Moston Site 6 – Ashley Lane

Flood Risk Assessment

April 2010

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Document verification record

CLIENT

Redrow Homes (Lancashire) Ltd

INSTRUCTION

The Instruction was received from Mr Paul Sinclair on behalf of Redrow Homes Ltd

SCHEME

Flood Risk Assessment

Moston Site 6, Ashley Lane, Manchester

REPORT FORMAT

This report has been prepared in accordance with Planning Policy Statement 25 (PPS 25) and follows the pro-forma format recommended in Appendix C of Development and Flood Risk : Practice Guide. This report addresses the Environment Agency comments in letter reference: SO/2010/106914/01-L01.

VERIFICATION

Prepared by	Gemma Roberts MEng (Hons)
Checked by	Raffaela Whitehead BSc (Hons) MEPS
Approved by	Peter M Jones BSc CEng MICE MCIWEM

Waterco Document Reference Number.....w678-Moston 6-T5-100420-FRA

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C – Environment Agency Flood Map
D – Manchester City Council Flood Risk Overview map
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F – Exceedance Events Details

1 Development description and location

1a. What type of development is proposed and where will it be located ?

1.1 The proposed development is located to the South-West of Ashley Lane, Moston, Manchester. Grid Reference: 386750, 401370. A site location plan is included in Appendix A.

1.2 A historical map indicates that the site was completely occupied by terraced housing. The 1992 historical map is included in Appendix A. A recent aerial photograph (included in Appendix A) shows the housing. These houses were subject to Compulsory Purchase Orders (CPO's) and have since been demolished. Mr Paul Sinclair of Redrow Homes indicated that the properties were demolished in the past 12 months.

1.3 The definition of 'Greenfield' in the Code for Sustainable Homes (CSH) Category 4 (page 142) is 'A site which has either never been built on, or one which has lain undisturbed for 5 years or more'. The site is therefore considered to be Brownfield.

1.4 The proposed development is for 96 residential units comprising detached and semi-detached dwellings. The site is subdivided by Kingsley Avenue, Elmwood Grove, Nigel Road and Larchwood Avenue.

1.5 The surrounding land is predominantly residential, with rectory and church to the north west.

1b. What is its vulnerability classification ?

1.6 The development is considered to be More Vulnerable in accordance with table D.2 provided in Annex D of PPS25.

1c. Is the proposed development consistent with Local Development Documents ?

1.7 The previous terraced houses were subject to CPO's. A CPO under Town and County Planning legislation arises when a Local Authority can show that the land is required and necessary for the purpose of redevelopment of an area. Therefore, it is assumed that the proposed development is consistent with the Manchester Local Development Documents.

1d Evidence that the Sequential or Exception Test has been applied.

1.8 In accordance with PPS25 the risk-based 'Sequential Test' should be applied to steer new development into areas of lower probabilities of flooding. The site is located within a Flood Zone 1 – an area considered to have the lowest probability of fluvial and tidal flooding. It is assessed as having a less than 1 in 1000 annual probability of flooding in any year (<0.1%). Therefore it is considered that this development passes the Sequential Test.

2 Definition of the flood hazard

2a What sources of flooding could affect the site ?

2.1 For the purpose of this report Envirocheck Flood information was purchased from Landmark Limited. This flood report uses a range of information sources to assess flood risk to the development site including the Environment Agency (EA), Risk Management Solutions (RMS) and the British Geological Survey (BGS).

2.2 A complete copy of this information is included in Appendix B. The information is discussed below:

2.3 Environment Agency Information

2.3.1 The EA detailed River Network Map shows that there are no rivers at the site. However, there is an unnamed watercourse (secondary river) approximately 200m to the West and an extended culvert (greater than 50m) to the South of the site.

2.3.2 The EA Flood Map confirms that the site is not at risk of flooding from rivers or sea.

2.4 RMS (Risk Management Solutions) Modelled Flood Information

2.4.1 This uses land height, predicted rainfall, historical data and various other factors to predict both flooding from rivers and surface water flooding i.e. flooding from minor rivers, water flowing across the ground or raised groundwater levels.

2.4.2 The RMS flood information shows that there is no risk of pluvial flooding (surface water flooding due to rainfall) at the site during the 1 in 75, 100 and 1000 year storm events.

2.5 British Geological Survey (BGS) Flood Information

2.5.1 This gives details of BGS groundwater flooding data and the vulnerability to inland or coastal flooding.

2.5.2 The BGS Flooding indicates that, based on underlying geological conditions, the south western part of the site has *moderately high* susceptibility to groundwater flooding, the northern part has *moderate* susceptibility and the eastern part has *low* susceptibility.

2.5.3 There are no geological deposits in the search area which if present, would indicate that the site may be vulnerable to inland or coastal flooding.

2b Description of how flooding would occur with reference to historic records

2.6 A Strategic Flood Risk Assessment (SFRA) for Greater Manchester has revealed no flooding issues in the Moston or Blackley areas. The Manchester City Council Flood Risk Overview map included in Appendix D shows that the site is not within a flood zone or within an area with historical flooding.

2.7 An Internet search did not yield any references to historical flood events at or near this site.

2c What are the existing surface water arrangements for the site ?

2.8 There are no surface watercourses within the immediate vicinity of the site. The terraced housing was connected to the public combined sewers. It is assumed that surface water continues to connect to the public sewers following the demolition.

3 Probability

3a Which flood zone is the site within ?

3.1 The Flood Map obtained from the EA website on 21/12/09, included in Appendix C shows that the proposed development site falls outside flood zones 2 and 3. This means the chance of flooding each year from rivers and the sea is 0.1% (1 in 1000) or less, making the site a Flood Zone 1 with a low probability of flooding.

3.2 In accordance with Table D.1 in PPS25 this FRA is being produced as the site covers an area greater than 1 hectare. The site area is approximately 2.4Ha.

3b If there is a Strategic Flood Risk Assessment covering the site, what does it show ?

3.3 A Strategic Flood Risk Assessment (SFRA) for Greater Manchester was completed in August 2008. The principal objective of a SFRA is to provide an assessment of the impact of all potential sources of flooding in accordance with PPS25 including an assessment of any future impacts associated with climate change and sea level risk. The SFRA is available from the Association of Greater Manchester Authorities (AGMA) website.

3.4 A search of the SFRA has revealed no flooding issues in the Moston or Blackley areas. The Manchester City Council Flood Risk Overview map included in Appendix D also shows that the site is not within a flood zone or within an area with historical flooding.

3c What is the probability of the site flooding taking account of the contents of the SFRA and of any site specific assessment ?

3.5 The EA flood map indicates that the probability of fluvial flooding is less than 1 in 1000 annual probability of flooding in any year (<0.1%). There are no historic records of flooding in the Manchester SFRA and no evidence to increase the risk of flooding at the development site.

3.6 The RMS data indicates that the probability of pluvial flooding is less than 1 in 1000 (<0.1%).

3d What are the existing rates and volumes of run-off generated by the site ?

3.7 The existing site is regarded as Brownfield land and the historical maps show the site to be completely impermeable. The pre-development impermeable area of the site covers approximately 1.76Ha (excluding highways). For the purpose of this exercise, a rainfall figure of 50mm/hr has been used, as agreed with the EA on 31/03/2010. This gives a peak rate of run-off of 244 l/s and a volume of approximately 220m^3 for a 15 minute intense rainfall. This run-off is diverted to several discharge points on the public combined sewers.

4 Climate change

4a How is the flood risk at the site likely to be affected by climate change ?

4.1 With climate change, the frequency, pattern and severity of rainfall and flooding are forecast to change and become more damaging.

4.2 Pluvial flooding presents the greatest future risk to the site. In accordance with Table B.2.of PPS25 a 30% increase in peak rainfall intensity should be taken into account.

4.3 In the pre-development situation (impermeable area being 1.76Ha), an increase of 30% in rainfall intensity (50mm/hr to 65mm/hr) would give a peak rate of run-off of 318 l/s and a volume of approximately 286m³ for a 15 minute intense storm.

4.4 Following the development (impermeable area being 0.71Ha), an increase of 30% in rainfall intensity would give a peak rate of run-off of 128 l/s and a volume of approximately 115m³ for a 15 minute intense storm.

4.5 The reduction in impermeable area due to the proposed development will counter-balance the effects of increased rainfall due to climate change. In fact, the run-off will be reduced by over 50%. This is understood to satisfy the proposed requirements of the forthcoming Strategic Flood Risk Assessment Level 2 which identifies this site to be within a Critical Drainage Area.

5 Detailed development proposals

5a Provide details of the development layout, referring to relevant drawings

5.1 The proposed development is for 96 residential units. These will comprise detached and semi-detached dwellings with associated parking and landscaping. The site will be subdivided by the existing roads Kingsley Avenue, Elmwood Grove, Nigel Road and Larchwood Avenue.

5.2 A proposed development layout plan is included in Appendix E.

5b Where appropriate demonstrate how land-uses most sensitive to flood damage have been placed in areas within the site that are at least risk of flooding.

5.3 The proposed development site is shown to be located entirely within Flood Zone 1. This is an area which is considered to have the least risk of flooding.

6 Flood Risk Management Measures

6a How will the site be protected from flooding, including the potential impacts of climate change, over the development's lifetime ?

6.1 The site is not shown to be at risk of flooding from rivers or the sea or pluvial flooding. It is assumed that the proposed floor levels of the buildings will be above the surrounding ground levels. Therefore any possible localised shallow depth pluvial or groundwater flooding would not adversely affect the buildings.

6.2 Overland flood modelling has been undertaken to simulate the effect of a 1 in 100 year plus climate change event. LIDAR level data was used in a DHI MIKE 21 model. A 15 minute 1 in 100 event using the local factors in the Wallingford tables, gives 83.4mm rainfall. A 30% increase was applied to this for climate change so 108.4mm was applied to the ground surface in the area. Ignoring any drainage systems, assuming they would be surcharged, this resulted in some shallow depth surface water flooding over the area as further described below and shown on the map included in Appendix F.

6.3 The areas with surface water flooding were found to be worse than the RMS pluvial flooding map in the Envirocheck report in Appendix B. In fact the RMS data shows no risk from pluvial flooding. Three houses to the west of the site are identified to be at risk of a maximum depth of 180mm depth of flooding. The flooding on the adjacent road, Kingsley Ave. sees maximum predicted flood depths of 180-230mm.

6.4 Having identified areas of worst case flooding exceeding 150mm of predicted flooding, the models were also run with rainfall of 55mm, which assumes the 1 in 10 event (53mm) would be accommodated in the existing sewer system, since it is suspected that these sewers would not cope with the 1 in 30 event. The result of this model is also included in Appendix F.

6.5 The predicted maximum flood depth at the three houses identified to be at risk in the worst case model falls to 115mm under rainfall of 55mm. Similarly in Kingsley Avenue the maximum predicted flood depths reduce to 140-180mm.

6.6 Setting the floor levels a minimum of 150mm above ground level in the affected areas will be sufficient protection against the 1 in 100 exceedance event including climate change allowance. Where threshold levels are below the adjacent footpath, a drainage channel will be provided to direct any surface water away from the threshold.

7 Offsite Impacts

7a How is it proposed to ensure that the proposed development and the measures taken to protect the site from flooding will not increase flood risk elsewhere ?

7.1 The site is not located in the fluvial floodplain; therefore the development proposed will not be depriving flood storage space from the floodplain. The proposed development will decrease the impermeable area; therefore the surface water run-off will not increase flood risk elsewhere. No flood protection measures are proposed that would increase flood risk elsewhere.

7b How is it proposed to prevent run-off from the completed development causing an impact elsewhere ?

7.2 The proposed development will be residential with associated gardens and open green spaces, reducing the impermeable area of the site. Therefore there will be a reduction in run-off rates and volumes and downstream impact. See Section 4a.

7.3 The June 2009 BREEAM Process Note provides supplementary information relating to the Code for Sustainable Homes (CSH). It states that 'To ensure that the site is meeting the mandatory requirements in Sur 1 a rule of thumb must be applied..where the impermeable area post development has decreased by more than 10% it will not be necessary to provide the calculations for volume and peak rate of run-off'.

7.4 Post-development, the impermeable area of the site will be approximately 0.71Ha (excluding highways). The site reduces the impermeable area of the site by more than 10% showing compliance with the mandatory elements of the CSH Sur 1 by default.

8 Residual risks

8a What flood-related risks will remain after implementation of measures to protect the site from flooding ?

8.1 It is assumed that floor levels will be above surrounding ground levels as described in section 6, therefore any possible pluvial or groundwater flood-related risks will be minimised. The low risk from exceedance events greater than that modelled will remain.

8b How and by whom, will these risks be managed over the lifetime of the development ?

8.2 N/A

9 Summary and conclusions

9.1 The proposed residential development is classed as More Vulnerable and is located in Flood Zone 1 with a low probability of fluvial and tidal flooding.

9.2 As the development site is greater than 1 Ha (2.4Ha), other sources of flooding have been considered. The Envirocheck Report shows that the site is at no risk from pluvial flooding with moderately high to low susceptibility to groundwater flooding. It is assumed that the proposed floor levels of the buildings will be above the surrounding ground levels. Therefore any possible localised shallow depth pluvial or groundwater flooding would not adversely affect the buildings. The maximum modelled depth of flooding at the proposed housing from the 1 in 100 + climate change event, assuming the existing drainage system accommodates up to a 1 in 10 event, is 115mm.

9.3 An Internet search did not yield any references to historical flood events at or near this site. The Greater Manchester Strategic Flood Risk Assessment has revealed no flooding incidents in the Moston or Blackley areas.

9.4 The proposed development will reduce the impermeable area of the site through the introduction of garden/open space areas. Therefore there will be a reduction in run-off compared to the pre-developed site. Run-off calculations are therefore not required and the Code for Sustainable Homes (CSH) Sur1 mandatory elements are satisfied by default.

9.5 This satisfies the mandatory evidence relating to flood risk of the Code for Sustainable Homes (CSH) Category 4: Sur1 Management of Surface Water Run-off from developments and shows that the development qualifies for 2 credits for Sur2 Flood Risk.

