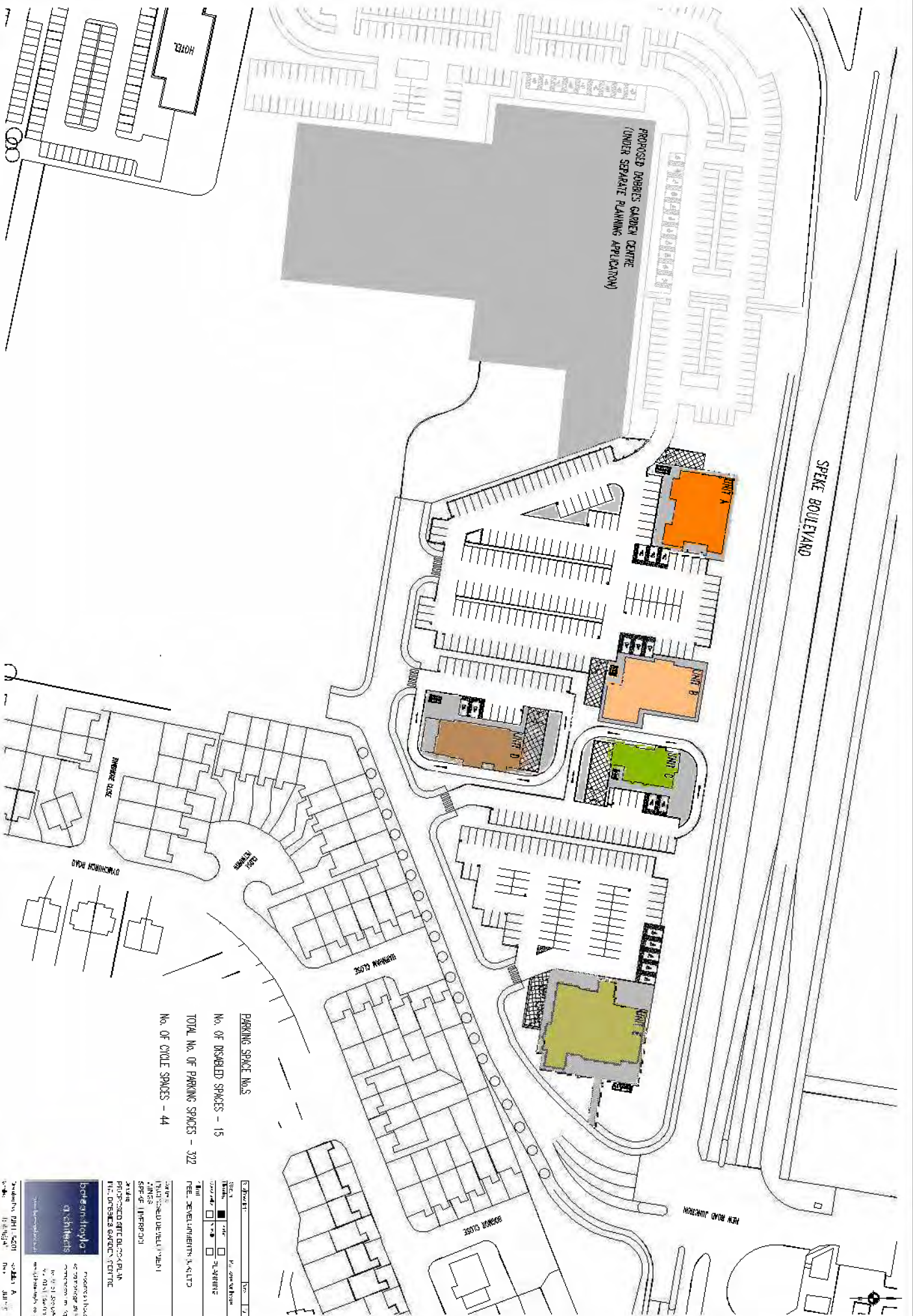


Appendix A – Development Proposal

-rev d





Appendix B – Envirocheck Report

Envirocheck[®] Report:

Flood Screening Report Datasheet

Order Details:

Order Number:

31522999_1_1

Customer Reference:

D128603

National Grid Reference:

342710, 383840

Slice:

A

Site Area (Ha):

3.9

Search Buffer (m):

1000

Site Details:

Wings Business Park

LIVERPOOL

L24 1XJ

Client Details:

Mr M Gartside

Scott Wilson Ltd

Brunel House

54 Princess Street

Manchester

M1 6HS

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	-
<p>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.</p> <p>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.</p>	
RMS Flood Data	1
<p>This section contains the Risk Management Solutions flood data. The data is based upon the likelihood of a flood occurrence 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.</p>	
BGS Flood Data	2
<p>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 separate BGS Flood Data (1:50,000) map.</p>	
EA Detailed River Network Data	3
<p>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.</p> <p>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.</p> <p>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.</p>	
Flood Insurance Risk Data	5
<p>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.</p> <p>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.</p> <p>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.</p>	
Data Currency	6
Data Suppliers	7
Useful Contacts	8

