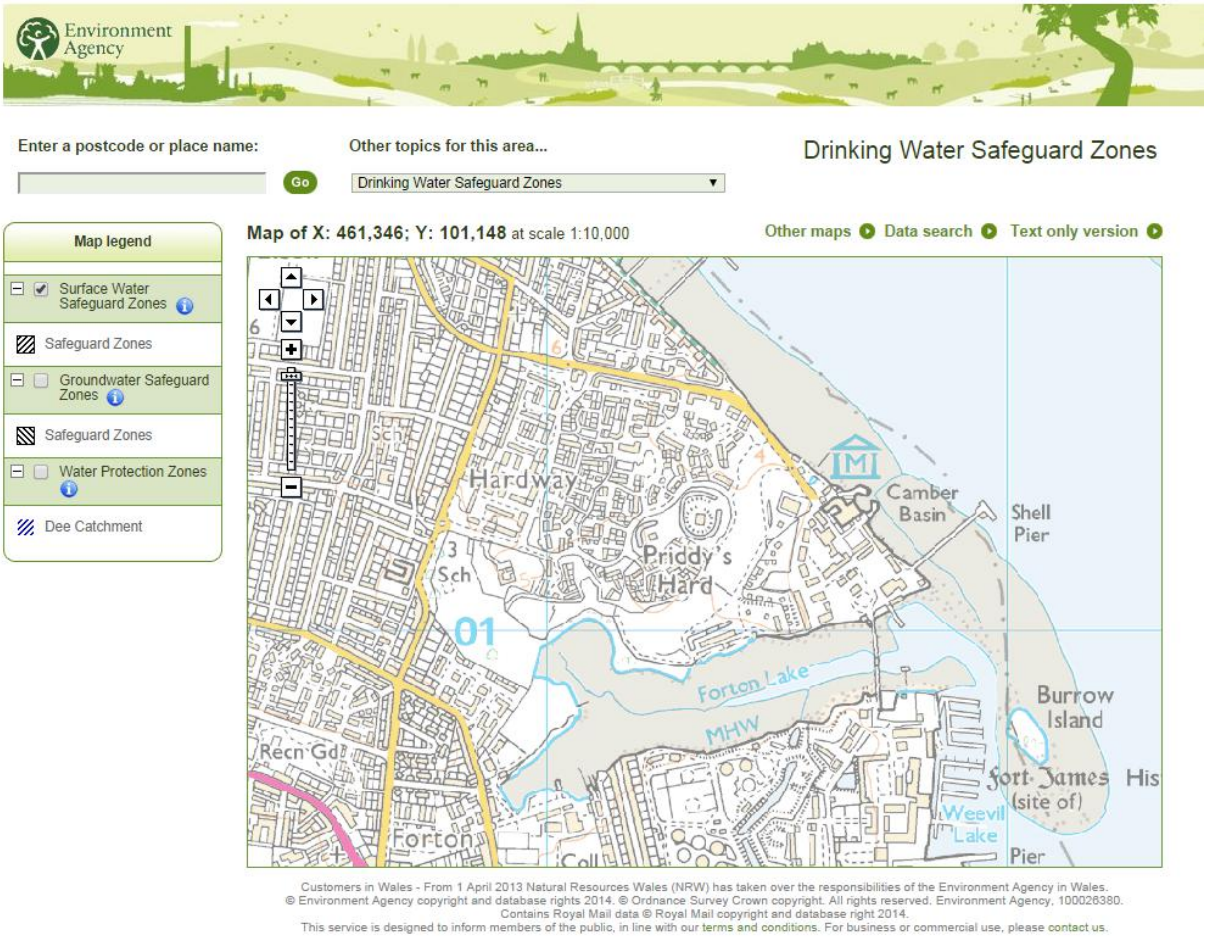
EA web map Groundwater vulnerability Zones



