FLOOD RISK ASSESSMENT

109 Chertsey Lane, Staines TW18 3LQ

CLIENT
Mr Mushfaque Chowdhury
220 Green Lane
Norbury
SW16 3BL

Ref: 4283/2.1
Date: March 2012

CONSULTING ENGINEERS
GTA Civils Ltd
66a Church Walk
Burgess Hill
West Sussex RH15 9AS

Tel: 01444 871444
Fax: 01444 871401
CONTENTS

1.0 Introduction

2.0 Requirements of the Flood Risk Assessment

3.0 Existing Site

4.0 Flood Conditions

5.0 Site Proposals and Flood Mitigation

6.0 Proposed Drainage Strategy

7.0 Summary and Conclusions

SCHEDULE OF APPENDICES

A Site Location Plan & Aerial View

B Topographical Survey

C Proposed Scheme Drawings

D EA Flood Data

E SFRA Flood Maps – Historic Flood Incidents

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Compiled</th>
<th>Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Issue</td>
<td>12 March 2012</td>
<td>JP</td>
<td>MR</td>
</tr>
</tbody>
</table>

Report by: John Pakenham BSc (Hons)
Checked by: Martin Roberts I Eng, ACIWEM, MIHT
1.0 INTRODUCTION

1.1 This report has been prepared for Mr Mushfaque Chowdhury for a replacement dwelling at 109 Chertsey Lane, and no responsibility is accepted to any third party for all or part of this study in connection with this or any other development.

1.2 This report will take the form of a formal Flood Risk Assessment in accordance with “Planning Policy Statement Note 25: Development and Flood Risk (PPS25)”.

2.0 REQUIREMENTS OF THE FLOOD RISK ASSESSMENT

2.1 PPS25 – Development and Flood Risk, Annexes E-G, sets out the requirements of a Flood Risk Assessment. The Environment Agency has also published a Practice Guide outlining minimum requirements for FRA documents.

2.2 This Practice Guide requires the FRA contain the following:

- Location Plan.
- Development proposals.
- Existing information on extent and depth of flood events or on flood predictions.
- Sources of flooding.
- The impact of flooding on a site.
- An assessment of the run-off likely to be generated.
- The likely impact of displaced water on third parties.
3.0 EXISTING SITE

3.1 The site is located at OS Grid Reference E: 503539, Y: 170289. The address is:

109 Chertsey Lane
Staines
Surrey
TW18 3LQ

3.2 The site is accessed off Chertsey Lane from the west. To the north and south lie neighbouring residential dwellings. The River Thames bounds the site to the east. Refer to Appendix A for a site location plan and aerial view.

3.3 The site is a rectangular parcel of land with an approximate area of 0.4 hectares. The existing structures are a detached house, 4 no. sheds and a greenhouse. The total roofed area of these buildings is approximately 540m². The surrounding garden contains a variety of surfaces including soft, tarmac and concrete. Other site features are ponds and rockeries.

3.4 Topography: ground levels in the front garden range between 14.04m AOD at the far west of the site to around 14.48m AOD closer to the house. The house lies above the surrounding ground with a front threshold level of 15.35m AOD, accessed from a raised terrace. The rear garden is generally at a lower elevation than the front, with levels at the rear boundary falling to 13.13m AOD at the northeast corner. The topographical survey drawing refer is shown in Appendix B.

3.5 Existing drainage: it is assumed that foul drainage discharges to the public sewer network along Chertsey Lane. Surface water drains to soakaways.

3.6 Site geology: the online British Geological Survey map shows the bedrock as London Clay and the superficial deposits are Alluvium (clay, silt, sand and gravel.) The former is notoriously impermeable whilst the drift deposits vary widely: only a soil soakage test (to BRE Digest 365) will confirm the site’s offsite flow rate. As the site currently is served by a soakaway it is clear that the soil offers average porosity as a minimum.
4.0 FLOOD CONDITIONS

4.1 The River Thames flows southwards adjacent to the east boundary.

4.2 The Environment Agency flood map – see Appendix D – shows the site lying in Flood Zone 3, this being the ‘1 in 100 year’ floodplain of the River Thames. This means that the site has a 1 in 100 chance or greater of river flooding per year (>1%).

