32 Falcon Crescent

Flood Risk Assessment

Job Number: 1233

Date	Version	Notes/Amendments
August 2022	1	Issued for Information
January 2024	2	Figures Updated

Contents **Page**

Acronyms	
AOD	Above Ordnance Datum
CIRIA	Construction Industry Research and Information Association
EA	Environment Agency
FRA	Flood Risk Assessment
NPPF	National Planning Policy Framework
PPG	Planning Practice Guidance

Introduction

Flume Consulting Engineers have been appointed to undertake a Flood Risk Assessment (FRA) for the proposed development at 32 Falcon Crescent, Weston-super-Mare, BS22 8RX.

This FRA has been carried out in accordance with the National Planning Policy Framework (NPPF) and the Planning Practice Guidance 'Flood Risk and Coastal Change'. This FRA also incorporates advice and guidance from the Environment Agency (EA), the Strategic Flood Risk Assessment (SFRA) produced by North Somerset Council[1] and CIRIA documents.

The Environment Agency's (EA) indicative floodplain map shows that the site is located in Flood Zone 3, in an area which benefits from flood defences. Our assessment will therefore focus on the flood risk to the site from watercourses from a breach in defences or from overtopping.

[1] https://www.n-somerset.gov.uk/my-services/planning-building-control/planning-advice/supporting-documents/assessments/flood-risk-assessment

Site Description and Location

The site is currently a brownfield vacant plot adjacent to an existing residential plot. The site resides next to an existing residential building and to the east of existing garages. On the northern boundary, the site abuts a rear garden of another residential property (No. 5). Pedestrian and Vehicular access from the front of the site.

The site postcode is BS22 8RX and the OS grid reference is ST 35034 61780.

FIGURE 1. SITE LOCATION

Development Proposal

The development proposals comprise of the erection of a new detached bungalow to the side of an existing bungalow, which will remain consistent with the surrounding residential dwellings.

The proposed development will be accessed via Falcon Crescent. Pedestrian access will be maintained and remain unchanged from the existing case.

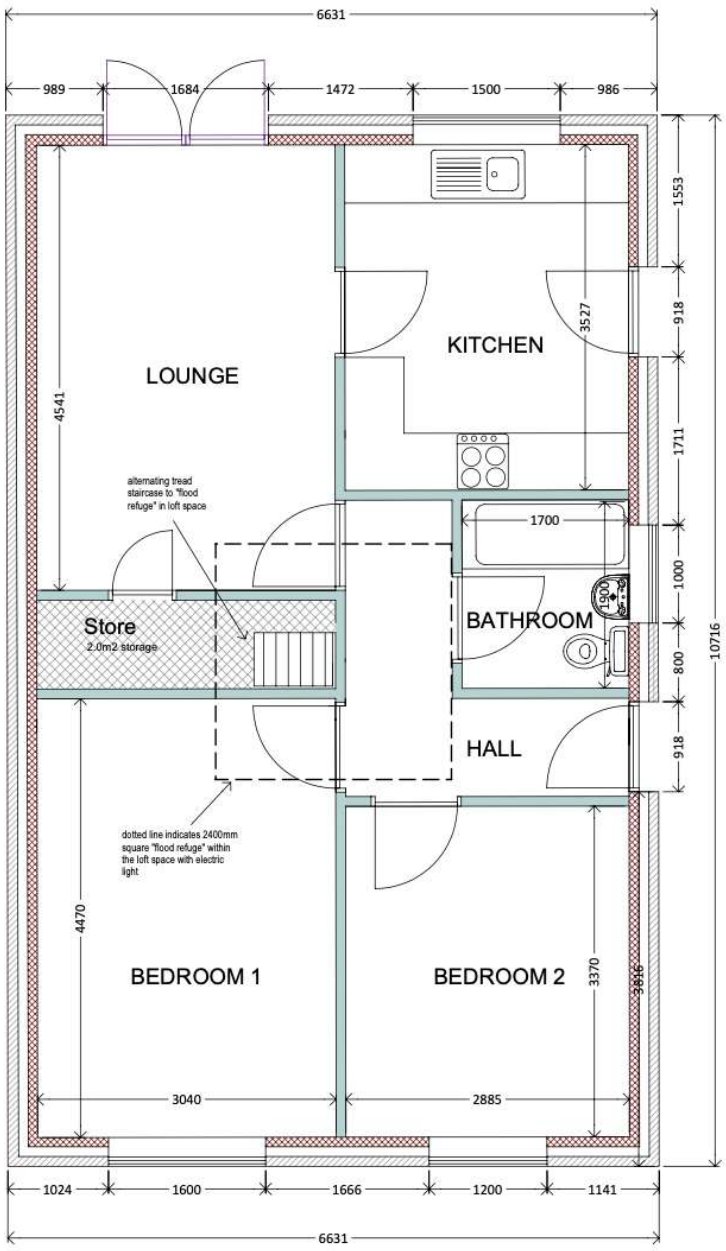


FIGURE 2. PROPOSED GROUND FLOOR PLAN

Flood Risk Assessment

Flood Risk from Watercourses

The EA's indicative floodplain map shows that the site is located in Flood Zone 3 (High flood risk). Land in this flood zone is assessed as having annual probability of river flooding greater than 1%. The EA's indicative fluvial/tidal flood risk maps, Figure 3, suggest that the site is located in an area which benefits from flood defences.

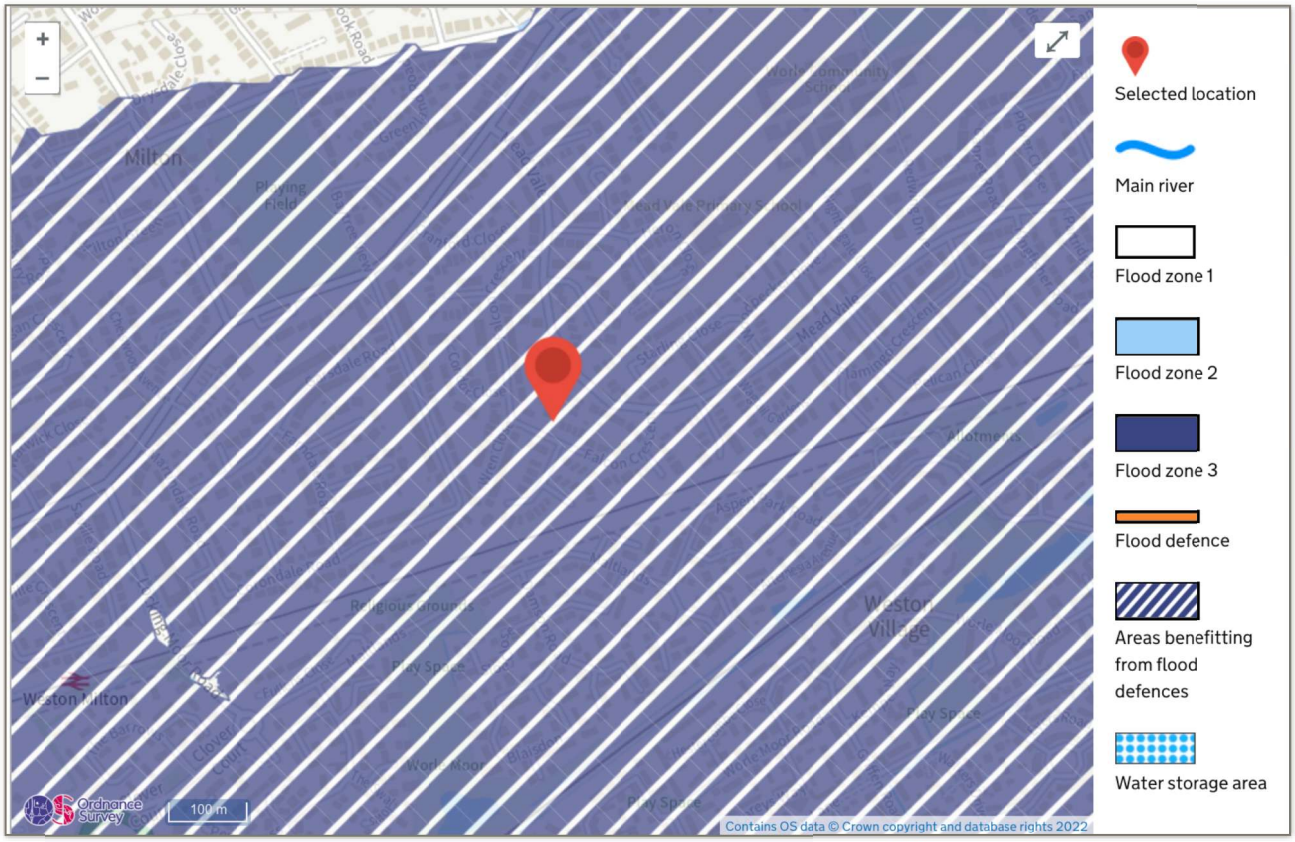


FIGURE 3. ENVIRONMENT AGENCY FLOOD RISK FROM RIVERS OR SEA MAP (GOV.UK, 2022)