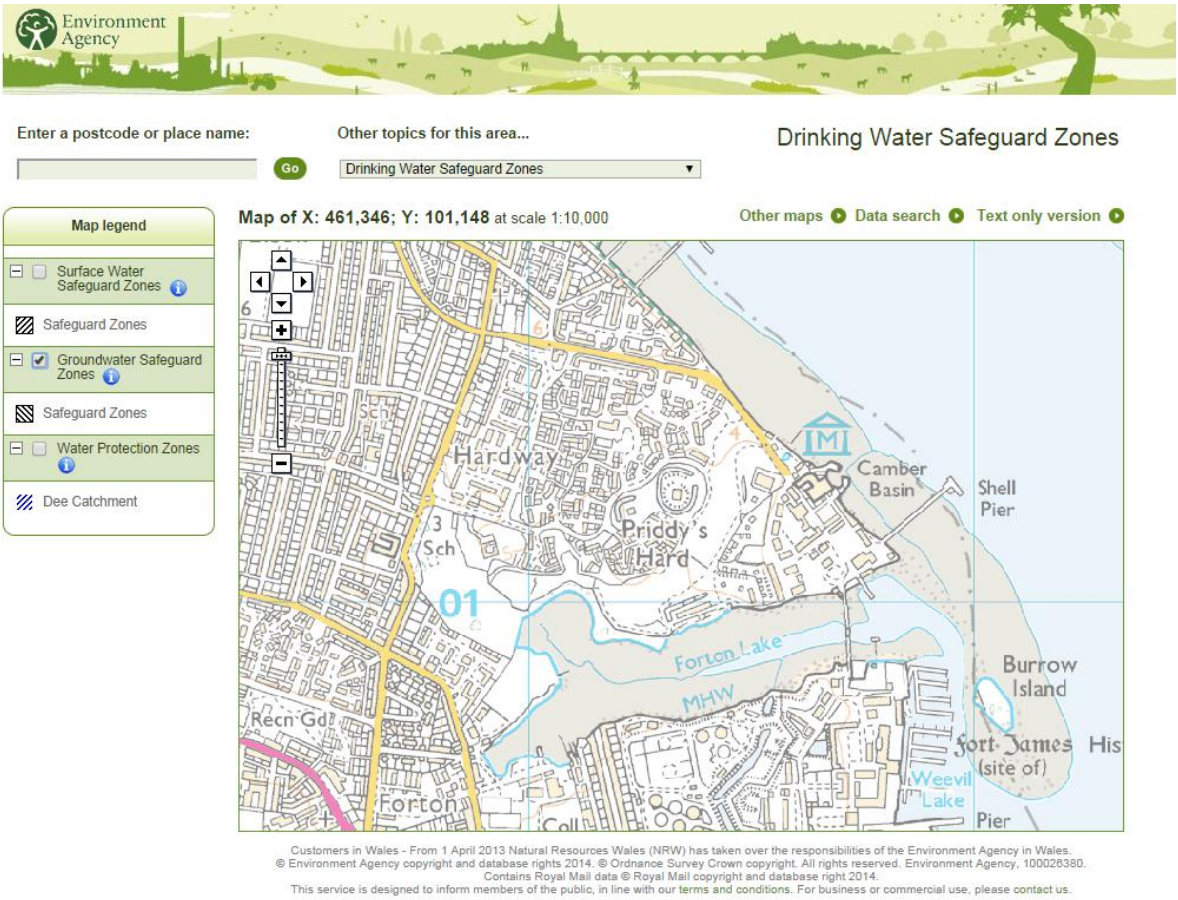
EA web map River Basin Management Plan current quantitative Groundwater Quality



