



DRAINAGE STRATEGY

CONSTRUCTION OF A NEW PLAYZONE

at

New Hutte

August 2026

For

Knowsley Council

Sports Labs Ltd
1 Adam Square
Brucefield Industry Park,
Livingston
EH54 9DE

Contract Number:
3449

Issued by: Sports Labs on behalf of
Knowsley Council

For the development of:
The construction of a new PlayZone MUGA with perimeter fencing and floodlights on the grounds at New Hutte

Date of Issue:
August 2026

Version	Issue Date	Details
Original (Planning)	August 2026	-
Approvals		Signatures
Author:	Phil Martin	
Checked by:	David Dickinson	
Client approval:	For and on behalf of Knowsley Council	
Issued by: Location:	Sports Labs Ltd, 1 Adam Square, Brucefield Industry Park, Livingston, EH54 9DE	Tel: +44(0)1506 444 755 E-mail: info@sportslabs.co.uk

This document is the property of Sports Labs Ltd., and copyright therefore lies with Sports Labs, it may be reproduced by permission of the Author(s).



1 Adam Square
Brucefield Industry Park
Livingston EH54 9DE
West Lothian, Scotland
United Kingdom
Email: eric@sportslabs.co.uk
Phone: +44 (0) 1506 444 755



CONTENTS

1	SITE DETAILS	4
2	INTRODUCTION	5
3	OVERVIEW OF PROPOSED REVELOPMENT	5
4	DRAINAGE PROPOSAL	6
5	FLOOD RISK ASSESSMENT.....	7
6	OVERLAND EXCEEDANCE.....	8
7	POLICY CONSIDERATIONS.....	8
8	SUMMARY	10

APPENDICIES

APPENDIX A – DRAINAGE CALCULATIONS

APPENDIX B – FLOODMAP FOR PLANNING

1 SITE DETAILS

1.1 Site Overview



Figure 1 - Site Overview

1.2 Site Address

**New Hutte
Lichfield Rd
Halewood
Liverpool
L26 1TT**

1.3 Applicant Details

Knowsley Council
Project Contact: **Tom Webster**
Email: Tom.webster@knowsley.gov.uk

1.4 Agent Details

Sports Labs Ltd
1 Adam Square
Brucefield Industry Park
Livingston
West Lothian
EH54 9DE

Project Contact: **Phil Martin**
Position: **Project Engineer**
Email: phil@sportslabs.co.uk

2 INTRODUCTION

- 2.1** Sports Labs Ltd has been appointed on behalf of work's contractor **SIS Pitches** to develop an application for planning and drainage permission for the construction of a new play zone MUGA at **New Hütte, Lichfield Rd, Halewood, Liverpool L26 1TT for Knowsley Council**.
- 2.2 In order to assist in the approval of planning permission and the development of the proposed project, this document shall outline the SUDS drainage system put forward for the new pitch.
- 2.3 This document is carried out in accordance with the guidance within the National Planning Policy Framework (NPPF).
- 2.4 This document shall include the following minimum requirements as set out within the Local Authority Validation Checklist;
- A plan of the existing site layout.
 - A topographical survey.
 - Plans & drawings of the proposed site layout identifying the footprint of the area being drained.
 - Runoff calculations indicating the proposed discharge rate with an allowance for climate change and proposed storage volume.
 - Information on proposed SUDS measures describing how the proposed measures manage surface water.

3 OVERVIEW OF PROPOSED REVELOPMENT

3.1 Existing Site Layout Plan

- 3.1.1 Refer to drawing 010 – Location Plan. This indicates the proposed location of the existing natural grass playing area to be developed.

3.2 Topographical Survey

- 3.2.1 Refer to drawing 050 – Topographical Survey. This indicates the existing footprint at the location of the new MUGA and identifies the main features within the existing site.
- 3.2.2 Earthworks shall be undertaken over the site development area. The new MUGA shall have a pitch platform of **1:200**, where the drainage system will tie into the existing network on-site.