Report Version v47.0

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	2	n/a	n/a
RMS 100 year Flood Return	pg 1	1	3	n/a	n/a
RMS 1000 year Flood Return	pg 1	1	1	n/a	n/a
BGS Flood Data					
BGS Geological Indicators of Flooding					
BGS Groundwater Flooding Susceptibility	pg 2	1			
EA Detailed River Network Data					
Detailed River Network Lines					
Detailed River Network Nodes					
Detailed River Network Offline Drainage	pg 3				37
Flood Insurance Risk Data					
Property-based Flood Risk	pg 5	1	n/a	n/a	n/a
Postcode Sector Flood Insurance Claim Ratings	pg 5	1	n/a	n/a	n/a

Report Version v47.0

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)	0	1	342681 383803
	RMS 75 year Flood Return Flood Type/Depth: 75 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NE (NE)	122	1	342950 384022
	RMS 75 year Flood Return Flood Type/Depth: 75 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A14NW (E)	228	1	343115 383909
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13SW (SW)	0	1	342681 383803
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NE (NE)	107	1	342983 383966
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NE (NE)	122	1	342950 384022
	RMS 100 year Flood Return Flood Type/Depth: 100 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A14NW (E)	228	1	343115 383909
	RMS 1000 year Flood Return Flood Type/Depth: 1000 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13SW (S)	0	1	342711 383802
	RMS 1000 year Flood Return Flood Type/Depth: 1000 year pluvial flood, depth is not applicable Flood Hazard: Pluvial Flood Risk	A13NE (NE)	225	1	342951 384133

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Negligible Susceptibility to Groundwater Flooding	A23SW (N)	0	2	342711 385000







Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	730	3	342297 383033
2	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	780	3	342290 382982
3	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A8SW (S)	798	3	342440 382920
4	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	812	3	342280 382952
5	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	822	3	342305 382932
6	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	823	3	342331 382921
7	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A8SW (S)	836	3	342452 382878
8	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	855	3	342296 382900
9	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	859	3	342329 382884
10	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	861	3	342344 382878
11	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A8SW (S)	862	3	342460 382850
12	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	863	3	342313 382885
13	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	881	3	342359 382852
14	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A8SW (S)	883	3	342484 382823
15	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	885	3	342315 382861
16	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	889	3	342300 382863
17	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	902	3	342277 382856
18	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	906	3	342304 382843
19	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	910	3	342307 382838
20	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	910	3	342307 382838
21	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A2NE (S)	918	3	342392 382808

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
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23	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	921	3	342217 382860
24	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	922	3	342252 382845
25	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	923	3	342248 382845
26	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	926	3	342331 382814
27	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	926	3	342247 382843
28	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (S)	936	3	342298 382814
29	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	936	3	342255 382829
30	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7SE (SW)	938	3	342243 382831
31	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A2NE (S)	948	3	342313 382797
32	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A2NE (SW)	952	3	342274 382804
33	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A2NE (SW)	963	3	342270 382795
34	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A2NE (SW)	965	3	342242 382802
35	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A2NE (SW)	965	3	342244 382802
36	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A2NE (SW)	965	3	342242 382802
37	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A2NE (SW)	966	3	342235 382804

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Property-based Flood Risk Flood Risk Rating: Negligible Flood Risk Rating	A13NE (E)	0	4	342830 383881
	Postcode Sector Flood Insurance Claim Ratings Insurance Rating: Very Low Flood Insurance Claim Rating - No Recorded Claims Postcode Sector: L24 1	A13NW (N)	0	4	342732 383987

EA / CEH Flood Data	Version	Update Cycle
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	March 2010	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	March 2010	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	March 2010	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	March 2010	Quarterly
Flood Defences Environment Agency - Head Office	March 2010	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	May 2010	Annually
EA Detailed River Network Data	Version	Update Cycle
Detailed River Network Lines Environment Agency - Head Office	April 2010	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	January 2010	Annually
Postcode Sector Flood Insurance Claim Ratings Crawford and Company	June 2010	Quarterly

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	

Contact	Name and Address	Contact Details
1	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
2	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
3	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.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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




















RMS Flood Data Information

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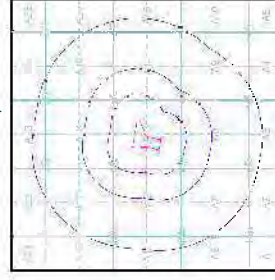
BGS Flood Data (1:50,000)

General Spun, filed Site                                       

Geological Indicators of Flooding



BCS Flood Data Map - Slice A



Order Details

Order Number: 31522999 1 1
Customer Ref: D128603
National Grid Reference: 342710, 383840
Site: A
Site Area (Ha): 3.9
Search Buffer (m): 1000

Site Details

Site Details
Wings Business Park LIVERPOOL, L24 1XJ



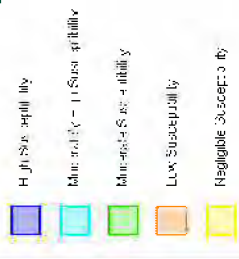
1886 390 7900	1886 390 7900
1886 390 7900	1886 390 7900

BGS Flood Data (1:50,000)

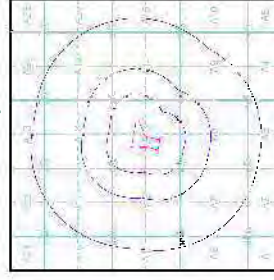
General

	New... file Size		Save as... B... Ter...:		Print... Reference Pol...

