



Flood Warning and Evacuation Plan

Cray House, 3 Maidstone Road, Foots Cray, Sidcup, DA14 5HU

Presented to Kames Capital Active Value Property Unit Trust

Issued: July 2021

Delta-Simons Project No. 14-0440.06



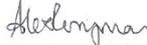
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Report Details

Client	Kames Capital Active Value Property Unit Trust
Report Title	Flood Warning and Evacuation Plan
Site Address	Cray House, 3 Maidstone Road, Foots Cray, Sidcup, DA14 5HU
Project No.	14-0440.06
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Quality Assurance

Issue No.	Status	Issue Date	Comments	Author	Technical Review	Authorised
3	Final	9 th July 2021	-			
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Specialising in Environment, Health & Safety and Sustainability, Delta-Simons provide support and advice within the property development, asset management, corporate and industrial markets. Operating from across the UK we employ over 120 environmental professionals, bringing experience from across the private consultancy and public sector markets.



Delta-Simons is proud to be a founder member of the Inogen Environmental Alliance, enabling us to efficiently deliver customer projects worldwide by calling upon over 5000 resources in our global network of consultants, each committed to providing superior EH&S and sustainability consulting expertise to our customers. Inogen Environmental Alliance offers its clients more consultants, with more services in more countries than the traditional multinational consultancy.

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1.0 Introduction

1.1 Appointment

- 1.1.1 Delta-Simons Environmental Consultants Limited (“Delta-Simons”) was instructed by Kames Capital Active Value Property Unit Trust (the “Client”) to develop a Flood Warning and Evacuation Plan (FWEP) for the commercial property Cray House, 3 Maidstone Road, Foots Cray, Sidcup DA14 5HU (the “Site”) to inform a Prior Approval Application under Class O for the change of use from office to residential.

1.2 Context & Purpose

- 1.2.1 On the Environment Agency (EA) Flood Map for Planning, the Site is shown to be wholly within Flood Zone 3, which is defined as High Probability; a 1 in 100 or greater annual probability of fluvial flooding (>1% Annual Exceedance Probability (AEP)) and a 1 in 200 or greater annual probability of tidal flooding (>0.5% AEP). The Site is not shown to be in an Area Benefitting from Defences (ABD) which would provide further protection for the Site.
- 1.2.2 The FWEP sets out how to prepare for and respond to a flood event. The FWEP seeks to demonstrate compliance with the National Planning Policy Framework by showing that access and egress can be safely achieved without placing site residents and visitors at risk.