4.3 A grid of predicted river and floodplain levels are in Appendix D. The closest modelled level for the site is referenced “Floodplain 2” and reads as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>AOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 in 100 year modelled flood level excluding climate change m AOD (defended)</td>
<td>14.93m</td>
</tr>
<tr>
<td>1 in 100 year modelled flood level including climate change m AOD (defended)</td>
<td>15.14m</td>
</tr>
</tbody>
</table>

4.4 As the dwelling’s ground floor FFL is 15.35m AOD this currently clear of the main, fluvial flood risk, but not set 0.3m above the critical ‘100 year + CC’ level, which PPS25 states as the required standard in new developments.

4.5 Historic Flood Events: a map from the Environment Agency in Appendix D shows that the site has flooded (from the River Thames), most recently in 2003.

4.6 The risk of flooding to the property from other sources has been assessed following an examination of the local geology, topography and Strategic Flood Risk Assessment (SFRA) for Runnymede. The results are tabulated below:

<table>
<thead>
<tr>
<th>Risk Source</th>
<th>Risk</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewers</td>
<td>Low</td>
<td>No localised drainage issues within the site area are highlighted in the SFRA – see SFRA map in Appendix E.</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Low</td>
<td>Site geology is London Clay which, due to its imporous nature, would have a preventative effect on groundwater leaching. No recorded incidents of groundwater flooding – see SFRA map in Appendix E.</td>
</tr>
<tr>
<td>Overland</td>
<td>Low</td>
<td>OS Maps show that the surrounding topography is generally flat. There are no large areas of adjoining land at a higher elevation which could generate overland flow. No recorded incidents of overland flooding – see SFRA map in Appendix E.</td>
</tr>
<tr>
<td>Artificial</td>
<td>Low</td>
<td>No canals in the immediate vicinity. No recorded incidents of flooding from artificial sources – see SFRA map under Appendix E.</td>
</tr>
</tbody>
</table>
5.0  SITE PROPOSALS AND FLOOD MITIGATION

5.1  The proposed application is for the erection of a new 2-storey detached house with separate double garage and swimming pool, to replace the existing residence and outbuildings – see proposed scheme drawings in Appendix C.

5.2  Gross external areas for the new house and garage are 324m² and 80m² respectively, which totals 404m². This is a reduction compared to the existing total roof area of the house and outbuildings, which equals approximately 540m². The net decrease is therefore 136m².

5.3  The new house is to be situated in the west – or front - half of the site. The change in house position will decrease flood risk to occupants as the building will be located further in both plan and elevation from the flood source. This is one of the tenets of PPS25, namely sequential design, meaning that the higher vulnerabilities are placed in the lower flood risk areas, as much as possible.

5.4  Flood Risk Vulnerability Classification: according to Table D.2 in PPS25 there will be no change in classification for the replacement building. Being residential in nature, the site will remain classified as “More Vulnerable”.

5.5  Proposed FFL: it is recommended that the proposed ground floor finished floor level be set 300mm above the 1 in 100 year modelled flood level including climate change, as per PPS25, to mitigate against flooding to the building. As the critical modelled flood level is 15.14m AOD the ground floor FFL should be set at 15.44mAOD. This is approximately 1m above existing ground levels in the area of the proposed footprint.

5.6  The external levels over the current dwelling’s footprint and surrounding area will be lowered to ambient level, this being approximately 14.4mAOD, ie 0.12m above the equivalent average level over the proposed dwelling’s location.

5.7  Floodplain volume balancing: the total footprint of the garage and house is 404m². The average ground level in the area of the new build is 14.28m AOD. With the critical flood level at 15.14m AOD, the volume of floodwaters displaced by the new structures within the 1 in 100 year +CC floodplain equal 347m³ (area x depth = 404 x (15.14 – 14.28 =) 0.86). The approximate total footprint of the existing house and outbuildings equals 540m². This will free up a volume of 400m³ (540 x (15.14 – 14.40 =) 0.74) within the same floodplain level band, ie 47m³ extra. The demolition of the existing structures on site therefore more than offsets any loss of floodplain caused by the new buildings.

5.8  Dry means of access and escape: the site is liable to flood during the critical storm event to an average depth of approximately 1m. The surrounding land will also become inundated – refer to EA flood data in Appendix D.