BGS Groundwater Flooding Susceptibility



BGS Flood Data Map - Slice A



Order Details

Order Number:	31522999 1 1
Customer Ref:	D128603
National Grid Reference:	342710, 383840
Sludge:	A
Site Area (Ha):	3.9
Search Buffer (m):	1000

Site Details

Site Details
Wings Business Park LIVERPOOL, L24 1XJ



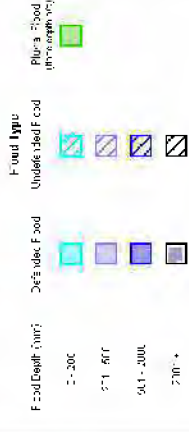
TD	0322 322 9952
T-24	0322 322 9901
TD4	9999 2115 90785200 JK

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

General

- Symbol Site
- Symbol Sited Buffer
- Symbol Sited Buffer

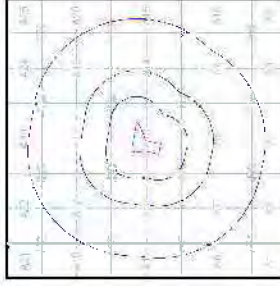
RMS 75 year Return Flood Data



Contours (Height in metres)



RMS 75 year Return Flood Map - Slice A



Order Details

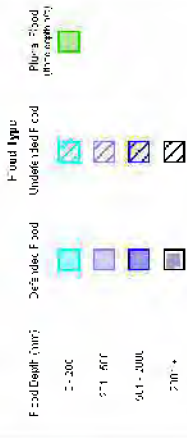
Order Number: 31522999 1 1
Customer Ref: D128603
National Grid Reference: 342710, 363840
Site: A
Site Area (Ha): 3.9
Search Buffer (m): 1000

Site Details

Wings Business Park, LIVERPOOL, L24 1XJ

General
 Sewerage Site
 Sewerage Tunnel
 Sewerage Outfall

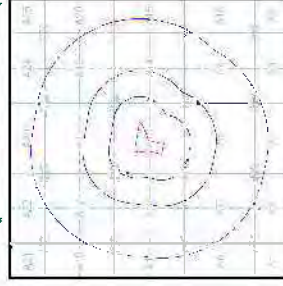
RMS 100 year Return Flood Data



Contours (Height in metres)



RMS 100 year Return Flood Map - Slice A

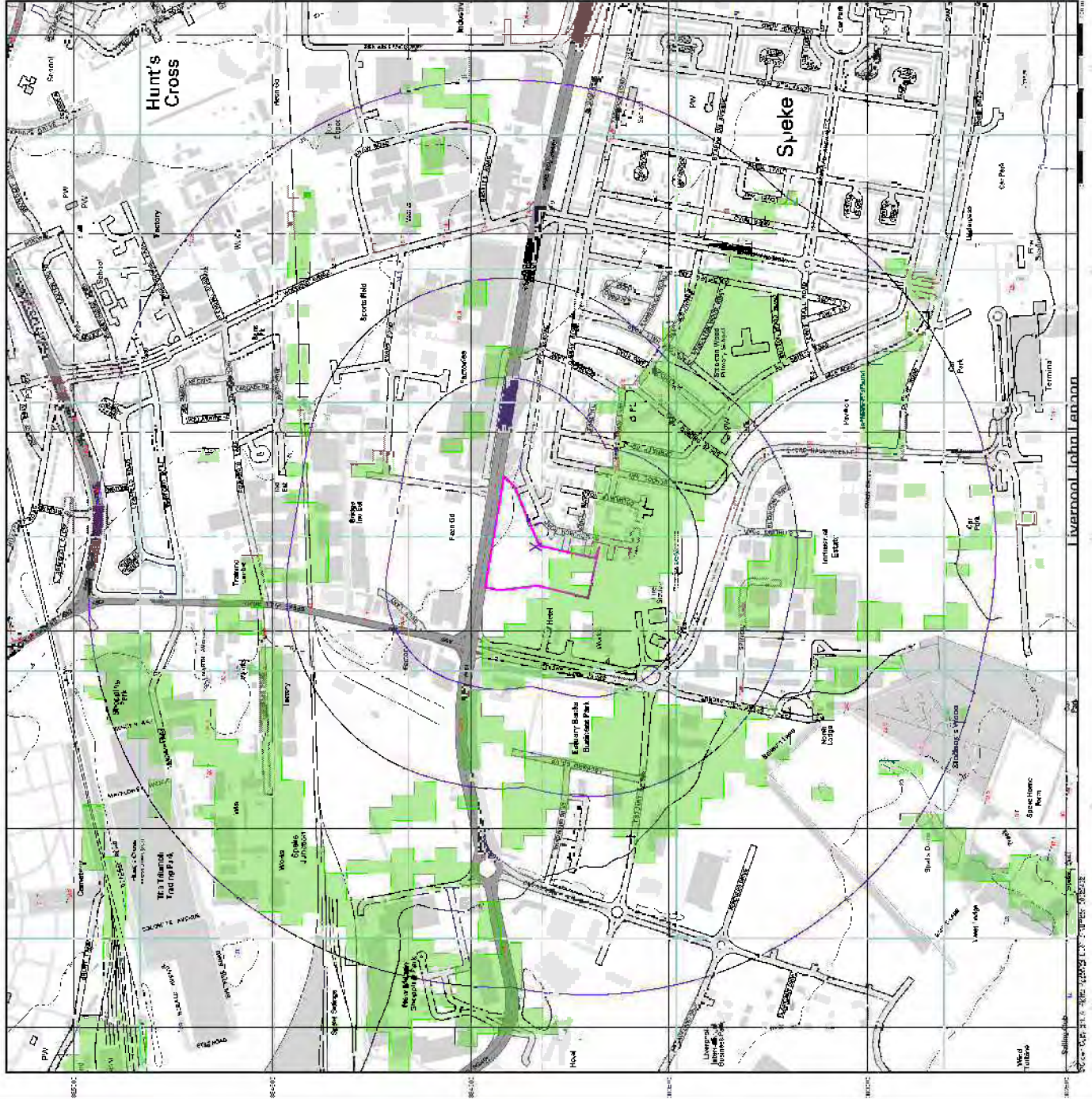


Order Details

Order Number: 31522999 1 1
 Customer Ref: D128603
 National Grid Reference: 342710, 363840
 Site: A
 Site Area (Ha): 3.9
 Search Buffer (m): 1000

Site Details

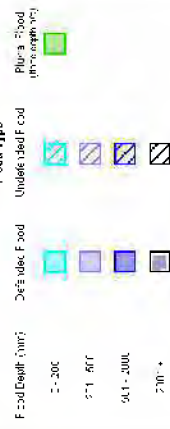
Wings Business Park, LIVERPOOL, L24 1XJ



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

General
 Sewerage Site
 Sewerage Junction
 Sewerage Outfall

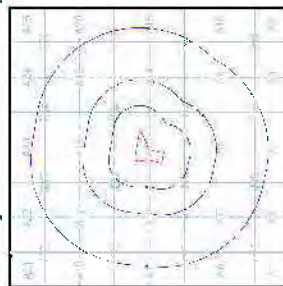
RMS 1000 year Return Flood Data



Contours (height in metres)



RMS 1000 year Return Flood Map - Slice A



Order Details

Order Number: 31522999 1 1
 Customer Ref: D128603
 National Grid Reference: 342710, 363840
 Site: A
 Site Area (Ha): 3.9
 Search Buffer (m): 1000