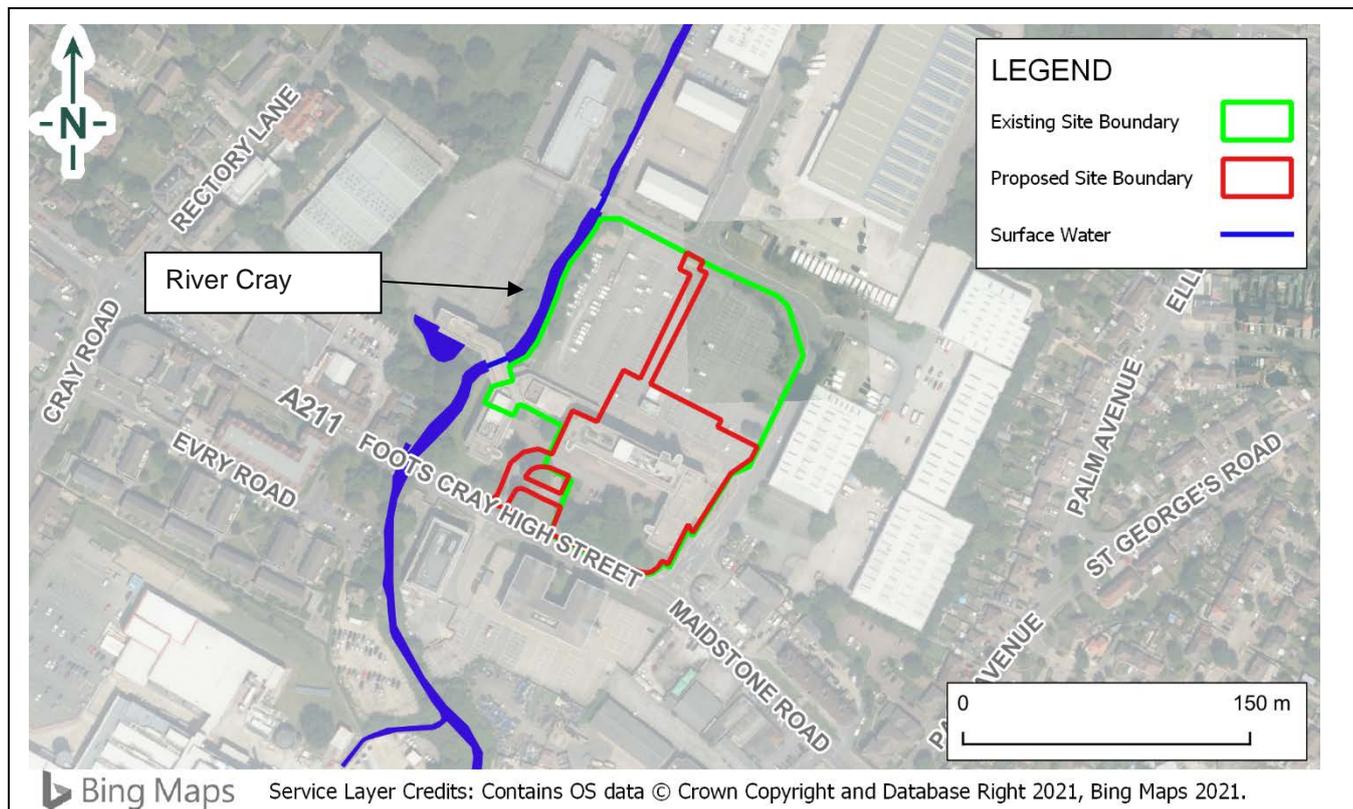
1.3 Scope of Works

- 1.3.1 The scope of works has been as follows for this FWEP:
- ▲ Summary of flood risk to the Site;
 - ▲ Advise on availability of flood alerts and warnings;
 - ▲ Assess site access and egress routes;
 - ▲ Detail the appropriate courses of action to prepare for and respond to a flood event; and
 - ▲ Prepare Flood Warning and Evacuation Plan.

1.4 Sources of Information

- 1.4.1 This report should be read in conjunction with the Flood Risk Assessment (FRA) (Ref.14-0440.06) produced by Delta-Simons in June 2021.

2.0 Site Description



Site Location Plan

<p>Site Location</p>	<p>The Site is located on the corner of Maidstone Road/ Fooths Cray High Street (A211) and an unnamed estate road, in the Fooths Cray suburb of Sidcup, approximately 2.14 km south-east of Sidcup railway station.</p>
<p>Existing Land Use and Topography</p>	<p>Online mapping (including Google Maps / Google Streetview imagery, accessed 26/06/2021) shows that the Site comprises of a part three/part four-storey office building and a single storey canteen and teaching rooms located in the south-western area. An undercroft (pedestrian circulation and waste storage area) is located in the west of the building.</p> <p>Car parking is located in the northern and southern areas of the Site. The southern area is laid to asphalt and brick paving used for visitors. The northern area is laid to asphalt in good condition, a supporting wall is located in the western area and the parking in this area is noted to be approximately 1.5 m lower.</p> <p>Areas of soft landscaping are present in the southern area and the periphery of the northern Site boundary.</p> <p>The Site is bordered:</p> <ul style="list-style-type: none"> ▲ To the north by further car parking, beyond which is the estate road and commercial units beyond (driving test centre, food wholesaler); ▲ To the east by an access road beyond which are commercial units (timber delivery, food service and construction trade supplies, and a vets); ▲ To the south by Fooths Cray High Street / Maidstone Road beyond which are commercial offices, and a hand car wash to the south-east beyond which is a recycling centre and the River Cray; and

	<p>▲ To the west by commercial office units, small commercial units, a supermarket and the River Cray.</p> <p>Access to the Site is provided from Foots Cray High Street to the south and the access road to the north.</p> <p>Topographic levels to metres Above Ordnance Datum (m AOD) have been derived from a 1 m resolution Environment Agency (EA) composite 'Light Detecting and Ranging' (LiDAR) Digital Terrain Model (DTM). A review of LiDAR ground elevation data shows that the Site slopes from approximately 26 m AOD in the south to approximately 25 m AOD throughout the remaining areas of the Site. A LiDAR extract is included in Appendix C of the FRA.</p> <p>A topographic survey was not available at the time of writing.</p>
<p>Hydrology</p>	<p>The nearest watercourse is the River Cray, a Main River (responsibility of the EA to maintain) which is located adjacent to the Site. The River Cray flows along the western boundary of the Site, flowing north past the Site before eventually discharging to the River Darent 7.9 km downstream.</p> <p>According to the Envirocheck® Report, there are no licensed abstraction records from surface water located within 1 km of the Site.</p>

