



**84 New Bristol Road
Weston Super Mare
BS22 6AL**

51.357452 -2.923644

Flood Warning and Evacuation Plan

**S24-024/FWEP
February 2024**

Prepared by :

**Southwest Environmental Limited
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London
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On behalf of :

**Carter Property Developments Limited
47 Oxford Street
Weston-Super-Mare
United Kingdom
BS23 1TN**



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1.0 Introduction

Acting on instructions from Carter Property Developments Limited, Southwest Environmental Limited have produced this Flood Warning and Evacuation plan for the Proposed Development at 84 New Bristol Road. A flood safety poster is included within **Appendix 2**, this should be printed at A2 and displayed at 1 no. location in each property (inside airing cupboard door). A hard or digital copy of this report should be made available to the occupants at all times.

1.1 Document Control

This plan should be reviewed:

- On first occupation;
- Every 3 years following first occupation or;
- As a result of lessons identified following a flood event or exercise, or;
- Following changes of ownership/use of the property or;
- Following changes to the Flood Warning process.

2.0 Scope

This FWEP is a non-exhaustive set of measures that may be employed before during and after a flood. At this pre-development stage ownership and responsibilities have not been agreed. Southwest Environmental Limited have written this FWEP, but are not responsible for its up keep once published.

2.1 Terms of Reference

This plan is assembled in line with the requirements of PPS 25, and to a lesser extent content from the NPPF and the NPPF Technical Guide

3.0 Site Summary

3.1 Site Location

Site Address	84 New Bristol Road Weston Super Mare BS22 6AL
Grid Reference	51.357452 -2.923644

Site Location Plans are included with **Appendix 1**.

3.2 Proposed Development

The proposed development is residential. Plans for the proposed development are shown in **Appendix 1**. There will be residential accommodation on the ground floor & 1st floor level. Ground floor level will be above most floods, but a small possibility remains that residents will have to wait out a flood upstairs (on the 1st floor).

4.0 Details of Site Management

Residential site users should nominate an individual or group of individuals to act as flood safety co-ordinators.

5.0 Sources of Flood Risk

5.1 Fluvial and Tidal

Weston Super Mare Relies on flood defences to prevent wide spread inundation during a combined Tidal and Fluvial Flood Event.

Undefended flood depths on site would be at worst 2.14m deep. However in practice breach modelling shows that Tidal flooding extents are limited by presence of flood defences.



Figure 1- Extract Product 8 Data 282680-WX

5.2 Ground Water Flooding

Is unlikely to occur. However, the site is built on alluvium a soil / rock deposits through which water can flow. There is not a warning method in place specifically for ground water flooding, although it is linked to heavy rainfall.

5.3 Surface Water Flooding

Surface water flooding can occur when very heavy rain fall ponds and creates localised flooding. This type of flooding can be made worse by blockages of surface water drains. So it is important that you report blocked drains in the vicinity of your site. Flood depths are likely to be no greater than 1.5 meters, but may still cause considerable damage and harm.



6.0 Defence from Flooding

6.1 Designed Flood Resistance

This building has flood boards installed. These are to be used to keep flood water out of building up to a depth of 60cm. Vent cover will also need to be installed. Look out for flood warning texts from the Environment Agency.

You should find things like boilers and consumer units situated at the first floor level, or raised up at ground floor level so as to remain dry in very bad floods.

6.2 Sand Bags and Barriers

Sand Bags and barriers may be used to prevent water coming in to the property up to a depth of 60cm (1foot), but no higher. Flood boards, or doors can also be used to the same affect.

7.0 Flood Warnings

There are various levels and types of flood warning. It is important to learn, what a particular flood warning means. In the event of some warning it is necessary to follow instructions as included in **Appendix 2**, evacuating site to higher ground.

Please study the tables in **Appendix 4**, and familiarise yourself with the differences between the various warnings.

8.0 Taking Refuge

The loft should remain above flood water. In the event of a flood residents make take refuge in safe refuge area in loft,

It is important to prepare for flooding, where you may become stranded in your home, as a bare minimum you should keep the following per occupant, based on being isolated for 10 days. The 1953 tidal flood in Tilbury (for example) happened on the 31st January 1953, and some people were able to return home on the 4th February. You should anticipate a minimum flood duration of 5 days.

Simple per Person Kit List:

Water –	6 Litres per occupant (bottled water 1.5 litres x 4)
Food –	6 Tins of food to be eaten uncooked (baked beans, rice pudding) & tin opener
Warmth –	Fleece blanket
Light –	Torch

9.0 North Somerset Template

Supplemental Information as per North Somerset FWEP Template:

- Ingress / egress – Through front or back door. Or in event of taking refuge through roof hatch.



10.0 Certification

For the avoidance of doubt, the parties hereby expressly agree that the Consultant takes no liability for and gives not warranty against actual flooding of The Client's property or damages material or personal in relation to the performance of the service.

Guidance given on building flood resistance / resilience is given as example only. Responsibility for building design / services and resulting levels of resistance resilience rests with the client and or developer.

This Flood Emergency Plan (FEP) is suitable for the purposes set out in Planning Policy Statement 25: "Development and Flood Risks – Practice Guide". However, FWEPS are the sole responsibility of the site operator. Southwest Environmental cannot accept responsibility for any omission or error contained in any such plan, or for loss, damage, or inconvenience, which may result from such plans' implementation. Any subsequent approval does not impute any approval of those plans from the Environment Agency or any of the emergency services.

This report is produced for the sole use of the Client, and no responsibility of any kind, whether for negligence or otherwise, can be accepted for any Third Party who may rely upon it.

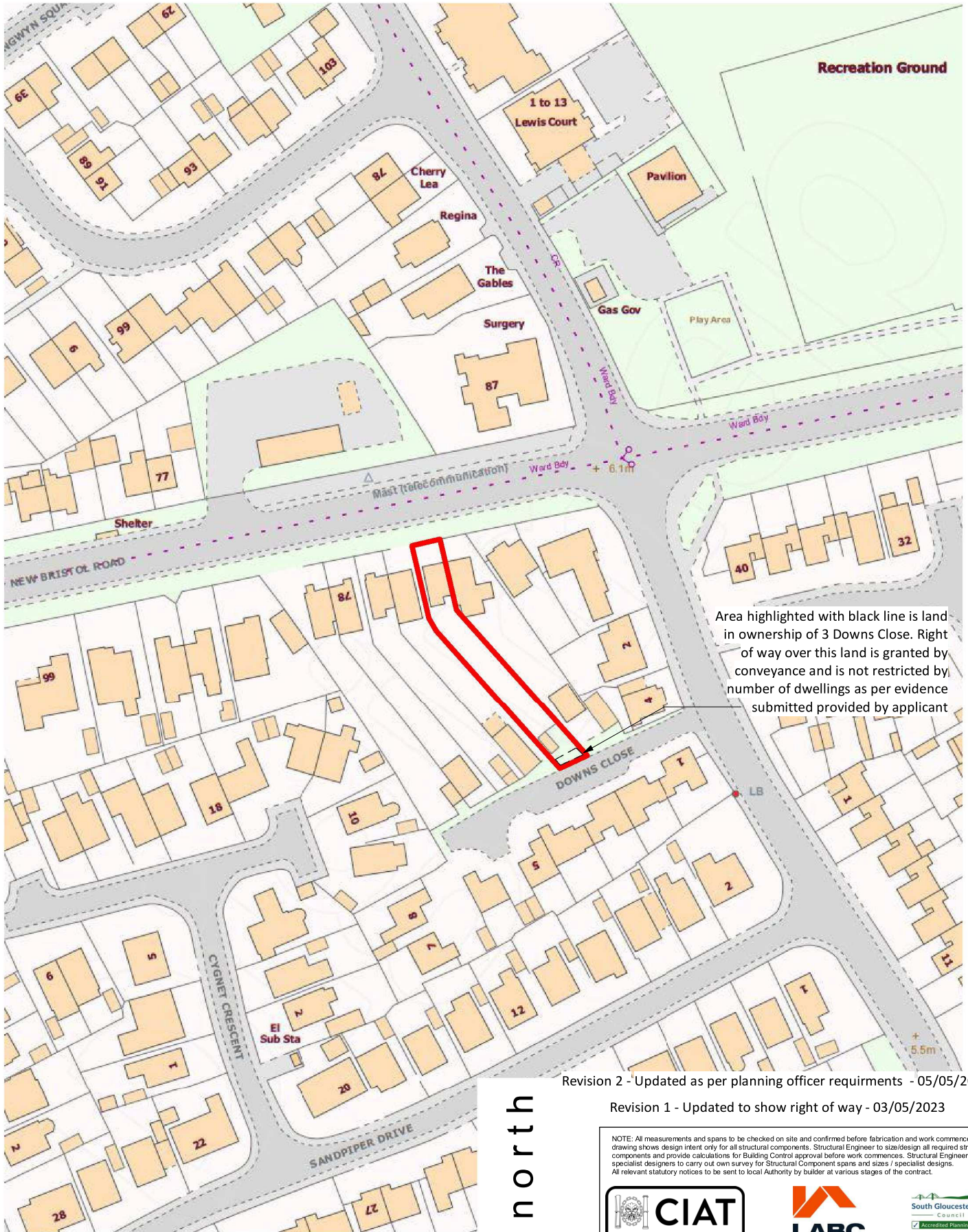
The conclusions and recommendations given in this report are based on our understanding of the future plans for the site.

The scope of this FRA was discussed and agreed with the Client. No responsibility is accepted for conditions not encountered, which are outside of the agreed scope of work.



APPENDIX 1

Location Plan



Area highlighted with black line is land in ownership of 3 Downs Close. Right of way over this land is granted by conveyance and is not restricted by number of dwellings as per evidence submitted provided by applicant

Revision 2 - Updated as per planning officer requirements - 05/05/2023

Revision 1 - Updated to show right of way - 03/05/2023

NOTE: All measurements and spans to be checked on site and confirmed before fabrication and work commences. This drawing shows design intent only for all structural components. Structural Engineer to size/design all required structural components and provide calculations for Building Control approval before work commences. Structural Engineer and specialist designers to carry out own survey for Structural Component spans and sizes / specialist designs. All relevant statutory notices to be sent to local Authority by builder at various stages of the contract.



Drawing: A01
 Project: New Build Dwelling
 Sheet: Site Plan
 Address: 84 New Bristol Road, BS22 6AL



Scale: 1:1250 @ A4
 Date: March 2022

Web: www.daviesarchitecturalservices.co.uk
 Email: info@daviesarchitecturalservices.co.uk

Site Plan
 1 : 1250



APPENDIX 2

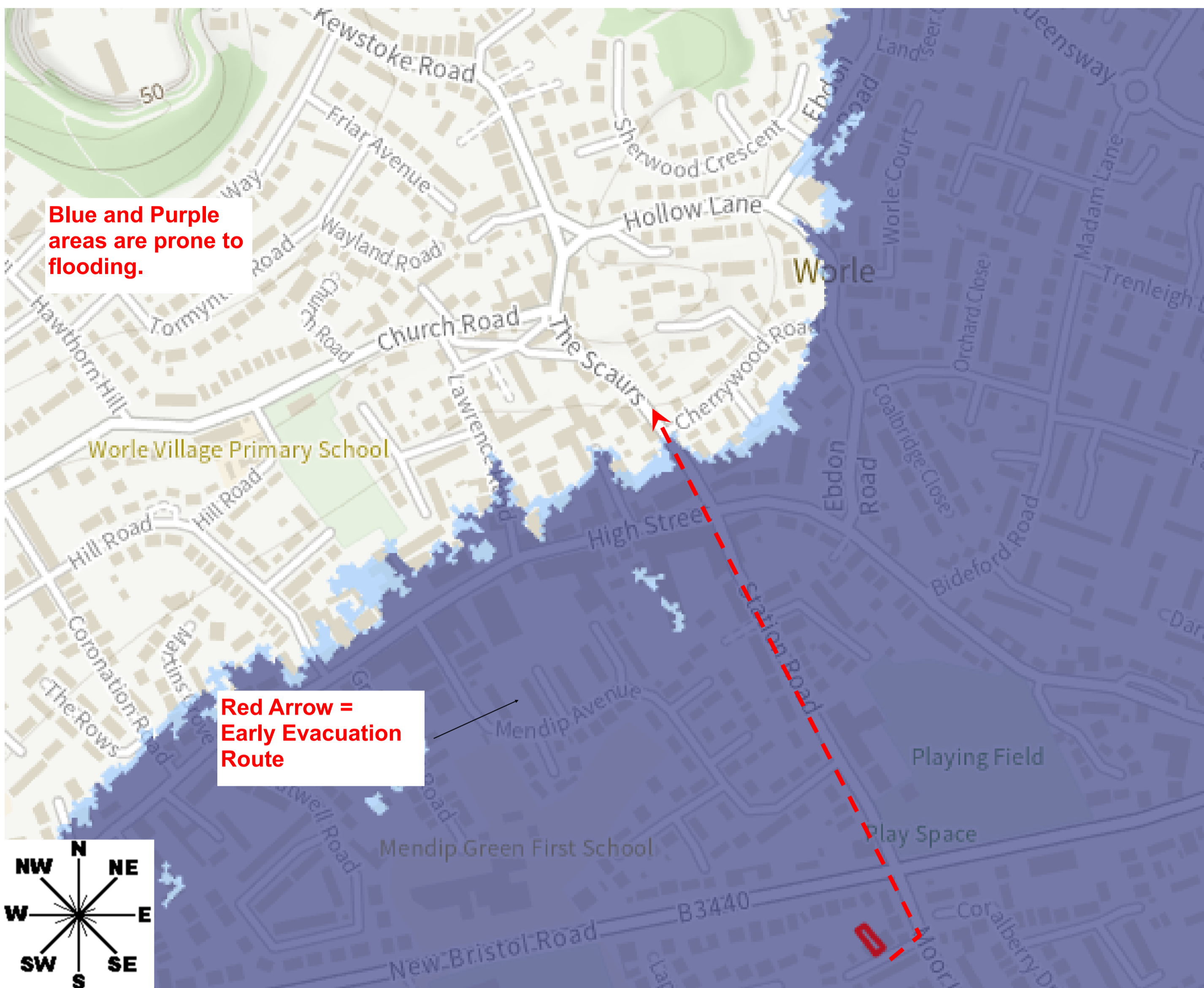
Flood Safety Poster

Flood Plan 1

This area is prone to flooding.

Do you know what to do in the event of a flood?

Look at the Map: In the event of a flood follow the orange arrow to higher ground.



Evacuation

In the event of flood it may be wise to evacuate this building. From the time of a flood warning being issued you will have between 1 and 4 hours to get to somewhere "high and dry".

If you have plenty of time, and have heard warnings early on you may wish to evacuate the building and move to high ground following the directions given.

If however you feel that the route would be too dangerous, you should take refuge in your safe refuge (loft)

BE PREPARED FOR A FLOOD! READ THE "SIMPLIFIED KIT LIST" ON PAGE 2 OF THIS POSTER

Warning Text Message

All residents and regular site users should sign up to the Environment Agency's Flood Warning Service. It is free.

Call: 0845 988 1188

Follow the instructions to subscribe to the flood warning service. If there is going to be a flood you will receive a text message.

Why is this Poster Here?

The Environment Agency of England and Wales have used computer models to figure out which areas are prone to flooding.

Modelled extreme flood depths for this site are around 2.5 meters above ground level. This building is not designed to keep water out, so it is important that you follow the evacuation procedures to keep your self safe.

Flood Plan 2

This area is prone to flooding.

Do you know what to do in the event of a flood?

1- Exit Site and Turn Left. Continue to Moor Lane
.Take First Exist (Left)



2 - Follow Moor Road and then Station Road North



3 - Cross Roundabout and Up Hill to **BS22 6QR (Pub)**



More Information

The Environment Agency have published a useful document that can be read called "What to do before, during and after a flood" (Find it on Google) it contains lots of useful information to prepare and protect you and your family (and your possessions).

Key Facts

Flood Water could be as much a **1.6 meters in depth**, making evacuation by car, or on foot impossible. The water is likely to have a flow like a river, and so there is a danger of being swept away.

After a flood warning has been issued you may have only **0.5 hours to evacuate** to BS22 6QR . Plan your time carefully, there is likely to be heavy traffic. If you plan to walk you will not have time and should take refuge.

Turn off gas, electricity and water supplies when flood water is about to enter your home if safe to do so. **DO NOT touch sources of electricity** when standing in floodwater.

Call 999 if you are in danger.

Emergency Stores

In the event of a flood, you may have to remain in your house for 5 days until flood water goes away, or you are rescued.

During this period water and electricity supplies may be interrupted. So it is important you keep a selection of items at hand in case of this happening.

Simplified Kit List

Bottled Water (10 litres for 2 people), Energy Rich Foods (Biscuits), a torch and warm blankets (as a bare minimum).





APPENDIX 3

Safe Refuge Kit List



APPENDIX 3

Safe Refuge Kit List (Recommended)



Emergency Flood Store Provisions for 0 people (Adapted from MSN 1676 M)

This kit list is left blank, and should be filled out dependant on the number of persons that will rely on the stores, for a five day isolation period. Items Recommended.

Highlighted Red (Adult only Items)

Item	Quantity	Use-By
Safety knife of the non-folding type having a buoyant handle		NA
Sponges		NA
Tin Opener		NA
Pair of Scissors		NA
First Aid Kit (Large)		NA
Medicines (Residents Discretion, look to Schedule 13 of MSN 1676 M for guidance)		
Whistle		NA
Hand Flares		NA
Buoyant Smoke Signals		NA
Water Proof Electric Torch		NA
Signalling Mirror		NA
Copy of the Department of Transport's Rescue Signal Table		NA
Rust-proof drinking vessel graduated in millilitres		NA
0.5 litres of fresh water (Schedule 13 below)		3 years <
Manual reverse osmosis pump or similar		NA
25 litre water container		NA
Antibacterial Soap		NA
10 litre bucket		NA
Survival Instructions		NA
10,000 Kilojoules of Rations (Schedule 13 below)		3 years <
Fleece Blankets		NA
Foil Blankets		NA
Tarpaulin (5m x 5 metres)		NA

Schedule 13

Part 2 – food rations (Recommend Liferaft Survival Biscuits 500g pp)

1. The ration for each one or two persons shall be enclosed in substantial packaging of suitable efficiently sealed oxygen impermeable and moisture-proof materials. A ration intended for a lifeboat shall additionally be protected by durable water-resistant packaging.
2. The outer packaging or wrapping shall be marked with the manufacturer's name or trade mark, the weight, calorific value and description of the contents and the dates of manufacture and renewal. A description of the contents shall be marked on the inner packaging. It shall be possible to open the wrapping and packaging with wet or cold hands.
3. Recommended quantities of ration and fresh water to be consumed daily shall be marked in English on the packaging or on a water resistant instruction sheet included in the ration.



4. The ration for each person shall have a calorific value of not less than 10,000 kilojoules.
5. The composition of the ration –
 - 5.1 shall include at least 300 grammes of carbohydrate in the form of bland barley sugar sweets, glucose tablets or as part of a food tablet. The ration shall not include protein at a greater rate than 3 grammes per 10 grammes of carbohydrate or fat at a greater rate than 4 grammes per 10 grammes of carbohydrate; and
 - 5.2 shall have a salt content as low as possible which must not exceed 1 gramme NaCl. If the ration includes an approved anti-oxidant it shall be included at the rate of 0.02 per cent by weight of the fat component of the ration.
6. The moisture content of any barley sugar or food tablets in the ration shall not exceed 3 per cent and 7 per cent by weight respectively. The moisture content of a glucose tablet shall be as low as possible and compatible with the recommended operational shelf-life.
7. The ration shall be palatable to a survivor limited to a fresh water intake of 0.5 litres per day.
8. The ration shall remain palatable throughout its recommended shelf-life under the climatic conditions normally encountered.
9. The ration shall be readily divisible into at least 3 one-day portions for one person.