EA web map River Basin Management Plan current Chemical Quality



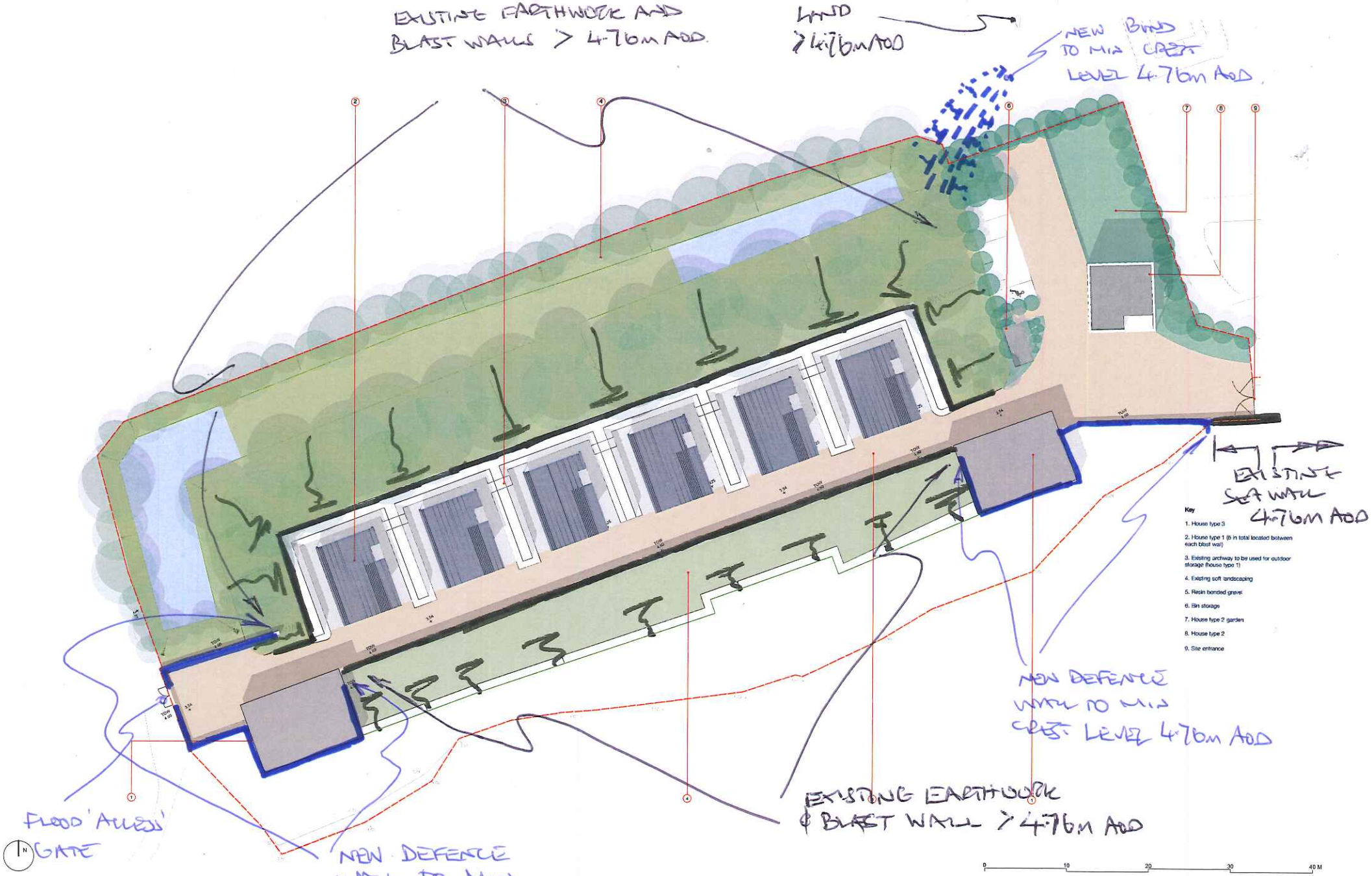
EA web map Drinking Water Protection Areas (Surface Water)



EA web map Drinking Water Protection Areas (Groundwater)

APPENDIX C:

Proposed Sea Wall & Drainage Water Schematics



KEY:
EXISTING FOUNDATIONS TO BE DEMOLISHED
PROPOSED NEW TREES

STATUS: PLANNING	DRAWING NO: 1410-PP-102
SCALE: 1:200 @ A1	TITLE: PROPOSED SITE PLAN / BLOCK PLAN
DATE: AUGUST 2014	PROJECT: **PRIDDY'S HARD, GOSPORT**

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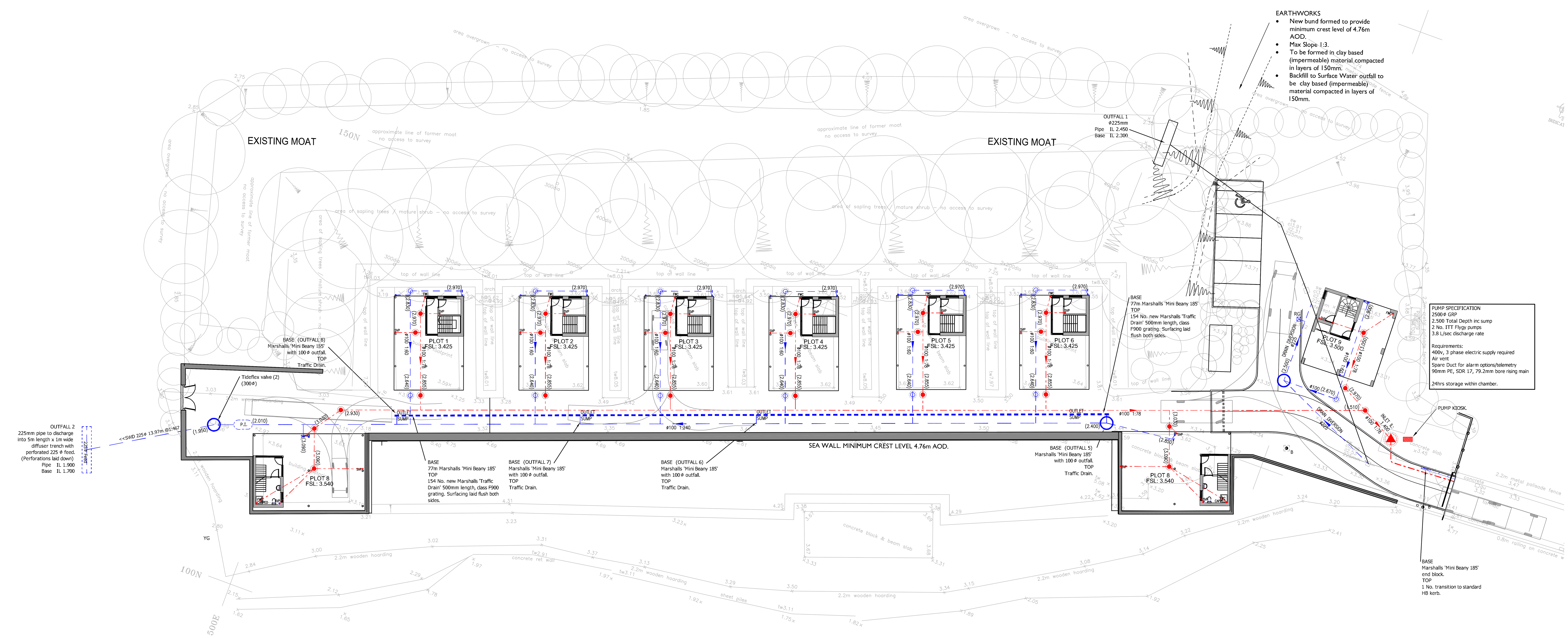
john pardey architects
brick farm studio, st leonards road, west end, hampshire, so40 3sr



STANDARD NOTES:

1. This drawing is to be read in conjunction with all other OPUS drawings, and with all relevant Architect's and Engineer's drawings and specification.
2. No dimensions are to be scaled from this drawing. Unless noted otherwise all dimensions are in millimeters and all levels are in metres from the site datum. All dimensions to be checked on site. All details and dimensions relating to sub-Contractors work must be checked and agreed between the sub-Contractor or supplier and the general Contractor.
3. The electronic information from this drawing cannot be guaranteed as dimensionally drawn exact. Figured dimensions must be used for setting out and detailing. OPUS logos and company information must be removed from copies if information is re-used."
4. The main Contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
5. The main Contractor is responsible for the mitigation of all occurrences of ground water during the construction period.
6. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not guaranteed. The main Contractor is responsible for checking all information on site prior to work commencing and taking due care and attention whilst undertaking the works.
7. The contractor must comply with all current legislation relating to Health & Safety.

DRAINAGE NOTES:

1. All works to be conducted in strict accordance with specification of the Local Authority, BS8301 1985 & BSEN.752-1.
2. All pipe runs near buildings to comply with the Building Regulations 2002 Part H1. Where a pipe is within 1m of a foundation the trench shall be filled with class GEN3 concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN3 concrete to a level below the lowest level for the foundation equal to the distance from the foundation less 150mm. In both cases the pipe shall be bedded and surrounded in 150mm thick class GEN3 concrete.
3. Where pipes, external to the structures, have a depth to soffit from ground level of less than 450mm they shall have a class GEN3 concrete encasement (150mm thick).
4. Where a pipe, under a carriageway, has a depth of cover of less than 1.2m the pipe shall be laid in a class Z bedding.
5. Where pipes are bedded and surrounded in concrete, flexible joints should be provided. Compressible boards (fibreboard or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints). The boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. A board thickness of 18mm for pipes up to 450mm nominal diameter and 36mm for pipes over 450mm nominal diameter.
6. All private building drainage shall be constructed in strict accordance with BSEN.752-1.
7. Unless otherwise specified, building drainage to be 100mm internal diameter.
8. Minimum gradient for Ø100mm surface drainage pipes is 1:60, and Ø150mm is 1:100.
9. Minimum gradients for foul drainage pipes:
Ø100mm: 1:40 where flow is less than 1l/s, or where no WCs are connected.
Ø100mm: 1:78 where flow is 1l/s or greater, or where at least 1No. WC is connected.
Ø150mm: 1:135 where flow is less than 5l/s, or where up to 5No. WCs are connected.
Ø150mm: 1:150 where flow is 5l/s or greater, or where 5No. or more WCs are connected
10. All gullies not connected to inspection chambers are to be roddable.
11. All gully connections other than those at manholes to be made via 'Y' junctions.
12. Gullies coincident with pedestrian/drive crossings to have pedestrian type gully covers.
13. All road gully connections to be 150mm diameter.
14. All stub stacks to be fitted with air admittance valves where branch drain exceeds 12m except at the head of the run. Soil vent pipes located at the head of a run to be installed with roof tile vent.
15. All connections to be made from soffit to soffit.
16. Trench temporary formwork is required to all excavations exceeding 1.2m depth to provide adequate support and stability at all times.
17. Sewers are to be constructed in single sections between manholes only. Trenches to be backfilled prior to excavating the succeeding sewer run.
18. All concrete and concrete products to be in accordance with BRE 363 for sulphates.
19. Where sewer or drains are to be abandoned they shall be removed or infilled by grouting in accordance with the Civil Engineer Specification for the Water Industry 7th Edition, clause S.23.

LEGEND:

Symbol	Description
S1 (74.975)	PROPOSED ø1200 STORM MANHOLE WITH INVERT LEVEL ON ADOPTABLE SEWER.
(74.975)	PROPOSED ø480 FOUL PPIC WITH INVERT LEVEL ON PRIVATE DRAIN.
(74.975)	PROPOSED ø480 STORM PPIC WITH INVERT LEVEL ON PRIVATE DRAIN.
(74.975)	PROPOSED RODDING EYE WITH INVERT LEVEL ON PRIVATE DRAIN.
	PROPOSED STORM WATER GULLY.