2.1 Flood Risk at the Site

2.1.1 An FRA to assess the flood risk to the Site was prepared in June 2021. Relevant conclusions from that assessment were as follows:

- ▲ The EA 'Flood Map for Planning' map shows the Site to be located wholly within Flood Zone 3 (High Probability). Fluvial flooding is the main source of flood risk to the Site. The baseline risk to the Site and the impact of the proposed change of use on flood risk is considered Low and Acceptable from all sources of flooding. This is contingent upon the incorporation of flood resistance and resilience measures to minimise the impact of fluvial flooding during extreme flood events. The types of flood resistance measures and guideline costs are detailed in the separate FRA;
- ▲ The proposed development forms a Prior Approval Application under Class O for the change of use from office to residential. It is not proposed to alter the external massing of the existing building and there will be no additional building footprint or flow path obstruction. Therefore, the development will not remove flood storage space from the surrounding areas. Nor will there be any modification to the existing drainage system serving the Site;
- ▲ There are limited opportunities to raise finished floor levels. However, the development gives way to safe access and egress (detailed in Section 3.5 of this FWEP). As the Site is located within an EA Flood Warning and Alert Area, it is recommended that the Site owner signs up to the EA Flood Warnings Service (Floodline: 0345 988 1188) in order to receive alerts and updates on impending flood events and communicate this information to the staff; and
- ▲ Any residual risk to Site residents occupying the Site can be managed through the implementation of this FWEP which recognises the residual risks and details what action is to be taken in the event of a flood to put occupants in a place of safety.

3.0 Preparing for and Responding to a Flood

3.1 Flood Warnings

- 3.1.1 The flood forecasting and warning service operates in areas at risk of flooding from rivers or the sea and relies on direct measurements of rainfall, river levels, tide levels, in-house predictive models, rainfall radar data and information from the Met Office. This service operates 24 hours a day, 365 days a year.
- 3.1.2 If flooding is forecast, warnings are issued using a set of easily recognisable codes;



Severe Flood Warning

Severe flooding - danger to life



Flood Warning

Flooding is expected - immediate action required



Flood Alert

Flooding is possible - be prepared

3.2 The Flood Warnings System

- 3.2.1 The Site residents should as part of a 'residents' association' commit to signing up to the Flood Warnings system, which is a free service operated by the government that provides flood warnings direct by telephone, mobile, email, SMS text message and fax.

3.3 Estimated Flood Warning Times

- 3.3.1 The flood forecasting and warning service aims to provide a Flood Alert between two hours and two days in advance of potential flooding. A more accurate estimation is provided when a Flood Warning is made. A Flood Warning is issued between half an hour and one day in advance of flooding.

3.4 Actions

- 3.4.1 The Site residents and residents' association should be provided with this FWEP, made aware of the potential risks associated with the flooding in the locality, and as a result should be aware of forecasted weather conditions, particularly during periods of heavy rain.

The following measures should be undertaken in receipt of a Flood Alert:

- ▲ Site residents should be familiar with the Evacuation Route Plan, and the route to safe havens, provided as Figure 1 and Figure 2;
- ▲ Site residents should prepare for the possibility of evacuating the premises with a bag with vital items; and

- ▲ Site residents should be familiar with safety actions including how to turn off gas, electricity and water mains supplies.

The following actions should be undertaken on receipt of a Flood Warning:

- ▲ A list of important/emergency contacts should be readily accessible to all Site residents;
- ▲ Site residents should be prepared to move to safety, ensuring vehicles are moved from Site to safety;
- ▲ If the Site has property protection measures, they should be implemented; and
- ▲ Site residents should keep up to date on nearby river levels by checking the relevant websites and contacting Floodline (see emergency contact details).

The following actions should be undertaken on receipt of a severe Flood Warning:

- ▲ Site residents should turn off gas, electricity, and water mains supply if it is safe to do so and residents should know not to touch electrical switches if standing in water;
- ▲ Site residents should evacuate the premises, ensuring they have all essential items/valuables/emergency kits with them. Hands should be washed if they come into contact with flood water;
- ▲ A resident / member of the Site Resident's Association (designated as a flood warden) should assist in the coordination of the evacuation, paying particular attention to vulnerable people; and
- ▲ The safe refuge areas should be inspected to ensure that access to them is not impeded. Residents should liaise with the emergency services.