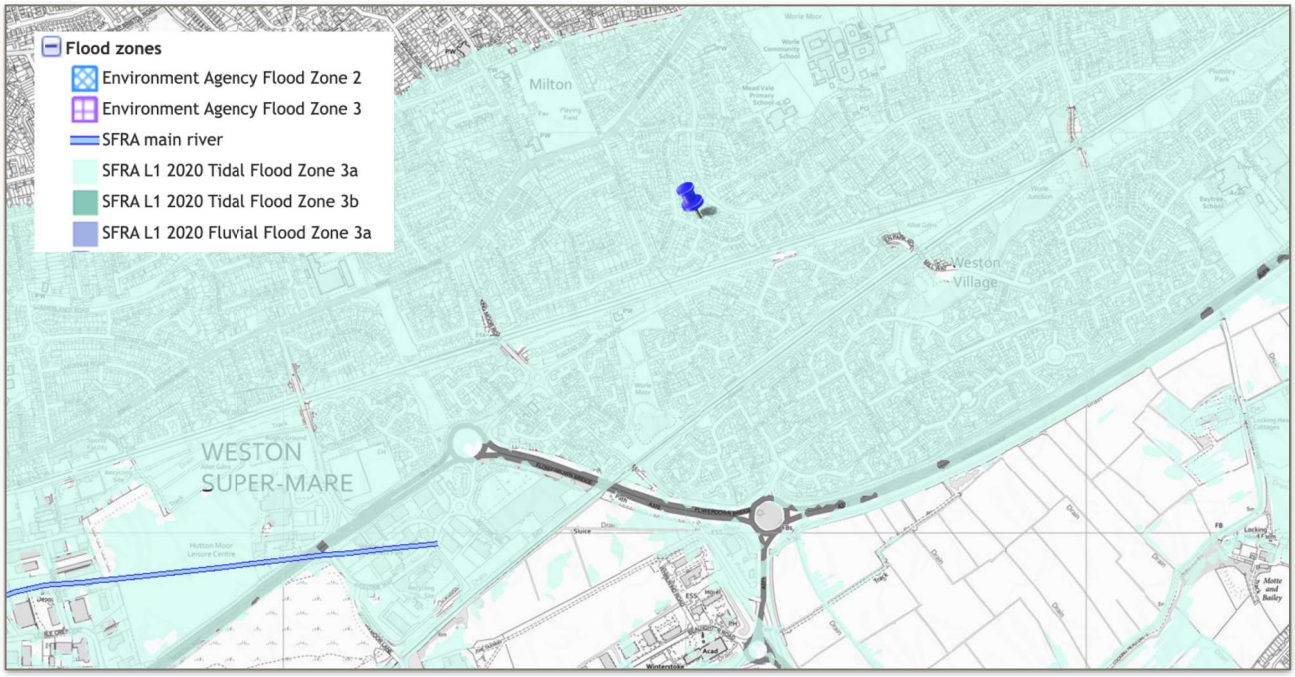


FIGURE 4. TIDAL FLOOD OUTLINES (MAP.N-SOMERSET.GOV.UK)

Although the site is not subject to Fluvial flooding, Tidal flood risk is extensive (Figure 4). However, at present the North Somerset is defended against predicted events up to and including the 0.1% Annual Exceedance Probability (AEP) tide level.

Flume requested the latest Product 4 flood level information from the EA to incorporate these into this FRA. The EA provided these levels and associated flood maps, which are summarised below:

Coastal/tidal flood levels and depths

The tables below show the maximum modelled tidal flood levels and depths for defended (actual situation) and undefended (natural floodplain) scenarios taken from our 2020 Woodspring Bay modelling. The annual exceedance probability (AEP) is given. For the undefended scenarios the 0.5% (1 in 200 year return period) and 0.1% (1 in 1000 year return period) annual exceedance probability (AEP) is given.

Defended		
AEP	*Maximum depth (metres)*	*Maximum level (mAOD)*
0.1%	*0.00*	*0.00*
0.5%	*0.00*	*0.00*
0.5% with 2068 CC	*0.00*	*0.00*
0.5% with 2118 CC	*0.86*	*6.20*

NB 0.00 (m or mAOD) indicates the data does not reach the site.

Undefended		
AEP	*Maximum depth (metres)*	*Maximum level (mAOD)*
0.5%	*0.91*	*6.26*
0.1%	*1.10*	*6.45*

Because the development benefits from flood defences up to the 0.5% AEP including the 2068 climate change allowance, a review on the impact of breach or overtopping is required as part of this assessment. The EA and local government are committed to upgrading the UK flood defences to ensure that they are upgraded in line with the new climate projections as part of the Flood and Coastal Erosion Risk Management (FCERM) Capital Schemes.

Sequential and Exception Test

Sequential Test

In accordance with the NPPF, before planning permission can be granted the risk-based Sequential Test should be applied and accepted. This needs to be carried out for those developments in Zone 2 or 3, and for all but minor developments.

The NPPF states plans should *'...support the sustainable growth and expansion of all types of business and enterprise in rural areas, both through conversion of existing buildings and well designed new buildings...'*. It goes on further to say that a *'pragmatic approach should be taken when applying the Sequential Test'*. Therefore, the proposals for this development are in accordance with this approach.

The Sequential Test is required to demonstrate that there are no sequentially preferable *"reasonable available"* sites at the lower flood risk (i.e. in Flood Zone 1) within a defined area. In terms of defining this area, sub-division or intensification of existing sites may be limited to the site alone and pass the Sequential Test by default, as the council relies on these windfall sites becoming available, facilitating the regeneration and sustainable development of the borough and it is considered preferable to develop the brownfield sites. It is also worth stating that Core Strategy Policy CS3 defines 'reasonably available', as limiting it to sites that the applicant owns or could acquire, and excludes alternative sites that have a planning permission likely to be implemented.

A positive approach to small sites development should be considered - particularly with the new policy and guidance supporting small sites development, as it is a fundamental characteristic of housing delivery in North Somerset. North Somerset Council have provided an interactive map highlighting areas which identify sites with potential for housing and assess when they are likely to be developed. For Weston-super-mare, they have a 'Sites and Policies' Map. Figure 5 indicates the proposed site resides in the *Weston Regeneration Area*, and also shows that no single-dwelling developments were allocated for residential development in the region - all allocations are significantly larger than the proposed development. Furthermore, all of the allocated residential sites within Flood Zone 1 are in excess of 1ha. All other sites in the region of 0.3ha or less reside in Flood Zone 3.