Site Details

Wings Business Park, LIVERPOOL, L24 1XJ

General

- Symbol Site
- Symbol Buffer
- Symbol River
- Symbol Ditch

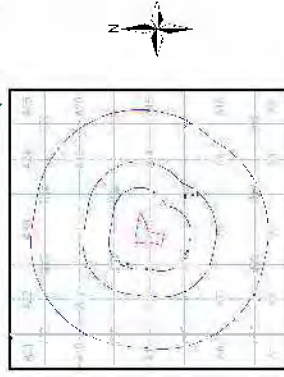
EA Detailed River Network Data

- Primary River
- Secondary River
- Tertiary River
- Quaternary River
- Quinary River
- Sixth Order River
- Seventh Order River
- Eighth Order River
- Ninth Order River
- Tenth Order River
- Eleventh Order River
- Twelfth Order River
- Thirteenth Order River
- Fourteenth Order River
- Fifteenth Order River
- Sixteenth Order River
- Seventeenth Order River
- Eighteenth Order River
- Nineteenth Order River
- Twentieth Order River
- Twenty-first Order River
- Twenty-second Order River
- Twenty-third Order River
- Twenty-fourth Order River
- Twenty-fifth Order River
- Twenty-sixth Order River
- Twenty-seventh Order River
- Twenty-eighth Order River
- Twenty-ninth Order River
- Thirtieth Order River
- Thirty-first Order River
- Thirty-second Order River
- Thirty-third Order River
- Thirty-fourth Order River
- Thirty-fifth Order River
- Thirty-sixth Order River
- Thirty-seventh Order River
- Thirty-eighth Order River
- Thirty-ninth Order River
- Fortieth Order River
- Forty-first Order River
- Forty-second Order River
- Forty-third Order River
- Forty-fourth Order River
- Forty-fifth Order River
- Forty-sixth Order River
- Forty-seventh Order River
- Forty-eighth Order River
- Forty-ninth Order River
- Fiftieth Order River
- Fifty-first Order River
- Fifty-second Order River
- Fifty-third Order River
- Fifty-fourth Order River
- Fifty-fifth Order River
- Fifty-sixth Order River
- Fifty-seventh Order River
- Fifty-eighth Order River
- Fifty-ninth Order River
- Sixtieth Order River
- Sixty-first Order River
- Sixty-second Order River
- Sixty-third Order River
- Sixty-fourth Order River
- Sixty-fifth Order River
- Sixty-sixth Order River
- Sixty-seventh Order River
- Sixty-eighth Order River
- Sixty-ninth Order River
- Seventieth Order River
- Seventy-first Order River
- Seventy-second Order River
- Seventy-third Order River
- Seventy-fourth Order River
- Seventy-fifth Order River
- Seventy-sixth Order River
- Seventy-seventh Order River
- Seventy-eighth Order River
- Seventy-ninth Order River
- Eightieth Order River
- Eighty-first Order River
- Eighty-second Order River
- Eighty-third Order River
- Eighty-fourth Order River
- Eighty-fifth Order River
- Eighty-sixth Order River
- Eighty-seventh Order River
- Eighty-eighth Order River
- Eighty-ninth Order River
- Ninetieth Order River
- Ninety-first Order River
- Ninety-second Order River
- Ninety-third Order River
- Ninety-fourth Order River
- Ninety-fifth Order River
- Ninety-sixth Order River
- Ninety-seventh Order River
- Ninety-eighth Order River
- Ninety-ninth Order River
- Hundredth Order River

Contours (height in metres)

- 10m
- 20m
- 30m
- 40m
- 50m
- 60m
- 70m
- 80m
- 90m
- 100m
- 110m
- 120m
- 130m
- 140m
- 150m
- 160m
- 170m
- 180m
- 190m
- 200m

EA Detailed River Network Map - Slice A



Order Details

Order Number: 31522999 1 1
Customer Ref: D128603
National Grid Reference: 342710, 363840
Site: A
Site Area (Ha): 3.9
Search Buffer (m): 1000

Site Details

Wings Business Park, LIVERPOOL, L24 1XJ

Index Map

For ease of identification, your site and outfalls 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 1:1000 polygons (27m x 2.7m) for your site and outfalls. A site slice and outfall slice are made up of several boxes (represented by a red outline), that are referenced by the site slice grid. The grid does not relate to National Grid lines, it is designed to give best fit over the site and outfalls.

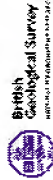
Segment

A segment represents a 1:2500 polygon of area. Segments that have a point associated with them are shown in dark green, others in light green. These are numbered for the outfall, left hand corner within each slice.

Quadrant

A quadrant is a quarter of a segment. These are numbered as NW, NE, SW, SE and are referenced in the data sheet to a outfall slice to quickly locate a point. The site slice 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 the app:



Envirocheck reports are sourced from 130 different sources of data.

Client Details

Mr M Garside, Scott Wilson Ltd, Brunel House, 54
Princes Street, Manchester, M1 6HS

Order Details

Order Number: 31522598 1 1
Customer Ref: D128803
National Grid Reference: 342690, 383850
Site Area (Ha): 3.9
Search Buffer (m): 1000

Site Details

Wings Business Park, LIVERPOOL, L24 1XJ



Tel: 0844 344 9882
Fax: 0844 344 9881
Web: www.envirocheck.co.uk

Appendix C – Topographical Survey

Appendix D – Existing Private Sewer Discharge Consent

Our ref: WJP/jmw
21 July 2005

R McDonough
Scott Wilson
Queen Building
2nd Floor
24 Queens Avenue
Dale Street
Liverpool L2 4DZ

Dear Robbie

Blue Land and LIBP Drainage Discharge

I refer to your letter of 14 July 2005 regarding the drainage proposals for the Blue Lands.

As previously discussed, NWDA will allow Peel to drain into our surface water drain subject to the agreed payment, however, this may only be done at the agreed points by the roundabout will provides access into the Estuary Business Park.

As suggested by John Stock in the letter you enclosed, from our perspective the connection will be limited to the lower outfall point and no access will be permitted directly across Speke Hall Avenue from where you are showing the drain to exit from your site. I have no problem with John Stock's proposal that the total discharge of 1200 litres per second is acceptable.

Yours sincerely

Jon Pickstone
Area Property Surveyor
jon.pickstone@nwda.co.uk

Appendix E – Existing United Utilities Discharge Consent



United Utilities North West
Lingley Mere Business Park
Lingley Green Avenue
Great Sankey
Warrington WA5 3LP

Telephone 01925 234000
www.unitedutilities.com

Enquiries to: Kristina Holcroft

Direct line: 01925 463990

Your ref: D108028/1.2.14/DB

Our ref: WW/05/26/KH Dis 8083

Scott Wilson
St James' Buildings
Oxford Street
MANCHESTER
M1 6EF

FAO Mr D Buckley

3 August 2005

Dear Sirs

PROPOSED DEVELOPMENT - WINGS ENTERTAINMENT PARK, LIVERPOOL

Thank you for your letter dated 20 July 2005 regarding the above development and I make the following comments:

- The foul sewage may have an unrestricted flow into the foul sewer within Speke Hall Avenue
- The 450mm diameter surface water sewer in Speke Hall Avenue is not adequate to take all the surface water from your site. Any connection to this pipe would require substantial attenuation. A 750mm diameter private, surface water sewer (shown on your drawing ref KDTCM/DRAIN1) was laid in Speke Hall Avenue with the purpose of serving this, and other nearby developments. I understand that this private sewer is currently owned by Liverpool Land Development Company and I would recommend that you contact them regarding the connection of your surface water.
- Prior to any connection onto the public sewer, a Connection Notice must be completed. To obtain a "Connection Pack" please contact the Wastewater Schedulers on 08456 020406.

If you have any queries, or require any further information please contact me.

Yours faithfully

Kristina Holcroft
Wastewater Adoption Engineer

CC I Reynolds/R Spofforth - WW Network Operations

Please scan & e-mail to Robbie McD.

Job	
Original	<i>From the valley</i>
Enclosure	
05 AUG 2005	
Action:	
S W MANCHESTER	
Copy	
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Appendix F – Correspondence with the Environment Agency

From: NW South, External Relations [NWSouthFolder@environment-agency.gov.uk]
Sent: 02 July 2010 14:10
To: Ene Adanu
Subject: WTNFRM31799
Attachments: copyright.doc

Dear Mr Adanu

PUBLIC REGISTER AND ENVIRONMENTAL INFORMATION REQUEST
Wings Business Park, Speke.

Thank you for your email dated 11th June 2010, please find below our response.

1. The Rivers have River Mersey - **HALEWOOD BROOK, WOODEND BROOK, DITTON BROOK, SPRING BROOK, DOG CLOG BROOK, CHILDWALL BROOK.**
2. There are no Defences in the area.
3. There has been no detailed modelling along **River Mersey**, and if so have any flood levels/flood extent maps been derived / produced respectively for the following return periods?
 - 5% AEP flood event (**1 in 20 year**) (FZ3b);
 - 1% AEP flood event (**1 in 100 year**) (FZ3a);
 - 1% AEP flood event (**1 in 100 year**) plus an allowance for climate change;
 - 0.1% AEP flood event (**1 in 1000 year**) (FZ2);
4. As there are no Relevant Levels, we do not have a report to supply.
5. We have no record of flooding at this location, but the absence of recorded flooding does not mean that the property has never been flooded, nor that flooding may not occur in the future.
6. As theres no historical flooding, flooding hotspots are not applicaple for this site.
7. For information on flooding from Sewer System you will need to Contact United Utilities and also the Local Authority.
8. There are no flood warnings for this area, this location is not shown on the flood map as being in either Flood zone 2 or 3, so there are no flood trigger levels.
9. We have no known issues with any watercourses or structures.

Should you require any further information or advice regarding your Flood Risk Assessment dont hesitate in getting in touch and i will pass your details on to the relevant Development Control officer.

Regards,

Katie McAlinden
Customer Services Officer
Appleton House

430 Birchwood Boulevard
Birchwood
Warrington
WA3 7WD

Tel: 01925 543345
Fax: 01925 852260

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Ene Adanu

From: Ene Adanu
Sent: 11 June 2010 14:08
To: 'NW South, External Relations'
Subject: Wings Business Park, Speke - Request for Information
Attachments: FIGURE 1.pdf

External Relations
Environment Agency
Southern Area Office,
Appleton House,
430 Birchwood Boulevard,
Warrington, Cheshire.
WA3 7WD

Our Ref: Wings Business Park

Your Ref:

Date: 11th June 2010

Dear Sir / Madam

Wings Business Park, Speke
FLOOD RISK ASSESSMENT - Request for Information

Scott Wilson has been commissioned to undertake a Flood Risk Assessment (FRA) for the proposed development of a Business Park in Speke, Liverpool.

The Closest Postal Code to the site is L24 1XJ Grid Reference X:342759 Y:383840 and a location Plan is attached.

In order to inform our investigations with the best available data at present, we would appreciate if you could answer the following questions, and provide a quote for the provision of any relevant current data pertaining to the area that the Environment Agency hold.

Watercourses
1. Please advise which watercourses the EA is responsible for within the local area of the proposed development and their official classification. <ul style="list-style-type: none">• River Mersey• Others?
Defences
2. Are there any flood defences present within the area and would it be possible to confirm the following for the purposes of this study? <ul style="list-style-type: none">• What type of defences are they? (e.g. flood walls, raised earth embankments).• Their exact location using grid references or maps e.g. GIS NFCDD data.• What is the design standard (Annual Exceedence Probability % (or 1 in X-years)) and crest levels (mAOD) of these defences?• Are there any planned upgrades to these defences? If yes could you please provide a copy of the plans

and / or proposed timescales?

Fluvial Flood Level Data

3. Has any detailed modelling been undertaken along **River Mersey**, and if so have any flood levels/flood extent maps been derived / produced respectively for the following return periods?
 - 5% AEP flood event (**1 in 20 year**) (FZ3b);
 - 1% AEP flood event (**1 in 100 year**) (FZ3a);
 - 1% AEP flood event (**1 in 100 year**) plus an allowance for climate change;
 - 0.1% AEP flood event (**1 in 1000 year**) (FZ2);
4. Please could you provide any report produced as part of the modelling study?

Historical Flood Events

5. Are there any recorded incidents of historical flooding events that have inundated the proposed development area or local area?
 - If yes, where were they located?
 - What extent did they impact? (e.g. internal/external depths (m))
 - What were the sources of these floods?
 - Photographs taken during the flood events.
 - If available, what were the flood levels?
6. Are there known flooding hotspots or flow constrictions in the area? (e.g. trash screens, culverts).
7. Is the Environment Agency aware of any flooding from the sewer system in the area?

Flood Warnings

8. The on-line EA Flood Warning map illustrates a number of flood warning areas within the area of the proposed development
 - Please confirm if the proposed development is located within an area allocated to be given flood warnings upon registration of the site with the Flood Warnings Direct service
 - What are the fluvial flood warning trigger levels (mAOD) at the closest location to the site and the gauging station used?
 - Are there any emergency planning procedures in the vicinity of the site? If yes, would it be possible to provide a copy of them?

Additional Existing Local Information

9. Are there any further known watercourses or issues with structures the Environment Agency expect may impact on the proposed development other than those stated? (i.e. any regularly occurring known culvert blockage issues).

Whilst we have attempted to cover all relevant details in the questions above we are aware that the local knowledge of the Environment Agency is often essential in ensuring that a robust investigation is achieved. Therefore if there are other issues or information over and above the responses to the questions above that you feel may be of use in this work we would be most grateful if you could let us know.

We are also aware that answers to these questions may have to be sourced from a number of departments within the Environment Agency, however, as ever with these projects we are operating on a tight time scale a prompt response would be greatly appreciated.

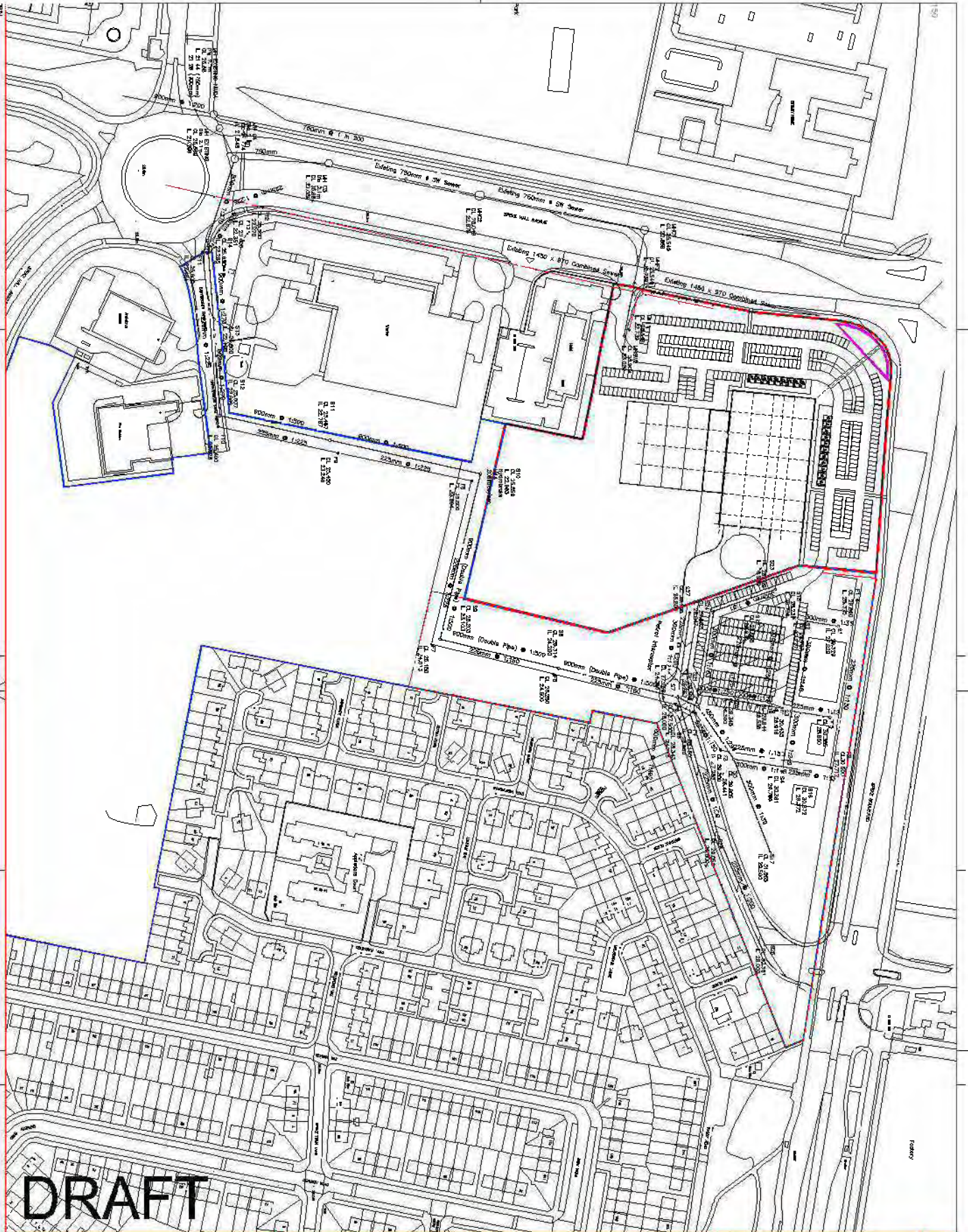
Therefore, please could you advise of the cost of this data at your earliest convenience so that we can promptly forward payment?

Should you have any queries on the above please contact me on the details below or Alpha Robinson on 0161 237 6086

Yours sincerely,
for **Scott Wilson Ltd**

Ene Adanu
Scott Wilson Ltd
Brunel House
54 Princess Street
Manchester
M1 6HS
T: +44(0)161 237 6952
F: +44(0)161 907 3501
www.Scottwilson.com

Appendix G – Indicative Surface Water Attenuation Arrangement



DRAFT

NOTES

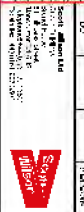
1. THE DRAINAGE SYSTEM IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DRAINAGE ACT 1988.
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- 2. THE DRAINAGE SYSTEM IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DRAINAGE ACT 1988.
- 3. THE DRAINAGE SYSTEM IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DRAINAGE ACT 1988.

D128603/ERN02

WINGS
BUSINESS
PARK

DRAINAGE
MASTERPLAN
OPTION-1



Appendix H – Run-off calculation

Project Control

Calculation Sheet

Project Title	Liverpool Wings Business Park	Page	1 of 2
Project Number	D128603	Rev	
Date	21/06/2010	By	RQ

Greenfield Run-off Rate Calculation: IOH 124

$$QBAR_{rural} = 0.00108 AREA^{0.89} SAAR^{1.17} SOIL^{2.17}$$

Where:

$QBAR_{rural}$ = Catchment mean annual peak flow (approximately 43% annual probability of 2.3 year return period) (m³/s)

AREA = Catchment area (km²)

SAAR = Standard average annual rainfall for the period 1941 to 1970 (mm)

SOIL = Soil index (from Flood Studies or Wallingford Procedure WRAP maps)

It is a weighted sum of individual soil class fractions where:

$$SOIL = 0.1 SOIL_1 + 0.3 SOIL_2 + 0.37 SOIL_3 + 0.47 SOIL_4 + 0.53 SOIL_5$$

The impermeable area of the proposed site has been calculated from Drawing No. D128603/ER/002 – Drainage Masterplan, which is **2.90 ha**.

The soil type is assessed as Type 4, taken from the winter rain acceptance potential (WRAP) map. Therefore, SOIL = **0.47**.

The SAAR is 850mm, taken from Flood Studies Report Average Annual Rainfall Map. This value is compared with the SAAR value obtained from the Environment Agency's Hi Flows UK website @ Alt at Kirkby (69032) which is 860mm. Use SAAR = **850mm** for calculation.

$$QBAR_{rural} = 0.00108(0.5)^{0.89}(850)^{1.17}(0.47)^{2.17} \quad (\text{For 50ha area})$$

$$= 0.303 \text{ m}^3/\text{s}$$

$$= 303 \text{ l/s}$$

$$= \mathbf{17.6 \text{ l/s}} \quad (\text{For 2.9 ha area})$$

$$= 6.06 \text{ l/s/ha}$$

Project Control

Calculation Sheet

Project Title	Liverpool Wings Business Park	Page	2 of 2
Project Number	D128603	Rev	
Date	21/06/2010	By	RQ

Proposed site is situated in the FSSR 16 Hydrometric Area 10. By multiplying the appropriate growth curve factor the following values for different return period are obtained:

Return Period	Greenfield Run-off Rate (l/s/ha)
1 in 1 year	5.27
1 in 2 year	5.64
1 in 25 year	9.94
1 in 100 year	12.60
1 in 100 year + 30% climate change	16.38