10 Recommendations

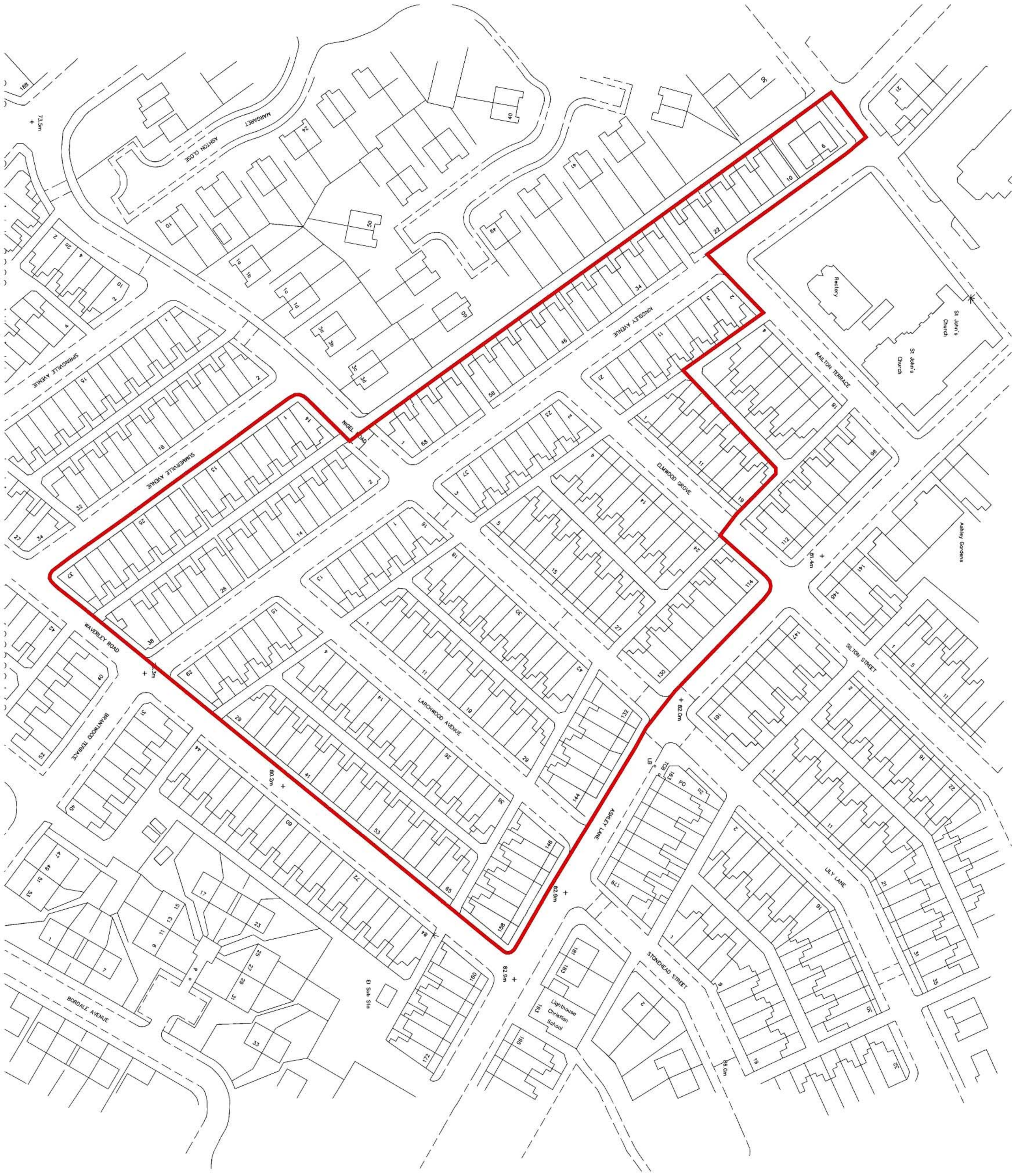
10.1 Ensure finished floor levels are a minimum of 150mm above the surrounding ground, to minimise the risk of pluvial flooding. Where threshold levels are below the adjacent footpath, a drainage channel should be provided to direct any surface water away from the threshold.

10.2 This report should be submitted to the Planning Authority with the Planning Application.

10.3 A copy of this report should be submitted to the Code for Sustainable Homes Assessor to confirm that: this report satisfies the mandatory evidence relating to flood risk for CSH Category 4 Sur1; and that the development qualifies for 2 credits for Sur2 Flood Risk; and that the Sur1 mandatory elements are satisfied by default.

Appendix A

Location Plan, Aerial Image & Historical Map


ASHTON CLOSE
MARGARET
NIGEL ROAD
WAVERLEY ROAD
SPRINGVALE AVENUE
SUMMERVALE AVENUE
BRANTWOOD TERRACE
BORDALE AVENUE
LARCHWOOD AVENUE
MINSLEY AVENUE
ELMWOOD GROVE
RAILTON TERRACE
ASHLEY LANE
STONEHEAD STREET
LILY LANE
SILTON STREET
Ashley Gardens
Rectory
St John's Church
St John's Church
Lighthouse Christian School
PO
LB
E1 Sub Sta
73.5m
80.2m
82.9m
82.0m
86.0m
81.4m



Site Location Plan

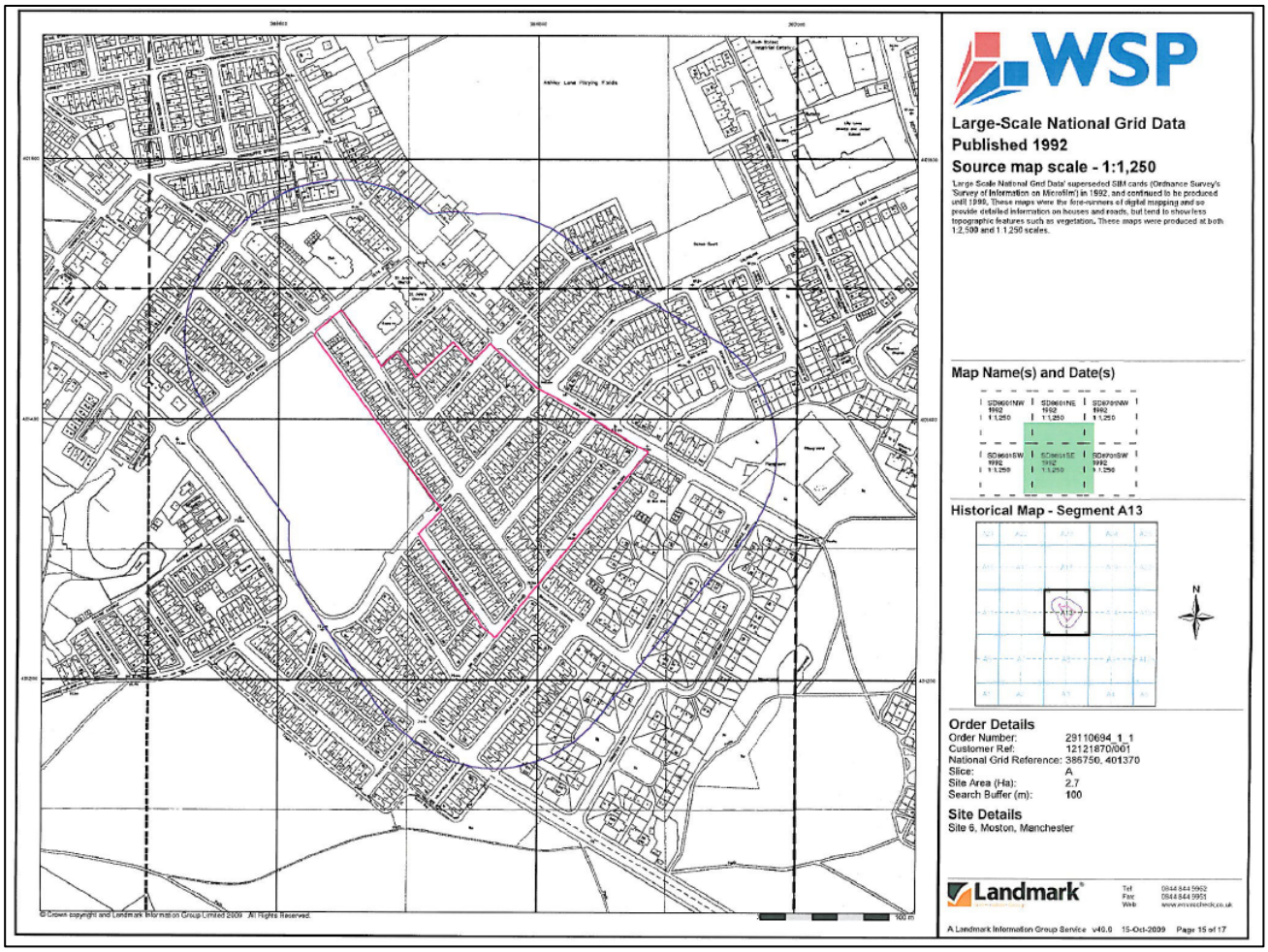
(Source: Streetmap)



Aerial Image

(Source: Multimap)

Proposed Development Site



Proposed Development Site- Historical Map

(Source: Redrow Pre Acquisition Survey)

Appendix B

Envirocheck Flood Report

Envirocheck® Report:

Flood Screening Report Datasheet

Order Details:

Order Number:
29591777_1_1

Customer Reference:
w678- Moston 6, Kingsley Avenue

National Grid Reference:
386750, 401380

Slice:
A

Site Area (Ha):
2.39

Search Buffer (m):
1000

Site Details:

Site at 386750, 401370

Client Details:

Ms G Roberts
Waterco Ltd
Eden Court
Lon Parcwr
Industria
Ruthin
Clwyd
LL15 1NJ

Envirocheck® Flood

Contents

Report Section and Details	Page Number
Summary	-
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer(s) selected. For ease of reference, the report is broken down into five sections of data.	
EA / CEH Flood Data	-
This section details data from the Environment Agency and the Centre for Ecology and Hydrology. The EA data is reported to a distance of 250m from the edge of the site polygon and details both Zone 2 (extreme) and Zone 3 flood extents, as well as flood defences, flood water storage areas and areas benefiting from flood defences. The CEH data is reported to a distance of 250m from the edge of the site polygon and covers flood data for Scotland, divided into levels based on the frequency and magnitude of a predicted 100 year term. All data sets within this section are plotted and feature on the EA / CEH Flood Data (1:10,000) map. For added value, OS Contour data is also plotted, detailing contours, spot heights and air heights.	
RMS Flood Data	1
This section contains the Risk Management Solutions flood data. The data is based upon the likelihood of a flood occurence for 3 flood return periods; these being 75 years, 100 years and 1000 years. Each return period is depicted on a separate 1:10,000 scale map and reports features to a distance of 250m from the edge of the site polygon. Each return period can detail both defended and/or undefended flood features, with each feature also reporting an associated flood depth. In addition pluvial flood features are also detailed where applicable, but tidal flooding is not included. For added value, OS Contour data is also plotted, detailing contours, spot heights and air heights.	
BGS Flood Data	2
This section contains two BGS data sets; namely Geological Indicators of Flooding and Groundwater Flooding Susceptibility, both of which report features out to a possible 1000m, with coverage in England, Wales and Scotland. Each data set is plotted on a seperate BGS Flood Data (1:50,000) map.	
EA Detailed River Network Data	6
This section details 3 sources of data that depict and detail the river network of England and Wales, captured primarily from the water features theme of Ordnance Survey's OS MasterMap Topography Layer. The DRN Lines data set details all the types of rivers, drains and streams which can be found in England and Wales. The DRN Nodes data set details the river, drain and stream node intersections which divide the detailed river network data. All nodes are defined as being one of the following: A source, sink, junction, or pseudo node, interactions or not assigned. The DRN Offline Drainage dataset details water features from OS MasterMap that do not connect into the river network and are generally limited in length. All data sets within this section are plotted and feature on the EA Detailed River Network (1:10,000) map. For added value, OS Contour data is also plotted, detailing contours, spot heights and air heights.	
Flood Insurance Risk Data	9
This section contains two sources of flood risk data from Norwich Union and Crawford and Company. Neither data sets are plotted on any of the associated Flood maps. Norwich Union has generated a detailed flood risk assessment to accurately evaluate the flood risk for individual customers. The information from this assessment has been used to define a risk model detailing 5 levels of flood risk, based on the individual properties rather than the postcode. The flood risk assessment undertaken by Norwich Union is for river flooding and coastal flooding only, and does not include groundwater, flash or sewerage flooding. Only the worst case flood risk is reported for the site. Crawford & Co have generated an Insurance Claims rating for Flood Risk. The risk is determined by comparing the number of flood insurance claims made to the number of properties in the postcode sector. The data will also include flood claims from domestic accidents or blocked drains, as well as flooding from river or tidal events. Flood insurance claim ratings are reported for the site only.	
Data Currency	10
Data Suppliers	11
Useful Contacts	12

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Envirocheck® Flood

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
EA / CEH Flood Data					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
RMS Flood Data					
RMS 75 year Flood Return	pg 1		1	n/a	n/a
RMS 100 year Flood Return	pg 1		5	n/a	n/a
RMS 1000 year Flood Return	pg 1		3	n/a	n/a
BGS Flood Data					
BGS Geological Indicators of Flooding					
BGS Groundwater Flooding Susceptibility	pg 2	6	12	14	54
EA Detailed River Network Data					
Detailed River Network Lines	pg 6		1		11
Detailed River Network Nodes	pg 8				10
Detailed River Network Offline Drainage	pg 8		1		
Flood Insurance Risk Data					
Property-based Flood Risk	pg 9	1	n/a	n/a	n/a
Postcode Sector Flood Insurance Claim Ratings	pg 9	1	n/a	n/a	n/a

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RMS Flood Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	RMS 75 year Flood Return Flood Type/Depth: 75 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13SW (SW)	147	2	386602 401220
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13SW (SW)	127	2	386602 401220
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NW (NW)	131	2	386636 401609
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NE (E)	170	2	387034 401441
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13SE (S)	194	2	386800 401052
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NW (N)	197	2	386736 401664
	RMS 1000 year Flood Return Flood Type/Depth: 1000 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13SW (SW)	104	2	386635 401220
	RMS 1000 year Flood Return Flood Type/Depth: 1000 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NE (E)	139	2	387000 401441
	RMS 1000 year Flood Return Flood Type/Depth: 1000 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NE (E)	225	2	387067 401497