5.9  Flood Warning and Evacuation: as a completely dry means of escape may not be possible during the critical storm event, it is recommended that the occupants register with the free flood warning service provided by the Environment Agency (called ‘Floodline’), to facilitate evacuation of the buildings prior to floodwaters surrounding the site. In addition, occupants should monitor any other developments as regards broadcast information. The TV news channels and local radio stations will augment the
EA’s warnings in their bulletins. Additionally there may be Local Authority Emergency Planning Department vehicles fitted with public address systems (loud hailers) issuing directions from the street.

5.10 As prior evacuation may not always be feasible, it is recommended that occupants be made aware of a designated safe place of refuge at first floor level within the property, to which they can retreat and wait for emergency services in times of flooding. To convey this information, a durable plastic notice should be affixed adjacent to the electric distribution board which should state that occupants should sign up to the EA’s ‘Floodline’ service, and in the event of the site becoming inundated should seek refuge on the first floor.

6.0 PROPOSED DRAINAGE STRATEGY

6.1 It is proposed to discharge surface water from the new structures in the same manner as existing i.e. to soakaways. It is recommended that a ‘BRE 365’ soakage test is carried out early on in the design stage to accurately determine the infiltration rate of the soil. Although the bedrock geology is London Clay, BGS maps indicate that overlying this stratum are river deposits (Alluvium) which may offer reasonable soakage. Soakaways should be sized to provide temporary rainwater storage up to the critical ‘1 in 100 year + 30%’ storm event.

6.2 SUDS: additionally an underground rainwater harvesting tank shall be installed: the grey water shall be used for WC flushing and garden watering. This shall reduce the demand for clean water and also reduce the offsite flow rate from the roofed areas.

6.3 Green Roof: the entire garage roof as well as 28m$^2$ of the new house’s roof will be of 50mm thick sedum – refer to Appendix E for the proposed roof plan drawing.

6.4 Foul drainage: it is proposed to connect new foul drainage to the existing system on site, ie draining to the public sewer. As the scale of occupancy on the site will be the same between current and proposed dwellings this does not constitute any increase in risk.
SUMMARY AND CONCLUSIONS

7.1 The proposal is to demolish the existing structures on site, and erect a new detached house with separate double garage. The proposed total footprint and roof area are smaller than existing.

7.2 The Environment Agency categorises the site as lying in Flood Zone 3 of the River Thames. Modelled flood levels from the EA show the entire site is liable to flood during a 1 in 100 year event + climate change (CC) storm event.

7.3 The risk from other flood sources – sewer, overland, groundwater and artificial – is considered to be low following an examination of the Runnymede SFRA, local geology and topography.

7.4 It is recommended that the finished floor level of the new building is set at 15.44m AOD, which is 300mm above the modelled critical ‘1 in 100 year + CC’ flood level.

7.5 It has been shown that the demolition of the existing structures will more than offset any loss of floodplain caused by the new build. See section 5.7 for calculation.

7.6 Storm drainage strategy and SUDS: rainwater from new roof and impermeable areas are to drain to soakaways. Other SUDS measures include an underground grey water recycling (rainwater harvesting tank) and sedum roof over garage and part of the main house unit.

7.7 A completely dry means of access and escape following a ‘1 in 100 year event + CC’ event may not be possible. Emergency procedures should designate a safe place of refuge at first floor level and occupants should register with the appropriate flood warning services.

7.8 A durable plastic notice should be affixed adjacent to the electric distribution board which should briefly outline these warning and response plan items.

It is therefore considered that this development is PPS25 compliant.

- End of Report -
APPENDIX A

Site Location Plan & Aerial Photo
APPENDIX B

Topographical Survey
APPENDIX C

Proposed Scheme Drawings
EXISTING SITE PLAN
1:500

LOCATION PLAN
1:1250

dl: services
Architectural Design
T +44 (0)1580 725982
M +44 (0)7994 141313
info@dl-services.co.uk
www.dl-services.co.uk

Project
109 Chertsey Lane, Staines, TW18 3LQ
NEW DWELLING
Client
RMC

Project Ref
1541

Site Location Plans

Date
01.02.12

Scale
VAR@A3

NOTE: These drawings not to be used except for planning purposes. All dimensions to be checked on site, report any discrepancies to the Office. All notes to be read in conjunction with specifications where applicable. DL services.
NOTE: This drawing is not to be scaled, except for planning purposes. All dimensions to be checked on site, report any discrepancies to the Office. All drawings to be read in conjunction with specifications where applicable. ID: 100656

Service Vents. Exact size and position TBC

Guttering to hips integrated within external walls.

