

Flood Risk Assessment

Proposed Development

Castle Brake Holiday Resort, Woodbury

Lidl – Irlam Drive, Kirkby

October 2025

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1.0 EXECUTIVE SUMMARY

- 1.1 SCP have been commissioned by Lidl to provide a Flood Risk Assessment (FRA) to support a planning application for the layout of a food store and amendment to design and layout of petrol filling station bin store/plant area at the junction of A506 Hall Lane/Telegraph Way at Kirkby.
- 1.2 The development site is currently a brownfield site, see appendix F.
- 1.3 The site is shown on Government's Indicative Flood Mapping for planning to be in Flood Zone 1 (very low risk), therefore suitable for the land uses proposed.
- 1.4 The site is in an area with less than 0.1% risk of fluvial flooding (Flood Zone 1) and based on NPPF (December 2024 version, as amended 7 February 2025) the development proposal is wholly suitable in terms of flood risk. The flood risk is carried out in accordance with the National Planning Framework (NPPF) – Planning Practice Guidance on Flood Risk & Coastal Change, published by the Department for Communities and Local Government (DCLG). Reference is also made to the Flood and Water Management Act (FWMA) 2010, which grants Knowsley Council its role as the Lead Local Flood Authority (LLFA).
- 1.5 Discharge via infiltration has been eliminated as a suitable choice.
- 1.6 Onsite attenuation in the form of an attenuation tank will be provided in order to account for climate change at 45%, with water quality management techniques being implemented in order to provide treatment to surface water flows.
- 1.7 The proposed surface water discharge rate for the development is restricted to 1.6 l/s. The discharge rate from the site will be controlled by a flow control. The discharge rate will need to be accepted and confirmed by the LLFA through the planning process.

2.0 INTRODUCTION

Appointment

- 2.1 The site lies within the Environment Agency Flood Zone 1; based on a review of their Flood Risk Map for Planning.
- 2.2 A drainage strategy, to assure that any increased surface water flows generated on site can be satisfactorily catered for and will not adversely impact on potential flooding issues for the proposed development or lead to off-site flooding consequences, has also been provided.

Scope and Objective

Scope of the Flood Risk Assessment

- 2.3 The objective of the strategy is to undertake a site-specific Flood Risk Assessment in accordance with the National Planning Policy Framework 2024 (NPPF).
- 2.4 The detail and complexity of a Flood Risk Assessment should reflect the level of risk to the site. The NPPF 2024 is the official document that regulates the assessment of flood risks and their appropriate mitigations to the planning process.
- 2.5 The 'Technical Guidance to the National Planning Policy Framework' was superseded in 2014 and this has been replaced with Planning Practice Guidance 2016 which is available on the www.gov.uk webservice. In developing a site, Developers and applicants need to consider flood risk to and from the development site.
- 2.6 A site-specific flood risk assessment should:
- Consider whether a proposed development is likely to be affected by current or future flooding from all sources of flooding [NPPF 2024] rivers, groundwater, and sewers
 - Establish whether it will increase flood risk elsewhere
 - Identify whether the measures proposed to deal with these effects and risks are appropriate
 - Review the evidence for the local planning authority to apply (if necessary) the Sequential Test, and
 - Assess whether the development will be safe and pass the Exception Test, if applicable
- 2.7 The site-specific flood risk assessment should also be:
- Proportionate to the risk and appropriate to the scale, nature and location of the site
 - Take the impacts of climate change into account

- Consider both the potential adverse and beneficial effects of flood risk management infrastructure including raised defences, flow channels, flood storage areas and other artificial features together with the consequences of their failure
 - Consider the vulnerability of those that could occupy and use the site, taking account of the Sequential and Exception Tests and the vulnerability classification including arrangements for safe access/egress
 - Consider and quantify the different types of flooding (whether from natural and human sources and including joint and cumulative effects) and identify flood risk reduction measures, so that assessments are fit for the purpose of the decisions being made
 - Consider the effects of a range of flooding events including extreme events on people, property, the natural and historic environment and river and coastal processes
 - Include the assessment of the remaining (known as 'residual') risks after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular development or land use
 - Be supported by appropriate data and information, including historical information on previous events
- 2.8 This report therefore assesses flood risk to the site and any impact on flood risk to other land because of the development proposals.

Scope of the Drainage Strategy

- 2.9 The scope of the drainage strategy is to set out the principles of the drainage design for the proposed development and summarise the reasoning behind the chosen design.
- 2.10 The drainage strategy will utilise the hierarchy for disposal of surface waters generated as runoff on the site to ensure that there is not a potential exacerbation of flood risk elsewhere as a result of undertaking the development. This will be undertaken in accordance with widely accepted best practise principles such as detailed in industry guidance such as the C753 SUDS Manual, Design and Construction Guidance and applicable sections of the PPG.
- 2.11 The Drainage Strategy aims to provide guarantee that the proposed surface water drainage safely and appropriately conveys all flows derived from the site to appropriate discharge or attenuation locations, so as to ensure sustainable and safe site operation. This should be done in accordance with prescribed best practice, building codes and prioritise the incorporation of sustainable urban drainage systems, or SUDS, where appropriate and practicable for the management of surface water.

- 2.12 Additionally, the drainage strategy will identify potential connection points and discharge rates for surface and foul water generated on the site through the site's occupancy and proposed development type.

Limitations

- 2.13 This report has been prepared for exclusive use by Lidl for the purpose of assisting them in evaluating the potential risk of flooding associated with the site and in making a Planning Application.
- 2.14 SCP accepts no liability for any use of this document other than by its client and only for the purposes, stated in the document, for which it was prepared and provided. No person other than the Client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of SCP. Any advice, opinions or recommendations within this document should be read and relied upon only in the context of the document as a whole.
- 2.15 SCP has endeavoured to assess all information provided to them during this assessment and therefore this report has been compiled from a number of external sources.
- 2.16 The Flood Risk Assessment addresses the flood risk posed to and from the proposed development, the extent of which is shown on the Proposed Site Plan, see Appendix B.
- 2.17 This report has been undertaken with the assumption that the site will be developed in accordance with the proposals included within, with no significant change. The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.