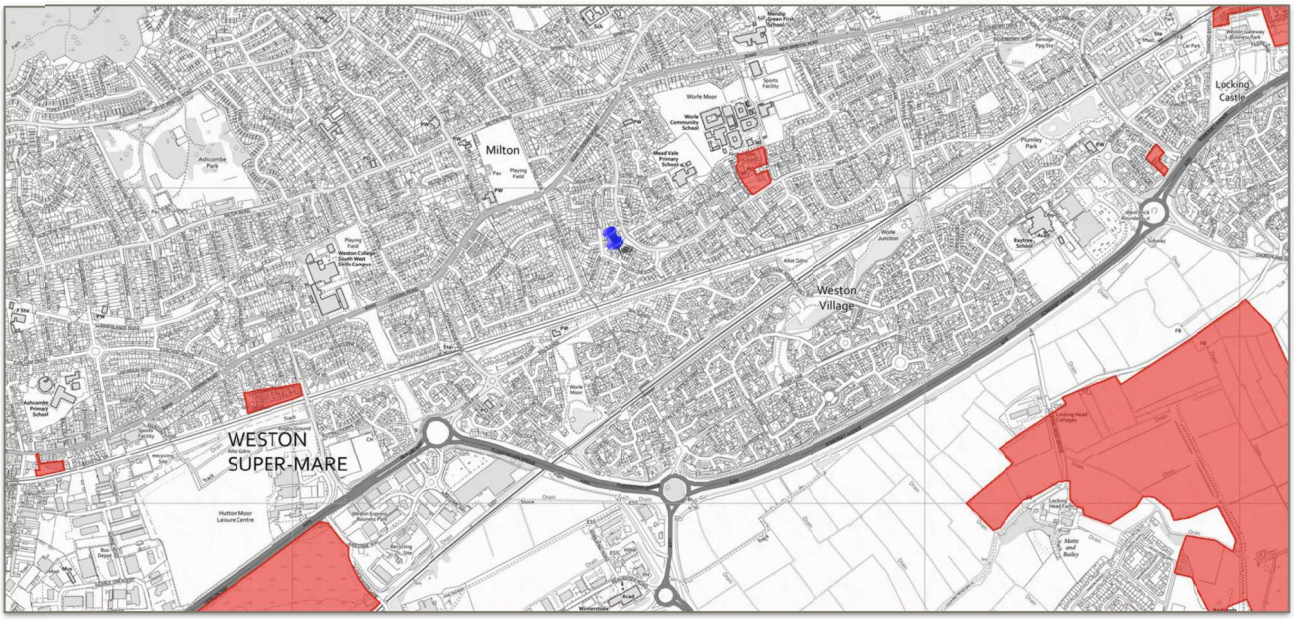


FIGURE 5. ALLOCATED SITES IN THE REGIONAL VICINITY (SFRA)

In conclusion, it is not pragmatic to consider more suitable alternative locations for this development elsewhere, considering its small scale and the local authority's approach to encouraging developing sites of this size. Any allocated residential developments in the region are also within Flood Zone 3. Therefore, the development should be considered suitable for housing development, under the same rules and regulations underpinning the borough's housing strategy, SFRA and the NPPF.

It is considered that the application site satisfies the Sequential Test, provided it can be demonstrated that flood water will not pose excessive risk to the development, safe ingress and egress can be created and the development will not increase risk of flooding elsewhere.

Exception Test

This development has a vulnerability classification of *More Vulnerable*, and so as can be seen from Table 3, the exception test will be required.

Table 3

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	**Flood Zone 1**	✓	✓	✓	✓	✓
	Flood Zone 2	✓	✓	Exception test required	✓	✓
	Flood Zone 3a	Exception test required	✓	✘	Exception test required	✓
	Flood Zone 3b - Functional Floodplain	Exception test required	✓	✘	✘	✘
Key: ✓ **Development is appropriate** ✘ **Development should not be permitted**						

In accordance with the NPPF clause 102, both the following elements must be demonstrated to pass the Exception Test:

I. “the proposed development provides wider sustainability benefits to the community that outweigh the flood risk”; and

II. “a site specific FRA has been carried out and can demonstrate that the development will be safe for its lifetime, taking account of the vulnerability of its users, without increasing flood risk elsewhere”

The development will provide additional residential capacity in the local area. North Somerset is proposing to build more than 20,000 new homes by 2038 . Weston-Super-Mare aims to facilitate 3,000 of these new homes. However, it is estimated that North Somerset falls nearly 6,000 short of their own target. Therefore, this development will help the local authority meet its housing targets, considering this expected shortfall.

The development will provide quality housing that redevelops a vacant, brownfield infill plot in a district that aims to address empty and vacant developments, encouraging more efficient use of land while protecting and enhancing the region and landscape quality by bringing to life a vacant plot and ensuring it’s constructed in a sustainable and flood resilient way. Furthermore, the development aims to protect and enhance the built character of the existing settlements, minimising the impact of new development on the amenity of the existing community and on existing land uses, while promoting job opportunities for the development of such a construction project.

The proposed new dwelling will replace an existing vacant brownfield plot of land with an environmentally sustainable, unobtrusive and cohesive property, which blends with the landscape and nearby properties. Flood Warning and Evacuation Plans will be in place to inform the site users of the evacuation procedures

in an emergency. If not already listed, it is recommended that the property is registered with the EA's Flood Warning Service.

The proposed building seeks to reduce the risk of flooding through design, whilst also aiming to achieve wider objectives for sustainable living and place-making, and it is therefore considered that the scheme can satisfy the first part of the Exception Test, having wider sustainability benefits to the community.

Flood Risk from Groundwater

A ground investigation report was not available at the time of writing this report. The British Geological Survey (BGS) Map shows that superficial deposits of Tidal Flat Deposits - Clay, Silt And Sand, underlay the site. Mercia Mudstone Group - Mudstone And Halite-stone, forms the bedrock geology.

The SFRA's 'Areas Susceptible to Groundwater Flooding' map (Figure 6) indicates that *"no risk is anticipated at present"* regarding groundwater flooding to the site or the surrounding area.

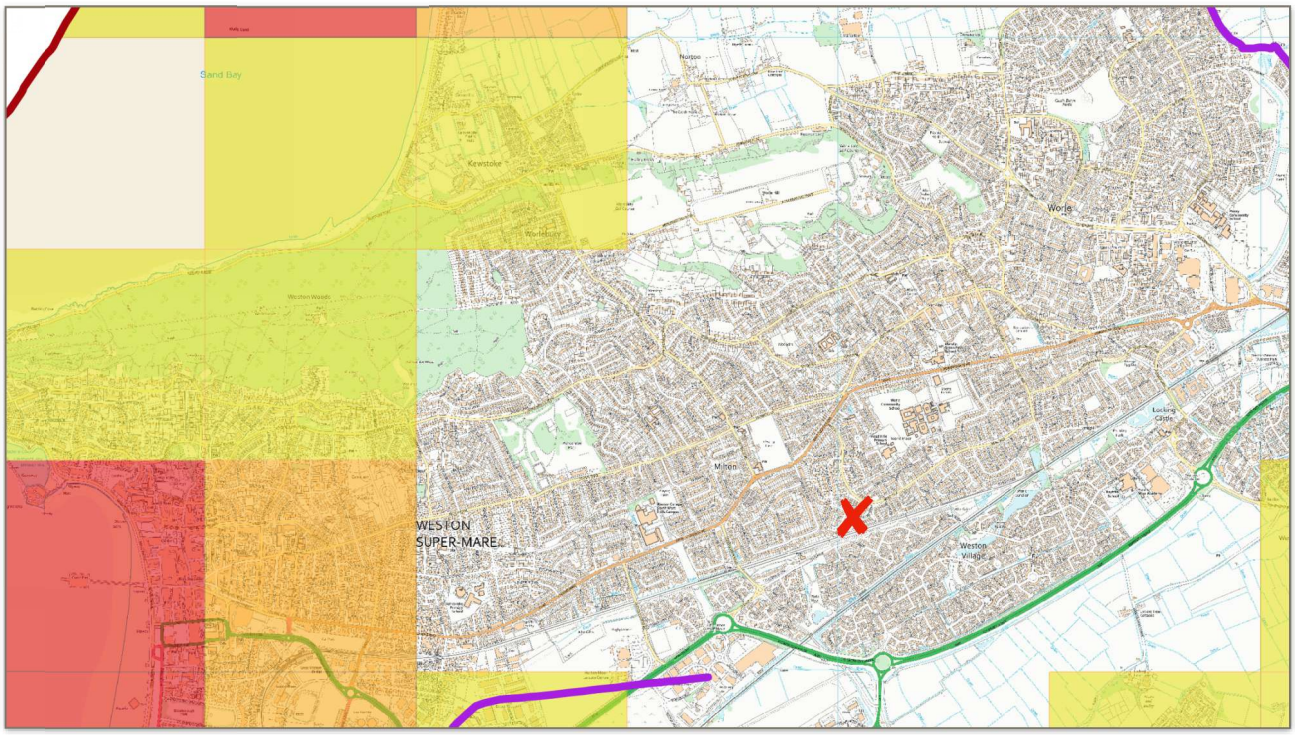


FIGURE 6. SFRA'S AREAS SUSCEPTIBLE TO GROUNDWATER FLOODING MAP

Therefore, the likelihood of groundwater flooding is considered to be low risk.