Seedum Roof by Specialist with water filters to grey water tank storage.

Colar thermal Heating Panels by specialist contractor, Exact Size and Position TBC

Concrete tile roof, Colour TBC

scale: 1:100

DL services
Architectural Design
T +44 (0)1865 275985
M +44 (0)7594 141313
info@dlservices.co.uk
www.dl-services.co.uk

Project 109 Chertsey Lane, Staines, TW18 3LQ NEW DWELLING

Client RMC

Project Ref. 1041

Date 01.02.12

Scale 1-100@A3

Legend:

Red Line: Reference lines for layout
Blue Line: Existing, if required
Black Line: Undeveloped

Proposed Roof Plan

B: 06/02/12 = Seedum roof to external area
A: 02/02/12 = Garage block identified in Site Layout, Wood shed not shown

Details:

Pre: 01/02/12

Note: Scale: 1:100

- Roof terrace
- Flat roof
- Seedum roof
- Colar thermal heating panels
- Concrete tile roof
- Service vents
- Guttering to hips
Garage/ Function Room

PROPOSED GROUND FLOOR PLAN
1:100

PROPOSED FIRST FLOOR PLAN
1:100

PROPOSED ROOF PLAN
1:100

Seedum Roof by Specialist
with water filters to grey water tank storage.
APPENDIX D

EA Flood Data
Product 4 (Detailed Flood Risk) for 109 Chertsey Lane, Staines TW18 3LQ

Our Ref: 00_213A_101_001

Product 4 is designed for developers where Flood Risk Standing Advice FRA (Flood Risk Assessment) Guidance Note 3 Applies.

- “all applications in Flood Zone 3, other than non-domestic extensions less than 250 sq meters; and all domestic extensions”,
- “all applications with a site area greater than 1 ha” in Flood Zone 2.

Product 4 includes the following information:

- Ordnance Survey 1:25k colour raster base mapping;
- Flood Zone 2 and Flood Zone 3;
- Relevant model node locations and unique identifiers (for cross referencing to the water levels, depths and flows table);
- Model extents showing defended scenarios;
- FRA site boundary (where a suitable GIS layer is supplied);
- Flood defence locations (where available/relevant) and unique identifiers; (supplied seperately)
- Flood Map areas benefiting from defences (where available/relevant);
- Flood Map flood storage areas (where available/relevant);
- Historic flood events outlines (where available/relevant, not the Historic Flood Map) and unique identifiers;
- Statutory (Sealed) Main River (where available within map extents);

A table showing:

- model node X/Y coordinate locations, unique identifiers, and levels and flows for defended scenarios.
- Flood defence locations unique identifiers and attributes; (supplied
- Historic flood events outlines unique identifiers and attributes; and
- local flood history data (where available/relevant).

Please note:

If you will be carrying out computer modelling as part of your Flood Risk Assessment, please read the enclosed guidance which sets out our requirements and best practice for computer river modelling.

This information is based on that currently available as of the date of this letter. You may feel it is appropriate to contact our office at regular intervals, to check whether any amendments/improvements have been made. Should you re-contact us after a period of time, please quote the above reference in order to help us deal with your query.

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

This letter is not a Flood Risk Assessment. The information supplied can be used to form part of your Flood Risk Assessment. Further advice and guidance

http://www.environment-agency.gov.uk/research/planning/82584.aspx

If you would like advice from us regarding your development proposals you can complete our pre application enquiry form which can be found at

http://www.environment-agency.gov.uk/research/planning/33580.aspx
Flooding from rivers or sea without defences (Flood Zone 3) shows the area that could be affected by flooding:
- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

The Extent of an extreme flood (Flood Zone 2) shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

Legend
- Site
- Floodplain Levels
- Level Nodes
- Flow Nodes
- Main River
- Flood defences
- Areas benefiting from flood defences
- Flood Map - flood storage areas
- Extent of Flooding From Rivers (FZ3)
- Extent of Extreme Flood (FZ2)
The modelled flood levels and flows for the closest most appropriate model node points for your site that are within the river channel are provided below:

### Flood Levels (mAOD)

<table>
<thead>
<tr>
<th>Node label</th>
<th>Model</th>
<th>Easting</th>
<th>Northing</th>
<th>20% AEP</th>
<th>5% AEP</th>
<th>1% AEP</th>
<th>1% AEP with climate change allowance (+20% on river flows)</th>
</tr>
</thead>
<tbody>
<tr>
<td>063TH01_MN_21.033.1</td>
<td>Lower Thames Reach 3 - TUFLOW Model 2007</td>
<td>503706</td>
<td>170719</td>
<td>14.30</td>
<td>14.78</td>
<td>15.13</td>
<td>15.33</td>
</tr>
<tr>
<td>063TH01_MN_21.045.1</td>
<td>Lower Thames Reach 3 - TUFLOW Model 2007</td>
<td>503661</td>
<td>171100</td>
<td>14.44</td>
<td>14.94</td>
<td>15.30</td>
<td>15.51</td>
</tr>
<tr>
<td>063TH01_MN_MLD1.0.1</td>
<td>Lower Thames Reach 3 - TUFLOW Model 2007</td>
<td>503126</td>
<td>169564</td>
<td>12.95</td>
<td>13.51</td>
<td>13.98</td>
<td>14.94</td>
</tr>
</tbody>
</table>

### Flood Flows (m³/s)

<table>
<thead>
<tr>
<th>Node label</th>
<th>Model</th>
<th>Easting</th>
<th>Northing</th>
<th>20% AEP</th>
<th>5% AEP</th>
<th>1% AEP</th>
<th>1% AEP with climate change allowance (+20% on river flows)</th>
</tr>
</thead>
<tbody>
<tr>
<td>063TH01_MN_21.022</td>
<td>Lower Thames Reach 3 - TUFLOW Model 2007</td>
<td>503503</td>
<td>169862</td>
<td>332.419</td>
<td>432.909</td>
<td>531.407</td>
<td>593.817</td>
</tr>
<tr>
<td>063TH01_MN_21.051D</td>
<td>Lower Thames Reach 3 - TUFLOW Model 2007</td>
<td>503637</td>
<td>171163</td>
<td>332.409</td>
<td>437.600</td>
<td>545.941</td>
<td>631.666</td>
</tr>
<tr>
<td>063TH01_MN_21.033</td>
<td>Lower Thames Reach 3 - TUFLOW Model 2007</td>
<td>503683</td>
<td>170445</td>
<td>332.413</td>
<td>434.994</td>
<td>530.135</td>
<td>600.261</td>
</tr>
<tr>
<td>063TH01_MN_21.045</td>
<td>Lower Thames Reach 3 - TUFLOW Model 2007</td>
<td>503693</td>
<td>170911</td>
<td>332.412</td>
<td>437.425</td>
<td>540.919</td>
<td>621.965</td>
</tr>
</tbody>
</table>
The modelled flood levels for the closest most appropriate model grid cells for your site are provided below:

<table>
<thead>
<tr>
<th>2D grid cell reference</th>
<th>Model</th>
<th>Easting</th>
<th>Northing</th>
<th>5% AEP</th>
<th>2% AEP</th>
<th>1% AEP</th>
<th>1% AEP with climate change allowance (+20% on river flows)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floodplain 1</td>
<td>Thames Reach 3 2009</td>
<td>503475</td>
<td>170454</td>
<td>14.64</td>
<td>14.78</td>
<td>14.96</td>
<td>15.17</td>
</tr>
<tr>
<td>Floodplain 2</td>
<td>Thames Reach 3 2009</td>
<td>503496</td>
<td>170299</td>
<td>14.61</td>
<td>14.76</td>
<td>14.93</td>
<td>15.14</td>
</tr>
<tr>
<td>Floodplain 3</td>
<td>Thames Reach 3 2009</td>
<td>503459</td>
<td>170155</td>
<td>14.59</td>
<td>14.74</td>
<td>14.91</td>
<td>15.12</td>
</tr>
</tbody>
</table>

This flood model has represented the floodplain as a grid. The flood water levels have been calculated for each grid cell.
Floodplain 1

Floodplain 2

Floodplain 3

AEP = Annual Exceedance Probability
The probability of a flood of a particular magnitude, or greater, occurring in any given year