3.0 POLICY & GUIDANCE

- 3.1 In carrying out our assessment and preparing this report, regard has been taken of the provisions of the development plan and a range of other material considerations. However, it is the Government's National Planning Policy Framework 2024 which provide the most up to date and specific guidance on the scope of Flood Risk Assessments and drainage requirements.

National Planning Policy Framework

- 3.2 The National Planning Policy Framework (NPPF) was first published in England in March 2012, re-issued in July 2018, revised in 2019, re-issued in September 2021, and updated and re-issued in September 2023 and December 2023.
- 3.3 More recently, the NPPF was updated and issued in December 2024 in response to the proposed reforms to the NPPF and sets out the government's planning policies for England and how these are expected to be applied. As a result, the previous NPPF, all previous Planning Policy Guidance Notes (PPGs) and Planning Policy Statements (PPSs) were superseded. This included PPS25: Development and Flood Risk, along with its supplement on Development and Coastal Change. These were replaced with the Planning Practice Guidance for Flood Risk and Coastal Change, available on the gov.uk website: <https://www.gov.uk/guidance/flood-risk-and-coastal-change>.
- 3.4 One of the key aims of the NPPF is to ensure that flood risk is taken into account at all stages of the planning process to avoid inappropriate development in areas at risk of flooding and to direct development away from areas of highest risk (whether existing or future).
- 3.5 It advises that where new development is necessary in areas of higher risk, this should be safe, without increasing flood risk elsewhere, and where possible should reduce flood risk overall.
- 3.6 The NPPF's flood risk advice is set out in Chapter 14 of the Framework document, Meeting the challenge of climate change, flooding and coastal change.
- 3.7 This document has been prepared in accordance with the recommendations and the policies contained within the NPPF 2024.
- 3.8 The National Planning Policy Framework 2024 (NPPF) and accompanying Planning Practice Guidance for Flood Risk and Coastal Change indicate surface water run-off should be controlled as near to its source as possible by making as much use as possible of natural flood management techniques as part of an integrated approach.

- 3.9 Consideration should therefore incorporate the use of controlling run-off at source combined with using sustainable urban drainage (SUDS) techniques.

Planning Policy Guidance

- 3.10 The current Planning Policy Guidance (PPG) for Flood Risk and Coastal Change is available on the gov.uk website. <https://www.gov.uk/guidance/flood-risk-and-coastal-change>. Planning Policy Guidance was updated and re-issued in August 2022.
- 3.11 The PPG for flood risk and coastal change advises how to take account of and address the risks associated with flooding and coastal change in the planning process.
- 3.12 More emphasis on SuDS providing the '4 pillars' of SuDS which are: water quantity, water quality, biodiversity and amenity is also required.

Flood and Water Management Act 2010

- 3.13 The Flood and Water Management Act 2010 received Royal Assent on 8th April 2010. This Act provides duties on the Environment Agency, Local Authorities, Developers and other bodies to manage flood risks.

LLFA Technical Requirements

- 3.14 The main areas affecting Developers are:
- **Adoption and Maintenance:** Knowsley Council, as the LLFA, is responsible for managing local flood risks, including those from surface water and ordinary watercourses. While the Flood and Water Management Act 2010 introduced the concept of SuDS Approving Bodies (SABs) to adopt and maintain SuDS, Schedule 3 of the Act, which establishes SABs, has been implemented in Wales but not in England. Therefore, in England, including Knowsley, the adoption and maintenance of SuDS are typically agreed upon between developers and the relevant authorities during the planning process.
 - **Approval Fees and Bonds:** While there is a general understanding of the need for standardization in approval fees and non-performance bonds associated with SuDS, specific standardization practices may vary by region. Developers should consult with Knowsley Council's planning and flood risk management teams to understand the applicable fees and bond requirements for their projects.
 - **Technical Standards:** Developers are expected to design SuDS in accordance with the Non-statutory Technical Standards for SuDS (2015) and best practice guidance such as the SuDS

- Manual (C753). These documents provide comprehensive guidance on the planning, design, construction, and maintenance of SuDS.
- **Connection Rights:** Changes to sewer connection rights have been implemented to encourage the use of SuDS and ensure that surface water is managed sustainably. Developers should liaise with Knowsley Council and the relevant water authorities to understand the specific requirements and restrictions related to sewer connections for their developments.
 - **Flood Risk Assessment:** Developers must assess all potential flood risks, including those from surface water, groundwater, and ordinary watercourses. This comprehensive assessment ensures that all sources of flooding are considered in the planning and design of new developments.
 - **Risk Management:** Strategies should be developed to manage and mitigate identified flood risks, aligning with the standards and policies set by Knowsley Council's LLFA. This includes incorporating appropriate mitigation measures into the development design to ensure resilience against flooding.
 - **SuDS Integration:** Developers are required to integrate SuDS into their development proposals to effectively manage surface water runoff. This integration helps to mimic natural drainage patterns and reduce the impact of urbanization on the hydrological cycle.
 - **Early Engagement:** Engaging with Knowsley Council's LLFA during the planning stages is crucial to ensure that all flood risk and drainage aspects comply with local policies and technical requirements. This collaboration facilitates the identification and resolution of potential issues early in the development process.
 - **Policy Alignment:** Developments must align with the guidelines and strategies outlined in Knowsley's Local Plan and associated Supplementary Planning Documents (SPDs). These documents provide detailed guidance on various planning matters, including design quality, sustainable development, and flood risk management. [knowsley.gov.uk](https://www.knowsley.gov.uk)

4.0 EXISTING SITE CHARACTERISTICS

Site Location

- 4.1 The development site is located on the existing car part the junction of A506 Hall Lane/Telegraph Way at Kirkby, near Liverpool. The area surrounding is an existing shopping mall.
- 4.2 An approximate postcode for the site is L32 8US.
- 4.3 See Appendix A for overall existing site plan with the extract below in figure 1.