Flood Risk from Surface Water and Overland Flows

Surface water flooding occurs when intense rainfall is unable to infiltrate into the ground or overwhelms the drainage system. This surface water runs across the surface of the ground causing flooding. Overland flows can also be generated by burst water mains, failed dams and any failure in a system storing or transferring water.

The EA's indicative Surface Water Flooding Map, Figure 7, shows that the site is at *very low* risk of surface water flooding.

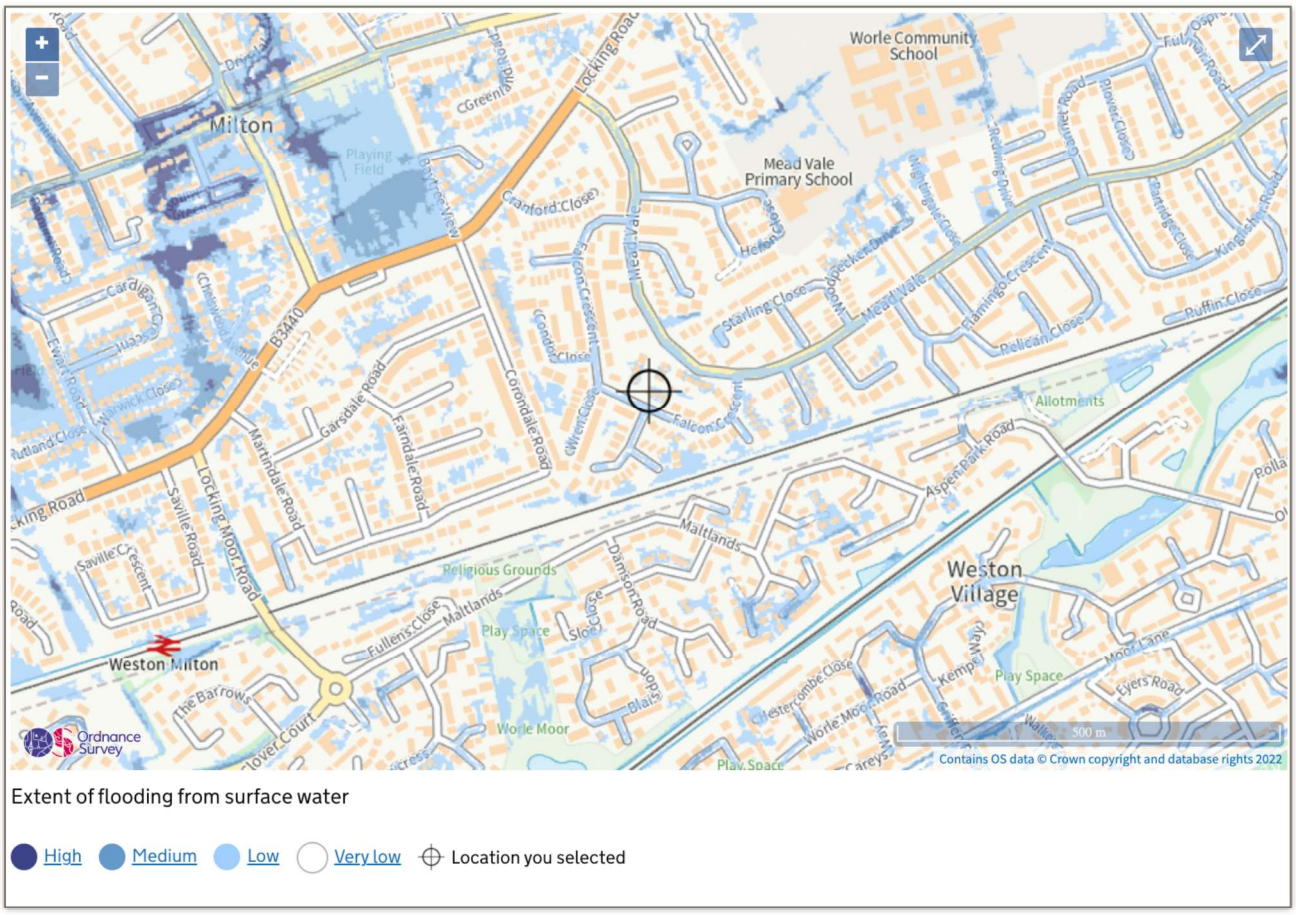


FIGURE 7. ENVIRONMENT AGENCY FLOOD RISK FROM SURFACE WATER MAP (GOV.UK, 2022)

Very Low risk means that each year this area has a chance of flooding less than 0.1% Annual Exceedance Period (AEP). The map also shows that only the areas outside the proposed site area are at risk of flooding in the 1 in 100-year (1%) storm event. Furthermore, ground levels on site will be encouraged to fall away from the building thresholds and positively drained.

Therefore, the likelihood of surface water flooding is considered to be low risk.

Flood Risk from Reservoir Failure

The EA's information states that reservoir flooding is extremely unlikely to happen and there has been no loss of life in the UK from reservoir flooding since 1925. The Reservoir Act of 1975 ensures that reservoirs are inspected regularly and essential safety work is carried out.

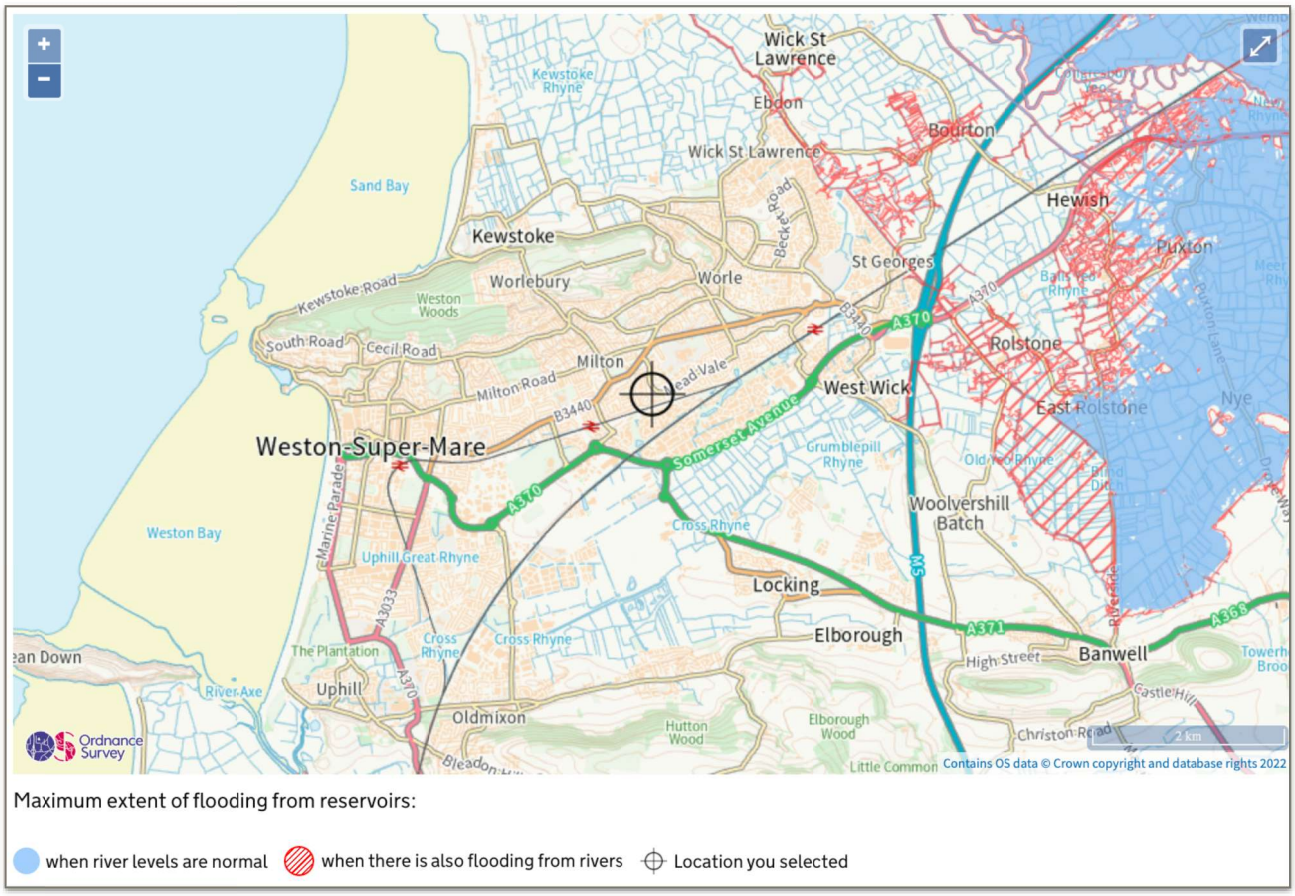


FIGURE 8. ENVIRONMENT AGENCY FLOOD RISK FROM RESERVOIRS MAP (GOV.UK, 2022)

Figure 8 shows that there is no flood risk associated with Reservoir Failure for the proposed site.