1%CC = 1% Climate Change extent
This is the 1% AEP event with an allowance for climate change (+20% on river flows)
<table>
<thead>
<tr>
<th>Model:</th>
<th>Thames Reach 3 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Reach 3 (Windsor to Walton):</td>
</tr>
<tr>
<td></td>
<td>The information provided is taken from Reach 3 of the Lower Thames Remodelling Study which was completed in December 2007, and used TUFLOW modelling. The model has been re-run in December 2009 to provide corrected model output data. No changes to the model input files have been made.</td>
</tr>
<tr>
<td>Accuracy of the final model:</td>
<td>The model accuracy has generally been maintained to be within ± 150mm of the gauged data at the head and tail water levels at the main locks on the River Thames for the calibration event. For the verification event the level difference between modelled and observed flood levels is within ± 150mm for all but three of the main locks on the Thames (Romney tail, Bell head and Sunbury tail). Overall, the model accuracy is within the specified limits of the standard specification and is therefore deemed appropriate.</td>
</tr>
<tr>
<td>It should be noted that 150mm is a typical difference between a 1 in 50 and 1 in 100 flood level at many locations on the Lower Thames</td>
<td></td>
</tr>
<tr>
<td>Model design runs &amp; mapped outputs:</td>
<td>1 in 20 / 5%; 1 in 50 / 2%; 1 in 100 / 1%; and 1 in 100+20% / climate change</td>
</tr>
<tr>
<td>The mapped outputs are as output from the Tuflow flood model at a resolution that is half the size of the 50m Tuflow model grid cell. Before using the mapped extents please review these outputs in line with detailed topographic survey.</td>
<td></td>
</tr>
</tbody>
</table>
Historic Flood Map centred on 109 Chertsey Lane, Staines TW18 3LQ
Created 13/January/2012 - REF: 00_213A_101_001

Flooding from rivers or sea without defences (Flood Zone 3) shows the area that could be affected by flooding:
- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

The Extent of an extreme flood (Flood Zone 2) shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.
Our records show that the area of your site has been affected by flooding. Information on the floods that have affected your site is provided in the table below:

<table>
<thead>
<tr>
<th>Flood Event Code</th>
<th>Flood Event Name</th>
<th>Start Date</th>
<th>End Date</th>
<th>Source of Flooding</th>
<th>Cause of Flooding</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA0619470300160</td>
<td>06MarchSpring1947</td>
<td>01/01/1947</td>
<td>12/12/1947</td>
<td>main river</td>
<td>channel capacity exceeded (no raised defences)</td>
</tr>
<tr>
<td>EA0619680900461f</td>
<td>06SeptemberAutumn1968</td>
<td>01/01/1968</td>
<td>12/12/1968</td>
<td>main river</td>
<td>channel capacity exceeded (no raised defences)</td>
</tr>
<tr>
<td>EA0619741100396</td>
<td>06NovemberAutumn1974</td>
<td>01/01/1974</td>
<td>12/12/1974</td>
<td>main river</td>
<td>channel capacity exceeded (no raised defences)</td>
</tr>
<tr>
<td>EA0619880500030</td>
<td>06MaySpring1988</td>
<td>01/01/1988</td>
<td>12/12/1988</td>
<td>other</td>
<td>unknown</td>
</tr>
<tr>
<td>EA06199000200235</td>
<td>06FebruaryWinter1990</td>
<td>01/01/1990</td>
<td>12/12/1990</td>
<td>main river</td>
<td>channel capacity exceeded (no raised defences)</td>
</tr>
<tr>
<td>EA0620001200299</td>
<td>06DecemberWinter2000</td>
<td>01/01/2000</td>
<td>12/12/2000</td>
<td>main river</td>
<td>channel capacity exceeded (no raised defences)</td>
</tr>
<tr>
<td>EA0620030101419</td>
<td>06JanuaryNewYear2003</td>
<td>23/12/2002</td>
<td>12/01/2003</td>
<td>main river</td>
<td>channel capacity exceeded (no raised defences)</td>
</tr>
</tbody>
</table>

Please note the Environment Agency maps flooding to land not individual properties. Floodplain extents are an indication of the geographical extent of a historic flood. They do not provide information regarding levels of individual properties, nor do they imply that a property has flooded internally.
APPENDIX E

SFRA Maps – Historic Flood Incidents

APPROXIMATE SITE LOCATION