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A13NW (N)	0	3	386747 401400
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A13NW (N)	0	3	386750 401400
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A13NE (E)	0	3	386850 401377
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A13NW (E)	0	3	386750 401377
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A13NW (NW)	0	3	386700 401450
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A13NW (E)	0	3	386750 401377
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A13SW (SW)	20	3	386700 401300
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A13NW (NW)	22	3	386650 401500
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A13NE (NE)	47	3	386850 401450
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A13NE (NE)	56	3	386800 401500
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A13NW (NW)	83	3	386600 401550
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A13NW (N)	93	3	386747 401550
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A13NE (E)	126	3	387000 401400
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A13NW (NW)	129	3	386600 401600
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A13SW (SW)	132	3	386600 401250
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A13NE (NE)	143	3	386900 401550
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A13NE (E)	143	3	387000 401450
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A12NE (W)	238	3	386400 401377
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A18SW (N)	278	3	386747 401750
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A13SW (SW)	288	3	386450 401200
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A13SW (SW)	291	3	386550 401050
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A13SW (SW)	300	3	386500 401100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A13SW (SW)	312	3	386450 401150
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A12SE (W)	313	3	386400 401250
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A18SW (N)	322	3	386650 401800
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A18SE (N)	324	3	386900 401750
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A12SE (SW)	365	3	386400 401100
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A9NW (SE)	411	3	387100 401000
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A18SE (N)	418	3	386900 401850
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A19SW (NE)	423	3	387150 401700
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A12SE (SW)	423	3	386350 401100
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A8NW (SW)	468	3	386450 400900
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A12NE (W)	529	3	386100 401500
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A8NE (S)	550	3	386850 400700
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A19SW (NE)	573	3	387350 401700
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A12NW (W)	584	3	386050 401550
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A12SW (W)	590	3	386050 401350
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A14SW (SE)	592	3	387400 401100
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A14NE (E)	624	3	387500 401377
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A14NE (E)	628	3	387500 401450
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A18NW (N)	629	3	386550 402100
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A12NW (W)	642	3	386000 401600
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A12SW (W)	650	3	386000 401300
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A12NW (W)	654	3	386000 401650

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A17SW (NW)	670	3	386000 401700
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A12NW (W)	678	3	385950 401377
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A17SE (NW)	679	3	386150 401950
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A12SW (W)	688	3	385950 401350
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A17SW (NW)	693	3	386050 401850
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A17SW (W)	717	3	385950 401700
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A14NE (E)	744	3	387600 401550
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A12SW (W)	760	3	385900 401250
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A14NE (E)	774	3	387650 401377
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A14NE (E)	777	3	387650 401450
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A14SE (E)	778	3	387650 401300
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A12NW (W)	778	3	385850 401377
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A17SW (NW)	781	3	385900 401750
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A14NE (E)	783	3	387650 401500
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A17NE (NW)	792	3	386150 402100
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A14NE (E)	793	3	387650 401550
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A7SE (SW)	796	3	386300 400600
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A8SE (S)	796	3	387050 400500
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A17NE (N)	809	3	386400 402250
	BGS Groundwater Flooding Susceptibility Flooding Type: High Susceptibility to Groundwater Flooding	A18NE (N)	817	3	386950 402250
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A7NE (SW)	822	3	386150 400700
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A17NE (NW)	823	3	386100 402100

BGS Flood Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A18NW (N)	829	3	386750 402300
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A17SW (NW)	832	3	385950 401950
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A17NW (NW)	856	3	386000 402050
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A17NE (NW)	862	3	386100 402150
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A18NE (N)	887	3	386800 402350
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A17SW (NW)	902	3	385900 402000
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A9SW (SE)	904	3	387200 400450
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A14SE (E)	916	3	387750 401100
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A23SW (N)	922	3	386650 402400
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A17NW (NW)	927	3	386000 402150
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A7NW (SW)	938	3	385900 400850
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A17SW (NW)	942	3	385850 402000
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A17NE (NW)	943	3	386100 402250
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A15SW (E)	951	3	387800 401150
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A22SE (N)	953	3	386400 402400
	BGS Groundwater Flooding Susceptibility Flooding Type: Low Susceptibility to Groundwater Flooding	A7NW (SW)	959	3	385850 400900
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A19NE (NE)	970	3	387550 402100
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A17NW (NW)	972	3	385850 402050
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderate Susceptibility to Groundwater Flooding	A17NE (NW)	977	3	386200 402350
	BGS Groundwater Flooding Susceptibility Flooding Type: Moderately High Susceptibility to Groundwater Flooding	A7NW (SW)	980	3	385950 400700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Detailed River Network Lines** River Type: Extended Culvert (greater than 50m) River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Not a Drain Flood Risk Management Status: Currently Undefined Water Course Name: MOSTON BROOK Water Course Reference: MOST	A13SW (SW)	183	1	386582 401149
2	**Detailed River Network Lines** River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A18NE (N)	854	1	386973 402283
3	**Detailed River Network Lines** River Type: Secondary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A14NE (E)	861	1	387679 401689
4	**Detailed River Network Lines** River Type: Primary River River Name: Boggart Hole Brook Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Flood Risk Management Indicative/Statutory Main River Water Course Name: BOGGART HOLE BROOK Water Course Reference: BOGH	A18NE (N)	871	1	386880 402321
5	**Detailed River Network Lines** River Type: Primary River River Name: Boggart Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Flood Risk Management Indicative/Statutory Main River Water Course Name: BOGGART HOLE BROOK Water Course Reference: BOGH	A18NE (N)	891	1	386940 402328
6	**Detailed River Network Lines** River Type: Extended Culvert (greater than 50m) River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A15SW (E)	927	1	387788 401207

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**Detailed River Network Lines** River Type: Extended Culvert (greater than 50m) River Name: Moston Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Not a Drain Flood Risk Management Status: Currently Undefined Water Course Name: MOSTON BROOK Water Course Reference: MOST	A15SW (E)	927	1	387788 401207
8	**Detailed River Network Lines** River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A17NE (NW)	934	1	386272 402336
9	**Detailed River Network Lines** River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A15NW (E)	950	1	387826 401379
10	**Detailed River Network Lines** River Type: Secondary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A15NW (E)	959	1	387835 401376
11	**Detailed River Network Lines** River Type: Primary River River Name: Moston Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Flood Risk Management Indicative/Statutory Main River Water Course Name: MOSTON BROOK Water Course Reference: MOST	A7NW (SW)	968	1	385929 400749
12	**Detailed River Network Lines** River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A19NW (N)	986	1	387126 402372

EA Detailed River Network Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Detailed River Network Nodes** River Node Type: Source Hydrographic Area: D011	A18NE (N)	854	1	386973 402283
14	**Detailed River Network Nodes** River Node Type: Source Hydrographic Area: D011	A14NE (E)	861	1	387679 401689
15	**Detailed River Network Nodes** River Node Type: Junction Hydrographic Area: D011	A18NE (N)	891	1	386940 402328
16	**Detailed River Network Nodes** River Node Type: Junction Hydrographic Area: D011	A15SW (E)	927	1	387788 401207
17	**Detailed River Network Nodes** River Node Type: Source Hydrographic Area: D011	A17NE (NW)	934	1	386272 402336
18	**Detailed River Network Nodes** River Node Type: Source Hydrographic Area: D011	A15NW (E)	950	1	387826 401379
19	**Detailed River Network Nodes** River Node Type: Junction Hydrographic Area: D011	A15NW (E)	959	1	387835 401376
20	**Detailed River Network Nodes** River Node Type: Pseudo (OS MasterMap polygon boundary) Hydrographic Area: D011	A15SW (E)	959	1	387835 401360
21	**Detailed River Network Nodes** River Node Type: Pseudo (OS MasterMap polygon boundary) Hydrographic Area: D011	A7NW (SW)	968	1	385929 400749
22	**Detailed River Network Nodes** River Node Type: Source Hydrographic Area: D011	A19NW (N)	986	1	387126 402372
23	**Detailed River Network Offline Drainage** River Type: Tertiary River Hydrographic Area: D011	A13SW (W)	247	1	386426 401322

Flood Insurance Risk Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Property-based Flood Risk Flood Risk Rating: Negligible Flood Risk Rating	A13NW (N)	0	4	386725 401432
	Postcode Sector Flood Insurance Claim Ratings Insurance Rating: Low Flood Insurance Claim Rating Postcode Sector: M9 4	A13SE (E)	0	4	386994 401308

Data Currency

EA / CEH Flood Data	Version	Update Cycle
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2009	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2009	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2009	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2009	Quarterly
Flood Defences Environment Agency - Head Office	September 2009	Quarterly
RMS Flood Data	**Version**	**Update Cycle**
RMS 75 year Flood Return Risk Management Solutions - North West Catchment	December 2008	As notified
RMS 100 year Flood Return Risk Management Solutions - North West Catchment	December 2008	As notified
RMS 1000 year Flood Return Risk Management Solutions - North West Catchment	December 2008	As notified
BGS Flood Data	**Version**	**Update Cycle**
BGS Geological Indicators of Flooding British Geological Survey - National Geoscience Information Service	February 2009	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	June 2009	Annually
EA Detailed River Network Data	**Version**	**Update Cycle**
Detailed River Network Lines Environment Agency - Head Office	September 2008	As notified
Detailed River Network Nodes Environment Agency - Head Office	September 2008	As notified
Detailed River Network Offline Drainage Environment Agency - Head Office	September 2008	As notified
Flood Insurance Risk Data	**Version**	**Update Cycle**
Property-based Flood Risk Norwich Union - Dataservice	July 2008	Annually
Postcode Sector Flood Insurance Claim Ratings Crawford and Company	December 2008	Quarterly

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Centre for Ecology and Hydrology	
British Geological Survey	
Norwich Union	
Risk Management Solutions	

Useful Contacts

Contact	Name and Address	Contact Details
1	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
2	**Landmark Information Group Limited** Legal and Financial, The Smith Centre, Fairmile, Henley-on-Thames, Oxon, RG9 6AB	Telephone: 0844 844 9966 Fax: 0844 844 9980 Email: info@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk
3	**British Geological Survey - Enquiry Service** British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
4	**Landmark Information Group Limited** 5 - 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Telephone: 01392 441761 Fax: 01392 441709 Email: cssupport@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk
-	**Landmark Information Group Limited** The Smith Centre, Henley On Thames, Oxfordshire, RG9 6AB	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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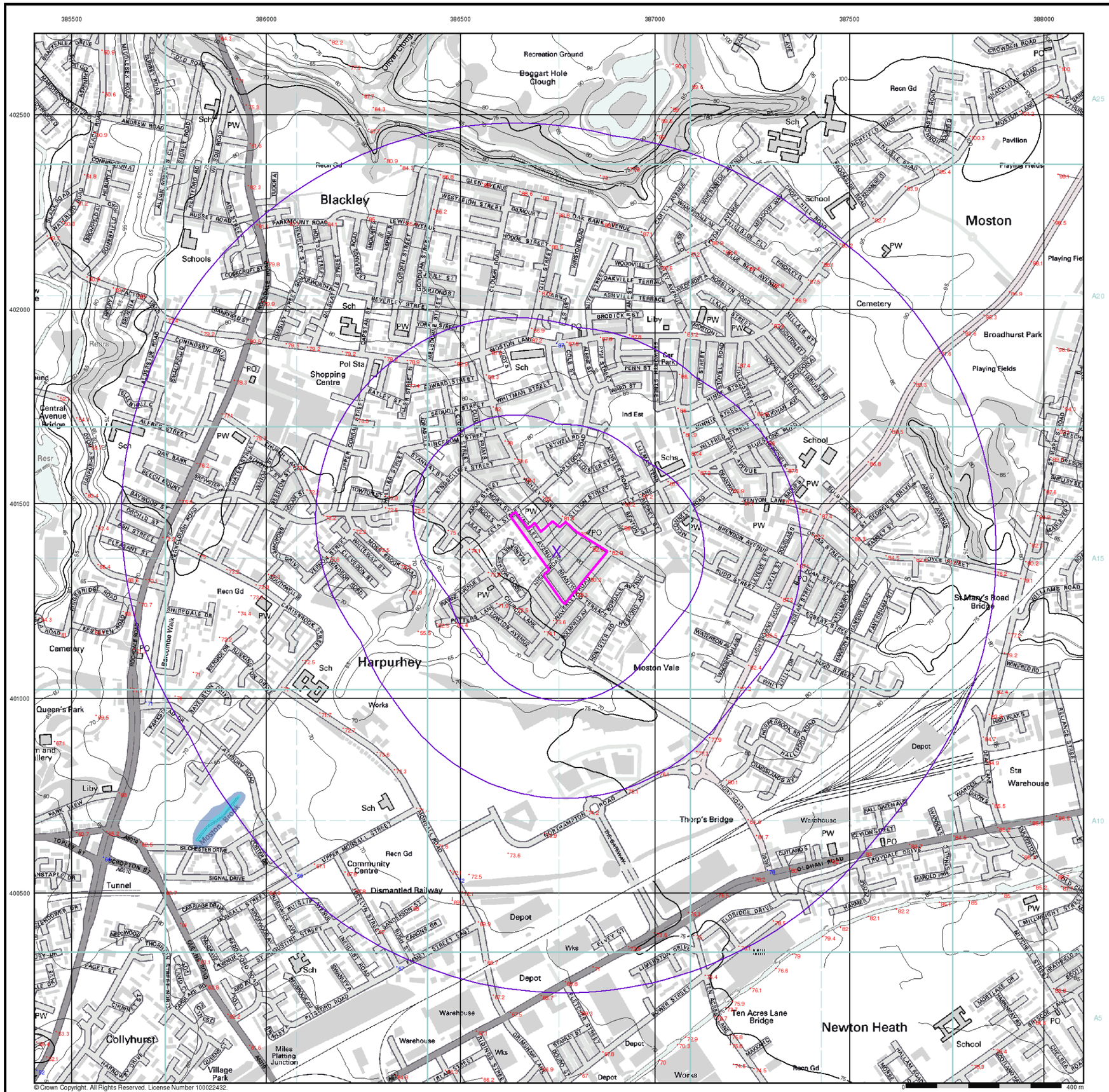
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Envirocheck® Flood