Flood Risk from Infrastructure Failure

Although the development benefits from flood defences in the area, the flood defences reduce but do not eliminate the flood risk, as the risk of a breach or overtopping remains. With any man-made structure there is a possibility of failure, and that flood water will inundate the site. Therefore, a residual risk will remain.

Breach

The EA's flood maps indicates that the site is not subject to inundation as a result of a breach in defences (Figure 9).

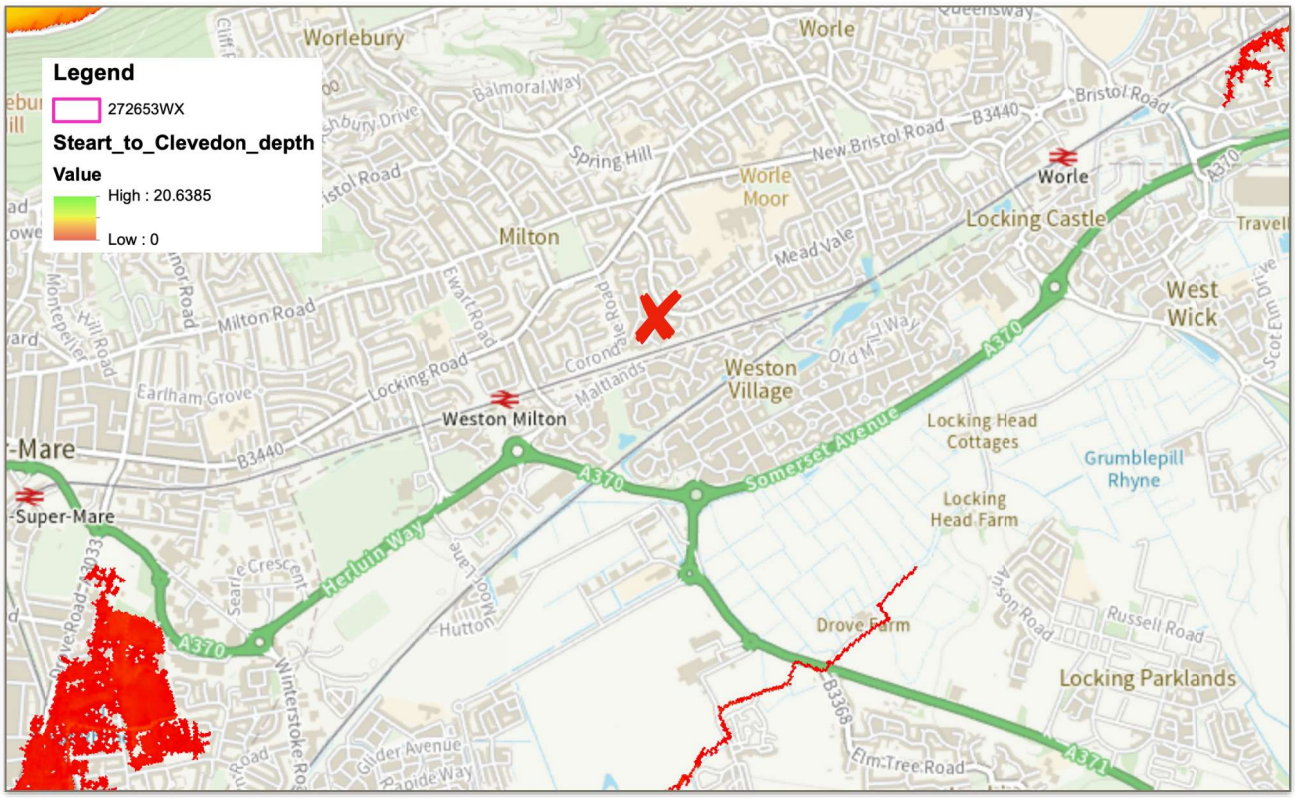


FIGURE 9. 1 IN 200 YEAR TIDAL FLOOD DEPTHS PLUS CLIMATE CHANGE - BREACHED DEFENCES (EA, 2022)

Overtopping (including allowance for climate change)

Despite defences, mapping presented in the latest EA Product 4 flood information suggests that sea level rise resulting from climate change, would result in overtopping of these defences. A 1 in 200, 0.5% AEP flood including climate change for the developments potential 100 year design life, should therefore be assessed.

Defended		
AEP	*Maximum depth (metres)*	*Maximum level (mAOD)*
0.5%	*0.00*	*0.00*
0.5% with 2068 CC	*0.00*	*0.00*
0.5% with 2118 CC	*0.86*	*6.20*

A 1 in 200 (0.5%) tidal event plus climate change to 2118, indicated above, illustrates flood depths from 0.86m deep. Low laying areas being the areas subject to increased flood depths.

According to PPG, the design flood event *"is a flood event of a given annual flood probability, which is generally taken as:*

I. fluvial (river) flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year), or;

II. tidal flooding with a 0.5% annual probability (1 in 200 chance each year),

- against which the suitability of a proposed development is assessed and mitigation measures, if any, are designed."

The development is protected from flooding for the design flood event (1 in 200 year return period). However, the implications of the climate change allowances (assuming no future raising of defences are carried out) should also be considered. Flume have utilised the latest LiDAR datasets to accurately assess the approximate FFLs of the building, to compare with the flood levels on site, and to propose the design finished floor level.