PRELIMINARY

Revision	Amendment	Approved	Revision Date
P1	FIRST ISSUE.	APT	23.09.2014

HAXTED

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Drawn	Designed	Approved	Revision Date
DLS	DLS	APT	23.09.2014

Project: The Shell Filling Rooms Gosport.

Sheet: Drainage

Project No.	Scale	Drawing No.	Sheet. No.	Revision
FA E-F1201.00	1:250	300	1 of 1	P1

1:1 @ A1 / 1:2 @ A3 — 0 10 20 30 40 50 60 70 80 90 100 mm

Original Sheet Size A1 [841x594] Plot Date 01 Oct 2014 @ 3:23 PM Path G:\Projects EF\EF1000-EF1999\EF1200-EF1299\EF1201 R\04 CAD\Current Working Drawings\FA E-F1201.00 300 Drainage.dwg 300

APPENDIX D:

Conditions & Limitations

OPUS

ENGINEER'S INSPECTION

CONDITIONS AND LIMITATIONS

1. The report is a record of a visual inspection carried out by, or under the direction of a Chartered Structural Engineer and must not be misinterpreted as a Structural Survey such as would be carried out by a Chartered Surveyor. The report is not a Valuation Survey.

2. The inspection is strictly limited to the items requested and these will be detailed in Clause 1 of the report. No consideration will be given to any other aspects or parts of the building.

3. The report is confidential to the Client(s) stated in Clause 1 and has been prepared to their instructions for their own purposes only and it is not permitted to disclose this report to any other parties (except the Clients own Solicitors, Surveyors, Building Societies or Estate Agents) without the prior consent of Opus.

4. The copyright of this report remains the property of Opus.

5. No liability for the contents of this report is accepted to any parties other than the Client(s) stated in Clause 1.1. No parties other than the client stated in Clause 1.1 should rely upon this report.

6. Unless specifically stated otherwise:-

   a) Trial holes will not be excavated prior to the preparation of the report and the depth and construction of the foundations and type of sub-soil will not be inspected.

   b) All external observations will be carried out by eye from the ground level only. Internal inspection is made within the limits of ready accessibility and it is not normal practice to lift floor coverings or floor boards, remove fixtures, panels or plaster, or move heavy items of furniture or bulky goods or materials.

   c) No inspection will be made of any roof voids, floor joists, wall cavities, drainage pipework or any other hidden or inaccessible parts.

   d) No timbers will be checked for damp, rot, infestation by wood-boring insects or other defects.

   e) It should not be construed that any parts of the construction comply with the requirements of the Building Regulations Act or standard practice either current or as current at the time of original construction. No enquiries to any Authorities will be made.

   f) No testing or enquiries into the presence of or susceptibility to pollution, contamination, radiation, methane, radon or other gases or hazardous substances has been carried out.

7. Unless specifically stated otherwise in the report, any recommendations for works given in the report are outline only and are to be confirmed or modified as appropriate at detailed design stage.

8. Where trial holes are specifically included in our instructions the condition of the footing and the founding soil relates only to the point of excavation and does not necessarily confirm a continuation of the same conditions throughout the non-inspected areas of the structure. Whilst such trial pits will usually provide a reasonable indication as to the general state of the foundations and ground conditions, these cannot be determined with complete certainty.

9. Under the Construction (Design & Management) Regulations latest edition, the Client has obligations for ensuring Health and Safety arising from any construction work. If it is proposed to proceed with construction work based upon information or recommendations contained in this report, these regulations probably apply. Further details of any issues arising from our report or the Clients obligations generally are available on request.

10. Unless dealt with more specifically above the Association of Consulting Engineers Conditions of Engagement Short Form Agreement 2002 apply.

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