EA Flood Data Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Environment Agency Flood Data

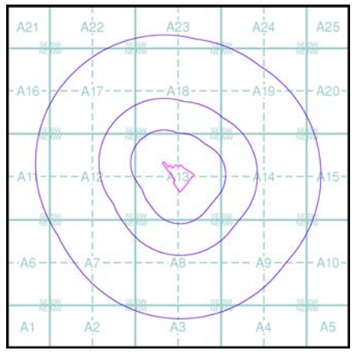
- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Contours (height in metres)

Standard Contour 105 100 95 — *167.3 Spot Height

Index Contour — *45.8 Air Height

EA Flood Data Map - Slice A



Order Details

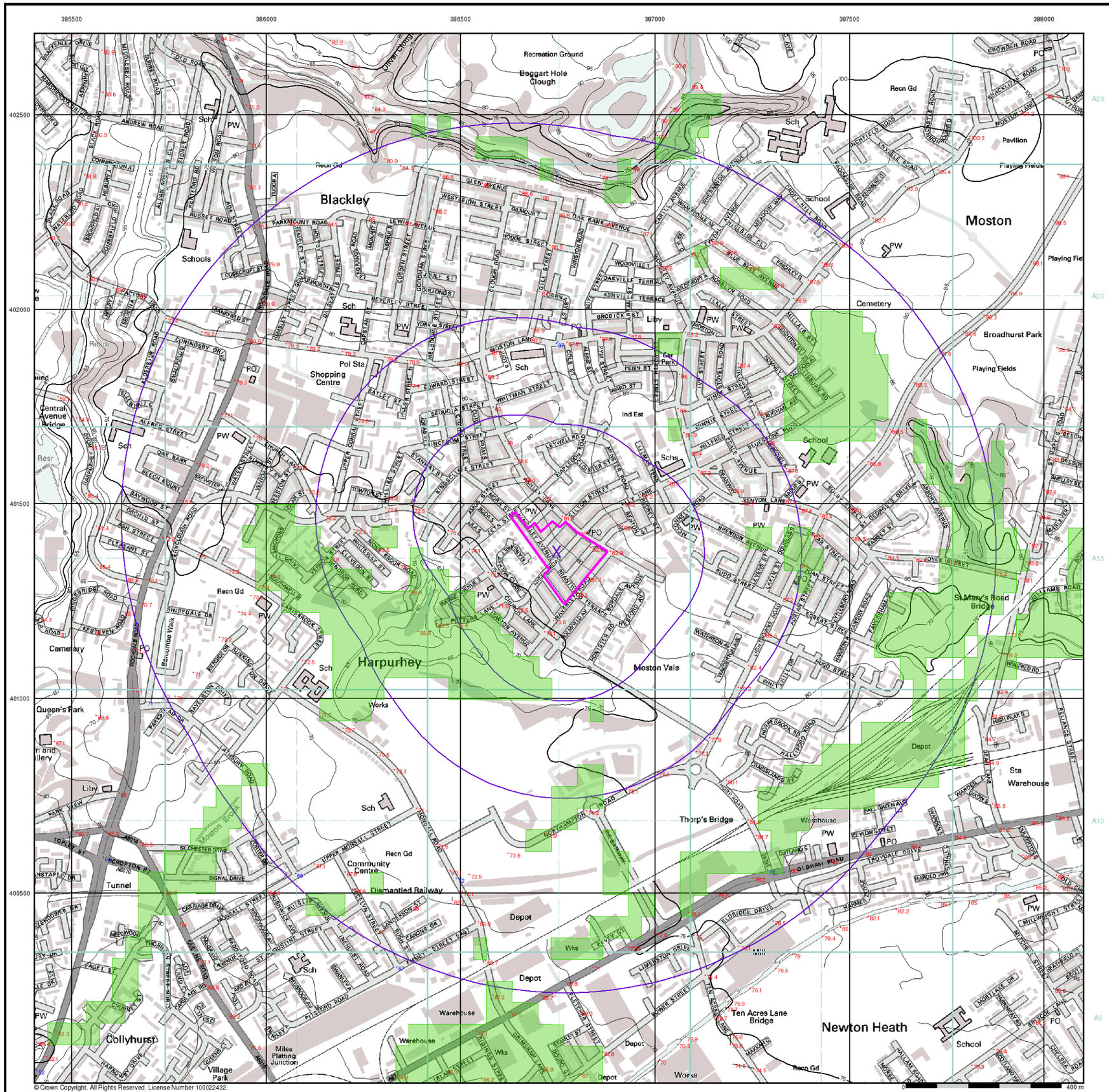
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Customer Ref:	w678- Moston 6, Kingsley Avenue
National Grid Reference:	386750, 401380
Slice:	A
Site Area (Ha):	2.39
Search Buffer (m):	1000

Site Details

Site at 386750, 401370

Landmark® Information Group

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Envirocheck® Flood

RMS 75 year Return Flood Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

RMS 75 year Return Flood Data

Flood Depth (mm)	Flood Type: Defended Flood	Flood Type: Undefended Flood	Flood Type: Pluvial Flood (flood depth n/a)
0 - 200			
201 - 500			
501 - 2000			
2001 +			

Contours (height in metres)

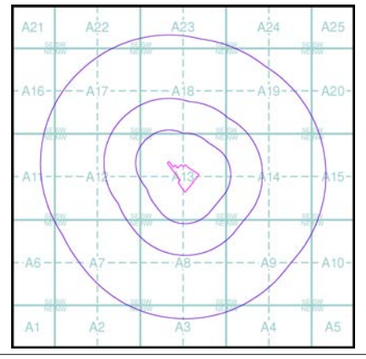
Standard Contour — 105 — 100 — 95

Index Contour

*167.3 Spot Height

*45.8 Air Height

RMS 75 year Return Flood Map - Slice A



N

Order Details

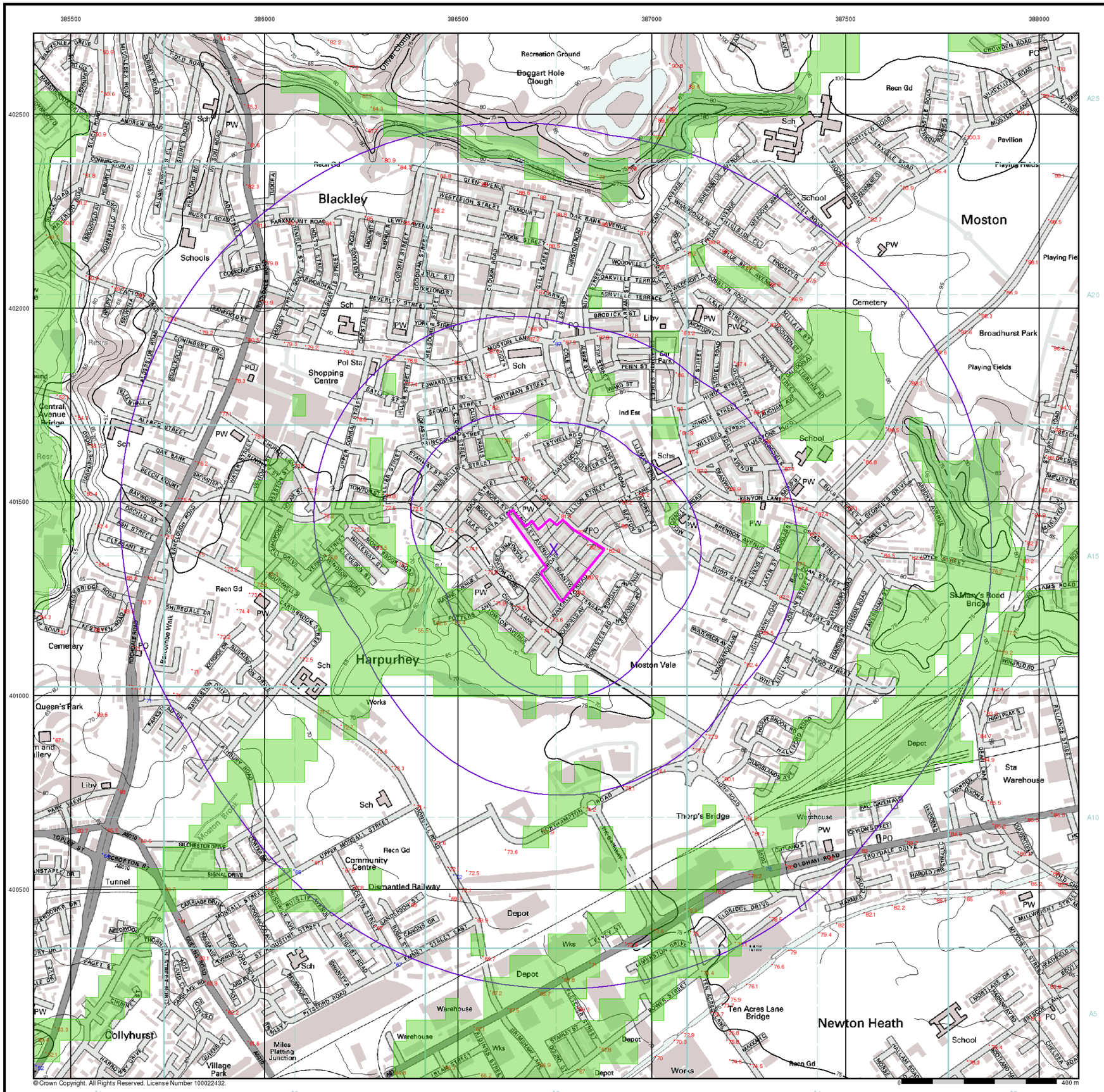
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Customer Ref:	w678- Moston 6, Kingsley Avenue
National Grid Reference:	386750, 401380
Slice:	A
Site Area (Ha):	2.39
Search Buffer (m):	1000

Site Details

Site at 386750, 401370

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Envirocheck® Flood

RMS 100 year Return Flood Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

RMS 100 year Return Flood Data

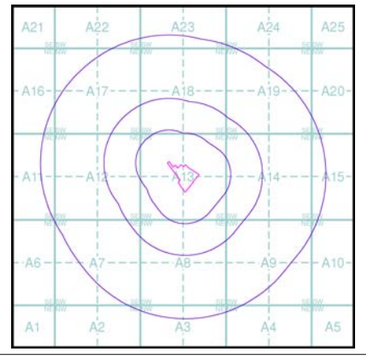
Flood Depth (mm)	Flood Type: Defended Flood	Flood Type: Undefended Flood	Flood Type: Pluvial Flood (flood depth n/a)
0 - 200			
201 - 500			
501 - 2000			
2001 +			

Contours (height in metres)

Standard Contour 105 100 95 — 167.3 Spot Height

Index Contour — 45.8 Air Height

RMS 100 year Return Flood Map - Slice A



Order Details

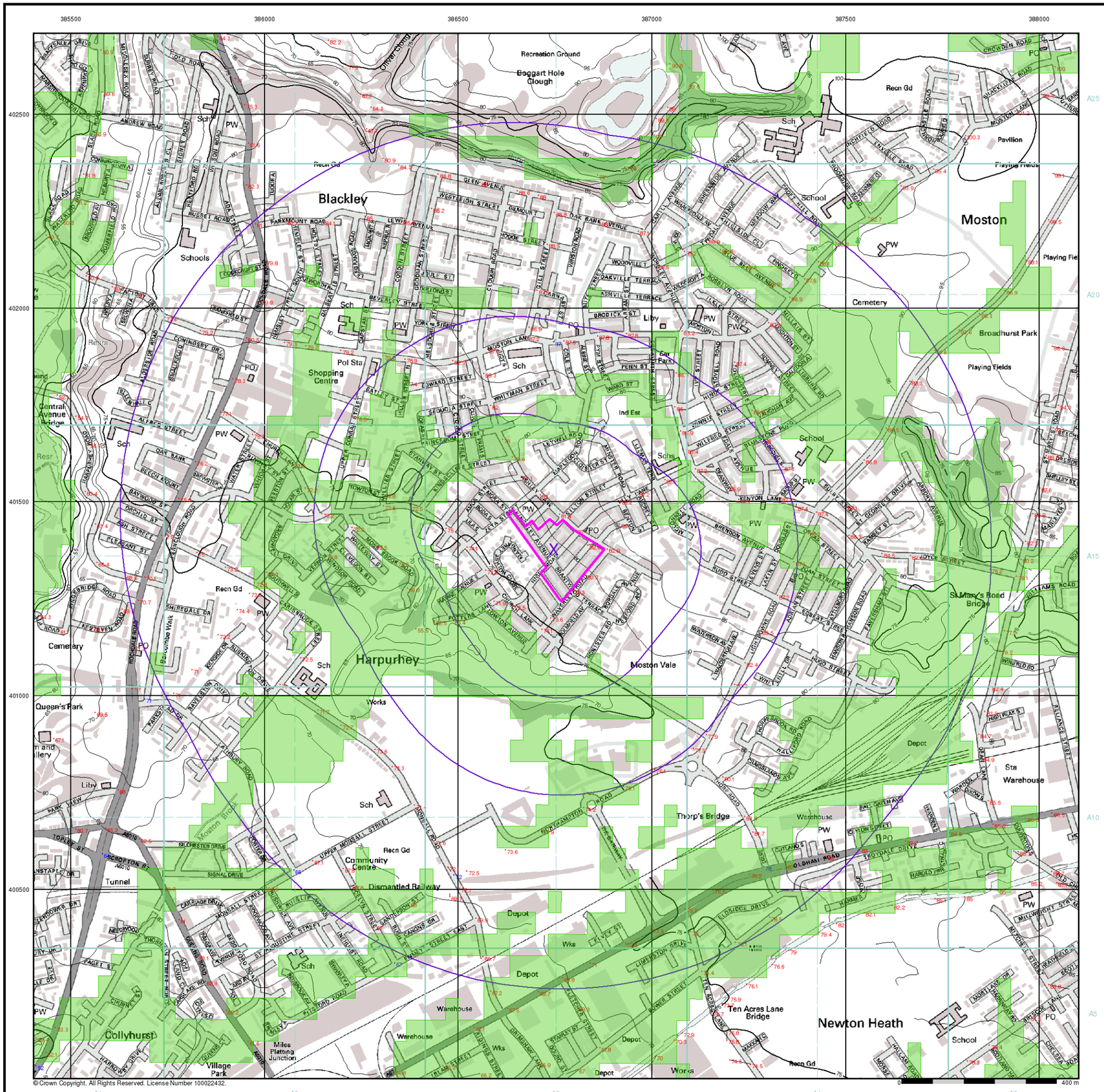
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National Grid Reference:	386750, 401380
Slice:	A
Site Area (Ha):	2.39
Search Buffer (m):	1000

Site Details

Site at 386750, 401370

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A1 A2 A3 A4 A5

Envirocheck® Flood

RMS 1000 year Return Flood Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

RMS 1000 year Return Flood Data

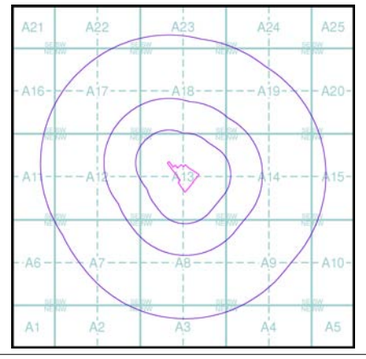
Flood Depth (mm)	Flood Type: Defended Flood	Flood Type: Undefended Flood	Flood Type: Pluvial Flood (flood depth n/a)
0 - 200			
201 - 500			
501 - 2000			
2001 +			

Contours (height in metres)

Standard Contour 105 100 95 — *167.3 Spot Height

Index Contour — *45.8 Air Height

RMS 1000 year Return Flood Map - Slice A



Order Details

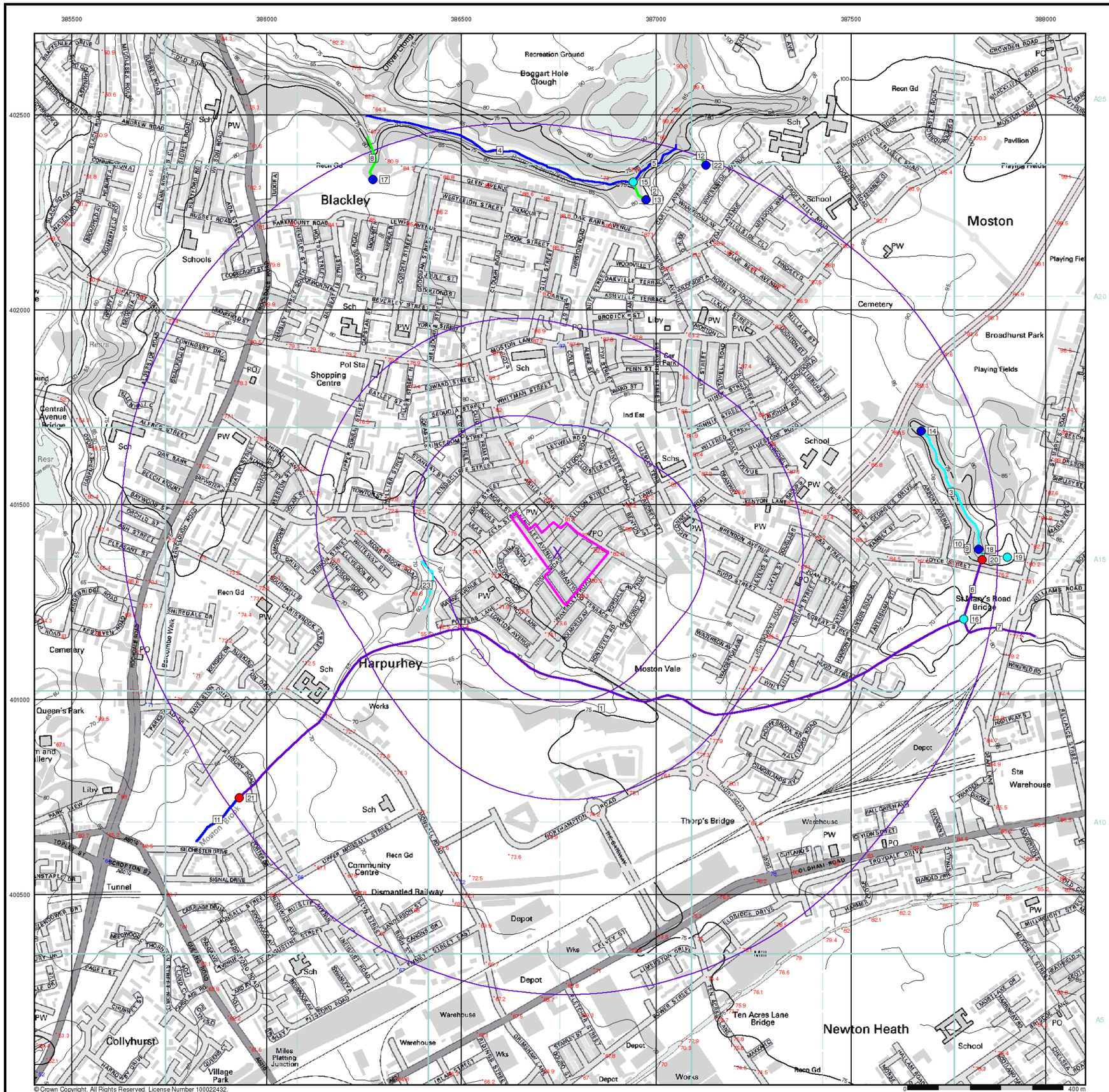
Order Number:	29591777_1_1
Customer Ref:	w678- Moston 6, Kingsley Avenue
National Grid Reference:	386750, 401380
Slice:	A
Site Area (Ha):	2.39
Search Buffer (m):	1000

Site Details

Site at 386750, 401370

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Envirocheck® Flood

EA Detailed River Network Map (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID

EA Detailed River Network Data

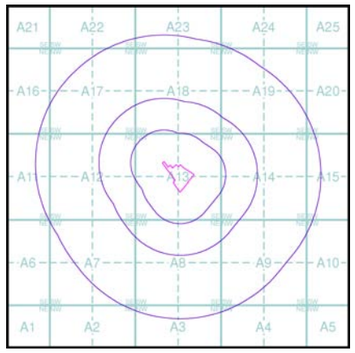
- Primary River
- Secondary River
- Tertiary River
- Canal
- Canal Tunnel
- Undefined River
- Lake/Reservoir
- Extended Culvert (greater than 50m)
- Underground River (inferred)
- Underground River (local knowledge)
- Downstream of High Water Mark
- Downstream of Seaward Extension
- Not assigned River feature
- Source
- Junction
- Sink
- Non-interactive Node
- Offline Drainage Feature
- Not assigned River feature
- Pseudo Node (general)
- Pseudo Node (High Water Mark)
- Pseudo Node (OS MasterMap polygon boundary)

Contours (height in metres)

Standard Contour 105 100 95
Index Contour

167.3 Spot Height
45.8 Air Height

EA Detailed River Network Map - Slice A



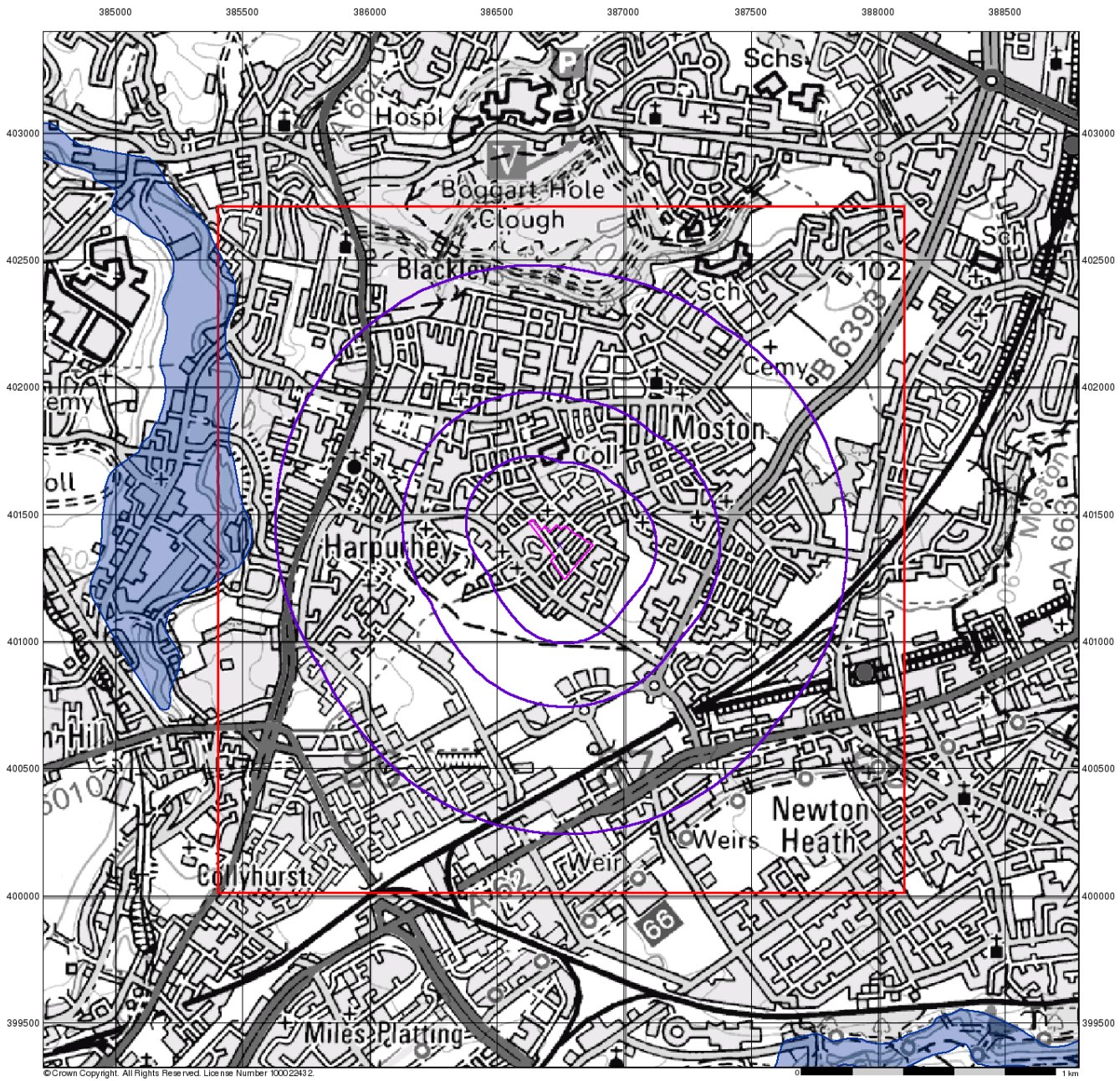
Order Details

Order Number:	29591777_1_1
Customer Ref:	w678- Moston 6, Kingsley Avenue
National Grid Reference:	386750, 401380
Slice:	A
Site Area (Ha):	2.39
Search Buffer (m):	1000

Site Details

Site at 386750, 401370

Landmark® Information Group
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Envirocheck® Flood

BGS Flood Data (1:50,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

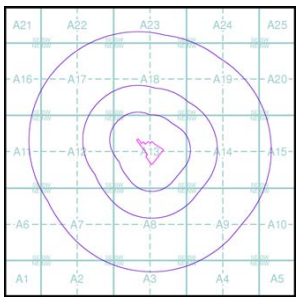
BGS Geological Indicators of Flooding

Coastal

Inland

Bodies of Water

BGS Flood Data Map - Slice A



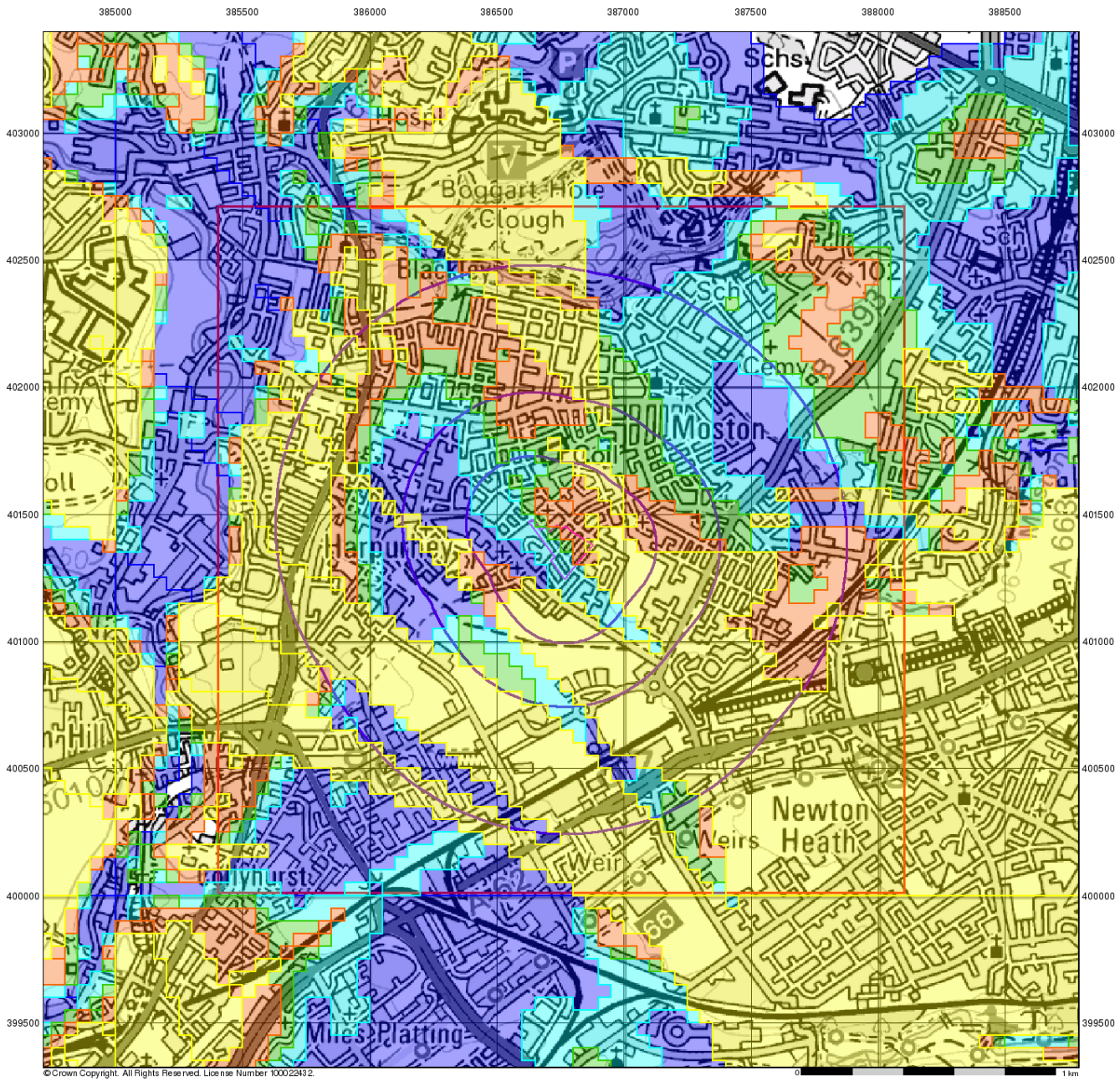
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BGS Flood Data (1:50,000)

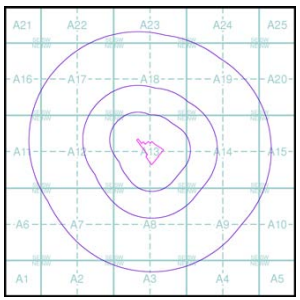
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

BGS Groundwater Flooding Susceptibility

- High Susceptibility
- Moderately High Susceptibility
- Moderate Susceptibility
- Low Susceptibility
- Negligible Susceptibility

BGS Flood Data Map - Slice A



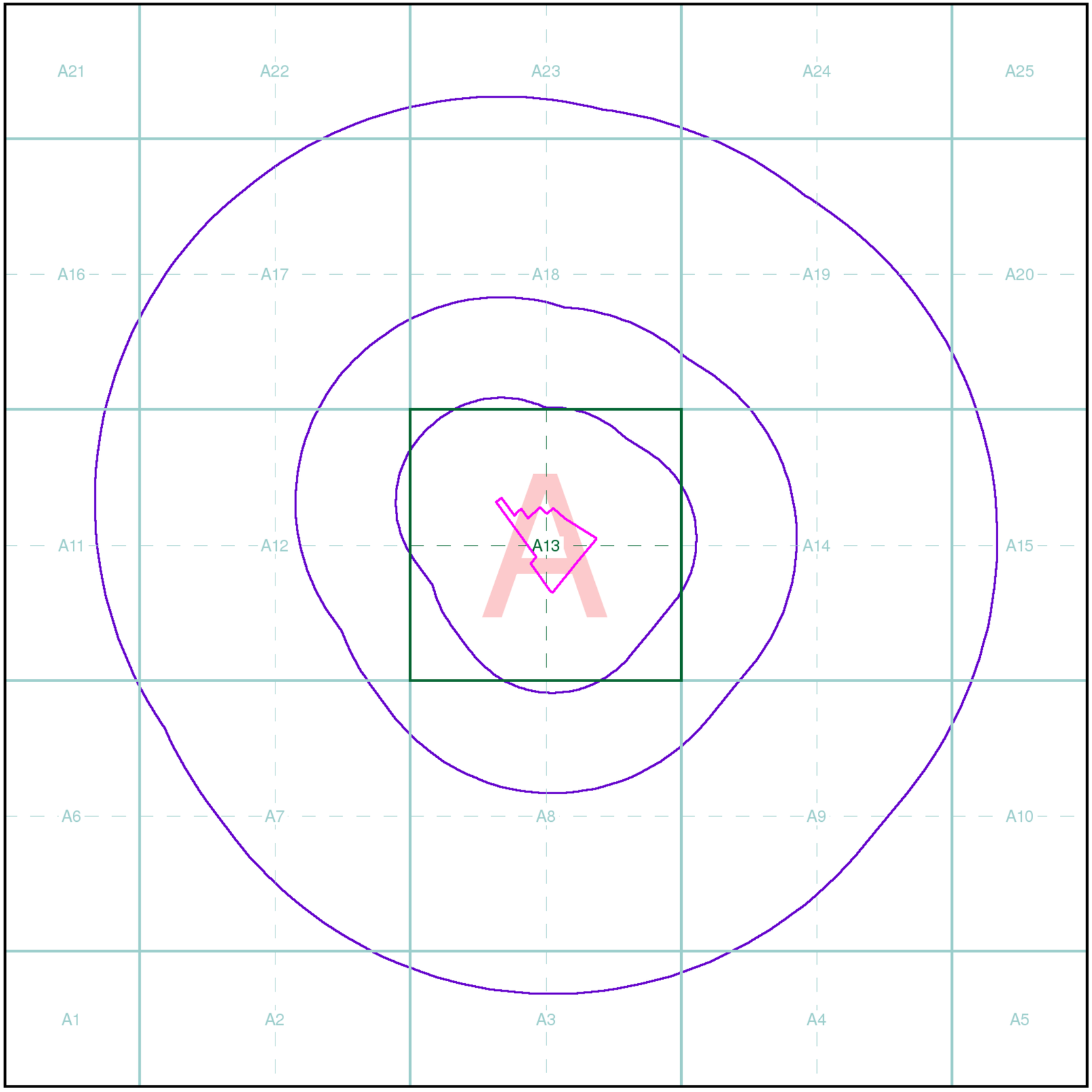
Order Details

Order Number:	29591777_1_1
Customer Ref:	w678- Moston 6, Kingsley Avenue
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Slice:	A
Site Area (Ha):	2.39
Search Buffer (m):	1000

Site Details

Site at 386750, 401370

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Envirocheck®

Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Ordnance Survey® Licensed Partner

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

NATURAL ENGLAND

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Ms G Roberts, Waterco Ltd, Eden Court, Lon Parcwr, Industria, Ruthin, Clwyd, LL15 1NJ

Order Details

Order Number:	29591777_1_1
Customer Ref:	w678- Moston 6, Kingsley Avenue
National Grid Reference:	386760, 401370
Site Area (Ha):	2.39
Search Buffer (m):	1000

Site Details

Site at 386750, 401370

Landmark® Information Group
Tel: 0844 844 9952
Fax: 0844 844 9951
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LANDMARK TERMS AND CONDITIONS

Version 6.04 28 Jul 2007

Definitions

"Authorised Reseller" means an agent or reseller of Landmark whom Landmark has duly appointed to resell its Reports and Services.

"Content" means any data, computing and information services and software, and other content and documentation or support materials and updates included in and/or supplied by or through the Websites, in Reports or Services or in any other way by Landmark and shall include Landmark developed and Third Party Content.

"First Purchaser" means the first person, or legal entity to purchase the Property Site following provision of a Report.

"First Purchaser's Lender" means the funding provider for the First Purchaser

"Information Pack" means a pack compiled by or on behalf of the owner or prospective buyer of the Property Site, designed to aid the marketing or purchase of the Property Site and containing information provided by or on behalf of the owner or prospective buyer of the Property Site.

"Intellectual Property Rights" means copyright, patent, design right (registered or unregistered), service or trade mark (registered or unregistered), database right or other data right, moral right or know how or any other intellectual property right.

"Order" means the request for Services from Landmark by You.

"Property Site" means a land site on which Landmark provides a Service.

References to **"We"**, **"Us"** and **"Our"** are references to Landmark Information Group Limited ("Landmark"), whose registered office is 7 Abbey Court, Eagle Way, Exeter, EX2 7HY. Where You are not ordering the Services directly from Landmark, but from an Authorised Reseller, references to "Landmark" or "We", "Us" and "Our" shall be construed so as to mean either Landmark and/or the Authorised Reseller as the context shall indicate.

References to **"You/Your/Yourself"** refer to the contracting party who accesses the Website or places an Order with Landmark.

"Report" includes any information that Landmark supplies to You including all reports, services, datasets, software or information contained in them.

"Services" means the provision of any service by Landmark pursuant to these Terms, including without limitation, any Report.

"Landmark Fees" means any charges levied by Landmark for Services provided to You.

"Suppliers" means any organisation who provides data or information of any form to Landmark.

"Terms" means these Terms & Conditions.

"Third Party Content" means the services, software, information and other content or functionality provided by third parties and linked to or contained in the Services.

"Websites" means websites hosted by Landmark and includes the Content and any report, service, document, data-set, software or information contained therein, derived there from or thereby.

1. Terms & Conditions

a. These Terms govern the relationship between You and Landmark whether You are an unregistered visitor to the Website or are purchasing Services. Where these Terms are not expressly accepted by You they will be deemed to have been accepted by You, and You agree to be bound by these Terms when You place any Order, or pay for any Services provided

b. If the person communicating with Landmark is an Authorised Reseller, they must ensure that You agree to these Terms.

c. The headings in these Terms are for convenience only and shall not affect the meaning or interpretation of any part of these Terms.

d. Landmark may modify these Terms, and may discontinue or revise any or all other aspects of the Services at our sole discretion, with immediate effect and without prior notice, including without limitation changing the Services available at any given time. Any amendment or variation to these Terms shall be posted on our Websites. Continued use of the Services by You shall be deemed an acceptance by You to be bound by any such amendments to the Terms.

e. These Terms, together with the prices and delivery details set out on our Websites, Landmark's Privacy Policy and Your Order comprise the whole agreement relating to the supply of Services to You by Landmark. No prior stipulation, agreement, promotional material or statement whether written or oral made by any sales or other person or representative on our behalf should be understood as a variation of these Terms. Save for fraud or misrepresentation, Landmark shall have no liability for any such representation being untrue or misleading.

f. These Terms shall prevail at all times to the exclusion of all other terms and conditions including any terms and conditions which You may purport to apply even if such other provisions are submitted in a later document or purport to exclude or override these Terms and neither the course of conduct between parties nor trade practice shall act to modify these Terms.

2. Services

a. Landmark will use reasonable care and skill in providing the Services to You, however, the Services are provided on the express basis that the information and data supplied in the Services are derived from third party sources and Landmark does not warrant the accuracy or completeness of such information or data. Such information is derived solely from those sources specifically cited in the Services and Landmark does not claim that these sources represent an exhaustive or comprehensive list of all sources that might be consulted.

3. Intellectual Property

a. You acknowledge that all Intellectual Property Rights in the Services are and shall remain owned by either Landmark or our Suppliers and nothing in these Terms purports to transfer, assign or grant any rights to You in respect of the Intellectual Property Rights.

b. Subject always to these Terms You may, without further charge, make the Services available to;
   i. the owner of the Property at the date of the Report,
   ii. any person who purchases the whole of the Property Site,
   iii. any person who provides funding secured on the whole of the Property Site,
   iv. any person for whom You act in a professional or commercial capacity,
   v. any person who acts for You in a professional or commercial capacity; and
   vi. prospective buyers of the Property Site as part of an Information Pack but for the avoidance of doubt, Landmark shall have no liability to such prospective buyer unless the prospective buyer subsequently purchases the Property Site, and the prospective (or actual) buyer shall not be entitled to make the Service available to any other third party.
   Accordingly Landmark shall have the same duties and obligations to those persons in respect of the Services as it has to You.

c. Each of those persons referred to in clause 3.b. shall have the benefit and the burden of Your rights and obligations under these Terms. The limitations of Landmark's liability as set out in clause 6 shall apply to all users of the Service in question in aggregate and Landmark shall not be liable to any other person.

d. All parties given access to the Services agree that they will treat as strictly private and confidential the Services and all information which they obtain from the Services and shall restrict any disclosure to employees or professional advisors to enable the relevant party to conduct its internal business. The requirement in this clause to treat the Services as confidential shall include a requirement to maintain adequate security measures to safeguard the Services from unauthorised access, use or copying.

e. Each recipient of the Services agrees (and agrees it will cause its employees, agents or contractors who may from time to time have access to the Services to agree) it will not, except as permitted herein or by separate agreement with Landmark:-
   i. effect or attempt to effect any modification, merger or change to the Service, nor permit any other person to do so; or
   ii. copy, use, market, re-sell, distribute, merge, alter, add to or carry on any redistribution, reproduction, translation, publication, reduction to any electronic medium or machine readable form or commercially exploit or in any other way deal with or utilise or (except as expressly permitted by applicable law) reverse engineer, decompile or disassemble the Services, Content or Website; or
   iii. remove, alter or in any way change any trademark or proprietary marking in any element of the Services and You shall acknowledge the ownership of the Content, where such Content is incorporated or used into Your own documents, reports, systems or services whether or not these are supplied to any third party.
   iv. create any product which is derived directly or indirectly from the data contained in the Services

f. The mapping contained in any Services is protected by Crown Copyright and must not be used for any purpose outside the context of the Services or as specifically provided by these Terms.

g. You are permitted to make five copies of any Report, but are not authorised to re-sell the Report, any part thereof or any copy thereof unless you are an Authorised Reseller. Further copies may not be made in whole or in part without the prior written permission of Landmark who shall be entitled to make a charge for each additional copy.

4. Charges

a. VAT at the prevailing rate shall be payable in addition to the Landmark Fees. You shall pay any other applicable indirect taxes related to Your use of the Services.

b. An individual or a monthly invoice showing all Orders created by You will be generated subject to these Terms. You will pay the Landmark Fees at the rates set out in Landmark's or its Authorised Reseller's invoice. The Landmark Fees are payable in full within 30 days without deduction, counterclaim or set off. You acknowledge that time is of the essence with respect to the payment of such invoices. Landmark reserve the right to amend the Landmark Fees from time to time and the Services will be charged at the Landmark Fee applicable at the date on which the Service is ordered.

c. We may charge interest on late payment at a rate equal to 3% per annum above the base lending rate of National Westminster Bank plc.

d. Landmark or its Authorised Reseller shall not be obliged to invoice any party other than You for the provision of Services, but where Landmark or its Authorised Reseller does so invoice any third party at Your request, and such invoice is not accepted or remains unpaid, Landmark or its Authorised Reseller shall have the option at any time to cancel such invoice and invoice You direct for such Services. Where Your order comprises a number of Services or severable elements within any one or more Services, any failure by Landmark or its Authorised Reseller to provide an element or elements of the Services shall not prejudice Landmark's or its Authorised Reseller's ability to require payment in respect of the Services delivered to You.

5. Termination

a. Landmark may suspend or terminate Your rights under these Terms without any liability to You with immediate effect if at any time:-
   i. You fail to make any payment due in accordance with clause 4;
   ii. You repeatedly breach or commit or cause to be committed any material breach of these Terms; or
   iii. You commit a breach and You fail to remedy the breach within 7 days of receipt of a written notice to do so; additionally, without prejudice to the foregoing, Landmark may remedy the breach and recover the costs thereof from You.

b. If Your rights are terminated under this clause and You have made an advance payment We will refund You a reasonable proportion of the balance as determined by Us in relation to the value of Services previously purchased.

c. Landmark reserves the right to refuse to supply any or all Services to You without notice or reason.

6. Liability

a. We provide warranties and accept liability only to the extent stated in this clause 6 and clause 7.

b. Nothing in these Terms excludes either party's liability for death or personal injury caused by that party's negligence or wilful default, and the remainder of this clause 6 is subject to this provision and Your statutory rights.

c. As most of the information contained in the Services is provided to Landmark by others, Landmark cannot control its accuracy or completeness, nor is it within the scope of Landmark's Services to check the information on the ground. Accordingly, Landmark will only be liable to You for any loss or damage caused by its negligence or willful default and subject to clause 6.o below neither Landmark nor any person providing information contained in any Services shall in any circumstances be liable for any inaccuracies, faults or omissions in the Services, nor shall Landmark have any liability if the Services are used otherwise than in accordance with these Terms.

d. Save as precluded by law, Landmark shall not be liable for any indirect or consequential loss, damage or expenses (including loss of profits, loss of contracts, business or goodwill) howsoever arising out of any problem, event, action or default by Landmark.

e. In any event, and notwithstanding anything contained in these Terms, Landmark's liability in contract, tort (including negligence or breach of statutory duty) or otherwise howsoever arising by reason or in connection with this Contract (except in relation to death or personal injury) shall be limited to an aggregate amount not exceeding £1 million if the complaint is in relation to a Report on residential property and an aggregate amount not exceeding £10 million in respect of any other Report or Service purchased from Landmark.

f. Landmark will not be liable for any defect, failure or omission relating to Services that is not notified to Landmark within six months of the date of the issue becoming apparent and in any event, within twelve years of the date of the Service.

g. You acknowledge that:-
   i. Subject to clause 6.o below You shall have no claim or recourse against any Third Party Content supplier nor any of our other Suppliers. You will not in any way hold us responsible for any selection or retention of, or the acts of omissions of Third Party Content suppliers or other Suppliers (including those with whom We have contracted to operate various aspects or parts of the Service) in connection with the Services (for the avoidance of doubt Landmark is not a Third Party Content supplier). Landmark does not promise that the supply of the Services will be uninterrupted or error free or provide any particular facilities or functions, or that the Content will always be complete, accurate, precise, free from defects of any other kind, computer viruses, software locks or other similar code although Landmark will use reasonable efforts to correct any inaccuracies within a reasonable period of them becoming known to us;
   ii. Landmark's only obligation is to exercise reasonable skill and care in providing environmental property risk information to persons acting in a professional or commercial capacity who are skilled in the use of property and environmental information and You hereby acknowledge that You are such a person;
   iii. no physical inspection of the Property Site reported on is carried out as part of any Services offered by Landmark and Landmark do not warrant that all land uses or features whether past or current will be identified in the Services. The Services do not include any information relating to the actual state or condition of any Property Site nor should they be used or taken to indicate or exclude actual fitness or unfitness of a Property Site for any particular purpose nor should it be relied upon for determining saleability or value or used as a substitute for any physical investigation or inspection. Landmark recommends that You inspect and take other advice in relation to the Property Site and not rely exclusively on the Services.
   iv. Subject to clause 6.o below, Landmark shall not be responsible for error or corruption in the Services resulting from inaccuracy or omission in primary or secondary information and data, inaccurate processing of information and data by third parties, computer malfunction or corruption of data whilst in the course of conversion, geo-coding, processing by computer or electronic means, or in the course of transmission by telephone or other communication link, or printing.
   v. Landmark will not be held liable in any way if a Report on residential property is used for commercial property or more than the one residential property for which it was ordered.
   vi. the Services have not been prepared to meet Your or anyone else's individual requirements; that You assume the entire risk as to the suitability of the Services and waive any claim of detrimental reliance upon the same; and You confirm You are solely responsible for the selection or omission of any specific part of the Content;
   vii. Landmark offer no warranty for the performance of any linked internet service not operated by Landmark;
   viii. You will on using the Services make a reasonable inspection of any results to satisfy Yourself that there are no defects or failures. In the event that there is a material defect You will notify us in writing of such defect within seven days of its discovery;
   ix. Any support or assistance provided to You in connection with these Terms is at Your risk;

h. All liability for any insurance products purchased by You rests solely with the insurer. Landmark does not endorse any particular product or insurer and no information contained within the Services should be deemed to imply otherwise. You acknowledge that if You Order any such insurance Landmark will deem such as Your consent to forward a copy of the Report to the insurers. Where such policy is purchased, all liability remains with the insurers and You are entirely responsible for ensuring that the insurance policy offered is suitable for Your needs and should seek independent advice. Landmark does not guarantee that an insurance policy will be available on a Property Site. All decisions with regard to the offer of insurance policies for any premises will be made solely at the discretion of the insurers and Landmark accepts no liability in this regard. The provision of a Report does not constitute any indication by Landmark that insurance will be available on the property.

i. Professional opinions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Wilbourn Associates Limited, and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
   If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation or conclusion, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, subject to clause 6.o below Landmark will not be liable in any way for any information contained therein or any issues arising out of the provision of those additional services to You. Landmark will be deemed to have acted as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.

j. In any event no person may rely on a Service more than 12 months after its original date.

k. If You wish to vary any limitation of liability as set out in these Terms, You must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.

l. Time shall not be of the essence with respect to the provision of the Services.

m. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positioning of features used in datasets in the Services and the updated Ordnance Survey mapping. Subject to clause 6.o below, Landmark and its Suppliers exclude all and any liability incurred as a result of the implementation of such positional accuracy improvement programme.

n. Where Landmark provides its own risk assessment in connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark conducted the same negligently, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6n apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6i above.

o. Landmark obtains much of the information contained in its Report from third parties. Landmark will not accept any liability to You for any negligent or incorrect entry, or error or corruption in the Third Party Content supplied to Landmark, but Landmark's Suppliers may be liable for such negligent or incorrect entries, or errors or corruptions, subject to the terms and conditions on which they supply the Third Party Content to Landmark.

7. Contribution

a. Save where expressly provided, this clause 7 shall apply solely to Envirosearch Residential Reports (regardless of the result of such Report). Nothing in this clause 7 shall operate to override or vary the provisions of clause 6.

b. Landmark are prepared to offer, at their sole discretion, and without any admission or inference of liability a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution")

c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part II(A) of the Environmental Protection Act 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
   i. the Contribution shall only apply to contamination or a pollution incident present or having occurred prior to the date of the Report;
   ii. the Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats. For the avoidance of doubt, this obligation does not apply to any commercial property, nor to any Property Site being developed or redeveloped whether for residential purposes or otherwise;
   iii. the Contribution is strictly limited to the cost of works at the Property Site and at no other site.
   iv. the Contribution will not be paid in respect of any of the following:
   Radioactive contamination of whatsoever nature, directly or indirectly caused by or contributed to or arising from ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.
   Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
   Naturally occurring materials arising from the presence or required removal of naturally occurring materials except in circumstances where such materials are present in concentrations which are in excess of their natural concentration.
   Intentional non-compliance arising from the intentional disregard of or knowing wilful or deliberate non-compliance by any owner or occupier of the Property Site with any statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
   Any condition which is known or ought reasonably to have been known to the First Purchaser or the First Purchaser's Lender prior to the purchase of the Report.
   Any condition which is caused by acts of War or an Act of Terrorism.
   Any property belonging to or in the custody or control of the First Purchaser which does not form a fixed part of the Property Site or the structure.
   Any fines liquidated damages punitive or exemplary damages.
   Any bodily injury including without limitation, death, illness or disease, mental injury, anguish or nervous shock.
   Any financial loss in respect of any loss of any rental, profit, revenue, savings or business or any consequential indirect or economic loss damage or expense including the cost of rent of temporary premises or business interruption.
   Any losses incurred following a material change in use of, alteration or development of the Property Site.

d. The maximum sum that shall be contributed by Landmark in respect of any Contribution shall be limited to £60,000. In the event that more than one Report is purchased on the Property Site the Contribution will only be payable under the first Report purchased by or on behalf of any First Purchaser or First Purchaser's Lender and no Contribution will be made in respect of subsequent Reports purchased by or on behalf of such First Purchaser, First Purchaser's Lender or any person connected to them.

e. Landmark shall only pay a Contribution where the Notice is served within 36 months of the date of the Report.

f. Any rights to a Contribution under this Clause 7 are not assignable in the event of a sale of the Property Site and Landmark will not make any Contribution after the date of completion of such sale.

g. In the event the First Purchaser or First Purchaser's Lender wishes to claim any Contribution, it shall notify Landmark in writing within 3 months of the date of the Notice. The First Purchaser or First Purchaser's Lender (as applicable) shall comply with all reasonable requirements of Landmark with regard to the commission and conduct of the remediation works to be carried out under the Notice, and in the event the First Purchaser or First Purchaser's Lender (as applicable) does not do so, including without limitation, obtaining Landmark's prior written consent to any estimates for such works or complying with any other reasonable request by Landmark, Landmark shall not be required to pay any Contribution. Notwithstanding the payment of the Contribution by Landmark the First Purchaser or First Purchaser's Lender as applicable shall take all reasonable steps to mitigate any costs incurred in connection with the conduct of works required under the terms of any Notice.

h. In the event that the First Purchaser or First Purchaser's Lender receives any communication from a statutory authority to the effect that there is an intent to serve a notice received under PartII(A) of the Environmental Protection Act 1990 they will advise Landmark within a maximum period of two months from receipt of such communication. This clause 7h and the service of any notice under it shall not affect the provisions of clauses 7 e and g, and any such communications, even if advised to Landmark will not operate as notice under clause 7e.

i. Landmark reserve the right at any time prior to a claim for Contribution being made in accordance with clause 7 g) above, to withdraw the offer of payment of Contributions without further notice.

8. Events Beyond Our Control

a. You acknowledge that Landmark shall not be liable for any delay, interruption or failure in the provision of the Services which are caused or contributed to by any circumstance which is outside our reasonable control including but not limited to, lack of power, telecommunications failure or overload, computer malfunction, inaccurate processing of data, or delays in receiving, loading or checking data, corruption of data whilst in the course of conversion, geo-coding, processing by computer in the course of electronic communication, or printing.

9. Severability

a. If any provision of these Terms are found by either a court or other competent authority to be void, invalid, illegal or unenforceable, that provision shall be deemed to be deleted from these Terms and never to have formed part of these Terms and the remaining provisions shall continue in full force and effect.

10. Governing Law

a. These terms shall be governed by and construed in accordance with English law and each party agrees irrevocably submit to the exclusive jurisdiction of the English courts If any dispute arises out of or in connection with this agreement (a "Dispute") the parties undertake that, prior to the commencement of Court proceedings, they will seek to have the Dispute resolved amicably by use of an alternative dispute resolution procedure acceptable to both parties with the assistance of the Centre for Dispute Resolution (CEDR) if required, by written notice initiating that procedure. If the Dispute has not been resolved to the satisfaction of either party within 60 days of initiation of the procedure or if either party fails or refuses to participate in or withdraws from participating in the procedure then either party may refer the Dispute to the Court.

11. General; Complaints

a. Landmark may assign its rights and obligations under these Terms without prior notice or any limitation.

b. Landmark may authorise or allow our contractors and other third parties to provide to Landmark and/or to You services necessary or related to the Services and to perform Landmark's obligations and exercise Landmark's rights under these Terms, which may include collecting payment on Landmark's behalf.

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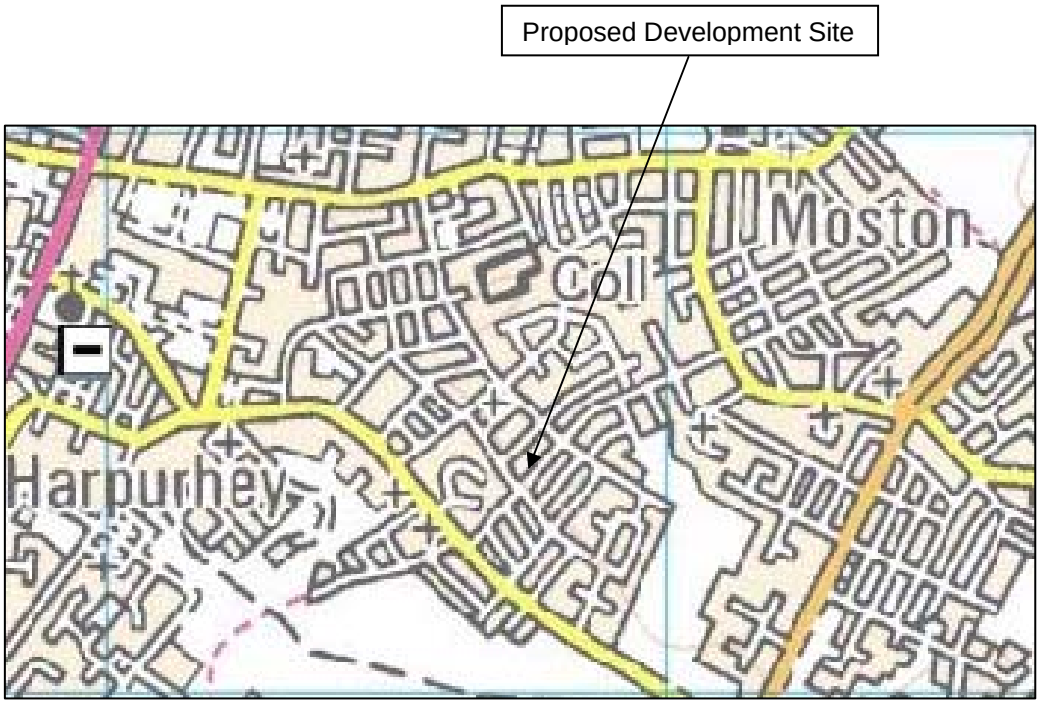
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Appendix C

Environment Agency Flood Map



EA Flood Map

(Source: EA website)

Appendix D

Manchester City Council Flood Risk Overview map

NORTH

Site Location

0 1.5 3
kilometres

GREATER MANCHESTER SUB-REGIONAL SFRA

Manchester CC Flood Risk Overview

District Boundaires

Rivers

Hidden Watercourses

Reservoirs

Flood Defences

Flood Storage Areas

Manchester Ship Canal

British Waterways Canals

Historical Flood Map

Flood Zone 3b

Flood Zone 3a

Flood Zone 3 plus cliamte change

Flood Zone 2



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Revision Details		By	Check	Date
Drawn: HB	Approved:	Project Check: MT		Stage Purpose:
Job Number: D115845	Scale: FINAL	Scale @ A3:		Date: 10.05.08
Drawing Number: D115845/MANCHESTER OVERVIEW01				Revision:

Scott Wilson
St James's Buildings
Oxford Street
Manchester
M1 6EF

Appendix E

Proposed Development Plan



REDROW HOMES

Redrow Homes (Lancashire) Limited
Redrow House, 14 Eden Ave, Buckshaw Village, Chorley, Lancs PR7 7NA
Tel: 01772 643700 Fax: 01772 643701 Web: www.redrow.co.uk

- 1.8m fence detail 1
- 1.8m paneled wall detail 2
- 1.8m wall and fence detail 3
- 1.2m high railing detail 4
- 1.2m high railing and vehicular gate detail 5
- 1.8m high vehicular gate detail 6
- Rear timber gate Detail 7
- Proposed Landscaping

Accommodation Schedule

TYPE	No. of	Bed No.
Kentmere	12	2 Bed
Rydal	8	2 Bed
Buttermere	14	3 Bed
Coniston	12	3 Bed
Ennerdale	4	3 Bed
Grasmere	13	3 Bed
Grasmere Detached	11	3 Bed
Thirlmere	18	4 Bed
Windermere	4	4 Bed
Total	96	

Baldwin Design Consultancy Ltd

Town Farm, 57 Orford Close, Gatborne, Warrington, Cheshire, WA3 3XP Tel: 01942 715513 e-mail: graham.baldwin@tiscali.co.uk

Revision:

Project Title:

Address:
Site 6
Ashley Lane,
Moston,
Manchester

Drawing:
Proposed Site Layout

Drawing No:
RED/ M/S6/01

Drawn:	Date:
SB	Date: 11/12/09
Scale: 1:500	Paper Size: A1

Appendix F

Exceedance Event Details

National Grid Reference

RAINFALL INTENSITY - DURATION (mm/hr)
(England + Wales)

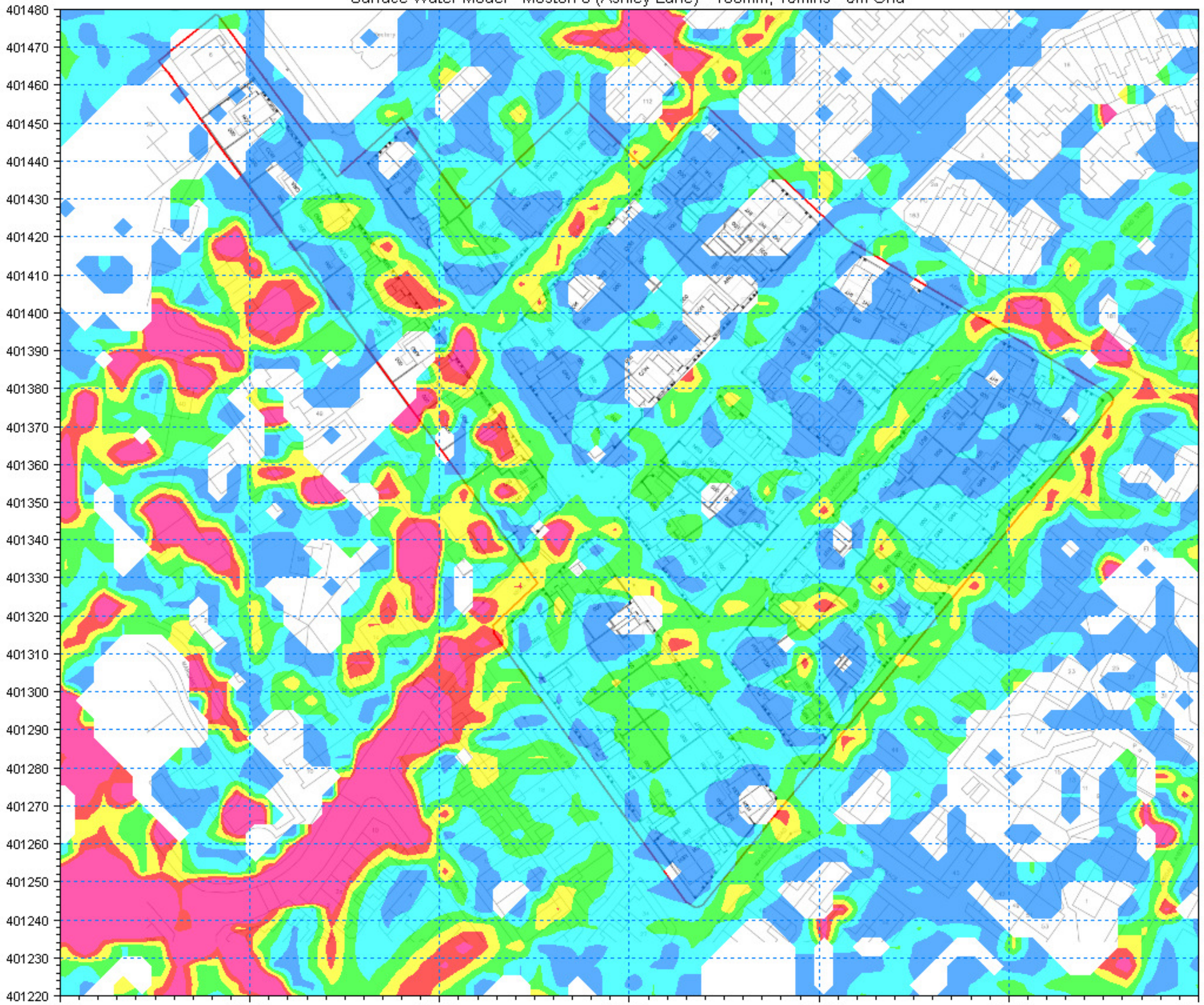
M5-60 rain (mm) 18
M5-60/M5-2day 0.35

RETURN PERIOD (YRS)

Duration (mins)	(hrs)	M5-D (mm)	1	2	5	10	20	30	50	100
2.0	0.03	3.343	62.2	79.2	102.3	119.3	136.4	145.4	156.4	179.5
2.5	0.04	3.943	58.7	74.7	96.5	112.6	128.7	137.2	147.6	169.4
3.0	0.05	4.483	55.6	70.8	91.5	106.7	121.9	130.0	139.9	160.5
3.5	0.06	4.975	52.9	67.4	87.0	101.5	116.0	123.7	133.0	152.7
4.0	0.07	5.426	50.5	64.3	83.0	96.8	110.7	118.8	127.8	146.5
4.2	0.07	5.596	49.6	63.2	81.5	95.1	109.5	116.7	125.5	143.9
4.4	0.07	5.761	48.7	62.1	80.1	93.5	107.6	114.7	123.3	142.2
4.6	0.08	5.921	47.9	61.0	78.8	92.7	105.8	112.7	122.0	139.8
4.8	0.08	6.076	47.1	60.0	77.5	91.1	104.0	111.6	120.0	138.2
5.0	0.08	6.227	46.3	59.0	76.2	89.7	102.4	109.8	118.1	136.0
5.2	0.09	6.373	45.6	58.1	75.0	88.2	100.7	108.1	116.2	133.8
5.4	0.09	6.516	44.9	57.2	73.8	86.9	99.9	106.4	115.1	132.5
5.6	0.09	6.655	44.2	56.3	72.7	85.6	98.4	104.8	113.4	130.5
5.8	0.10	6.790	43.6	55.5	71.6	84.3	96.9	104.0	111.7	128.5
6.0	0.10	6.922	42.9	54.7	70.6	83.1	95.5	102.4	110.1	127.4
6.2	0.10	7.051	42.3	53.9	69.6	81.9	94.2	101.0	109.2	125.5
6.4	0.11	7.176	41.7	53.1	68.6	80.7	92.8	99.6	107.6	123.8
6.6	0.11	7.299	41.1	52.4	67.7	79.6	91.6	98.2	106.2	122.8
6.8	0.11	7.419	40.6	51.7	66.8	78.6	90.3	96.9	104.7	121.1
7.0	0.12	7.536	39.4	51.0	66.5	78.2	89.8	96.2	104.0	119.5
7.2	0.12	7.651	38.9	50.4	65.7	77.1	88.6	95.0	102.6	117.9
7.4	0.12	7.763	38.4	49.7	64.8	76.2	87.5	93.8	101.3	117.1
7.6	0.13	7.873	37.9	49.1	64.0	75.2	86.4	92.6	100.1	115.6
7.8	0.13	7.980	37.4	48.5	63.2	74.3	85.3	91.5	98.8	114.2
8.0	0.13	8.086	37.0	47.9	62.5	73.4	84.3	90.4	98.2	112.8
8.2	0.14	8.189	36.6	47.3	61.7	72.5	83.3	89.3	97.1	112.1
8.4	0.14	8.290	36.1	46.8	61.0	71.7	82.3	88.8	95.9	110.7
8.6	0.14	8.390	35.7	46.2	60.3	70.8	81.4	87.8	94.8	109.5
8.8	0.15	8.487	35.3	45.7	59.6	70.0	80.4	86.8	93.7	108.2
9.0	0.15	8.583	34.9	45.2	58.9	69.2	80.1	85.8	92.7	107.6
9.2	0.15	8.677	34.5	44.7	58.3	68.5	79.2	84.9	92.2	106.4
9.4	0.16	8.770	34.1	44.2	57.7	67.7	78.4	84.0	91.2	105.2
9.6	0.16	8.861	33.8	43.7	57.0	67.0	77.5	83.1	90.3	104.1
9.8	0.16	8.950	33.4	43.3	56.4	66.3	76.7	82.7	89.3	103.0
10.0	0.17	9.038	33.1	42.8	55.9	65.6	75.9	81.9	88.4	102.5
10.5	0.18	9.251	32.2	41.8	54.4	64.5	74.0	79.8	86.7	99.9
11.0	0.18	9.456	31.5	40.7	53.1	62.9	72.2	77.9	84.6	98.0
11.5	0.19	9.653	30.7	39.8	51.9	61.4	71.0	76.6	82.6	95.7
12.0	0.20	9.844	30.0	38.9	50.7	60.0	69.4	74.8	81.2	94.0
12.5	0.21	10.027	29.4	38.0	49.6	58.7	67.9	73.2	79.4	91.9
13.0	0.22	10.205	28.7	37.2	48.5	57.5	66.4	71.6	77.7	90.0
13.5	0.23	10.377	28.1	36.4	47.5	56.3	65.0	70.1	76.1	88.5
14.0	0.23	10.544	27.6	35.7	46.5	55.1	63.7	68.7	75.0	86.8
14.5	0.24	10.705	27.0	35.0	45.6	54.0	62.5	67.3	73.5	85.1
15.0	0.25	10.862	26.5	34.3	44.8	53.0	61.7	66.5	72.1	83.4
15.5	0.26	11.015	26.0	33.7	43.9	52.0	60.5	65.2	70.8	82.3
16.0	0.27	11.163	25.5	33.1	43.1	51.1	59.4	64.0	69.5	80.8
16.5	0.28	11.307	25.1	32.5	42.4	50.6	58.4	62.9	68.3	79.4
17.0	0.28	11.448	24.6	31.9	41.6	49.7	57.4	61.8	67.1	78.0
17.5	0.29	11.585	24.2	31.4	40.9	48.9	56.4	60.8	66.3	77.1
18.0	0.30	11.719	23.8	30.9	40.2	48.0	55.5	59.8	65.2	75.8
18.5	0.31	11.850	23.4	30.4	39.6	47.3	54.6	58.8	64.2	74.6
19.0	0.32	11.978	23.1	29.9	39.0	46.5	53.7	57.9	63.2	73.4
19.5	0.33	12.102	22.7	29.4	38.4	45.8	52.9	57.0	62.2	72.2
20.0	0.33	12.225	22.4	29.0	37.8	45.1	52.1	56.1	61.2	71.5
30.0	0.50	14.242	17.7	22.8	29.3	35.3	41.0	44.1	48.1	56.4
60.0	1.00	18.000	11.3	14.6	18.5	22.3	26.1	28.3	31.0	36.2
120.0	2.00	22.278	7.2	9.0	11.5	13.8	16.2	17.6	19.3	22.5

plus cc (30%) → 108.42

Surface Water Model - Moston 6 (Ashley Lane) - 108mm, 15mins - 5m Grid



01/01/90 00:00:00, Time step 0 of 0

Surface Water Model - Moston 6 (Ashley Lane) - 55mm, 15mins - 5m Grid

401480
401470
401460
401450
401440
401430
401420
401410
401400
401390
401380
401370
401360
401350
401340
401330
401320
401310
401300
401290
401280
401270
401260
401250
401240
401230
401220

386600
386650
386700
386750
386800
386850
386900

01/01/90 00:00:00, Time step 0 of 0

Maximum values from: H
Water Depth m [m]
Above 0.150
0.125 - 0.150
0.100 - 0.125
0.075 - 0.100
0.050 - 0.075
0.025 - 0.050
Below 0.025
Undefined Value