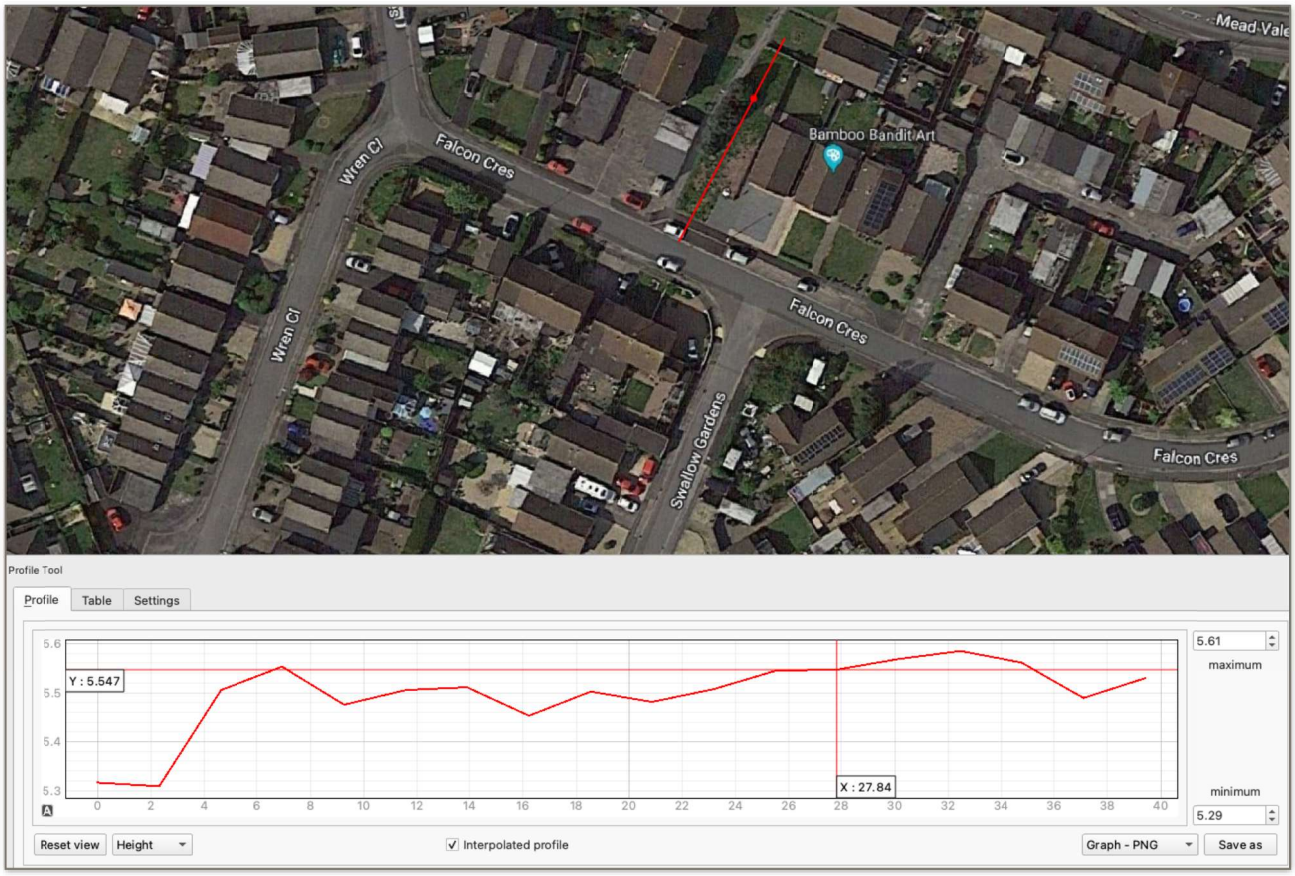


FIGURE 10. LIDAR DATASETS DTM (DEFRA, 2020)

Reviewing the LiDAR level information against the flood depths (Figure 10), for the proposed site indicates the possible range of ground levels in this area are approximately 5.55m AOD. This appears to correspond with the expected flood depths within the proposed development (860mm according to the EA's information). Considering the worst-case flood event (0.5% AEP 2118 CC), the flood level within the proposed development is estimated to be 6.20m AOD, and therefore, it should be achievable to set ground floor FFLs at a minimum of 6.20m AOD or higher to ensure site users are protected in the future.

Sewer Flooding

The latest SFRA released in 2020 does not provided data in relation to sewer flooding. However, Wessex Water was able to provide information regarding sewer flooding events over the past ten years (2006-2016) on a broad scale - Figure 11. The information was provided on postal area basis; no specific information was provided as Wessex Water consider that providing customer's addresses is not in accordance with data protection requirements.

Postcode	Internal Flooding	External Flooding	Total
BS20 0	-	11	11
BS20 6	2	4	6
BS20 7	1	-	1
BS20 8	-	4	4
BS21 6	1	6	7
BS21 7	1	1	2
BS22 6	3	8	11
BS22 7	-	1	1
BS22 8	4	15	19
BS22 9	-	11	11
BS23 2	-	3	3
BS23 4	1	-	1
BS24 0	5	5	10
BS24 6	9	-	9
BS24 7	-	17	17
BS24 8	5	14	19
BS24 9	4	1	5
BS25 1	3	9	12
BS25 5	-	3	3
BS29 6	-	2	2
BS40 5	15	44	59
BS40 8	-	1	1
BS41 8	2	-	2
BS41 9	1	1	2
BS48 1	-	2	2
BS48 2	3	9	12
BS48 3	1	4	5
BS48 4	-	2	2
BS49 4	1	15	16
BS49 5	5	5	10
Total	**67**	**198**	**265**

FIGURE 11. NUMBER OF PROPERTIES FLOODED BY OVERLOADED SEWERS OVER THE LAST 10 YEARS (SFRA, 2016)

Flood Mitigation Measures

The development is protected from flooding for the design flood event (1 in 200 year return period). However, the implications of the climate change allowances (assuming no future raising of defences are carried out) have also been considered. Therefore, FFLs will be raised above the future 2118 0.5% AEP plus climate change flood level (6.20m AOD) to ensure the development is protected for the worst-case scenario.

In addition, it is recommended that external ground levels immediately outside the building entrance are set to fall away from the building thresholds, ensuring the minimisation of storm water ingress. If this is not possible, channel drainage along the building thresholds at the entrance should be introduced to positively drain overland flows.

If not already listed, it is recommended that the property is registered with the EA's Flood Warning Service. If you are unsure and/or you wish to register for this free service please contact Floodline Warning Service. Floodline is a free service operated by the EA that provides flood warnings direct to occupants by telephone, mobile phone etc. The EA is responsible for monitoring flood events and for issuing warnings to people in properties and businesses at risk of flooding.

To further reinforce the flood resilience of the building, any new construction works at ground level should include an appropriate damp proof membrane. All drainage systems should be routinely maintained to reduce the risk of blockage and surface water flood risk.

Conclusions

The EA's flood risk from watercourses map shows that the site is in Flood Zone 3. Flood defences reduce the actual flood risk from high to low. The EA's flood maps show that the site is not at risk of flooding from overtopping of defences or from breached defences in the current scenario and up to the 2068 climate change allowance.

It is recommended that the FFLs be set at 6.20m, which is at the minimum level above the future 2118 0.5% AEP plus climate change flood level. This ensures the ground floor FFLs are raised above all modelled flood extents for both overtopping and breached scenarios, ensuring that site users remain safe at all times.

The proposals will not increase hardstanding areas. It will therefore not increase the flood risk from surface water, as there will be no increase in the surface water run-off rate or volumes.

It is recommended that the property is registered with the EA's Flood Warning Service.

The FRA has further demonstrated that the proposed development has an acceptable flood risk within the terms and requirements of the NPPF and accompanying technical guidance.

Note:

This report has been prepared for the purposes of submitting for planning to the local planning authority for review in relation to the associated Flood Risk for the proposed development, and uses the most up-to-date information available to us at the time. It should not be relied upon by anyone else or used for any other purpose. This report is confidential to our Client; it should only be shown to others with their permission. We retain copyright of this report which should only be reproduced with our permission.

	Prepared By	Checked By	Approved for issue
Name	Tom Quigg BSc MSc CEng MICE	Magaly Sedeño BA	Tom Quigg BSc MSc CEng MICE
Signature	TQ	MST	TQ
Date	8 January 2024	8 January 2024	8 January 2024

Appendix A - Flood Level Information

creating a better place

Environment Agency

Elizabeth Shirley
Flume Consulting Engineers
info@flumeconsultants.com

Our ref: 272653-WX
Date: 18 August 2022

Dear Elizabeth

Thank you for your enquiry which was received on 25th July 2022.

Abstract

Name	Product 4
Description	Detailed Flood Risk Assessment Map for **32 Falcon Crescent, Weston-super-Mare, BS22 8RX**
Information Warnings	*The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply.*
Attribution	Contains Environment Agency information © Environment Agency and/or database rights. Contains Ordnance Survey data © Crown copyright 2019 Ordnance Survey 100024198.

Flood Map for Planning
The Flood Map for Planning is now classed as Open Data. It can be downloaded free of charge under an open data licence from the following weblink:
https://data.gov.uk/publisher/environment-agency

If you search for the 'flood map for planning' in the search box the following datasets will be available for you select and download the data:

- Flood Map for Planning (Rivers and the Sea) – Flood Zones 2 and 3
- Flood Map for Planning (Rivers and Sea) – Areas Benefiting from Defences
- Flood Map for Planning (Rivers and Sea) Flood Storage Areas
- Flood Map for Planning – Spatial Flood Defences (without Standard attributes)
- Recorded Flood Outlines
- Historic Flood Map
- Risk of Flooding from Surface Water Extent for:
  - → 3 percent annual chance
  - → 1 percent annual chance
  - → 0.1 percent annual chance

If you have requested this information to help inform a development proposal, then you should also note the detail in the attached advisory text on the use of Environment Agency Information and Further Guidance for FRAs.

Flooding History
We no longer produce pdf copies of the Historic Flood Map. This information is available to search select, and download free of charge as part of the Government's 'open data' as

- Recorded Flood Outlines
- the Historic Flood Map

These are GIS layers and can be downloaded from: https://data.gov.uk/publisher/environment-agency

Strategic Flood Risk Assessment (SFRA)
When preparing a FRA to support a development proposal in this location you should refer to North Somerset's Council's SFRA website, which is available via the following link: http://www.n-somerset.gov.uk/my-services/planning-building-control/planningpolicy/supplementary-planning-advice/guidance/strategic-flood-risk-assessment/

Planning
If you have questions regarding the planning nature of your enquiry, or require advice on floor levels, please contact our Sustainable Places team on NWX.SP@environment-agency.gov.uk. Please be aware that we now charge for planning advice when consulted on pre-application enquiries. This new approach provides advice to developers in two ways. Firstly there is the provision of 'free' advice available to everyone where we give a preliminary opinion on a proposed development. This sets out the environmental constraints together with any issues this raises for us. Should you wish us to review in detail any of these issues then we can do this through a chargeable scheme aimed at recovering our costs.