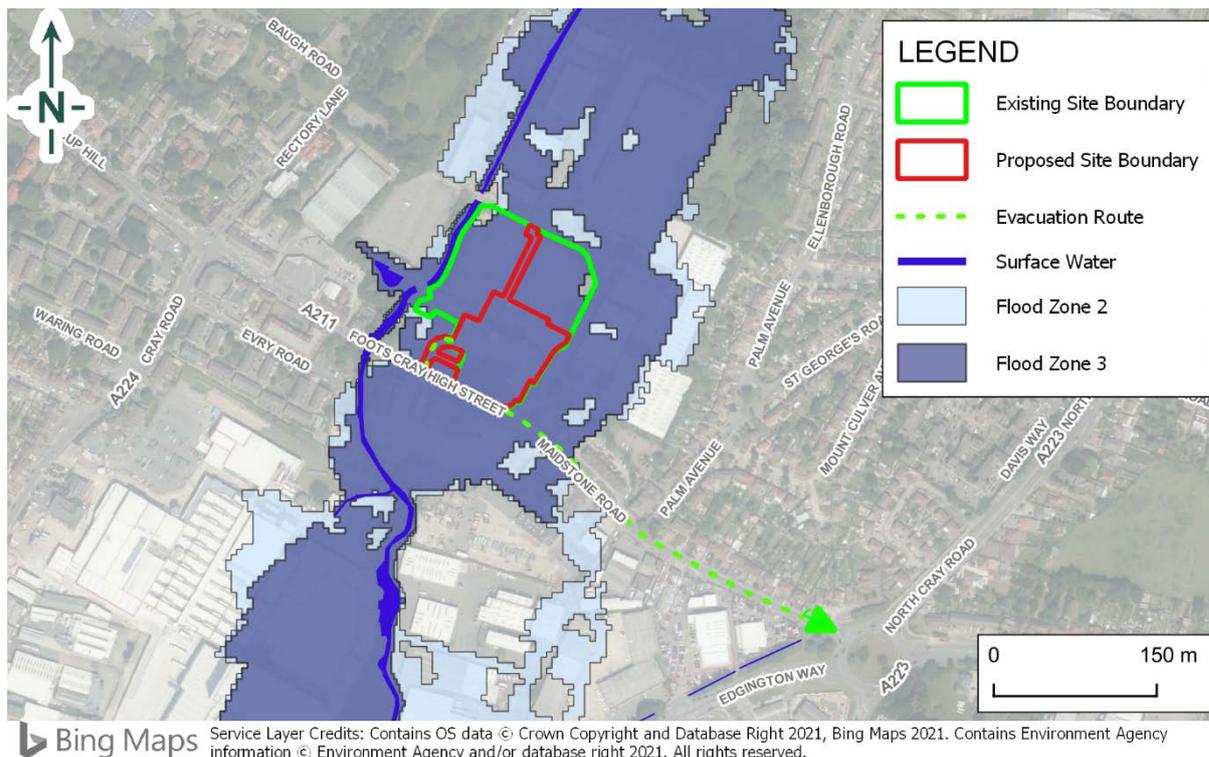
Following a flood event:

- ▲ Site residents should not return to the Site until the Flood Warning has been removed; and
- ▲ Site residents should check with the emergency services that the Site and access/ egress routes are safe before returning to the Site.

