



**TOPPING
ENGINEERS**

CONSULTING CIVIL &
STRUCTURAL ENGINEERS

FLOOD RISK ASSESSMENT

LOCATION:

**Lidl, Shawbridge Street
Clitheroe**

CLIENT: Lidl GB LTD

DOCUMENT REF:
22045-FRA-001

REVISION/DATE:
Revision B

1.0 INTRODUCTION	3
1.1 SOURCES OF DATA	3
1.2 EXISTING SITE	3
1.3 PROPOSED DEVELOPMENT	4
1.4 FLOOD RISK PLANNING POLICY	4
2.0 POTENTIAL SOURCES OF FLOOD RISK.....	6
2.1 FLUVIAL FLOOD RISK	6
2.2 GROUNDWATER FLOOD RISK	7
2.3 FLOOD RISK FROM RESERVOIRS & LARGE WATERBODIES	7
2.4 FLOOD RISK FROM SEWERS.....	7
2.5 PLUVIAL FLOOD RISK	8
2.6 EFFECT OF DEVELOPMENT ON WIDER CATCHMENT	8
2.6.1 Development Drainage	8
3.0 FLOOD RISK MITIGATION	9
3.1 SITE ARRANGEMENTS	9
4.0 CONCLUSIONS AND RECOMMENDATIONS	10
Appendix A – Existing Site Layout	11
Appendix B – Proposed Site Layout	11
Appendix C – Topographical Survey	11

Revision	Description	Date	Author	Checked
A	First Issue	Jan 2022	T Andrews	A Dyson
B	Updated to suit EA comments	May 2022	T Andrews	A Dyson

1.0 INTRODUCTION

This Flood Risk Assessment (FRA) is compliant with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of Mr W Caswell in respect of a planning application at the former Blacksmiths in South Stainley.

Site Name	Lidl, Shawbridge Street
Location	Shawbridge Street, Clitheroe, BB7 1LZ
NGR (approx.)	374626, 441701
Application Site Area (ha)	0.46 ha
Development Type	Commercial
NPPF Vulnerability	Less
EA Flood Zone	Flood Zone 1 & 3
EA Office	Lancashire
Local Planning Authority	Ribble Valley Borough Council

Table 1.1 - Site Summary

1.1 SOURCES OF DATA

The report is based on the following information:

- i. Environment Agency information
- ii. Existing Site Plan by One Design Architects Ltd (Appendix A)
- iii. Proposed Site layout by One Design Architects Ltd (Appendix B)
- iv. Ribble Valley Borough Council Strategic Flood Risk Assessment

1.2 EXISTING SITE

The site in question is located in the Lancashire town of Clitheroe and would be considered to be part of the town centre.

From inspection it can be seen that the site is bounded by highways at all boundaries. However, in between the A671 and the site lies Mearley Beck which would be the main cause of flooding to the development area, although this watercourse is a lot lower than the level of the existing store.

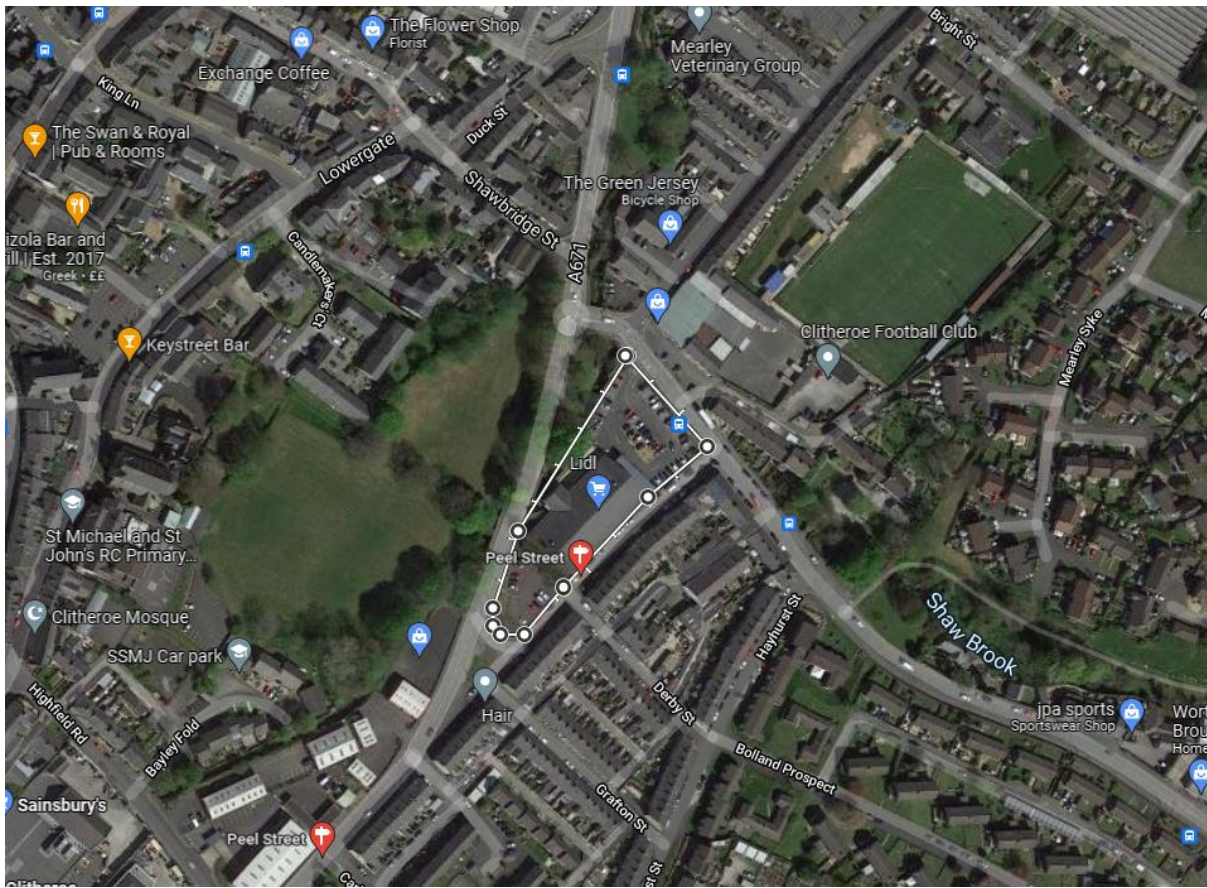


Figure 1.1 - Site Location

1.3 PROPOSED DEVELOPMENT

The proposed development is set to consist of an extension on the existing store. This extension will increase the sales area, have allocated staff parking and increase the size of the stores warehouse.

1.4 FLOOD RISK PLANNING POLICY

National Planning Policy Framework

The NPPF sets out the Government's national policies on different aspects of land use planning in England in relation to flood risk. Planning Practice Guidance is also available online.

The Planning Practice Guidance sets out the vulnerability to flooding of different land uses. It encourages development to be located in areas of lower flood risk where possible and stresses the importance of preventing increases in flood risk off site to the wider catchment area.

The Planning Practice Guidance also states that alternative sources of flooding, other than fluvial (river flooding), should also be considered when preparing a Flood Risk Assessment.

This Flood Risk Assessment is written in accordance with the NPPF and the Planning Practice Guidance.

As the development is a minor change of use it is therefore not subject to any sequential or exception testing.

Flood Zones

The Flood Zone Map for Planning has been prepared by the Environment Agency. This identifies areas potentially at risk of flooding from fluvial or tidal sources. An extract from the mapping is included as Figure 1.2. The site location is highlighted by the red area.

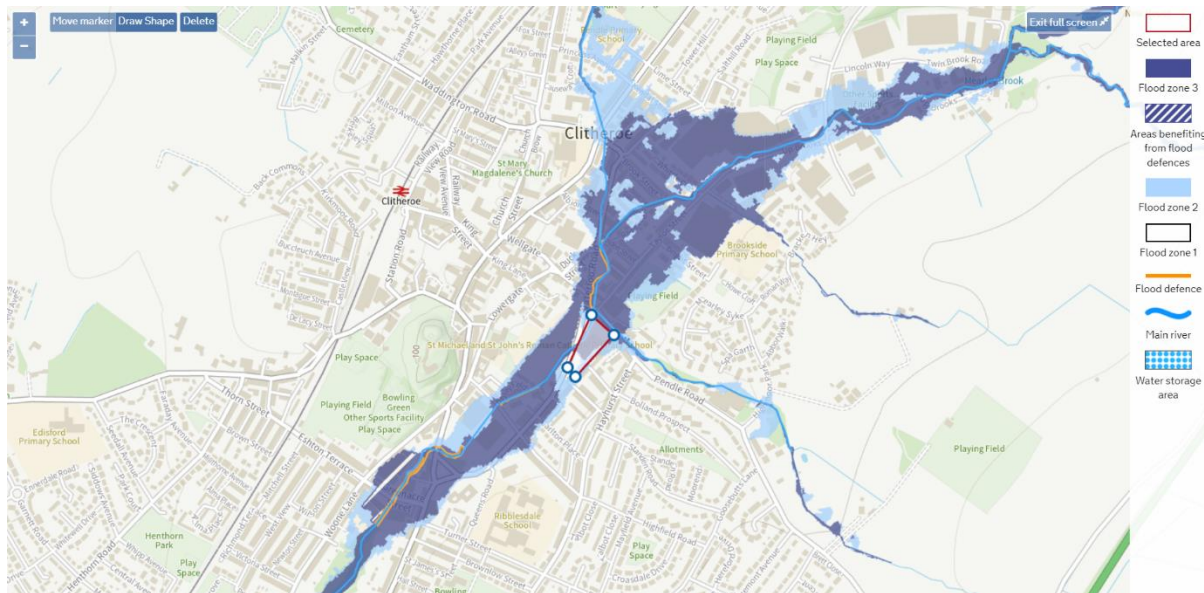


Figure 1.2 - Environment Agency Flood Zone Mapping

The site is shown to be located within Flood Zone 3 (High Probability) and Flood Zone 1 (Low Probability). However, the extension will be within Flood Zone 3, therefore the site is considered to be high risk of flooding. Flood Zone 3 is defined as land assessed as having an annual probability of flooding from fluvial and tidal sources greater than 1%. Furthermore, the staff car park is located in Flood Zone 1. Flood Zone 1 is defined as land assessed as having an annual probability of flooding from fluvial and tidal sources lower than 0.1%.

Table 2 of the Planning Practice Guidance classifies land use. Under these classifications the proposed extension is considered to be 'Less Vulnerable' to the potential impacts of flooding.

Strategic Flood Risk Assessment

The Kirklees Council Flood Risk Assessment (SFRA) was prepared to review flood risks on a much wider scale to assess the potential for new development within the study area. The SFRA was used as an evidence base for Local Development Frameworks for each Local Planning Authority.

The SFRA therefore aims to bring together all available flood risk information for a variety of sources to provide a robust assessment. The SFRA therefore is useful for this site-specific FRA by highlighting available data and instances of known flooding in the area. Although written under the guidance of Planning Policy Statement 25, the SFRA is still considered to include relevant information.

2.0 POTENTIAL SOURCES OF FLOOD RISK

The table below identifies the potential sources of flood risk to the site, and the impacts which the development could have in the wider catchment prior to mitigation. These are discussed in greater detail in the forthcoming section. The mitigation measures proposed to address flood risk issues and ensure the development is appropriate for its location are discussed within Section 3.0.

Flood Source	Potential Risk				Description
	High	Medium	Low	None	
Fluvial	X				The site is located in flood zone 3 & 1
Tidal				X	Due to the location of the site, there are no potential impacts of tidal flooding.
Canals				X	None present.
Groundwater			X		Ground conditions are not conducive to fluctuating groundwater levels.
Reservoirs and waterbodies				X	The site is shown to fall outside of the catchment for reservoir and waterbodies flooding.
Sewers			X		The site in question is higher than the surrounding sewers therefore there is a very low risk.
Pluvial runoff		X			The site is shown to fall in the high-risk area of pluvial flooding. However, the proposed extension falls outside this area.
Effect of Development on Wider Catchment				X	The impermeable area of the site is not being altered.

Table 2.1 - Pre-Mitigation Sources of Flood Risk

2.1 FLUVIAL FLOOD RISK

As previously mentioned, the site is shown to be within Flood Zone 3 and therefore poses a high risk to the proposed development.

Mitigation measures to address the residual risk posed by the watercourses surrounding the site are discussed within **Section 3.0** of this report.

2.2 GROUNDWATER FLOOD RISK

Subject to completion of site investigation to confirm we would assume that natural ground water level is located well below the site surface and the nature of the strata means it is unlikely that there will be perched water above this level.

We therefore do not consider there is a risk of groundwater flooding affecting the development subject to final confirmation upon completion of suitable site investigation.

2.3 FLOOD RISK FROM RESERVOIRS & LARGE WATERBODIES

Reservoir failure flood risk mapping has been prepared by the Environment Agency, this shows the largest area that might be flooded if a reservoir were to fail and release the water it holds. The map displays a worst-case scenario and is only intended as a guide. An extract from the mapping is included as **Figure 2.1**.



Figure 2.1 - Environment Agency Reservoir Failure Flood Risk Map

Mapping demonstrates the site and possible access routes are not within the proposed area of reservoir flooding. As such, there is not considered to be a risk of flooding from this source.

2.4 FLOOD RISK FROM SEWERS

The site in question is within an urban area. Therefore, it is likely that any existing sewers are at considerable depth.

As such, it is considered that there is no risk of flooding from sewers.

2.5 PLUVIAL FLOOD RISK

Risk of flooding from surface water mapping has been prepared by the Environment Agency, this shows the potential flooding which could occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. An extract from the mapping is included as Figure 2.22



Figure 2.2 - Risk of Flooding from Surface Water Mapping

The mapping produced by the Environment Agency shows that part of the site is at risk of surface flooding. The mapping also shows a clear flow path throughout Clitheroe.

However, the proposed extension falls outside of this area and therefore no mitigation is required for this source of flooding.

2.6 EFFECT OF DEVELOPMENT ON WIDER CATCHMENT

2.6.1 Development Drainage

The current site is considered to be brownfield. The amount of impermeable area will not be altered.

3.0 FLOOD RISK MITIGATION

Section 2.0 has identified the sources of flooding which could potentially pose a risk to the site and the proposed development. This section of the FRA sets out the mitigation measures which are to be considered within the proposed development detail design to address and reduce the risk of flooding to within acceptable levels.

3.1 SITE ARRANGEMENTS

Sequential Arrangement

The Flood Zone mapping shows the site to be located within Flood Zone 3 and Flood Zone 1.

EA Data

Model Node	Flow (m ³ /sec) and Levels (mAOD) at Return Period							
	Q5	Q10	Q25	Q50	Q75	Q100	Q200	Q1000
PEBR01_3300B	74.76	74.88	75.16	75.38	75.49	75.57	75.83	77.69
PEBR01_3178A	73.98	74.29	74.75	74.94	75.02	75.07	75.21	77.07
PEBR01_3067D	73.60	74.09	74.66	74.86	74.93	74.97	75.07	76.04

Table 3.1 - Summary of EA Product 4 Data

Mitigation

The existing floor level of the Lidl store is approximately 75.880 AOD. From table 3.1 it can be seen that the existing floor level is approximately 800mm above the 1in100 year flood level. This comparison is made against the node point that is closest to the existing store.

It is proposed that flood resilient building techniques will be implemented for this extension, flood proofing to the ground floor up to 800mm. The new building will incorporate some of the following, details of which will be finalised by the Architect at detailed design stage:

- Electricity supply cables to enter building from roof level and wired downwards; electric sockets to be positioned at least 800mm above floor level.
- Anti-flood valves on internal building drainage.
- Watertight external door construction to minimum of 800mm above proposed floor level.
- Ceramic tiles or lime-based plaster should be used on the internal face of the external walls at ground floor level.
- Water resilient ground floor coverings should be considered, such as clay tiles.

As a further mitigation the site is situated within an Environment Agency Flood Alert Area. It is recommended that the owner registers with this service. In the event of an extreme storm notification on the alert service the following Flood Management Plan should be put in place:

- Advise all occupiers on the site that a Flood Alert has been issued and they should prepare to vacate if necessary.
- Maintain contact with the Environment Agency and Local Authority.
- Monitor flood levels of the nearby watercourse, if water levels rise up top of the bank level, retreat to a safe place of refuge which will be outside of the Flood Zone 2 and 3. This can be the staff car park.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This Flood Risk Assessment (FRA) is compliant with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of Lidl GB LTD.

This report demonstrates that the proposed development is a significant flood risk. Therefore, the proposed mitigation measures addressed in section 3.0 aim to remove the risk to the occupants of the building as best possible.

Flood Source	Proposed Mitigation Measure
Fluvial	The site is shown to be in FZ3 with a NPPF Vulnerability of Less, whilst the staff car park is in FZ1. Therefore, the flood levels should be monitored and the staff car park should be used as the emergency evacuation point.
Impact of the Development	Strategic surface water drainage strategy prepared for wider development will ensure a sustainable approach to surface water management.

Table 4.1 - Summary of Flood Risk Assessment

In compliance with the requirements of National Planning Policy Framework, and subject to the mitigation measures proposed, the development could proceed whilst being at risk of flooding as suitable mitigation has been provided. Moreover, the development will not increase flood risk to the wider catchment area as a result of suitable management of surface water runoff discharging from the site.

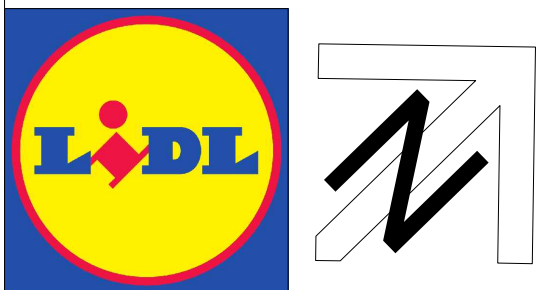
Appendix A – Existing Site Layout

Appendix B – Proposed Site Layout

Appendix C – Topographical Survey



SCHEDULE	
LIDL - EXISTING	
Sales Area	992m²
Warehouse (Inc. Freezer/Chiller & Storage)	225m²
Ancillary	82 m²
GIA (Without Canopy)	1315 m²
GEA (Without Canopy)	1390 m²
Total Site Area Red (Approximate)	4629 m²
Standard Parking Spaces	49 spaces
Disabled Parking Spaces	04 spaces
P&C Parking Spaces	02 spaces
EVC (Electric Vehicle Charging) Spaces	00 spaces
Staff Parking Spaces	00 spaces
Total Parking Spaces	55 spaces



Client
LIDL GREAT BRITAIN LTD.
Eastgate Way, Manor
Park, Runcorn, WA7 1NT
Project
SHAWBRIDGE STREET,
CLITHEROE
Drawing
EXISTING SITE PLAN
Project No:
16074
Drawing No:
AD_101

Purpose of Issue
PLANNING
Scale @ A1
1:200
Drawn
NJTE
Revision
-
Checked
GAP
Date
MAY 2021



One Design Architects Ltd, Unit 1 Merchants Quay, Phase II, Ashley Lane,
Shipley, West Yorkshire, BD17 7DB
Tel: 01274 591188
www.onedesignarchitects.com mail@onedesignarchitects.com
Registered in England & Wales No: 8355643

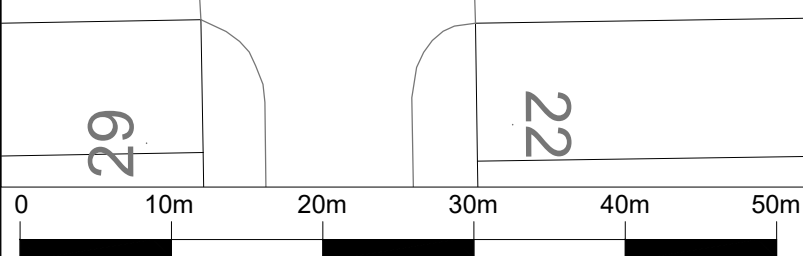
Architectural

Notes

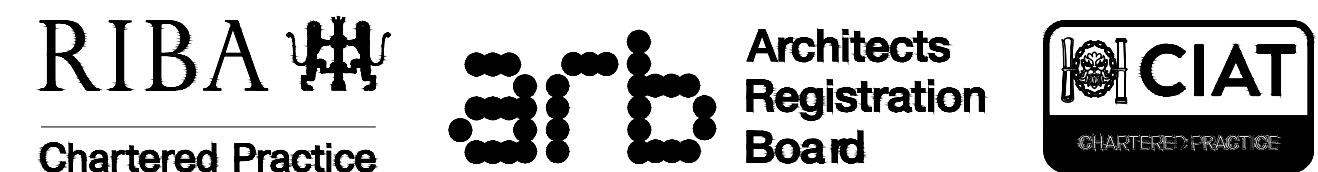
Revisions

DO NOT USE FOR CONSTRUCTION

Brook

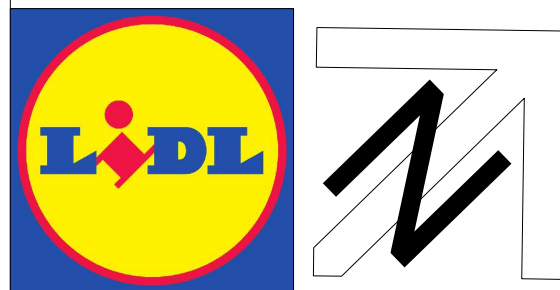


SCALE 1:500 @ A1



DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO START OF WORKS AND ODA TO BE INFORMED OF DISCREPANCIES IMMEDIATELY. NO DIMENSIONS TO BE SCALED FROM THIS DRAWING.
ALL MATERIALS AND WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE LATEST REVISION OF THE APPROPRIATE BRITISH STANDARDS OR EURO CODE. PLANNING APPROVAL, CURRENT BUILDING REGULATIONS AND CODES OF PRACTICE.
PARTY WALL ACT - NOTICES UNDER THE PARTY WALL ACT ARE TO BE SERVED BY THE PROPERTY OWNER OR APPOINTED THIRD PARTY BY PROPERTY OWNER. HEALTH AND SAFETY - CDM 2015 REGULATIONS APPLY TO ALL CONSTRUCTION WORKS TO BE CARRIED OUT AND APPLY TO DESIGNERS, CONTRACTORS AND THE CLIENT, AS SUCH ALL PARTIES HAVE DUTIES UNDER THESE REGULATIONS.

Notes



Rev	Description	Date	Rev	By	Chk	By
-----	-------------	------	-----	----	-----	----

Revisions

Client
LIDL GREAT BRITAIN LTD
BLACKHEATH LANE, RUNCORN
WAT 1SE
Project
SHAWBRIDGE STREET,
CLITHEROE
Drawing
PROPOSED SITE PLAN
Project No:
16074

Drawing No:
AD_110

Purpose of Issue
PLANNING

Scale @ A1
1:250

Drawn
SMT

Revision
-

Checked
GAP

Date
MAY 2021

DO NOT USE FOR CONSTRUCTION



One Design Architects Ltd, Unit 1 Merchants Quay, Phase II, Ashley Lane,
Shipley, West Yorkshire, BD17 7DB
Tel: 01274 591188
www.onedesignarchs.com mail@onedesignarchs.com
Registered in England & Wales No: 8355643

Architectural

SCHEDULE	
LIDL - EXTENSION	
Sales Area	1102 m²
Warehouse (Inc. Freezer/Chiller & Storage)	387 m²
Ancillary	169 m²
Internal Walls	32 m²
GIA (Without Canopy)	1690 m²
GEA (Without Canopy)	1778 m²
Total Site Area Red (Approximate)	4629 m²
Standard Parking Spaces	00 spaces
Disabled Parking Spaces	00 spaces
P&C Parking Spaces	00 spaces
EVC (Electric Vehicle Charging) Spaces	00 spaces
Staff Parking Spaces	09 spaces
Total Parking Spaces	09 spaces