Flood Levels
We have not carried out any detailed fluvial flood risk modelling in this location.

The fluvial Flood Map in this area has been produced using our National Generalised Model (JFLOW). This modelling is fit for the purpose of the Flood Zones. However, it is not based on a specific channel survey. Neither water depths nor water levels were outputs specified when we commissioned this generalised modelling for the Flood Zones. Whilst the modelling process does provide some information on depth of water, it would have been possible to produce the flood extents without storing the water depth values, since water depth is only a 'by-product' of the calculation process. As this type of modelling was developed, tested and reviewed for production of the Flood Zone extents only, we have no information on the accuracy of the water depth data.

Water depth or level outputs from this model are only suitable to be used for decision making at a broad catchment scale and is not fit for the purpose of a site specific flood risk assessment.

For your information we have supplied maps showing the water depths derived from JFLOW for the 1% AEP (100yr) and 0.1% AEP (1000yr) fluvial modelled flood scenarios.

Coastal/tidal flood levels and depths
The tables below show the maximum modelled tidal flood levels and depths for defended (actual situation) and undefended (natural floodplain) scenarios taken from our 2020 Woodspring Bay modelling. The annual exceedance probability (AEP) is given.

*Please note. We have provided you with climate change data based on National Planning and Policy Framework (NPPF) guidance. We advise that this data is suitable for the use in an FRA, but we also have climate change data based on UK Climate Projections 2009 (UKCP09) if required.

We advise that the extracted level and depth data provided below is suitable for use in an FRA. If you require level and depth data from additional return periods, these asc grids can be requested as part of a Product 6.

Defended

AEP	Maximum depth (in metres)	Maximum level (mAOD)
0.1% (1 in 1000)	0.00	0.00
0.5% (1 in 200)	0.00	0.00
0.5% with CC 2068 added	0.00	0.00
0.5% with CC 2118 added	0.86	6.20
20% (1 in 5)	0.00	0.00

Undefended

AEP	Maximum depth (in metres)	Maximum level (mAOD)
0.1% (1 in 1000)	1.10	6.45
0.5% (1 in 200)	0.91	6.26
0.5% with CC 2068 added	1.15	6.50
0.5% with CC 2118 added	1.57	6.92
20% (1 in 5)	0.61	5.96

Levels and depths have been extracted based upon the site boundary plan provided.

Please be aware that this model did not include data for climate change allowances.

If you intend undertaking a FRA for a planning application using climate change flood level information supplied in this letter, you should consider whether it is appropriate in light of a range of potential allowances for fluvial flood flow now advised in curent planning guidance on 'Flood risk assessments: climate change allowances'. The relevant guidance is available at the following website address: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

We have included a briefing note that refers to the 2018 Climate Change projections. Our Sustainable places team would be happy to discuss the issues around Climate Change and how this should be used.

Flood Defences
Please find enclosed details of Flood Defences within the vicinity of the site boundary. This information has been taken from our Asset Information Management System database(AIMS).

Please note that flood defences can increase water levels elsewhere eg through channels being restricted by defences, or because defences prevent flood water flowing back into the river channel.

Customer & Engagement, Wessex
Rivers House, East Quay, Bridgwater, Somerset, TA6 4YS
Phone: 02030 250 376
Email: wessexenquiries@environment-agency.gov.uk
www.environment-agency.gov.uk
VAT No: **662 4901 34**

Environmental Permit for Flood Risk Activities
In addition to any other permission(s) that you may have already obtained e.g. planning permission, you may need an environmental permit for flood risk activities (formerly known as Flood Defence Consent prior to 06 April 2016) if you want to do work:

- in, under, over or near a main river (including where the river is in a culvert)
- on or near a flood defence on a main river
- in the flood plain of a main river
- on or near a sea defence

For further information and to check whether a permit is required please visit: https://www.gov.uk/guidance/flood-risk-activities-environmental-permits.

For any further advice, please contact your local Environment Agency Office, at bridgwater.frap@environment-agency.gov.uk.

Further Information
We advise that you also contact the Flood Risk Department, floodrisk@n-somerset.gov.uk, telephone 01934 888888 , at North Somerset Council, Town Hall, Walliscote Grove Road, Weston-super-Mare, BS23 1UJ. For land drainage consents please contact 01275 884 574 or landdrainage@n-somerset.gov.uk., as they may be able to provide further advice with respect to localised flooding and drainage issues.

Further details about the Environment Agency information supplied can be found on our 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 FRAs: https://www.gov.uk/planning-applications-assessing-flood-risk https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion

We hope you find this information helpful, and it is provided subject to the guidance below, which we strongly recommend you read.

Yours sincerely,

Corinne Moyse

Customer & Engagement, Wessex
Rivers House, East Quay, Bridgwater, Somerset, TA6 4YS
Telephone number: 02030 250 376
Email: wessexenquiries@environment-agency.gov.uk

Enc: Use of Environment Agency Information for Flood Risk Assessments (below)
UKCP18 Climate Change Briefing Note
272653-WX JFLOW 0.1% AEP Map
272653-WX JFLOW 1% AEP Map
272653-WX Defence Map
272653-WX Defence Data

Use of Environment Agency Information for Flood Risk Assessments (FRAs)

Important
Use of Environment Agency data: you should note that

1. Information supplied by the Environment Agency may be used to assist in producing a Flood Risk Assessment (FRA) where one is required, but the use of Environment Agency information does not constitute such an assessment on its own.

2. As part of your data request, we have provided all of the modelled data we hold for your location. Please note that some of our modelled information may have been produced for purposes other than for flood zone generation. This may mean that some of the modelled data you have been provided with has a lower confidence level, and has not been used in producing our flood map, nor definitively reflects the predicted flood water level at the property/development site scale. To check the suitability of the use of this information in your FRA please contact your local Partnership & Strategic Overview (PSO) team.

3. This information covers flood risk from main rivers and the sea, and you will need to consider other potential sources of flooding, such as groundwater or surface water runoff. The information produced by the Local Planning Authority and the Lead Local Flood Authority (LLFA) may assist in assessing other sources of flood risk.

4. Where a planning application requires a FRA and this is not submitted or deficient, the Environment Agency may well raise an objection.

5. For more significant proposals in higher flood risk areas, we would be pleased to discuss details with you ahead of making any planning application, and you should also discuss the matter with your Local Planning Authority.

Pre-Planning Advice from the Environment Agency
If you have requested this information to help inform a development proposal, then we recommend that you undertake a formal pre-application enquiry using the form available from our website:

Pre-application Preliminary Opinion:
https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion

Pre-application Charged Service:
https://www.gov.uk/government/publications/planning-advice-environment-agency-standard-terms-and-conditions