Schedule 2 Part 2

Schedule 4 Part 6

Part 3 – fresh water (recommend Emergency Drinking Water 500ml sachet 6 pp)

General

1.1 The water shall comply with the UK Laboratory of the Government Chemist test requirements or the equivalent standards of another State of the European Union to confirm that the water is microbiologically and chemically suitable for drinking and conforms to World Health Organisation standards.

1.2 Processing, packaging and sterilisation arrangements shall be carried out under hygienic conditions and quality assurance inspection acceptable to the Maritime and Coastguard Agency or the equivalent authority of another member State of the European Union.

1.3 The water shall remain palatable in its storage containers in the survival craft in a temperature range of -30°C to $+65^{\circ}\text{C}$.

Water Containers

Sachets

2.1.1 The water shall be packed in efficiently sealed sachets which are impermeable, moisture proof and have an effective vapour barrier.



2.1.2 The sachets shall have a cut above the top seal to facilitate easy opening with wet or cold hands.

2.1.3 Individual sachets shall contain not less than 50 and not more than 150 millilitres of water.

2.1.4 Water filled sachets shall be capable of withstanding a compressive load test of 5 kiloNewtons without bursting.

2.1.5 Except as provided for in paragraph 2.1.6 water sachets packed in a refuge emergency pack shall not be affected by any of the prototype tests carried out on a refuge.

2.1.6 When included in the emergency pack of an operationally packed refuge no more than 2 per cent of the water sachets shall be damaged after the appropriate drop test.

2.1.7 The recommended shelf life of the water sachets shall be at least 3 years.

2.1.8 The outer packaging shall be marked with the following information the –

2.1.8.1 manufacturer's name or trade mark;

2.1.8.2 contents capacity;

2.1.8.3 lot number;




2.1.8.4 date of manufacture; and

2.1.8.5 a recommended daily consumption per person.



APPENDIX 4

Flood Warnings

Warnings		EA Advice	Communications	Who?
	<p><u>What it means</u> Flooding is possible. Be prepared.</p> <p><u>When it's used</u> Two hours to two days in advance of flooding.</p>	<p>Be prepared to act on your flood plan.</p> <p>Prepare a flood kit of essential items.</p> <p>Monitor local water levels and the flood forecast on our website.</p>	<p>Be prepared to Inform all residents via text or announcement if problem escalates.</p>	<p>Occupier. If rented then land lord should stipulate registration in tenancy agreement.</p>
	<p><u>What it means</u> Flooding is expected. Immediate action required.</p> <p><u>When it's used</u> Half an hour to one day in advance of flooding</p>	<p>Move family, pets and valuables to a safe place.</p> <p>Turn off gas, electricity and water supplies if safe to do so.</p> <p>Put flood protection equipment in place.</p>	<p>Be prepared to Inform all residents via text or announcement if problem escalates.</p>	<p>Occupier. If rented then land lord should stipulate registration in tenancy agreement.</p>
	<p><u>What it means</u> Severe flooding. Danger to life.</p> <p><u>When it's used</u> When flooding poses a significant threat to life.</p>	<p>Stay in a safe place with a means of escape.</p> <p>Be ready should you need to evacuate from your home.</p> <p>Co-operate with the emergency services. Call 999 if you are in immediate danger.</p>	<p>Be prepared to Inform all residents via text or announcement if problem escalates.</p>	<p>Occupier. If rented then land lord should stipulate registration in tenancy agreement.</p>
EA Flood Warnings No longer in force	<p><u>What it means</u> No further flooding is currently expected in your area.</p> <p><u>When it's used</u> When river or sea conditions begin to return to normal.</p>	<p>Be careful. Flood water may still be around for several days.</p> <p>If you've been flooded, ring your insurance company as soon as possible.</p>		
MET Office Weather Warnings	<p>Warnings of heavy rainfall</p> <p>Warnings of severe winter weather e.g. hail, snow, freezing rain.</p>	<p>Consider the impact of this type of weather – e.g. this could lead to surface water flooding, ground water flooding, increased river and sea levels etc</p>	<p>Check on weather periodically and check flood warning page.</p>	