3.3 Existing Ground Conditions

- 3.3.1 The proposed development area consists of an existing natural grass playing field located within the north-west of the ownership boundary.**
- 3.3.2 A site wide ground investigation was carried out which consisted of 4 no. hand dug trial pits (HP01 – HP04), 1 no. indicative infiltration test (HP04), and 4 no. TRL Dynamic Cone Penetrometer (DCP) tests.**
- 3.3.3 Topsoil was encountered in all trial pits to a consistent depth of 300mm below ground level (BGL). The topsoil typically comprised dark brown slightly sandy and gravelly clay.**
- 3.3.4 No asphalt or macadam surfacing was present across the development area. All exploratory positions were located within unmade grassed areas.**

- 3.3.5 Groundwater was not observed in any of the trial pits during the fieldworks. Groundwater levels are expected to vary seasonally and in response to rainfall. Infiltration tests carried out in HP01 and HP03 showed no infiltration (no drop in level after 106 minutes), indicating very low permeability and confirming that infiltration drainage is not feasible.

4 DRAINAGE PROPOSAL

4.1 Overview of System

- 4.1.1 The pitch itself shall consist of a 260mm thick base layer of type 1 stone modified for drainage, overlaid by a 65mm engineered porous asphalt layer.
- 4.1.2 The pitch drainage system shall consist of a lateral drainage system, with 80mm diameter perforated drains cut in at 6.0m centres. The lateral drains shall connect into a carrier drain at 150mm in diameter, **laid along the North goal line of the new MUGA flowing to a new silt trap manhole, at the North-west corner of the development area set to 1.0l/s with a gradient of 1:200.**
- 4.1.3 The site has an estimated greenfield runoff rate of 0.4l/s. However, in order to minimise the risk of blockage within the drainage system, the discharge rate has been increased to 1.0l/s in accordance with CIRIA guidance.

4.2 Additional Supporting Drawings

- 4.2.1 Refer to drawings 100 – GA, 200 – DL and 350 - CD. This indicates the proposed footprint of the new MUGA and identifies the location of main features within the existing footprint, such as trees, playground hardstanding and existing outdoor equipment.

4.3 Proposed SUDS measures Summary

- 4.3.1 The drainage system shall outfall to a new silt trap manhole to the **North** of the MUGA and into the existing drainage network.
- 4.3.2 Refer to APPENDIX A – DRAINAGE CALCULATIONS. In order to maximise the available attenuation within the pitch subbase, a flow control will be installed in the outfall manhole to restrict the flow to **1.0l/s**. This is the lowest rate before the pitch surface begins to show flooding at 1 in 100 year storm events +40% climate change.

4.4 Info Drainage Calculations

- 4.4.1 As part of the design of this drainage system detailed calculations were created to better inform the requirements of this site, see Appendix A. The system has been designed to manage all storms to include the 1 in 100-year storm event +40% to account for climate change to allow for a robust system that will be effective and beneficial to the development and surrounding areas.
- 4.4.2 The stone base is proposed to consist of modified type 1 stone, which offers a void ratio of **30%**.
- 4.4.3 This drainage model confirms there will be no flooding anywhere in the new network during 1 in 30-year storms, and also that there will be no flooding during the 1 in 100 year +40% climate change storm, while restricting the discharge into the existing network to a rate of **1.0l/s**.

4.5 Construction Phase – Key Stage Inspections

4.5.1 As a quality control measure, the pitch construction is to be controlled by Key Stage Inspections (KSI's) at each phase of construction. This will allow porosity testing to be carried out in line with BS EN standards to ensure that the pitch is draining correctly at key stage of construction.

5 FLOOD RISK ASSESSMENT

5.1.1 As part of this application, a desk top assessment has been carried out to identify the flood risk potential for this site, with the 'Floodmap for Planning' included in Appendix B. This has been carried out using the online portal: <https://flood-map-for-planning.service.gov.uk/>

5.1.2 In addition to the zoning, the site was assessed for the specific flooding risk against the following:

5.1.3 Flood maps for river flooding risk, detailed as not being at risk from flooding by rivers or the sea either with or without flood defences.

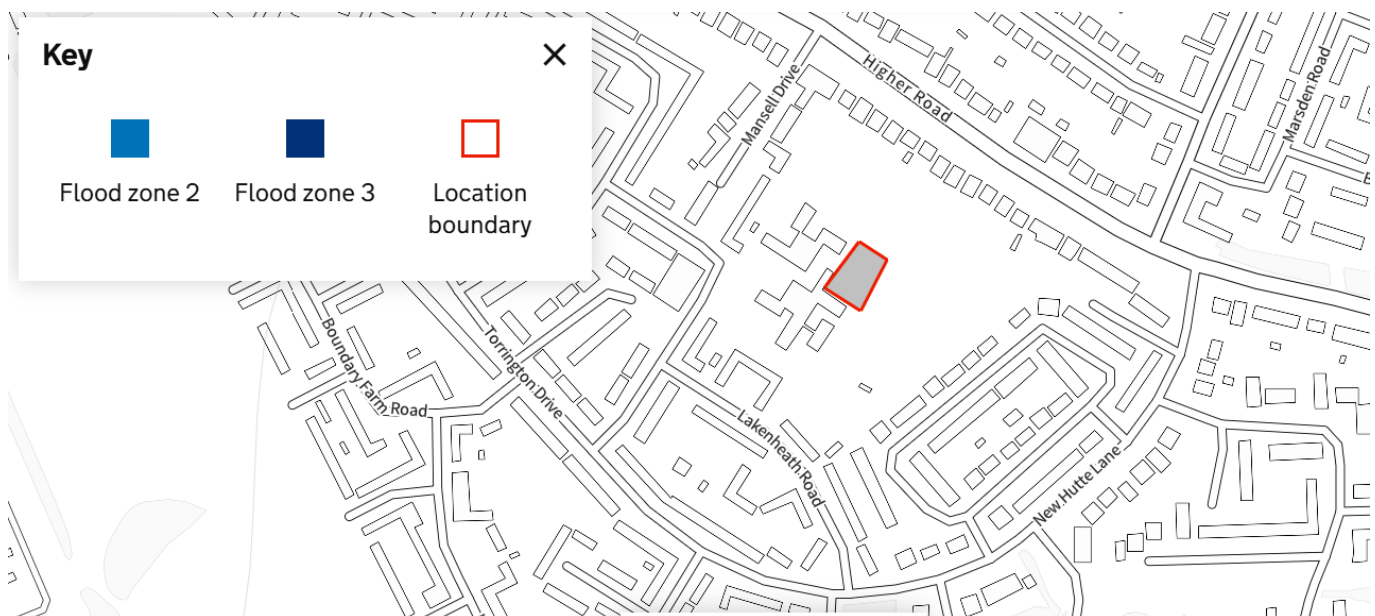


Figure 2: Flood Risk Map from River Flooding

5.1.4 Flood risk map from Surface Water flooding, detailed as low likelihood each year this area has a 3.3% chance of flooding in a 1 in 30 year storm.

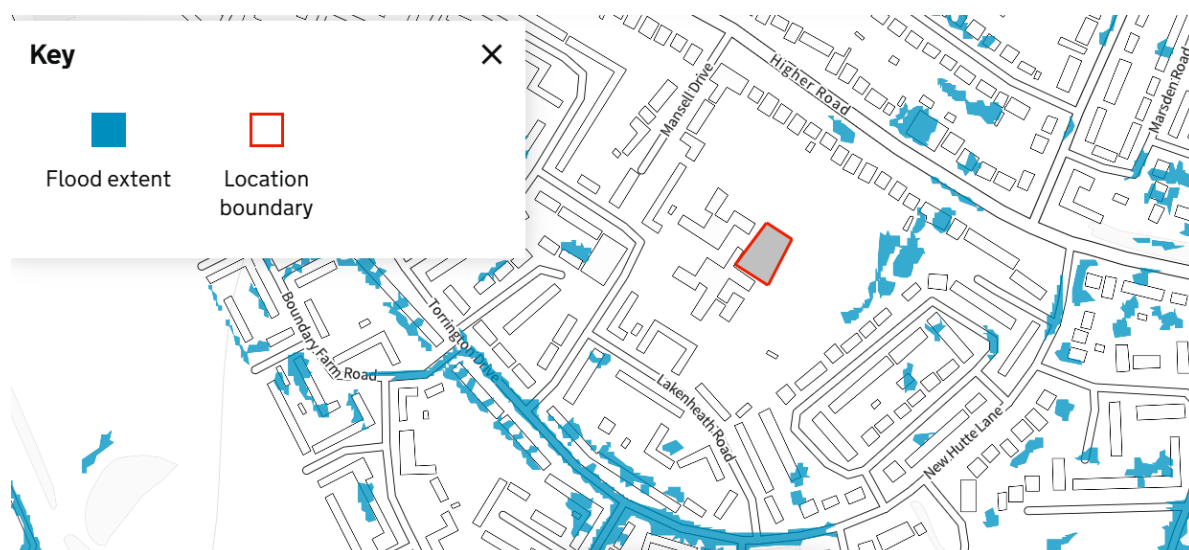


Figure 3: Flood Risk Map from Surface Water Flooding

6 OVERLAND EXCEEDANCE

6.1 The overland exceedance routes have been considered as part of this design. It is noted that there is very little slope across the existing and proposed areas. Due to the pitch construction, no water shall runoff from the surface of the pitch on to adjacent land. All water landing within the new development will enter the proposed new drainage network.

7 POLICY CONSIDERATIONS

7.1 National Planning Policy Framework: 14. Meeting the Challenge of Climate Change, Flooding and Coastal Change

158. Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures 56. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.

7.1.1 Appendix A contains detailed drainage calculations for the proposed development which take into consideration 1 in 100 year storm events +40% for climate change. This approach is proactive and very mindful of the long term, future impact of climate change on the surface water drainage requirements of all developments. This network has been designed to ensure that there will be no adverse impacts on the development itself and the surrounding areas as a result of surface water drainage.

167. All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by:

(a) applying the sequential test and then, if necessary, the exception test as set out below;

The proposed development is primarily to be used by the club, meaning the indicated location is the most sensible.

(b) safeguarding land from development that is required, or likely to be required, for current or future flood management;

7.1.2 The development area is not part of a flood management strategy, and given its location it is not anticipated to be incorporated in any future flood management plan.

(c) using opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding, (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and

7.1.3 The new pitch construction incorporates 260mm depth of robust stone to form the pitch base. This stone has a large void ratio, allowing for surface water to be attenuated on site. As detailed in the drainage calculations (Appendix A), the stone base provides sufficient attenuation to allow all storm water to infiltrate naturally into the subsoils. This stone base replaces the existing cohesive materials and made ground which allow for very little infiltration. The outfall of the pitch drainage system is to be controlled by a flow control set to the greenfield runoff rate of 1.0l/s.

(d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.

7.1.4 While accounting for a 1 in 100 year storm event +40% climate change, there will be no detrimental impact on any existing developments neighbouring this site, including the local residential properties.

7.2 DEFRA – Sustainable Drainage Systems: Non-Statutory Technical Standards for Sustainable Drainage Systems

7.2.1 The proposed development has been designed in line with this document to ensure that there will be no detrimental impact to the areas outside of the development. While there will be a connection made to the existing drainage outlet, the attached drainage calculations demonstrate that all surface water will be managed on site as far as practicable while infiltration testing has found there to be zero infiltration potential within the development area.

7.2.2 The greenfield runoff rate for the site has been calculated as 1.0l/s and it will be ensured that any outflow from the site is restricted below this. The drainage calculations incorporate a new manhole with a flow control orifice installed prior to connecting to the existing surface water outfall.

7.2.3 The pitch base will function as an attenuation system, with capacity to store a large volume of water, which has been shown sufficient to manage all storm water received by the new pitch and allow it to gradually infiltrate into the existing subsoils. An attenuation system will be installed in addition to the pitch subbase to ensure there is no flooding of the new pitch or surrounding areas as a result of the proposed works.

8 SUMMARY

- 8.1 In conclusion, the new synthetic pitch will not create any additional surface water runoff to the surrounding areas. The pitch base will provide attenuation, and the controlled outfall will connect to the existing surface water system. The drainage system has been designed to manage 1 in 100 year storm events plus 40% climate change, with discharge restricted to the greenfield runoff rate.
- 8.2 The proposed drainage strategy has been designed in accordance with the National Planning Policy Framework (NPPF) DEFRA Sustainable Drainage Systems.

APPENDIX A – DRAINAGE CALCULATIONS

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Inflows Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		





Catchment Area

Type : Catchment Area

Area (ha)	0.061
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT		Date: 15/05/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: PM	Checked by: CH		Approved By: PM
		Sports Labs: 1 Adam Sqaure Livingston EH54 9DE			

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
Manhole	Manhole	344430.605	384818.603	27.154	1.054	26.100	Circular	1.200
Manhole (1)	Manhole	344448.269	384876.461	26.900	1.052	25.848	Circular	1.200

Name	Lock
Manhole	None
Manhole (1)	None

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
Manhole	Inlet	Pipe	(None)	No Restriction
Manhole (1)	Inlet	Pipe (1)	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
Manhole	Outlet	Pipe (1)	Orifice
	Diameter (m)	0.021	
	Coefficient of Discharge	0.600	
	Invert Level (m)	26.100	

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Stormwater Controls Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



Porous Paving

Type : Porous Paving

Dimensions

Exceedance Level (m)	27.150
Depth (m)	0.325
Base Level (m)	26.825
Paving Layer Depth (mm)	65
Membrane Percolation (m/hr)	1000.0
Porosity (%)	30
Length (m)	36.059
Long. Slope (1:X)	200.00
Width (m)	16.841
Total Volume (m³)	47.873

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	80
No. of Barrels	4
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe
Outlet Type	Free Discharge

Advanced

Base Infiltration Rate (m/hr)	0.0
Side Infiltration Rate (m/hr)	0.0
Safety Factor	2.0
Conductivity (m/hr)	1000.0

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT		Date: 15/05/2026			
Report Details: Type: Connections Storm Phase: Phase		Designed by: PM	Checked by: CH		Approved By: PM
		Sports Labs: 1 Adam Sqaure Livingston EH54 9DE			

Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
Pipe	5.306	Pipe	7.318		0.6	150	27.154	26.825
Pipe (1)	60.494	Pipe	240.290		0.6	150	27.154	26.100

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Flow Restriction (L/s)	Culvert Type	Culvert Entrance	Wall Thickness (mm)
Pipe	27.154	26.100		None		(None)	(None)	0
Pipe (1)	26.900	25.848		None	0.9	(None)	(None)	0

Name	Material	Trench Width (mm)	Bedding Material	Surrounding Material
Pipe		0		
Pipe (1)		0		

New Hütte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Manhole Schedule Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
Manhole	27.154 26.100	Diameter / Length: 1.200	{1} Pipe	Pipe	26.100	Diam/Width:150	Manhole
E:344430.605 N:384818.603	1.054						
			{a} Pipe (1)	Pipe	26.100	Diam/Width:150	Not Applicable
Manhole (1)	26.900 25.848	Diameter / Length: 1.200	{1} Pipe (1)	Pipe	25.848	Diam/Width:150	Manhole
E:344448.269 N:384876.461	1.052						
							Not Applicable

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Inflow Summary Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	Porous Paving		Time of Concentration	0.061	100	0	100	0.061
TOTAL		0.0		0.061				0.061

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Network Design Criteria Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	0.300
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Network Design Criteria Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



Manhole Options

Apply Offset ☐

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026			
	Designed by: PM	Checked by: CH	Approved By: PM	
	Report Details: Type: Outfall Details Storm Phase: Phase			
Sports Labs: 1 Adam Sqaure Livingston EH54 9DE				

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Manhole (1)	Free Discharge			

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Title: Rainfall Analysis Criteria	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Title: UK and Ireland Rural Runoff Calculator	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



ICP SUDS / IH 124

Details

Method	ICP SUDS
Area (ha)	0.067
SAAR (mm)	970.0
Soil	0.47
Region	Region 9
Urban	0
Return Period (years)	0

Results

Region	QBAR Rural (L/s)	QBAR Urban (L/s)	Q 1 (years) (L/s)	Q 30 (years) (L/s)	Q 100 (years) (L/s)
Region 9	0.5	0.5	0.4	0.8	1.0

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Inflows Summary Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR 100Y: 100 years: +40 %: 15 mins: Winter	0.06	37.6	17.626

New Hütte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Junctions Summary Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		





Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Manhole	FSR 100Y: 100 years: +40 %: 240 mins: Winter	27.154	26.100	27.081	0.981	1.3	1.109	0.000	0.9	22.710	Flood Risk
Manhole (1)	FSR 100Y: 100 years: +40 %: 240 mins: Winter	26.900	25.848	25.876	0.028	0.9	0.000	0.000	0.9	22.636	OK

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residant Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Porous Paving	FSR 100Y: 100 years: +40 %: 240 mins: Winter	27.081	27.081	0.076	0.256	7.2	30.255	0.000	0.000	1.3	23.829	36.802	OK

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Connections Summary Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		





Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe	FSR 100Y: 100 years: +40 %: 15 mins: Winter	Pipe	Porous Paving	Manhole	27.154	26.912	0.150	2.211	0.6	0.12	8.2	OK
Pipe (1)	FSR 100Y: 100 years: +40 %: 240 mins: Winter	Pipe	Manhole	Manhole (1)	27.154	27.081	0.029	22.636	0.4	0.08	0.9	Flood Risk

New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Phase Management Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		





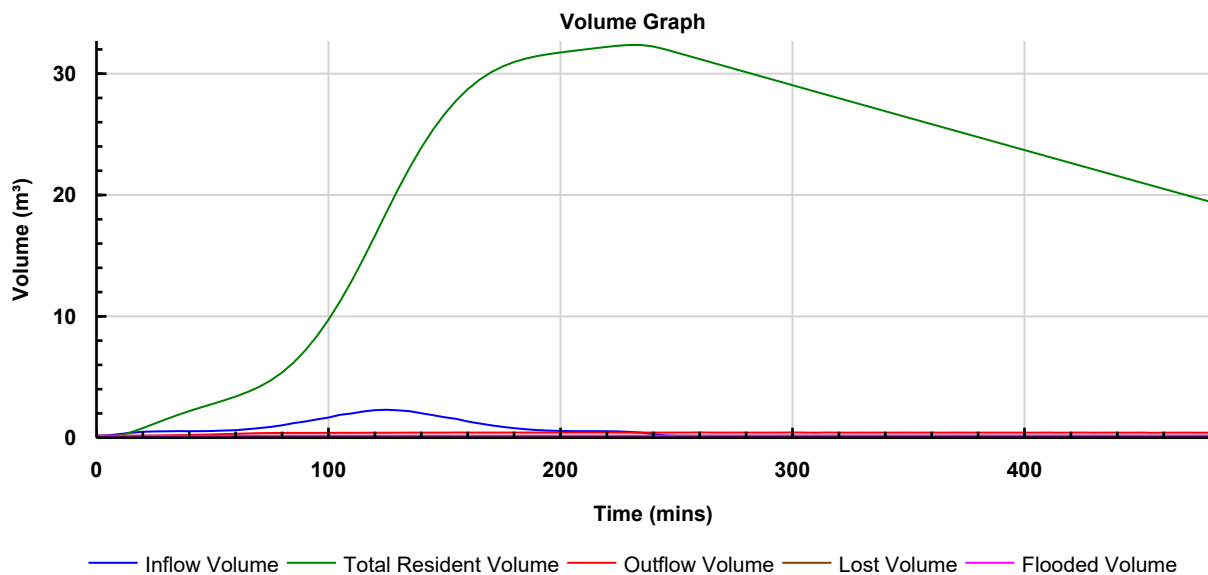
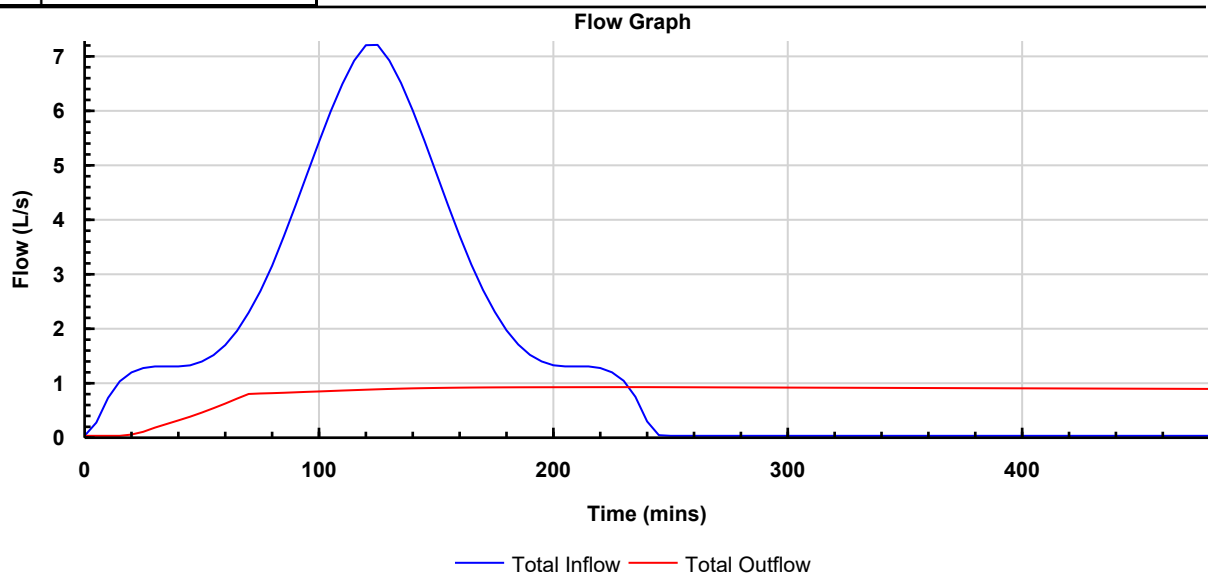
Phase

FSR 100Y: 100 years: Increase Rainfall (%): +40: 240 mins: Winter

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Manhole (1)			0.9	22.636
TOTAL	7.2	41.376	0.9	22.636

Graphs



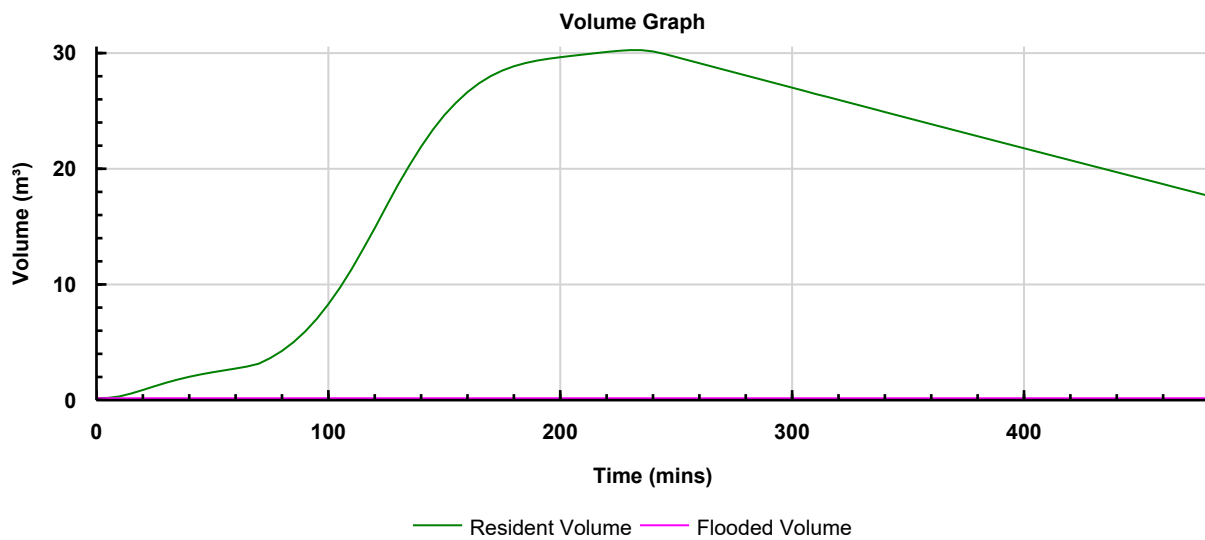
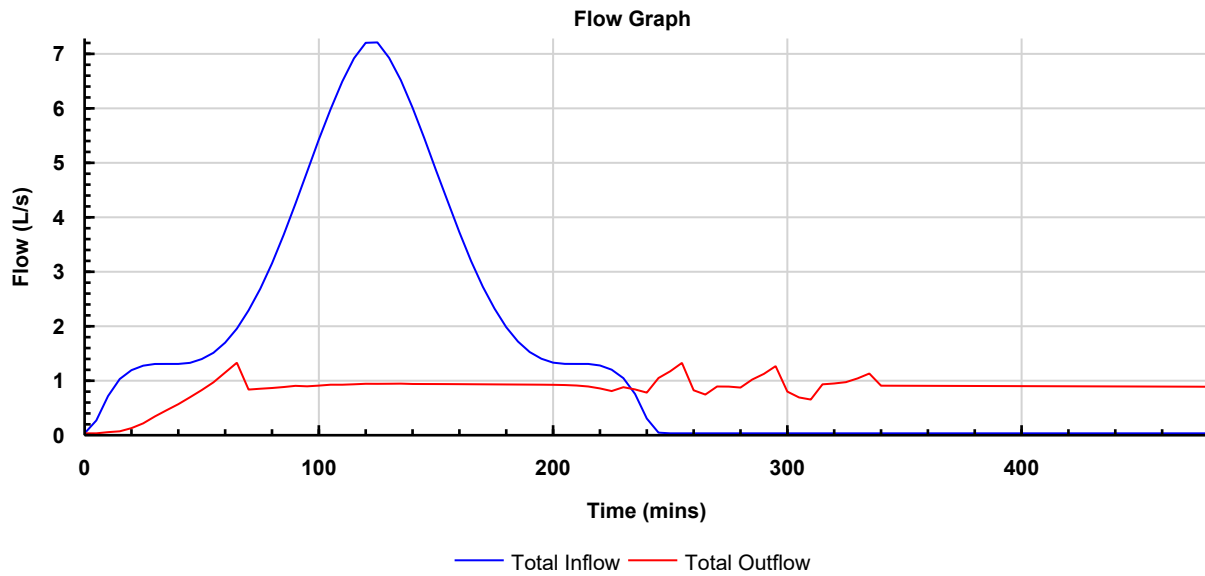
New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



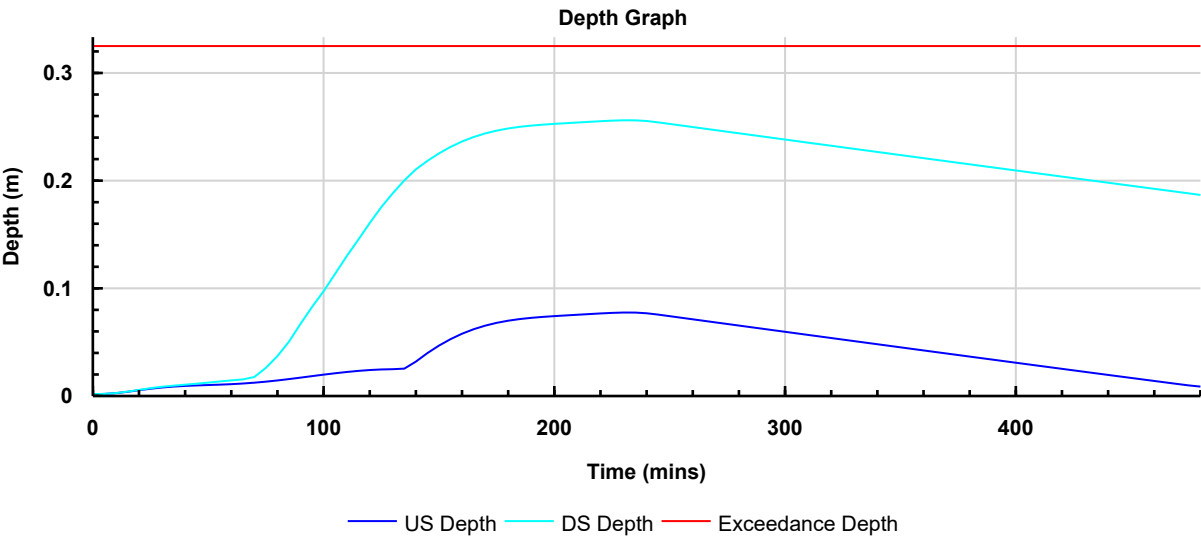
Porous Paving
Critical Storm: FSR 100Y: 100 years: Increase Rainfall (%): +40: 240 mins: Winter

Type : Porous Paving

Graphs



New Hutte Neighbourhood Centre: Lichfield Rd Halewood, Liverpool L26 1TT	Date: 15/05/2026		
	Designed by: PM	Checked by: CH	Approved By: PM
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Sports Labs: 1 Adam Sqaure Livingston EH54 9DE		



APPENDIX B – FLOODMAP FOR PLANNING

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
344429/384794

Created
15 May 2026 11:04

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2026 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference

Unspecified

Location (easting/northing)
344429/384794

Scale
1:2,500

Created
15 May 2026 11:04

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area



0 20 40 60m

END OF REPORT