3.5 Access and Egress Routes and Flow Chart

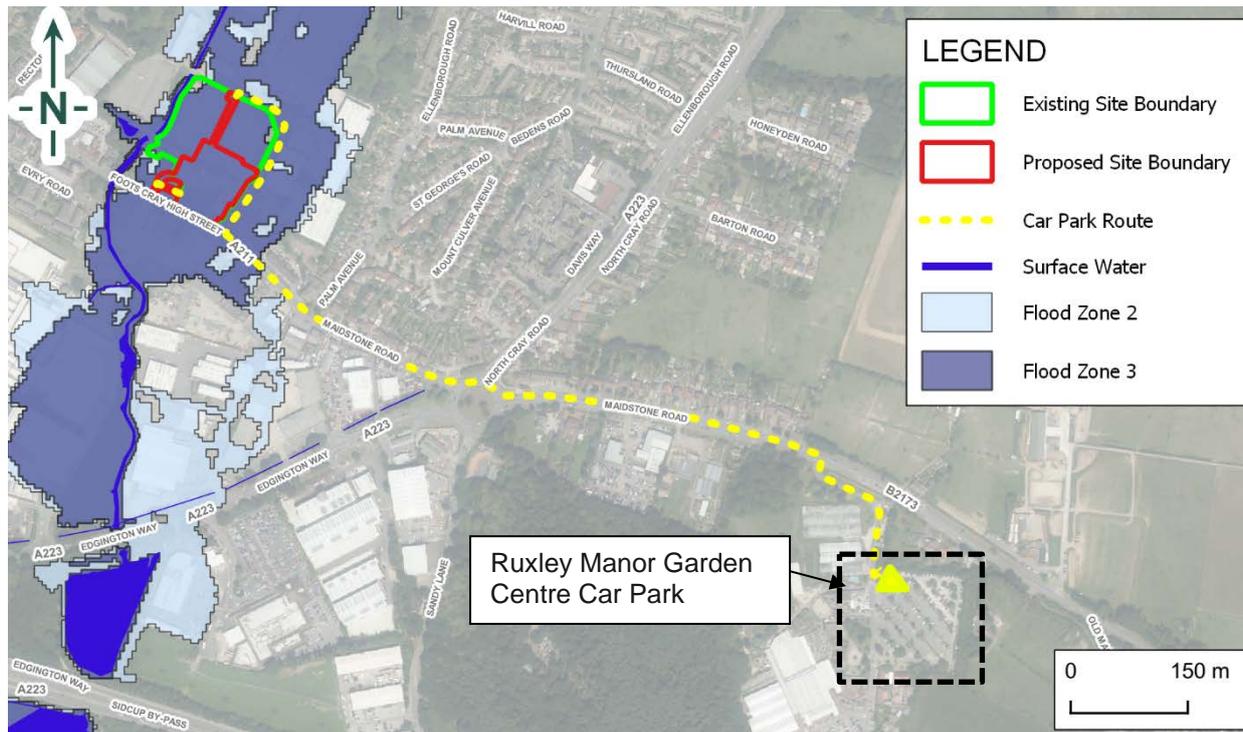
- 3.5.1 Should an evacuation be triggered as a result of flooding, pedestrians should egress from the Site on to Foots Cray High Street, continuing east onto Maidstone Road until out of Flood Zones 2 and 3. Maidstone Road to the east is located in Flood Zone 1, and therefore considered safe from river flooding. A map demonstrating the recommended Evacuation Route is included in Figure 1 below.
- 3.5.2 Other potential routes include egress along Foots Cray High Street heading west or through River House and onto the private car park located to the north-west of the Site. However, in this instance the preferred route would be to avoid crossing over the River Cray via the Foots Cray Bridge or via River House, which is not part of the Prior Approval Application.

Figure 1: Preferred Evacuation Route



- 3.5.4 Any flooding events will require a safe refuge such that all Site residents can take immediate action to keep themselves safe without relying on intervention from outside. In the event of a flood warning, all cars parked at the Site should be moved to a suitable area outside of the flood extents. Available nearby car parks (as shown in Figure 2 below) include Ruxley Manor Garden Centre car park, situated outside Flood Zones 2 and 3. Ruxley Manor Garden Centre car park is accessed by following the evacuation routes (depicted in Figure 1) continuing south east on Maidstone Road, then heading south on an unnamed turn-off road. The preferred route continues south before making a sharp left turn into the destination car park. If this car park is full, the Premier Inn Swanley Car Park can be accessed by continuing further on, south-east on Maidstone Road before turning left (northbound) into the car park.
- 3.5.5 In the event of a flood, Site residents should remain inside the building at the first floor level or above.

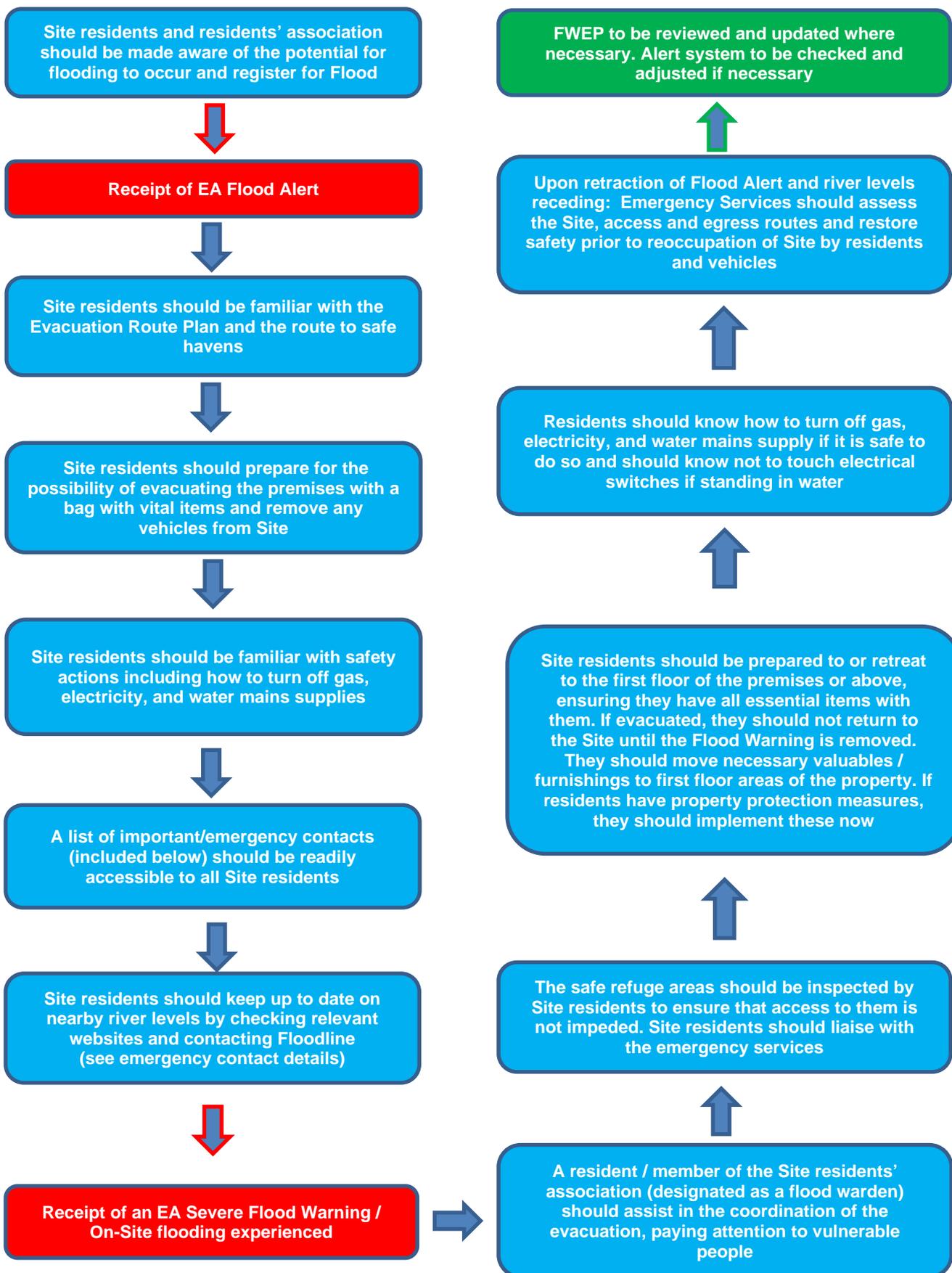
Figure 2: Preferred Route to Available Car Parks



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3.5.6 All Site residents should:

- ▲ Be made aware of and be familiar with the safety plan; and
- ▲ Be made aware and be familiar with the emergency contact details below.



Emergency Contact Details

In the event of an emergency dial 999	
Flood Warnings Direct – 0345 988 1188	EA Incident Hotline – 0800 80 70 60
London Borough of Bexley Council switchboard (Emergency) – 020 8303 7171	London Borough of Bexley Council switchboard (Non – Emergency General Customer Enquiries) – 020 8303 7777
UK Power Networks Power Distribution– 0800 31 63 105	NHS 111 Service (Non-Emergency) – 111
Insurance Company (to be completed by property owner) –	

This flood plan will be updated every 5 years

Appendix A – Limitations

Limitations

The recommendations contained in this Report represent Delta-Simons professional opinions, based upon the information listed in the Report, exercising the duty of care required of an experienced Environmental Consultant. Delta-Simons does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client and others. Delta-Simons conclusions, opinions and recommendations has been determined using this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

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