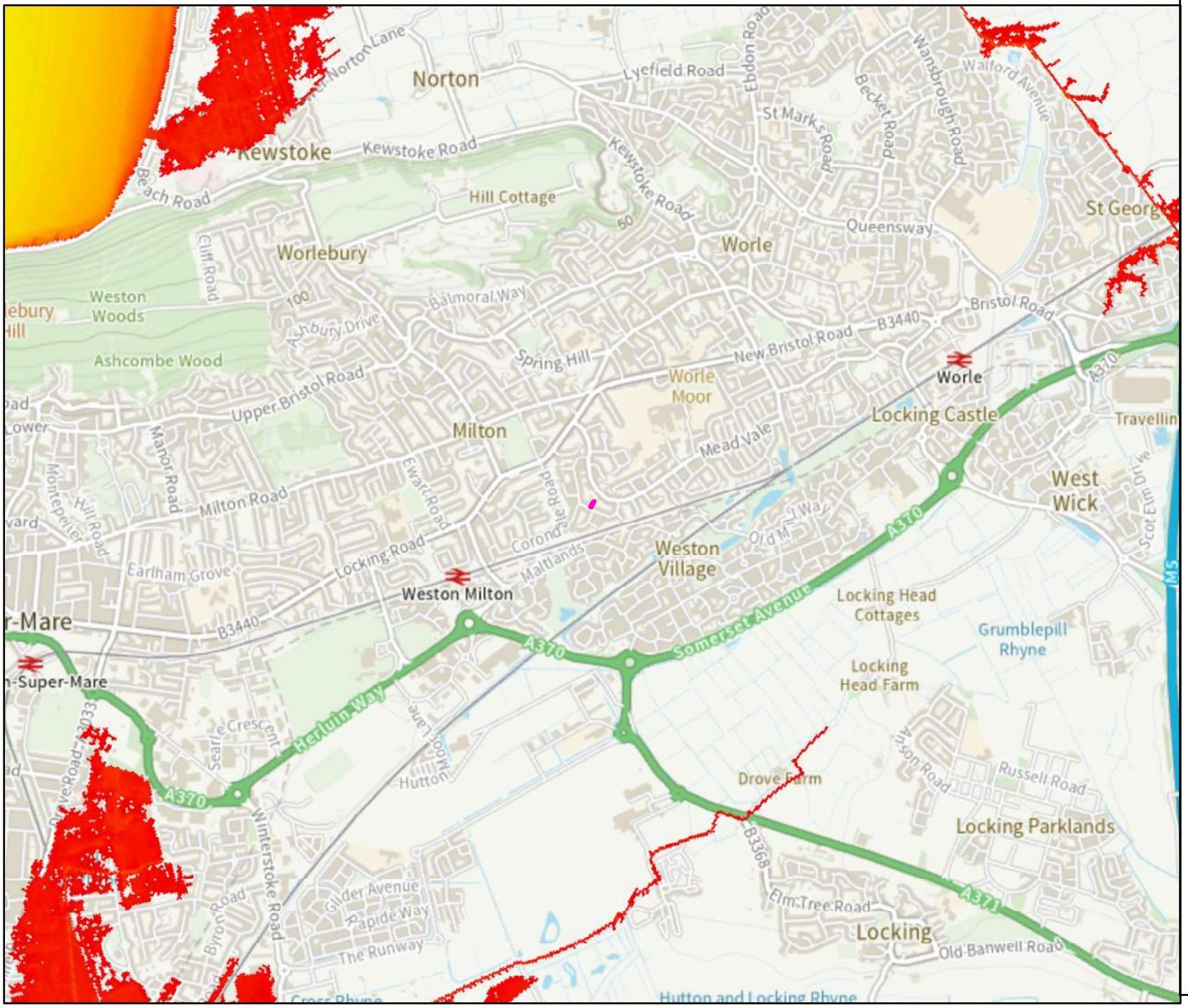
Depending on the enquiry we may also provide advice on other issues related to our responsibilities, including flooding, waste, land contamination, water quality, biodiversity, navigation, pollution, water resources, foul drainage or Environmental Impact Assessment.

Flood Risk Assessment (FRA) Guidance
You should refer to the Planning Practice Guidance of the National Planning Policy Framework (NPPF) and the Environment Agency's Flood Risk Standing Advice for information about Flood Risk Assessment (FRA) for new development in the different Flood Zones. These documents can be accessed via:

National Planning Policy Framework Planning Practice Guidance:
http://planningguidance.planningportal.gov.uk/

Customer & Engagement, Wessex
Rivers House, East Quay, Bridgwater, Somerset, TA6 4YS
Phone: 02030 250 376
Email: wessexenquiries@environment-agency.gov.uk
www.environment-agency.gov.uk
VAT No: **662 4901 34**

Breach map (depth) centred on ST 35034 61780 - created 05/08/2022 [Ref: 272653-WX]



Environment Agency

Scale:1:25,000 At A3

N
W E
S

Legend

272653WX

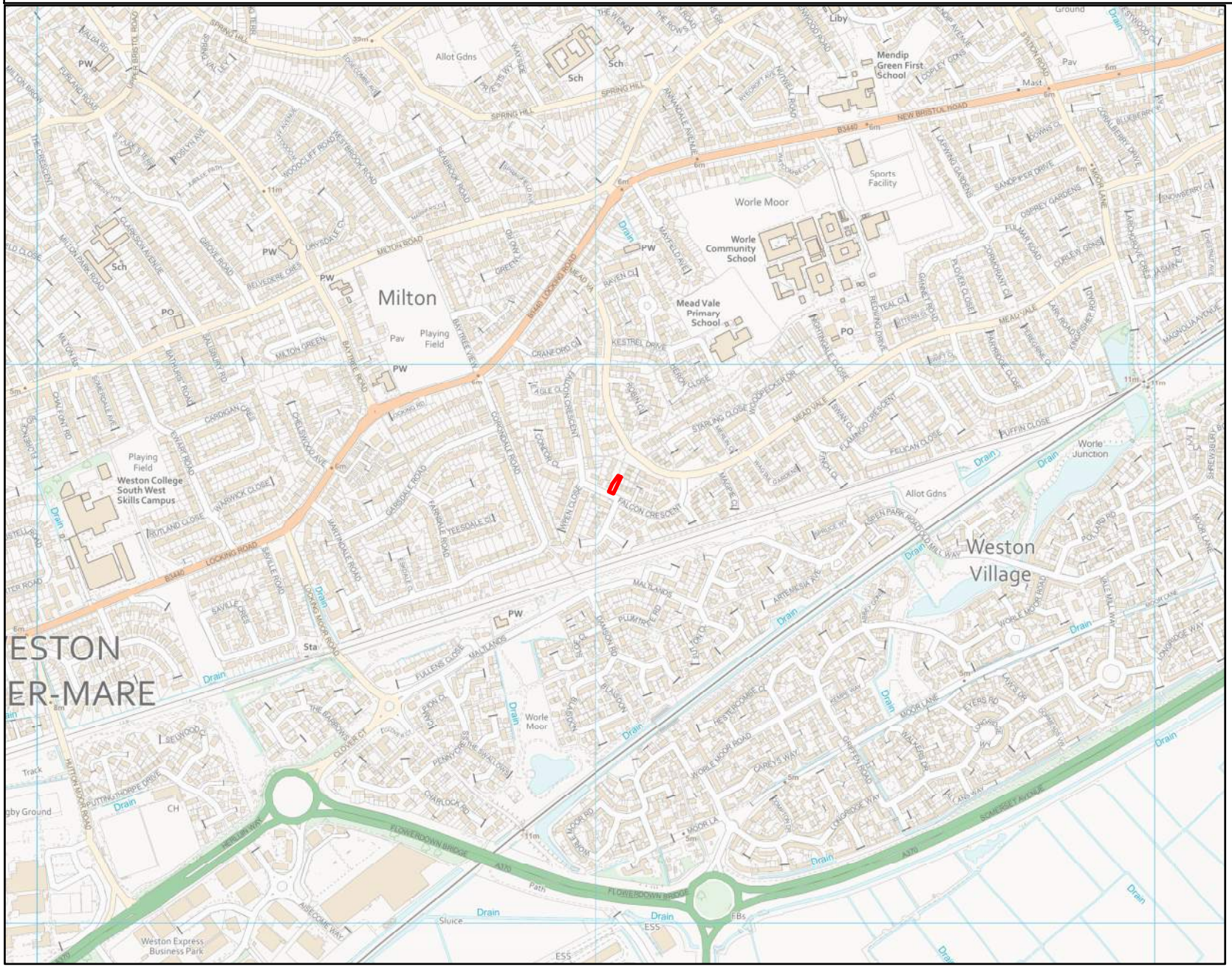
Steart_to_Clevedon_depth

Value

High : 20.6385

Low : 0

JFLOW Fluvial Water depths (m) Without Flood Defences. 100 year (1.0% AEP) map centred on ST 35034 61780 - created 04/08/2022 [Ref: 272653-WX]



Environment Agency

Scale 1:10,000

N W E S

Legend

272653WX

100yr JFLOW Depth

<VALUE>

- 0 - 0.5
- 0.51 - 1
- 1.1 - 2
- 2.1 - 3
- 3.1 - 4
- 4.1 - 5
- 5.1 - 10
- 10.1 - 100

Information Warning
We do not recommend the use of water depths/levels derived from JFLOW for site specific investigations such as Flood Risk Assessments.

Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk