FLOOD RISK STATEMENT

OLD HALL STREET, LIVERPOOL –T1

REPORT NUMBER	70023367-FRS-001	70023367-FRS-001	
Issue	First Issue (28 October 2016)	Second Issue (11 November 2016)	
Prepared by	L Barlow	L Barlow	
Checked by	S Hamilton	S Hamilton	
Approved by	C Cozens	C Cozens	

SITE BACKGROUND

This note summarises the flood risk to a proposed multi-storey residential development at a site at the junction of Old Hall Street (A565) and Leeds Street (A5053), Liverpool (a site location plan is included in Appendix A). A separate Drainage Strategy Report has been produced (WSP | Parsons Brinckerhoff, 2016).

The proposed development which this report will support is for the first of two towers on the site, known as T1. T1 will have 27 storeys above ground as well as two basement levels. A copy of the ground floor plan is included in Appendix B.

The site lies within Flood Zone 1 and the T1 planning application boundary is less than a hectare in area (0.16 ha). The main proposed use of the building is residential apartments, although no residential use is proposed on the ground floor. Based on this information it has been agreed with Liverpool City Council (Appendix C) that an NPPF compliant Flood Risk Assessment would not be required. Instead, this Flood Risk Statement has been produced which will support the planning application. The activities undertaken in producing this Flood Risk Statement are:

- Review of publically available information
- Consultation with the Environment Agency, Liverpool City Council and United Utilities
- Establish the probability of flooding based on the above
- Summarise the works in this Flood Risk Statement

SOURCES OF INFORMATION

The following sources of information were used in this assessment:

- Liverpool City Council Strategic Flood Risk Assessment (SFRA, 2008)
- Liverpool City Council Preliminary Flood Risk Assessment (PFRA, 2011)
- Mersey Estuary Catchment Flood Management Plan (2009)
- Environment Agency online mapping
- Consultation undertaken with the Environment Agency, Liverpool City Council and United Utilities. Copies of all correspondence are included in Appendix C.

SUMMARY OF FLOOD RISK

Table 1 provides an assessment of potential flood risk to the site.

Table 1 - Assessment of sources of flooding

FLOOD TYPE	INFORMATION	FLOOD RISK
Fluvial	The site is located in Flood Zone 1 according to the Environment Agency Flood Map for Planning. The Flood Zone 1 classification suggests that the site is at a low risk of fluvial flooding with an annual probability of less than 1 in 1000. It has a very low risk of flooding according to the Environment Agency Flood Risk from Rivers and Sea Map. The Environment Agency consultation response received on 01 November 2016 included modelled flood levels for the River Mersey. The maximum modelled river level in the vicinity is 7.14 m AOD, approximately 9 m below the site's elevation. A consultation response received from Liverpool City Council on 14 October 2016 indicates that there are no culverted, open or historic watercourses on their records which cross or are close to the site.	Low
Tidal / Coastal	The site is at an approximate elevation of 16 m AOD. Although the Mersey Estuary is within 1 km of the site, the elevation of the site and surrounding area is sufficient to ensure that the site is not at risk from tidal / coastal flooding.	Not at risk
Groundwater	The Liverpool City Council PFRA (2011) indicates no instances of groundwater flooding although there is a comment that due to the nature of the reporting system, this source of flooding may not have been 'diagnosed'. The PFRA includes an Areas Susceptible to Groundwater Flooding Map which suggests that the site is not located in an area susceptible to groundwater flooding. The Liverpool City Council consultation response received on 14 October 2016 states that the area is not susceptible to high groundwater levels.	Low
Surface Water	The Environment Agency Flood Risk from Surface Water Map shows that the centre and south of the site has a very low risk from surface water flooding whereas the north of the site has a low risk from surface water flooding. During medium and high chance scenarios, the site is not affected by surface water flooding but Leeds Street to the north is. During a low chance scenario (i.e. with an annual probability of between 1 in 100 and 1 in 1000), surface water flooding along Leeds Street is more extensive and deeper and surface water flooding is shown to affect the north of the site. Flood depths are shown to be below 300 mm within the site boundary but in Leeds Street immediately adjacent to the site, depths range from 300 mm to 900 mm. During the low risk scenario the surface water flood velocity in the north of the site is shown to be less than 0.25 m/s but immediately adjacent on Leeds Street, it is over 0.25 m/s.	The overall risk of surface water flooding is assessed to be low. Mitigation measures are recommended later in this statement.

	It should also be noted at this stage that the Environment Agency Flood Risk from Surface Water Map does not account for the capacity of the sewer drainage network. The Liverpool City Council consultation response received on 14 October 2016 indicates that the site has no history of flooding and is not subject to notable flooding in their 1 in 30 year and 1 in 200 year models.	
Sewer / Drainage	There are no private drainage records available for the site although it is expected to be formally drained as is it currently used as a car park. United Utilities sewer plans received on 13 October 2016 indicate that a public combined water sewer runs through the site. A consultation response received from United Utilities on 18 October 2016 indicates that they have no records of public sewer flooding in the vicinity.	Low
Reservoir	The Environment Agency Risk of Flooding from Reservoirs Map indicates that the site is not located within the maximum extent of reservoir flooding.	Not at risk
Canal	There are no canals within the vicinity of the site. The Liverpool City Council PFRA (2011) indicates that there are no records of canal flooding in the Liverpool City area.	Not at risk
Other	Drainage from the proposed development may require pumping in order to drain to the public sewer network. Therefore, pump failure or overload could present a flood risk. No other sources of flooding have been identified for the current site.	Low Mitigation measures are suggested later in this statement.

CONSIDERATION OF CLIMATE CHANGE

New Environment Agency guidance “Flood Risk Assessments: Climate Change Allowances” issued on 19 February 2016 provides up to date information on expected changes in rainfall, river flows and sea level rise as a consequence of climate change.

Assuming a development lifespan of 100 years, peak river flows (in the North West area) are predicted to increase by 70% for 2070 to 2115 using the upper end allowance, 35% for 2070 to 2115 using the higher central allowance and 30% using the central allowance. Sea level rise is expected to increase by 0.99 m by 2115. As the site is located at an approximate elevation of 16 m AOD and the closest watercourse / estuary is the River Mersey, an increase in peak river flow or sea level rise is not expected to affect the site.

Peak rainfall for the 2070 to 2115 period is predicted to increase by 40% (for the upper end allowance) and by 20% (for the central allowance). The site’s drainage strategy (WSP | Parsons Brinckerhoff, 2016) considers both a 20% and 40% increase in peak rainfall due to climate change. Attenuation storage is sized to accommodate the 1 in 100 year storm with a 40% allowance for climate change. Therefore, it is considered that the design of the strategy has a reasonable consideration for increased surface water flows due to climate change.

RECOMMENDED MITIGATION MEASURES

Finished Floor Levels

Although the risk of surface water flooding is considered to be low it is recommended that the finished floor level of the ground floor of the building is raised by 300 mm above the surrounding ground levels. This would raise the finished floor level above the maximum indicated depth of flooding on the Environment Agency Risk of Flooding from Surface Water Map for all modelled events.

Pumped Drainage

The proposed development will include two basement levels. In order to accommodate drainage from these levels pumping will be required. Additionally, owing to the limited space under the external parts of the site because of the number of existing underground services, the proposed drainage strategy indicates pumping for both surface water and foul water networks from the basement to minimise the drainage features outside of the site such as attenuation storage.

There are two main scenarios in which a flood risk may be generated by discharging water from the site in this way. The first is the potential for the pump capacity to be overloaded in an extreme storm event. Mitigation of this issue is possible through careful design in accordance with best practice to divert water for excessive flows. The exact solution for this flood risk issue may be determined at the detailed design stage but should minimise risk to people and property.

Pump failure is the second main cause of flooding from pumping stations. A back up power supply and regular maintenance are important factors in mitigating against this cause and should be in place for the duration of the pumping station operation.

Access and Egress

The site is assessed to be at a low risk from all types of flooding. Therefore access and egress should not be affected.

SUMMARY

The site is assessed not to be at risk or at a low risk from all potential sources of flooding. Mitigation measures have been recommended to reduce the risk.

Appendix A – Site Location Plan

File: Created using iGIS, WSP's Online Mapping System
Drawn By: UKLXG002
Date Modified: 09/11/2016 17:14

WSP | PARSONS BRINCKERHOFF

TITLE:

Old Hall Street, Liverpool - T1

FIGURE No:

Site Location Plan

Appendix B – Ground Floor Plan

POST ROOM

lift

lift

riser

lift

flues

flues

A

A

RESIDENTIAL ENTRANCE

96sqm

LOUNGE

63sqm

riserC

WC

UTILITY TRANSFORMER
35 sqm

INCOMING COMMS
15 sqm

DOOR POSITIONS TBC

hodder+partners

SGI Studios
1 Kelso Place
Manchester M15 4LE

t: +44(0)161 832 9842
e: mail@hodderandpartners.com
w: www.hodderandpartners.com

DO NOT SCALE
Work to annotated dimensions only.
Read drawing in conjunction with relevant specification, Structural Engineers' and Services Engineers' drawings.
Confirm all dimensions before commencement of any work on site or fabrication.

revisions + notes:

REV. A 061016 Revised structural core

client: OLD HALL STREET LTD.

date: OCTOBER 2016

project: 122 OLD HALL STREET, LIVERPOOL

scale: 1:100

drawn by: NW /JB

title: GROUND FLOOR PLAN

drawing number: 000

status: PLANNING

job number: 0593

revision:

hodder+partners

Appendix C – Correspondence

Barlow, Laura

To: Hamilton, Sarah
Subject: RE: GMMC23738AB Response attached from the Environment Agency

From: GMMC Info Requests [mailto:Inforequests.gmmc@environment-agency.gov.uk]
Sent: 01 November 2016 16:44
To: Hamilton, Sarah
Subject: GMMC23738AB Response attached from the Environment Agency

Dear Sarah,

Thank you for your enquiry which was received on 16/9/16.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

Please find attached the product 3 map and table for the below request. Your questions and our responses are below:

Are you aware of any historical flood records for the site?

We have no records of flooding affecting the site. However, this does not mean flooding has not occurred in the past or that it will not flood in future. We recommend that you also contact United Utilities and Liverpool Metropolitan Borough Council who may hold additional information (the former especially in relation to sewer flooding).

Are you aware of any culverted watercourses in the vicinity of the site?

We hold no information on culverts at this location. We recommend that you contact Liverpool Metropolitan Borough Council who may hold additional information.

Are there any existing/proposed flood defences in the area?

There are no flood defences in the vicinity of the site. A privately owned defence exists at Princes Half Tide Dock to Princess Dock. The only records we hold on this defence indicate this provides a standard of protection of 1 in 5 (20%) chance in any year

Do you have any surface water flooding records/information for the area?

Please see attached surface water map. The Local Authority is responsible for issues relating to surface water and hold information on surface water flooding.

What are the groundwater levels in the vicinity of the site?

Please find attached the groundwater level monitoring data for the two monitoring sites closest to the site. These are:

Site Name	Easting	Northing	Approximate distance from site

South John Street	334430	390130	900m
Manchester Street	334730	390680	1000m

Please refer to the Open Government Licence which explains the permitted use of this information.

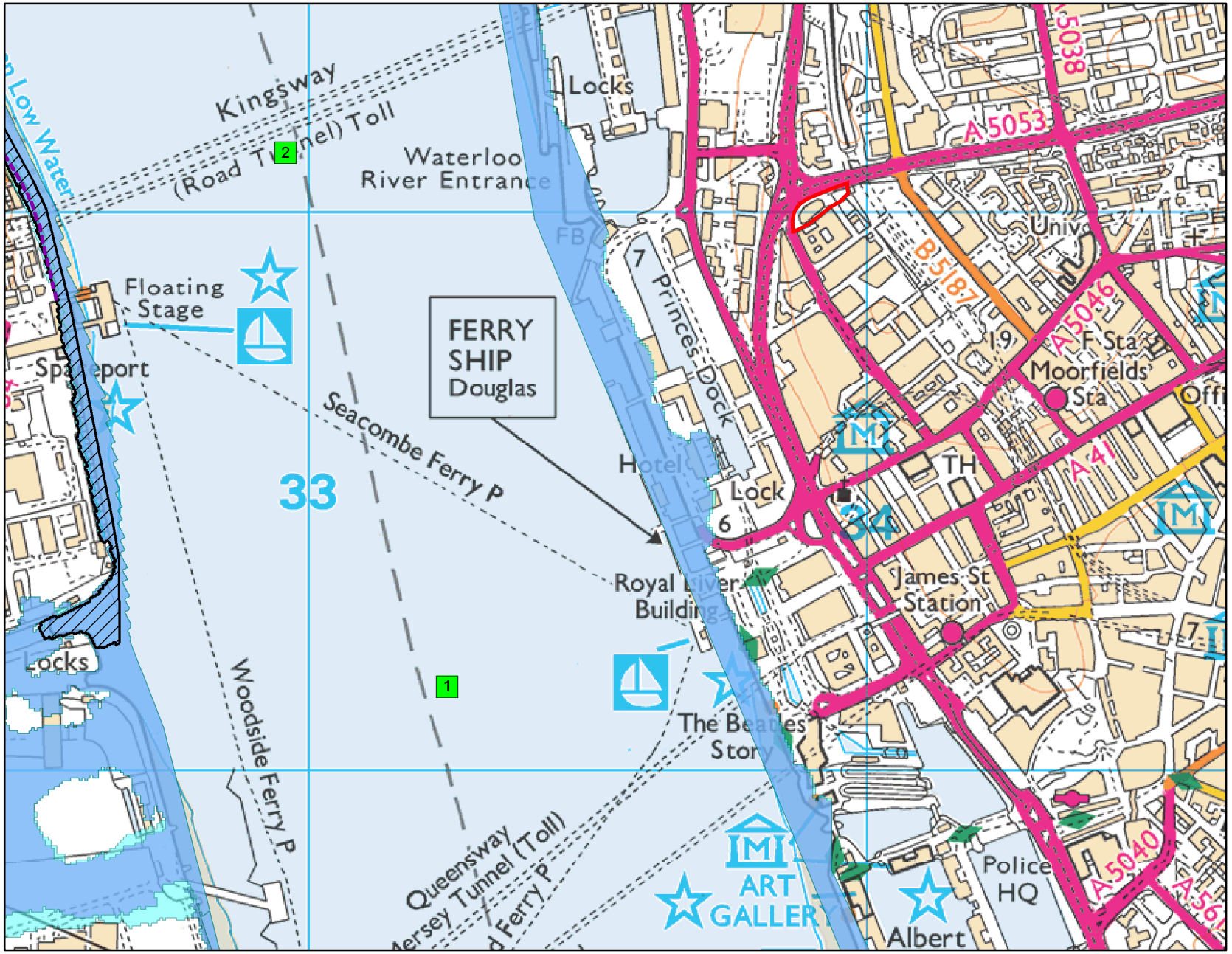
Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

We are committed to providing a professional customer service. Please help us understand more about what is important to you by completing our survey.
http://www.smartsurvey.co.uk/s/EnvironmentAgencyCustomerSurvey/?a=GMMC

Kind regards,

Anne Ball
Customer and Engagement Officer
Greater Manchester, Merseyside and Cheshire
Internal: 721 2937
External: 020 302 51232
Email: Inforequests.gmmc@environment-agency.gov.uk

Detailed Flood Map centred on Old Hall Street, Liverpool. Created 28/10/2016 [GMMC23738AB]



Environment Agency

1:10,001

N

Legend

- Site Location
- Model_Measurements
- Flood Zone 3
- Flood Zone 2

Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 08708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

GMMC23738AB - Surface Water Map

Environment Agency

Legend

- Flood Extent 1 in 30
- Flood Extent 1 in 100
- Flood Extent 1 in 1000

0 100 200 300

Metres

N
W E
S

				Defended					Undefended	
Map Reference	Model Node Reference	Easting	Northing	1 % AEP (1 in 100 year)	0.5 % AEP (1 in 200 year)	0.1 % AEP (1 in 1000 year)	0.5 % AEP (1 in 200 year) 2065 Climate Change Scenario	0.5% AEP (1 in 200year) 2115 Climate Change Scenario	0.5 % AEP (1 in 200 year)	0.1 % AEP (1 in 1000 year)
1	MEST_5000	333245	390150	6.33	6.42	6.65	6.75	7.14	6.42	6.66
2	MEST_4000	332963	391103	6.23	6.33	6.57	6.66	7.05	6.32	6.57

Model data taken from Mersey Esturary 2016 DRAFT Study

Notes:

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

*The impact of climate change was assessed by simulating a 200-year event including an increase in predicted sea-level rise up to the year 2065 and 2115 based on the latest UKCP09 guidance.

Surface water related consultations

From April 2015 Lead Local Flood Authorities became the statutory consultee for surface water flood risk in relation to planning applications. They are now the appropriate body to assess applicants/developers surface water drainage proposals and the Local Planning Authority should consult the LLFA as necessary during determination of applications.

On 12th September 2014 Defra published a new consultation on delivering SuDS. The consultation document set out an alternative approach to the one envisaged in the Flood & Water Management Act 2010. The proposals dropped all the key provisions of Schedule 3 and the idea of establishing SuDS Approval Boards (SABs). The alternative approach was adopted and a written statement made on 18th December 2014 to Parliament:-

https://www.gov.uk/government/speeches/sustainable-drainage-systems

The alternative approach sets out an expectation that "major developments" should incorporate SuDS designs. The supporting "Non Statutory Technical Standards for SuDS was also issued in March 2015":-

https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards

It is no longer the EAs role to comment on the suitability of a developer's surface water drainage design as to whether it meets the National Planning Policy Framework, Non-Statutory Standards, the Council's policies or any relevant SFRA requirements. If the LLFA wishes to consult us as part of their SuDS design assessment (i.e. if discharge is proposed direct to a "main river") this can be done directly with the EA's PSO Team here. Accordingly, if you have not already done so, we recommend you discuss your surface water drainage proposals directly with the LLFA.

This development may require a permit under the Environmental Permitting (England and Wales) Regulations 2010 from the Environment Agency for any proposed works or structures, in, under, over or within eight metres of the top of the bank of a watercourse, designated a 'main river'. This was formerly called a Flood Defence Consent. Some activities are also now excluded or exempt. A permit is separate to and in addition to any planning permission granted. Further details and guidance are available on the GOV.UK website: https://www.gov.uk/guidance/flood-risk-activities-environmental-permits.

Barlow, Laura

From: GMMC Info Requests <Inforequests.gmmc@environment-agency.gov.uk>
Sent: 10 October 2016 15:42
To: Hamilton, Sarah
Subject: GMMC23738AB Part response attached from the Environment Agency
Attachments: Manchester Street.xlsx; South John Street.xlsx

Dear Sarah,

Thank you for your enquiry which was received on 16/9/16.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

I have attached the groundwater level monitoring data for the two monitoring sites closest to the site. These are:

Site Name	Easting	Northing	Approximate distance from site
South John Street	334430	390130	900m
Manchester Street	334730	390680	1000m

Our flooding officer is waiting for further data from the modelling team so that we can fully answer your other queries, and I hope to be in touch with the rest of your information shortly.

Please refer to the Open Government Licence which explains the permitted use of this information.

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

We are committed to providing a professional customer service. Please help us understand more about what is important to you by completing our survey.
http://www.smartsurvey.co.uk/s/EnvironmentAgencyCustomerSurvey/?a=GMMC

Kind regards,

Anne Ball
Customer and Engagement Officer
Greater Manchester, Merseyside and Cheshire
Internal: 721 2937
External: 020 302 51232
Email: Inforequests.gmmc@environment-agency.gov.uk

Barlow, Laura

From:	Jackson, David <David.Jackson3@amey.co.uk>
Sent:	14 October 2016 11:50
To:	Barlow, Laura
Subject:	OLD HALL STREET - FLOOD RISK
Attachments:	LCC BROWNFIELD-GREENFIELD-FRA ADVICE.docx; NON STATUTORY STANDARDS - INFO REQUIREMENTS.pdf
Follow Up Flag:	Follow up
Flag Status:	Flagged

Laura

Please find attached a guidance note for the requirements of surface water drainage related to planning applications, which hopefully will provide the information you require to prepare the drainage design

The site has no history of flooding and is subject to no notable flooding from the predicted 1:30yr & 1:200yr flooding models. There are no watercourses (culverted, open and historic) shown on our records that cross or are close to the site and the area is not susceptible to high ground water levels.

For this development the site will be classed as brownfield for drainage matters and it is assumed that the site drainage is still operational and there will be no need for any further investigation work.

This is classed as a major development and for your information I have attached the relevant part of the Non Statutory Technical Standards for Sustainable Drainage: Practice Guide, which has been produced by DEFRA as a supporting document to NPPF, on which the requirements (where applicable) for a planning application for major development with regards to surface water drainage are shown

Thanks

DAVE JACKSON

Engineer | Consulting

Amey

t: 0151 498 6825 l m: 0780 9313978 | e: david.jackson3@amey.co.uk

Unit 3 | Matchworks | 142 Speke Road | Garston | Liverpool | L19 2PH

LCC GREENFIELD / BROWNFIELD SITES SURFACE WATER MANAGEMENT GUIDANCE

If the site has previously been developed it should be demonstrated that the drainage system is still operational for it to be classed as brownfield. Information should be obtained on the system, e.g. pipe diameters, levels, gradients, lengths, hydraulic controls, etc. These details should be used, along with the contributing area characteristics of the site, to set up a drainage model (or to inform another assessment method) in order to evaluate the peak flow rates at the outfalls from the existing site for the design return period events. The maximum allowed flow from the site should then be derived using the 1:2yr critical rainfall event with a 30% reduction applied to offer improvement.

The limiting discharge figure for the proposed development should be used in the design of the drainage system for the minimum requirement that flows for up to the 1:30yr critical rainfall event are retained within the system and that for the 1:100yr+30% climate change allowance, critical rainfall event there will be no flooding to any buildings and any excess volumes of water will be retained on site.

Notwithstanding the above, the existing site drainage constraints will also be taken into account when agreeing any discharge limits and the proposed flow should not exceed existing pipe capacity. For example if the existing site outfall was a 150mm dia pipe, irrespective of the area being drained, it would have a maximum flow capacity which may be lower than any proposed flows calculated using the above criteria, assuming a free discharge. Therefore discharge to the existing drainage system from the development would be effectively increased from the existing situation which is contrary to Environment Agency and National Planning Policy Framework guidance for flood risk and surface water management.

Where records of the previously developed system are not available and system characteristics cannot otherwise be determined, or if the drainage system is broken or blocked (or no longer operational), then the run-off characteristics should be defined as greenfield.

If a site is classed as greenfield the flow rates from the development will be limited to the equivalent greenfield run off rates. For example the flow rate from the development for the 1:30yr critical rainfall event should not exceed the greenfield run off rate for the site for the 1:30 year rainfall event, likewise for the 1:2 & 1:100 year scenarios. A minimum flow of 5 l/s can be used when the greenfield run off rate falls below 5 l/s.

It should be noted that this discharge figure will satisfy planning requirements but the applicant should consult United Utilities to determine if they have any discharge restrictions, which could be more restrictive.

For all development s over 1ha a FRA (Flood Risk Assessment) will be required which should be based on the requirements as detailed in Environment Agency (Greater Manchester, Merseyside & Cheshire) Local Planning Standing Advice and NPPF guidance. The detail and

technical complexity of a FRA will reflect the scale, nature and location of the development. Where available, reference should be made to the Strategic Flood Risk Assessment (SFRA) for locally specific guidance and information.

The following list sets out key information that should be submitted within a FRA for developments

- A location plan that includes geographical features, street names and identifies the catchment, watercourses or other bodies of water in the vicinity.

- A plan of the site showing existing site; development proposals; and identification of any structures (e.g. embankments), which may influence local flood flow overland or in any watercourses (e.g. culverts) present on the site.

- Site levels of both existing and proposed. Reference to Ordnance Datum, may be required where details of context of the site to its surroundings is needed.

- Details of the existing surface water drainage arrangements on site (if any) and the receptor e.g. soakaway, sewer, canal, watercourse etc.

- Proposals for surface water management that aims to not increase, and where practicable reduce the rate of runoff from the site as a result of the development

- Information about the surface water disposal measures already in place and estimates of the rates of run-off generated by the surfaces drained.

- An assessment of the volume of surface water run-off likely to be generated from the proposed development and confirmation of how any excess volumes would be retained within the development.

- Information regarding how the proposed drainage design will perform under the increased frequency and intensity of rainfall that is predicted as a result of climate change (30% for residential development & 20% for non- residential).

- Information about other potential sources of flooding, if any, that may affect the site e.g. streams, surface water run-off, sewers, groundwater, reservoirs, canals and other artificial sources or any combination of these; including details on how these sources of flooding will be managed safely within the development proposal.

It should be noted that the above list is not exhaustive but provides a framework for the FRA to be prepared.

For developments less than 1 ha a FRA will not be required but a drainage design statement should be provided proportional to the scale of the development and follow the same design principles with regards to the calculating the maximum design flow rates for the site.

In line with NPPF (National Planning Policy Framework) the development of a site should look towards the use of SUDS techniques as a method of reducing the run off from the site, as a result of the development. Government policy strongly encourages a hierarchical approach to the use of sustainable drainage systems in new developments and infiltration methods for private drainage should be used where possible.

For residential developments greater than 0.5 ha and where the floor space of any building is greater than 1000m² ground Investigations should be carried out to BRE 365 to determine if infiltration drainage methods are practicable and suitable for the sites. A soils report including ground percolation test results and recommendations will need to be submitted within the drainage design statement or FRA, for approval, although any detailed soakaway design information is not required at this stage. If this proves that infiltration drainage is not a viable option, then a positive piped system of surface water run off disposal will need to be provided.

Any soakaway design and the sub ground strata of the sloping site areas shall be considered so as not to cause flooding to any adjoining third party land.

For developments containing prospectively adoptable surface water sewers the following document published by United Utilities should be referred to for guidance related to SUDS

http://www.unitedutilities.com/documents/7010b_S104_Guide_adoption_sewers_2016_WEB_ACC.pdf

Planning Applications

2.13. Planning applications may be made either as an Outline application with one or more matters reserved for later determination, or as a Full application.

2.14. The level of information which would need to be submitted for each type of application or stage within the planning process will vary depending on the size of the development, flood risk, constraints, proposed sustainable drainage system and so on as shown in the table below:

Pre-app	Outline	Full	Reserved	Discharge	Document submitted
✓	✓	✓			Flood Risk Assessment/Statement (checklist)
✓	✓	✓			Drainage Strategy/Statement & sketch layout plan (checklist)
	✓				Preliminary layout drawings
	✓				Preliminary "Outline" hydraulic calculations
	✓				Preliminary landscape proposals
	✓				Ground investigation report (for infiltration)
	✓	✓			Evidence of third party agreement for discharge to their system (in principle/ consent to discharge)
		✓		✓	Maintenance program and on-going maintenance responsibilities
		✓	✓		Detailed development layout
		✓	✓	✓	Detailed flood & drainage design drawings
		✓	✓	✓	Full Structural, hydraulic & ground investigations
		✓	✓	✓	Geotechnical factual and interpretive reports, including infiltration results
		✓	✓	✓	Detailed landscaping details
		✓	✓	✓	Discharge agreements (temporary and permanent)
		✓	✓	✓	Development Management & Construction Phasing Plan

Additional information may be required under specific site conditions or development proposals.

2.15. Whether the application is an outline or full application, the surface water drainage for the application is determined at the time when the application itself is determined.

2.16. Following an outline application, reserve matters must be consistent with the drainage strategy which was approved.

2.17. For a full application it would usually be necessary for a fully detailed drainage design or strategy to be submitted for consideration by the LPA and to be subject to comment by the statutory consultees or others that the LPA may wish to consult.

2.18. The drainage strategy may include a Flood Risk Assessment, but in some circumstances a fully detailed design does not form part of a flood risk assessment.

Statutory Consultations

2.19. The Lead local Flood Authority is the statutory consultee for Major development with surface water drainage. However, local arrangements may exist between the LPA and the Lead Local Flood Authority (LLFA) with regard to providing advice/comments on Minor development.

2.20. The Environment Agency is the statutory consultee, as stated in the:

Development Management Procedure Order 2015 for:
Development involving the carrying out of works or operations in the bed of, or within 20 metres of the top of a bank of, a main river which has been notified to the local planning authority by the Environment Agency as a main river for the purposes of this provision

Development, other than minor development, which is to be carried out on land:
(i) in an area within Flood Zone 2 or Flood Zone 3; or
(ii) in an area within Flood Zone 1 which has critical drainage problems and which has been notified to the local planning authority by the Environment Agency

Non-Statutory Consultations

2.21. It would be normal if discharging to a drainage system maintained/operated by other authorities (IDBs, highway authority, sewerage undertaker, or Canals and River Trust) that evidence of consultation and the acceptability of any discharge to their system is presented for consideration by the LLFA and LPA.

Barlow, Laura

From: Jones, Peter - Planning <Peter.Jones2@liverpool.gov.uk>
Sent: 04 October 2016 16:24
To: Barlow, Laura
Subject: RE: Pre-planning Enquiry - Flood Risk Assessment

Laura

I can confirm the approach you have set out is fine for this scheme.

Regards

Peter Jones City Centre Development Management Team Leader

T: 0151 233 0316 E: peter.jones2@liverpool.gov.uk

Postal address:

Liverpool City Council I Municipal Buildings I Dale Street I Liverpool I L2 2DH

From: Barlow, Laura [mailto:Laura.Barlow@wspgroup.com]
Sent: 04 October 2016 16:11
To: Jones, Peter - Planning
Cc: Hamilton, Sarah
Subject: Pre-planning Enquiry - Flood Risk Assessment

Dear Peter,

WSP | Parsons Brinckerhoff are supporting a client to develop a site off Old Hall Street into two multi-storey towers. An approximate postcode is L3 9PY and a site location plan is attached showing the total area.

A planning application for one of the two towers will be submitted at the end of this month. WSP | PB are (amongst other elements) completing a drainage strategy for the foul and surface water from the site for this first phase of the development.

In addition, we will also be producing a report to summarise the flood risk to the site. My question to the planning department (I have been given your contact details for city centre applications) is on the level of assessment required by LCC for this kind of site.

From our preliminary investigations we understand that the site is within Flood Zone 1. Although there is some surface water ponding indicated on Old Hall Street, no significant surface water flooding issues are expected.

The proposed change of use will be for residential development (please note that residential development is not proposed for the ground floor). As the site is less than a hectare we would not expect that a full NPPF compliant assessment is required and would therefore propose to:

- Review publically available information as well as consulting with the EA, yourselves and UU for any additional information or mapping.
- Establish the probability of flooding based on the above.
- Produce a Flood Risk Statement to incorporate with the planning application which would include any requirements discussed with consultees.

Please would you confirm whether this approach is acceptable? If you require any further information please feel free to call me on the number below.

Regards,

Laura

Laura Barlow
Graduate Engineer | Development Infrastructure

Three White Rose Office Park, Millshaw Park Lane, Leeds, LS11 0DL
Tel: +44(0) 113 395 6326
Fax: +44(0) 113 395 6201

www.wsp-pb.co.uk

Check out our Linkedin page
Follow us on Twitter

Barlow, Laura

From:	Lunt, John <John.Lunt@uuplc.co.uk>
Sent:	24 October 2016 15:44
To:	Barlow, Laura
Cc:	Wastewater Developer Services
Subject:	Repeat Contact - Pre Development Enquiry for Old Hall street, Liverpool - Our ref: DE2704
Attachments:	RE: Pre Development Enquiry for Old Hall Street - Our ref - DE2704
Importance:	High

Dear Laura,

Following on from my initial Pre Development Enquiry response, I can now confirm that the surface water run-off generated from the area of land encompassing “Tower 1” would be limited to 10 l/s prior to discharging in to the adjacent public combined sewerage system.

If I can be of any further assistance at all then please don’t hesitate to get in touch.

Regards,

John

John Lunt
Developer Query Engineer
Developer Services and Planning
Operational Services
T: 01925 679411 (Int; 79411)
E-mail: wastewaterdeveloperservices@uuplc.co.uk
United Utilities.com

Barlow, Laura

From: Lunt, John <John.Lunt@uuplc.co.uk>
Sent: 18 October 2016 13:47
To: Barlow, Laura
Subject: RE: Pre Development Enquiry for Old Hall Street - Our ref - DE2704

Hi Laura,

For the surface water run-off element we need to see the proposed layout of the building including any or all hard standing areas (m2) whilst identifying the comparative difference in scale to the existing site.

Regards,

John

From: Barlow, Laura [mailto:Laura.Barlow@wspgroup.com]
Sent: 18 October 2016 13:12
To: Lunt, John <John.Lunt@uuplc.co.uk>
Cc: Wastewater Developer Services <WastewaterDeveloperServices@uuplc.co.uk>
Subject: RE: Pre Development Enquiry for Old Hall Street - Our ref - DE2704

Dear John,

Thank you for your response.

I have tried to call to discuss the level of detail you would require in order to stipulate a discharge rate for surface water for the site. Some initial details on tower 1 are listed below:

- 27 floors of development plus two basement levels
- 26 floors will be residential development, the remaining levels will have circulation, plant and car parking.
- The building will contain 168 apartments

Please let me know if there are any other details that you need in order to provide a response.

Kind regards,

Laura

Laura Barlow
Graduate Engineer | Development Infrastructure

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From: Lunt, John [mailto:John.Lunt@uuplc.co.uk]
Sent: 17 October 2016 16:34
To: Barlow, Laura
Cc: Wastewater Developer Services
Subject: Pre Development Enquiry for Old Hall Street - Our ref - DE2704

Dear Laura,

We have carried out an assessment of your application which is based on the information provided; this pre development advice will be valid for 12 months

Foul Water

Foul water flows will be allowed to drain freely in to the public combined sewerage system crossing the site.

Surface Water

Surface water flows may in principle drain to the same 300mm combined sewer crossing the site albeit at this stage and without having visibility of the proposed development I must inform you that UU are not in a position to stipulate a formal rate of discharge.

Existing Sewers Crossing the Site

With regard to the public sewer crossing this site and your confirmation of the same, I can confirm in the first instance that the said sewer lays at an approx. depth of 2m to 3.5m. Again without visibility of a proposed layout plan it's difficult to offer any comment of value other than, any proposal to divert the sewer would need to take in to consideration that the existing characteristics are not worsened i.e. gradient, flow velocity etc along with the fact that the sewer is not placed within 3m of an existing/proposed building.

Please refer to the link below to obtain full details of the processes involved in sewer diversion.

http://www.unitedutilities.com/sewer-diversion.aspx

Sewer Flooding Incidents

I can advise as follows; we have no record of public sewer flooding of properties in this vicinity as a result of overloaded sewers i.e. no properties on the 'at risk' register as compiled for our Regulator. Please note that United Utilities Water plc (UUW) can only record and check flooding events which are reported to us and we have to comply with our Regulators instructions on the qualification of flooding events to place on the 'at risk' register. Also, this does not include any sewer flooding events caused by blockages or collapses which are the result of third party actions, natural events or other actions over which UUW has no control and not a facet of sewer capacity.

Please be aware that on site drainage must be designed in accordance with Building Regulations, National Planning Policy, and local flood authority guidelines, we would recommend that you speak and make suitable agreements with the relevant statutory bodies.

If I can be of any further assistance at all then please don't hesitate to get in touch.

Regards,

John

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