Figure 1: Site Location Plan (Source: Google Earth, 2025)

Table 1 – Site Description

Area		0.546 hectares
Existing Surfacing		The existing site is a brownfield site
General Topography		The topography of the site generally falls from north-east to south-west. The levels range from approximately 26.00 AOD in the north-east to 24.00m AOD in the south-west.
Current Use		The site is currently developed, consisting of a parking lot.
Watercourses		There are no main watercourses in the vicinity of the development site. The nearest watercourse is a stream approximately 350m to the west, as shown in Figure 2.
Boundaries	North	A506
	East	Car park
	South	Cera Homecare and Pure gym
	West	Telegraph Wy
Access	Vehicular	Telegraph Wy
	Pedestrian	North, east, south

- 4.4 The existing site is currently a brownfield site. An assessment of the existing brownfield rates has been undertaken using Flow calculation. Calculations are summarised in Table 2 and can be found in Appendix H.

Table 2 – Existing Runoff Rates

Return Period (Yr.)	Existing Runoff Rate (l/s)
2 Year	1.4 l/s
30 Year	3.0 l/s
100 Year	3.9 l/s
Qbar	1.6 l/s

Existing Public Sewers

- 4.5 Asset plans for public sewers are shown by United Utilities in appendix E.

Existing Private Sewers

- 4.6 Asset plans for Private sewers are shown by United Utilities in appendix E.

Watercourses, Land Drainage and other Waterbodies

- 4.7 There are no main rivers, or minor watercourses present within the development site boundary.
- 4.8 The nearest main watercourse to the site is the Kirby Brook is located approximately 350m West as shown in figure 2.



Figure 2: Existing Watercourses near the Development Site (Source: Arcgis, 2025)

Historical Land Use

- 4.9 The site is currently operating as a parking lot.

Geology

- 4.10 Scope and methods

A site-specific ground investigation was undertaken by Remada Ltd following a Phase 1 PRA (Feb 2025). Phase 2 works (Mar–Apr 2025) comprised 9 no. window-sample boreholes (WS01–WS09) to refusal (typically 3.0–4.8 m bgl), 4 no. CBR tests, and installation of combined ground-gas/groundwater standpipes in WS01, WS03, WS04, with four rounds of monitoring (18 & 24 Mar; 8 & 16 Apr 2025). SPTs were taken at 1.0 m intervals (energy-corrected, $ER \approx 88\%$), with hand shear vane testing on cohesive soils.

- 4.11 Ground conditions

Made ground was encountered at all exploratory holes, typically 0.4–1.3 m thick; asphalt surfacing was 0.09–0.20 m where present. Below, variable loose to medium dense sand and

firm to stiff clay were proven, with localised peat at ws01 (1.8–2.0 m bgl). Spt refusal (n=50) 2.9–4.0 m indicates shallow bedrock in the footprint. Stratigraphy varies across the site (e.g., ws05a: sand over clay over dense sand; ws04: sand over stiff clay; ws02: sand over stiff clay).

4.12 Hydrogeology and groundwater

Monitoring recorded groundwater between ~1.22 and 2.03 m bgl in the standpipes. The site is underlain by Shirdley Hill Sand (Secondary A Aquifer) over Chester Formation sandstone (Principal Aquifer) and lies within EA Source Protection Zone III (Total Catchment).

4.13 Contamination and materials management

- No significant exceedances for commercial use; no asbestos detected in tested samples.
- hydrocarbons/PAHs low; overall low risk to controlled waters.
- made ground generally non-hazardous; manage and dispose per wm3.

4.14 Geotechnical implications

- variable made ground/sands/clays; local peat → use a stiff slab; allow local ground improvement (e.g. Vibro) if needed.
- differential settlement risk—keep formation levels consistent and detail movement joints.
- buried concrete: DS-1 / AC-1. Expect shallow groundwater; allow temporary support/dewatering.
- gas/radon: CS1; no radon measures required.

4.15 Drainage design implications

- Infiltration suds not suitable (shallow GW + EA SPZ III).
- Strategy: on-site attenuation and flow-control to public surface-water sewer at the agreed restricted rate (1% AEP +45% CC).
- Water quality: trapped gullies/catchpits + suitable proprietary separator; hydrocarbon-resistant products near PFS/bin/plant areas.
- Buildability: re-engineer Made Ground below drainage runs; seal chambers where needed; manage groundwater during works.

5.0 DEVELOPMENT PROPOSALS

- 5.1 The current proposal is to build a shopping store associated delivery facilities and access road on Telegraph Way.
- 5.2 Vehicular access is proposed via the access into Telegraph Way.
- 5.3 The site area is 0.546 hectares, with 86% proposed to be impermeable.
- 5.4 The most current site plan provided by HTC Architects can be found within Appendix B, along with the extract below as Figure 3.

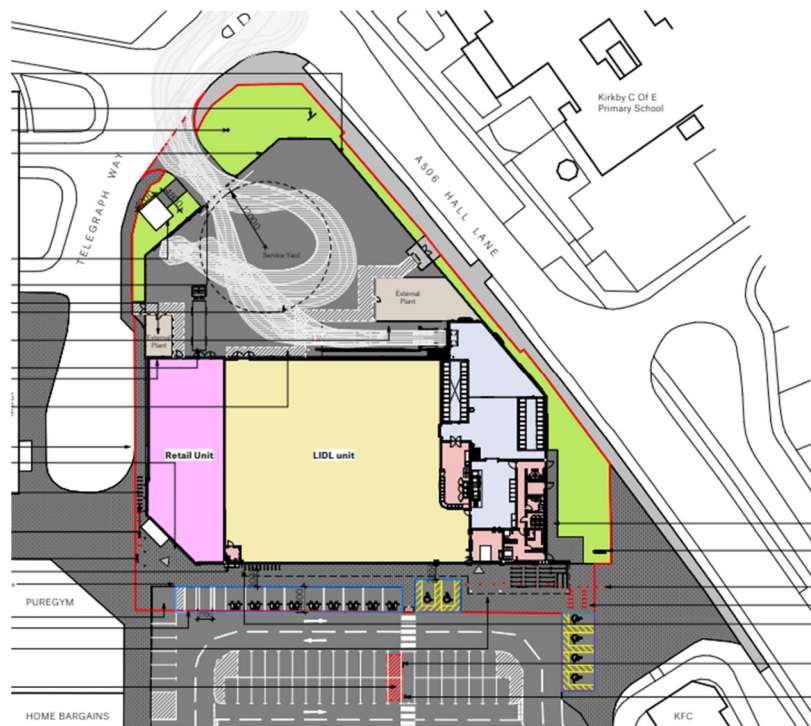


Figure 3: Proposed Site Plan

6.0 FLOOD RISK ASSESSMENT

Sources of Flood Risk

Source	Definition	Likelihood
Fluvial	River Flood	Very Low
Pluvial	Surface Water Flooding	Very Low
Coastal - Sea	Tidal Surge	Not Applicable
Coastal - Estuarine	Tidal Surge	Not Applicable
SWS, FWS, CS, CSO	Sewer Flooding	Unlikely
Groundwater	Emergence from ground	Unlikely

- 6.1 Information relating to flood risk at the site has been obtained via the Environment Agency online flood mapping tool. This information has been presented below.

Fluvial Flood Risk (River Flood)

- 6.2 Examination of Flood Map for Planning from the Environment Agency shows that the site is located within an area classified as Flood Zone 1 with the risk of fluvial flooding as very low and having a 0.1% (1 in 1000) chance of flooding, see Appendix F and Figure 4.

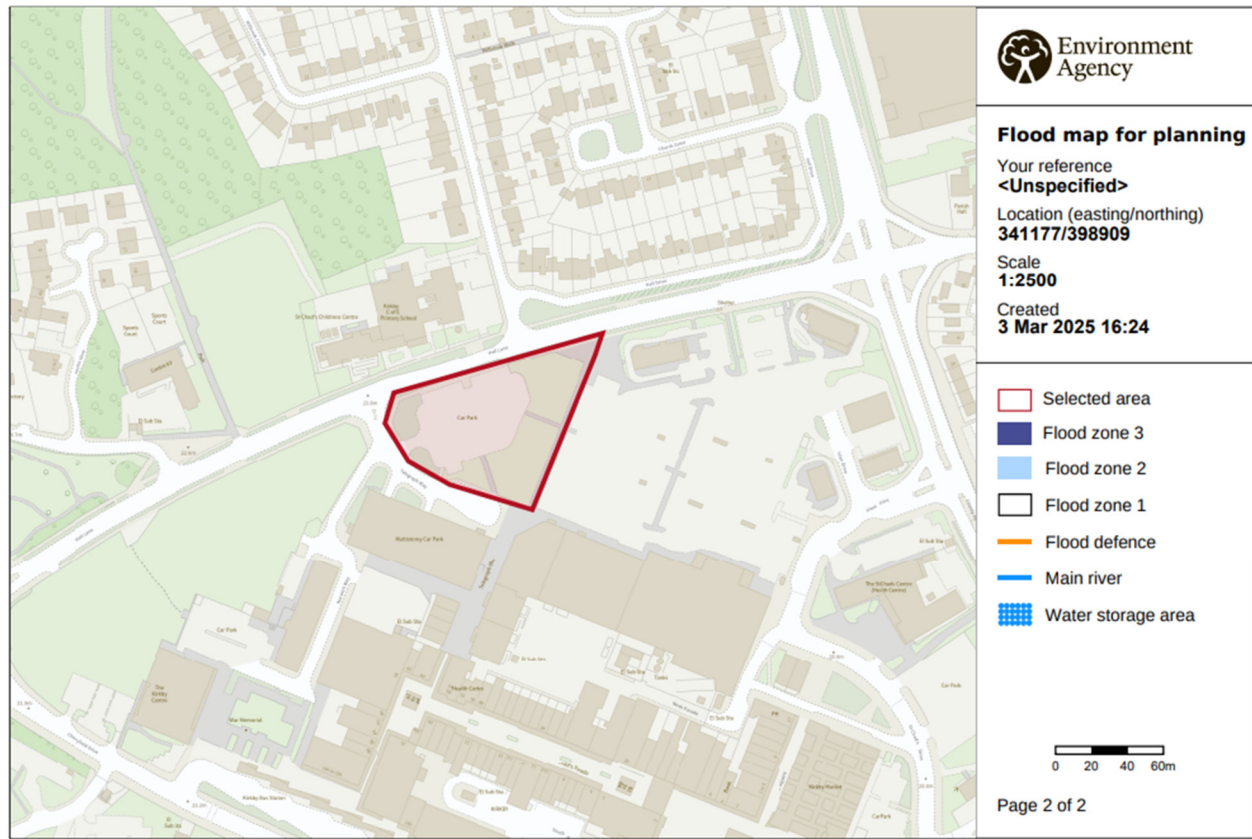


Figure 4: Environment Agency's Flood Map for Planning (Source: EA Online Maps, 2025)

Pluvial Flood Risk (Emergence from Ground Surface Flooding)

- 6.3 Pluvial flooding is defined as flooding resulting from rainfall-generated overland flow before runoff enters any watercourse or sewer.
- 6.4 It is usually associated with high intensity rainfall events but can also occur with low intensity rainfall or melting snow where ground is saturated, frozen, developed or otherwise has low permeability resulting in overland flow and ponding in depressions. Large catchment areas are particularly prone to this type of flooding.

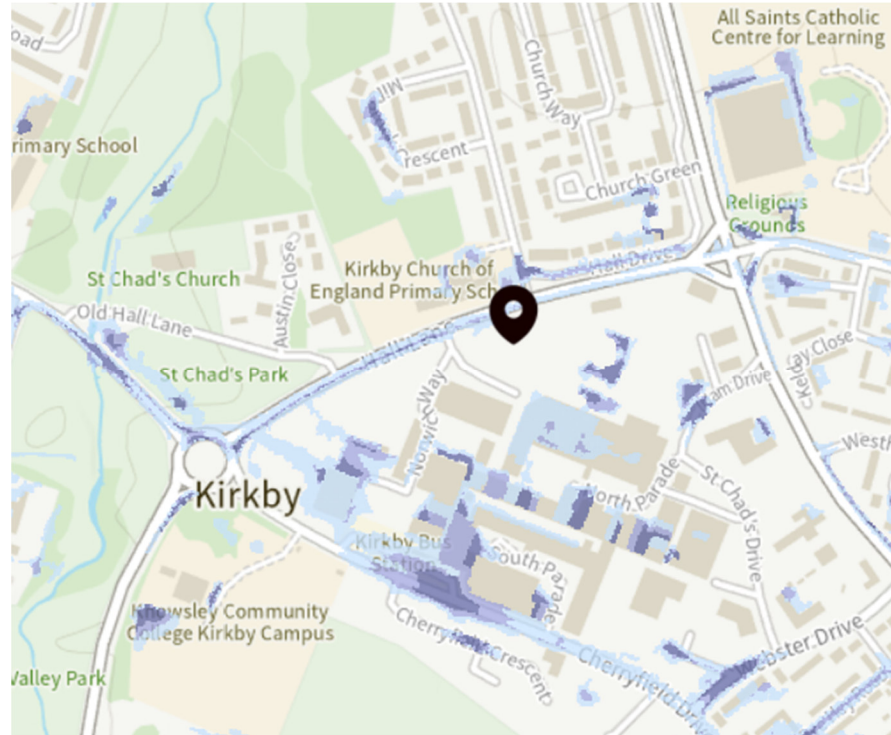


Figure 5: Environment Agency's flooding from Surface Water (Source: EA Online Maps, 2025)

6.5 The Environment Agency long-term flood risk mapping shows the development site is not susceptible to surface water flooding, see Figure .

Environment Agency Reservoir or Canal Failure Flood Map

- 6.6 The Environment Agency long-term flood risk mapping locates the development site as not being within an area at flood risk from flooding from reservoirs, see Figure 7.

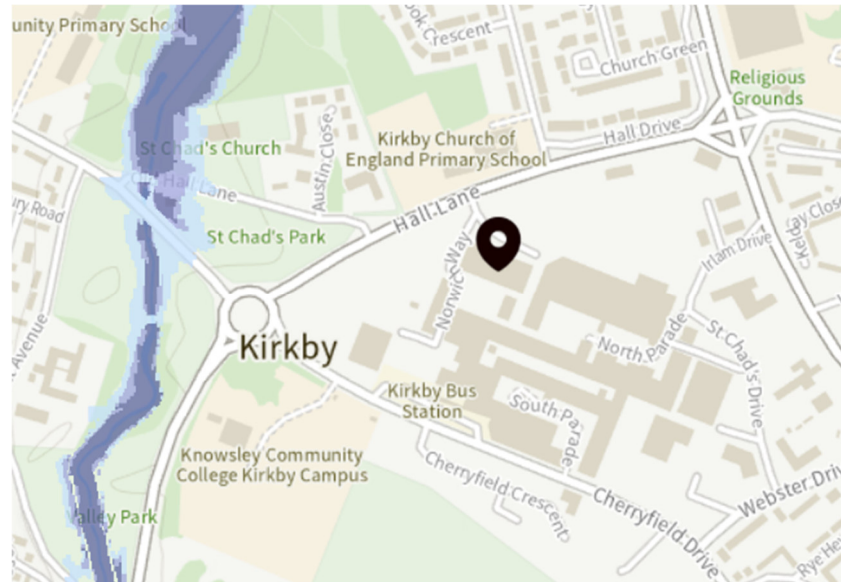


Figure 6: Environment Agency's flooding from Reservoirs (Source: EA Online Maps, 2025)

Groundwater Flood Risk

- 6.7 Groundwater flooding occurs when water levels in the ground rise above the surface, typically after prolonged periods of heavy rainfall. It can result from naturally high groundwater levels, seepage from elevated groundwater tables, or groundwater rebound. If groundwater levels are naturally close to the surface, then this can present a flood risk during intense rainfall.
- 6.8 Groundwater Flood Risk
Monitoring within the Remada GI recorded groundwater between approximately 1.22 m and 2.03 m below ground level. Given the presence of Secondary A and Principal Aquifers and the site's location within EA Source Protection Zone III (Total Catchment), infiltration-based drainage is not proposed. The proposed drainage will not materially alter groundwater conditions and is designed to avoid increasing groundwater flood risk.
- 6.9 The development proposals are unlikely to significantly alter existing groundwater conditions or increase groundwater flood risk due to the retention of natural drainage patterns and limited groundwater interaction expected from proposed structures.
- 6.10 To fully mitigate any residual risk associated with groundwater flooding, detailed ground investigations and groundwater monitoring are recommended during the detailed design stage. If necessary, additional site-specific measures, such as appropriate waterproofing and drainage systems, should be implemented.

7.0 FLOOD RISK VULNERABILITY CLASSIFICATION

- 7.1 According to the Environment Agency's flood risk vulnerability classification outlined in the National Planning Policy Framework (NPPF), the proposed development (commercial retail store with associated access roads and parking facilities) is categorized as "Less Vulnerable".

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓ *

Key:

✓ Exception test is not required

X Development should not be permitted

- 7.2 The development site is located within Flood Zone 1, representing areas with the lowest probability of flooding (less than 0.1% annual probability). Based on the NPPF vulnerability classifications and flood risk tables, developments classified as "Less Vulnerable" are considered appropriate and suitable within Flood Zone 1 without the requirement for additional flood risk mitigation measures beyond standard good practice drainage management.

8.0 DRAINAGE STRATEGY

Introduction

- 8.1 The National Planning Policy Framework 2024 (NPPF)¹ and accompanying Planning Practice Guidance² indicate surface water run-off should be controlled as near to its source as possible through a sustainable drainage approach to surface water management.
- 8.2 Approved Document Part H of the Building Regulations (2010) sets out a hierarchy for the disposal of surface water. The preferred approach for this site is to connect to the existing adoptable sewer system, ensuring compliance with the regulatory requirements and maintaining effective surface water management.
- 8.3 The drainage strategy will prioritize controlling surface water discharge rates, using attenuation tank and hydro-brakes, to align with best practice and reduce any potential impact on the surrounding infrastructure and environment.

Climate Change

- 8.4 There are indications that the climate in the UK is changing significantly, and it is widely believed that the nature of climate change will vary greatly by region. Current expert opinion indicates the likelihood that future climate change would produce more frequent short duration and high intensity rainfall events with the addition of more frequent periods of long duration rainfall.
- 8.5 The updated EA allowances have now been directly linked to North West River Basin Catchments. The climate change allowance has been reviewed using the Environment Agency's website to locate the River Basin Catchment for the site's location. The site is in the North West River Basin. The below figure, an extract from the Environment Agency's website, indicates the climate change considerations for this catchment.

¹ Department for Communities and Local Government 2021 – National Planning Policy Framework

² Department for Communities and Local Government 2016 – Planning Practice Guidance

Alt and Crossens Management Catchment peak rainfall allowances



3.3% annual exceedance rainfall event

Epoch		
	Central allowance	Upper end allowance
2050s	25%	35%
2070s	30%	40%

1% annual exceedance rainfall event

Epoch		
	Central allowance	Upper end allowance
2050s	25%	40%
2070s	30%	45%

Figure 7: Environment Agency's Climate Change Considerations (Source: EA Website, 2025)

- 8.6 As recommended by the EA, both the central and upper end allowances have been considered for the purpose of surface water drainage strategy and assessment of exceedance flow pathways.
- 8.7 The climate change allowance for the site has been identified at 45%. This is due to the development having a lifetime between 2061 and 2125. Additionally, the 1% annual exceedance rainfall event is utilised as the 3.3% rainfall is not a requirement.

Existing Site Drainage

- 8.8 Based on google street view information, the existing surface water system utilises road gullies as their drainage route.
- 8.9 Based on United Utilities, there is no foul drainage system within the works boundary.

Methods of Surface Water Management

- 8.10 As set out in Part H of the Building Regulations, there are three methods that have been reviewed for the management and discharge of surface water for the site which are detailed below; these

may be applied individually or collectively to form a complete strategy. They should be applied in the order of priority as listed:

- Discharge via infiltration
- Discharge via watercourse
- Discharge via surface water system

Proposed Site Drainage

Discharge by Infiltration

- 8.11 The site-specific GI (Remada, 2025) recorded shallow groundwater (circa 1.22–2.03 m bgl) and variable superficial strata including sands, clays and localised peat. In combination with the site's location within an EA SPZ III (Total Catchment), infiltration SuDS are not appropriate for this development. Surface water will therefore discharge to the existing adoptable surface water sewer at a controlled rate in accordance with the agreed strategy.
- 8.12 However, no infiltration testing has been completed within the development site. Testing in accordance with BRE 365 and site investigations will be required to determine the condition of the existing ground.
- 8.13 For the purpose of this report, due to unconfirmed soil conditions and groundwater levels, discharge via infiltration has been discounted as a suitable option.

Discharge by watercourse

- 8.14 There is no main watercourse within the boundary of the development site or in the nearby vicinity.
- 8.15 Therefore, discharge via watercourse is not a viable option for the surface water drainage strategy.

Discharge by Surface Water System

- 8.16 Asset plans from United Utilities confirm that an adoptable surface water sewer is available within Telegraph Way. This adoptable sewer will provide the point of connection for the proposed surface water drainage system, ensuring compliance with regulatory requirements and effective long-term management.
- 8.17 Discharge via the existing surface water system is the preferred and viable option for the surface water drainage strategy. The development will utilize the existing connection, ensuring compliance with regulatory requirements and maintaining effective surface water management.

Surface Water Drainage Strategy

- 8.18 As noted above in the hierarchy review, discharge via Surface Water System is the preferred method for the purpose of this report. However, upon completion of ground investigations and infiltration testing in accordance with BRE 365, infiltration will be considered and applied where appropriate.
- 8.19 The proposed impermeable area for the site is 0.470ha which consists of a shopping store, associated delivery facilities and access road, see Appendix G. All these areas will generate surface runoff.
- 8.20 The general principle of the surface water drainage strategy for the site is to collect surface water runoff and restrict the discharge rate to the adoptable surface water sewer located to the southwest of the site along Telegraph Way.

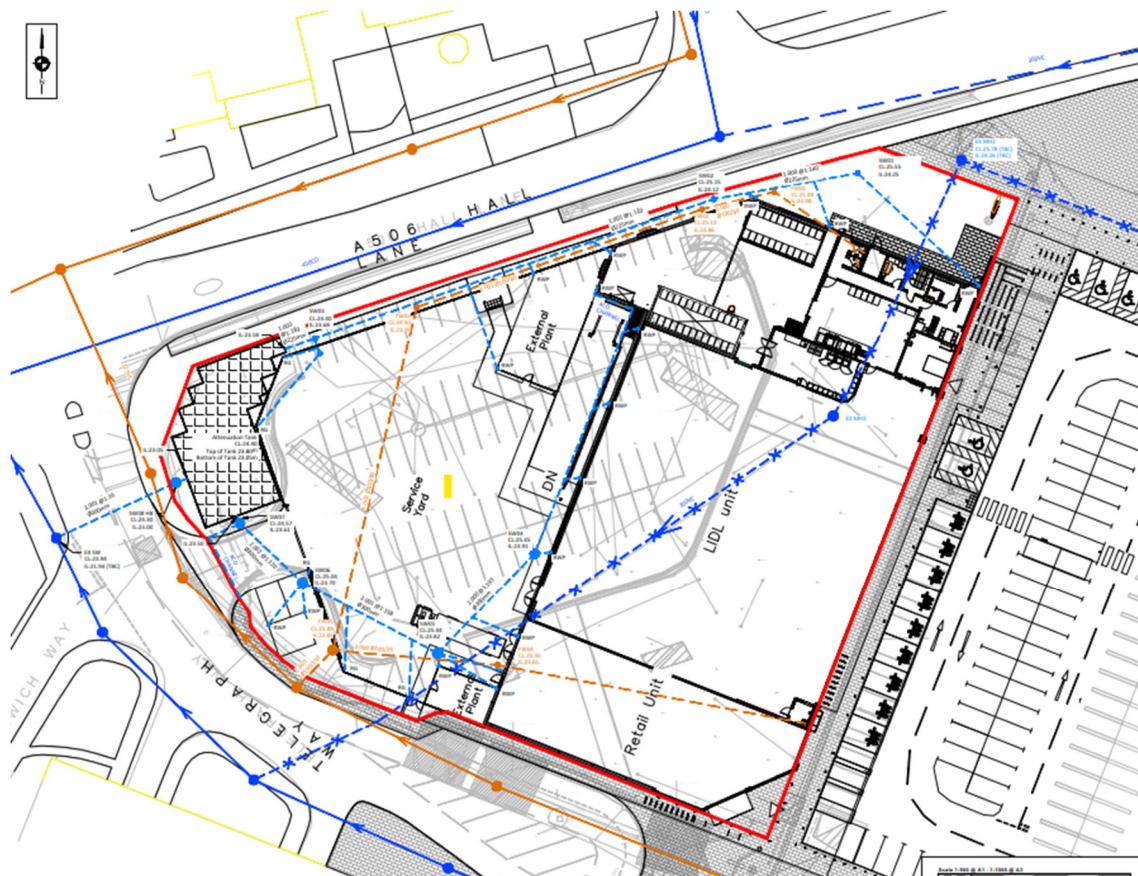


Figure8: Drainage Plan General Arrangement

- 8.21 The discharge rate is supposed to match existing brownfield runoff which is 1.6 l/s.

- 8.22 The flows from the site will be controlled by a flow control to ensure that no discharge exceeds 1.6 l/s. However, this rate needs to be agreed with the LLFA and EA during the planning process.
- 8.23 The proposed site peak run-off rates are provided in Table 3.

Table 3 – Proposed Runoff Rate

Return Period (Yr.)	Proposed Runoff Rate (l/s)
2 Year	1.4 l/s
30 Year	3.0 l/s
100 Year	3.9 l/s
Qbar	1.6 l/s

- 8.24 Due to the surface water flow being restricted, attenuation will be required for the site.
- 8.25 The attenuation volume for the development site has been calculated based on an impermeable area of 4,700m² and will cater for up to the 1 in 100-year storm + 45% climate change.
- 8.26 The attenuation will be provided in the form of underground cellular storage tank, a calculation for attenuation requirements has been completed, see Table 4 for attenuation requirement.

Table 4 – Attenuation Requirements

Rainfall Method	Maximum Volume (m ³)
Cellular Storage	147.0m ³

- 8.27 Refer to Appendix H for the hydraulic modelling.
- 8.28 Groundwater sealing and testing

With GI groundwater ≈23.01 m AOD (1.22 m bgl at GL 24.23) and the tank base at 23.05 m AOD, retain the levels and construct the SDS geocellular tank on an impermeable base (150–200 mm lean concrete or HDPE liner), fully wrap it in a welded impermeable geomembrane with protection, use sealed pipe boots/puddle flanges with rocker pipes and flexible watertight couplers, seal all penetrations and benching and fit sealed MH covers where close to groundwater, keep the excavation dry, and leak-test the liner before backfilling.

- 8.29 The drainage layout is subject to the proposed site levels and rainwater pipe (RWP) locations.
- 8.30 Detailed surface water calculations for the drainage network will need to be completed during the post-planning stage to ensure suitable attenuation volumes and carrier drains are provided.
- 8.31 Areas of exceedance will be addressed in the detailed design phase once the proposed finished levels are finalized. The development will be designed to ensure all flows, including those from a 1 in 100-year event plus 45% climate change allowance, will be attenuated below ground.
- 8.32** Due to the nature of the proposed development, urban creep has not been considered in the drainage design.

9.0 WATER QUALITY MANAGEMENT

- 9.1 The drainage strategy for the development has been designed following current planning policy and best practice guidelines. The strategy aims to effectively manage surface water runoff and mitigate flood risk, ensuring compliance with relevant local authority standards.
- 9.2 Surface water runoff from the site will be collected and managed through an attenuation tank. The surface water discharge will be directed into the existing sewer network, controlled by a flow-regulating hydrobrakes.
- 9.3 The development proposes an attenuation tank designed to store surface water runoff and release it at a controlled discharge rate of 1.6 l/s. Detailed design calculations will confirm the required storage volumes, ensuring compliance with relevant drainage standards and climate change allowances.

General Design Summary for this Site:

- 9.4 The proposed surface water drainage strategy, involves collecting surface water runoff and directing it through a public drainage network. The system features an attenuation tank to manage peak flows, ensuring compliance with regulatory requirements. Discharge rates are controlled using hydro-brakes, with water ultimately connecting to the existing sewer system along Telegraph Way. The design incorporates catch pits and a downstream defender to manage water quality, with all runoff retained within the site boundaries to avoid impact on existing sewer.

Pollution Hazard Levels

- 9.5 Table 4.3 and 26.2 from the SuDS manual provides pollution hazard levels and values for different elements of a development, the following has been identified:

Element	Pollution hazard level
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail)	Medium

- 9.6 Based on the above water quality assessment which has identified this site pollution hazard levels and values, the following mitigation measures and the resulting pollution sufficiency have been assessed:

Pollution	Mitigation	Pollution sufficiency summary
Commercial yard and delivery areas – medium pollution hazard level	drainage channels, manholes with sumps, petrol inceptor	sufficient

9.7 The following measures can be implemented on this site for effective surface pollution prevention and treatment:

Surface Pollution Prevention

- Manage runoff to control silts and sediments, hydrocarbons and oils, metals, microplastics, and pesticides

Treatment – drainage elements –

- **Catchpits:** To capture and retain sediments and debris
- **Petrol Interceptor (Downstream Defender):** To treat surface water by removing hydrocarbons, oils, and other pollutants before discharge)

10.0 FOUL WATER MANAGEMENT

- 10.1 The foul water system will be designed and constructed in accordance with the current Building Regulations, BS EN:752 drainage and sewer systems outside buildings, the local authority building control specifications and requirements, Design and Construction Guidance (DCG) and the Civil Engineering Specification for the Water Industry 7th Edition.
- 10.2 It is proposed to construct a new foul water drainage system to serve the proposed development.

Foul Water and Point of Connection

- 10.3 The foul water drainage system is proposed to connect to an existing foul drainage network located along the southern boundary of the development site, which links to an existing manhole on Telegraph Way.
- 10.4 The new foul water system is subject to a S106 Agreement.

11.0 MANAGEMENT MEASURES, OFF SITE IMPACTS AND RESIDUAL RISK

- 11.1 As identified above, the development site lies within Flood Zone 1 and is at a low risk of fluvial flooding.

Flood Risk Management Measures

- 11.2 All drainage features should be located in open areas which are accessible.
- 11.3 Gradients of the hardstanding areas, where possible, should be designed to fall away from buildings such that any overland flow resulting from extreme events would be channelled away.
- 11.4 The proposed levels drain away from the vehicle access and pedestrian access, and therefore is considered that access and egress will not be at an increased risk.

Residual Risks

- 11.5 As with any drainage system, blockages within the surface water system have potential to cause flooding or disruption. It is important that any drainage systems not being offered for adoption to either the Water Company or the Local Authority has an appropriate maintenance regime scheduled which would be advised to prospective property owners where appropriate.

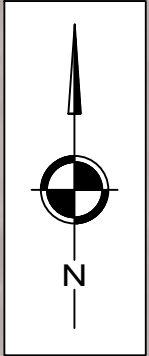
Maintenance

- 11.6 Requirements for ongoing maintenance of the drainage network will form part of the Operation and Maintenance manual for the site and will be undertaken by the building management. Any specialist or proprietary products that are specified at detailed design will have a manufacturer specific maintenance regime which will be included within the document.
- 11.7 All surface water arrangements outlined above are subject to approval by LLFA.

Appendix A

Existing Arrangement

FILE DATA - Location: P:\JOB LIBRARY\20250134 - LIDL - IRLAM DRIVE, KIRKBYDRAWINGS IN PROGRESS\SCP-250143-0002 - P01 - EXISTING ARRANGEMENT DWG - Saved: 07/03/2025 9:06 AM; Size: ISO full bleed A1 (841.00 x 594.00 MM)



NOTES

- 1) All dimensions are in metres unless stated otherwise
- 2) All work is carried out in accordance with the Specification for Highway Works and The Local Authority standards
- 3) Underground Services are present in the area. The Contractor is to confirm the precise line and depth of any services prior to the commencement of any excavation works
- 4) This drawing is to be read in conjunction with all relevant specialist details and specification construction details for the used materials can be found on the relevant drawings
- 5) Any Surface Water runoff from within the site, beyond the extent of the publicly maintainable highway, will be retained within the site and not discharged onto the highway.

KEY

-  Existing Permeable area
-  Existing Impermeable area
-  Site Boundary

REVISIONS

REV	DESCRIPTION	DATE	BY
P01	FOR REVIEW & COMMENT	07/03/25	CT

S

CP

Transportation Planning : Infrastructure Design

27 Duke Street, Chelmsford, Essex, CM1 1HT, Tel 020 337 66660,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client Name:



Project Title:

Lidl, Irlam Drive, Kirkby

Drawing Title:

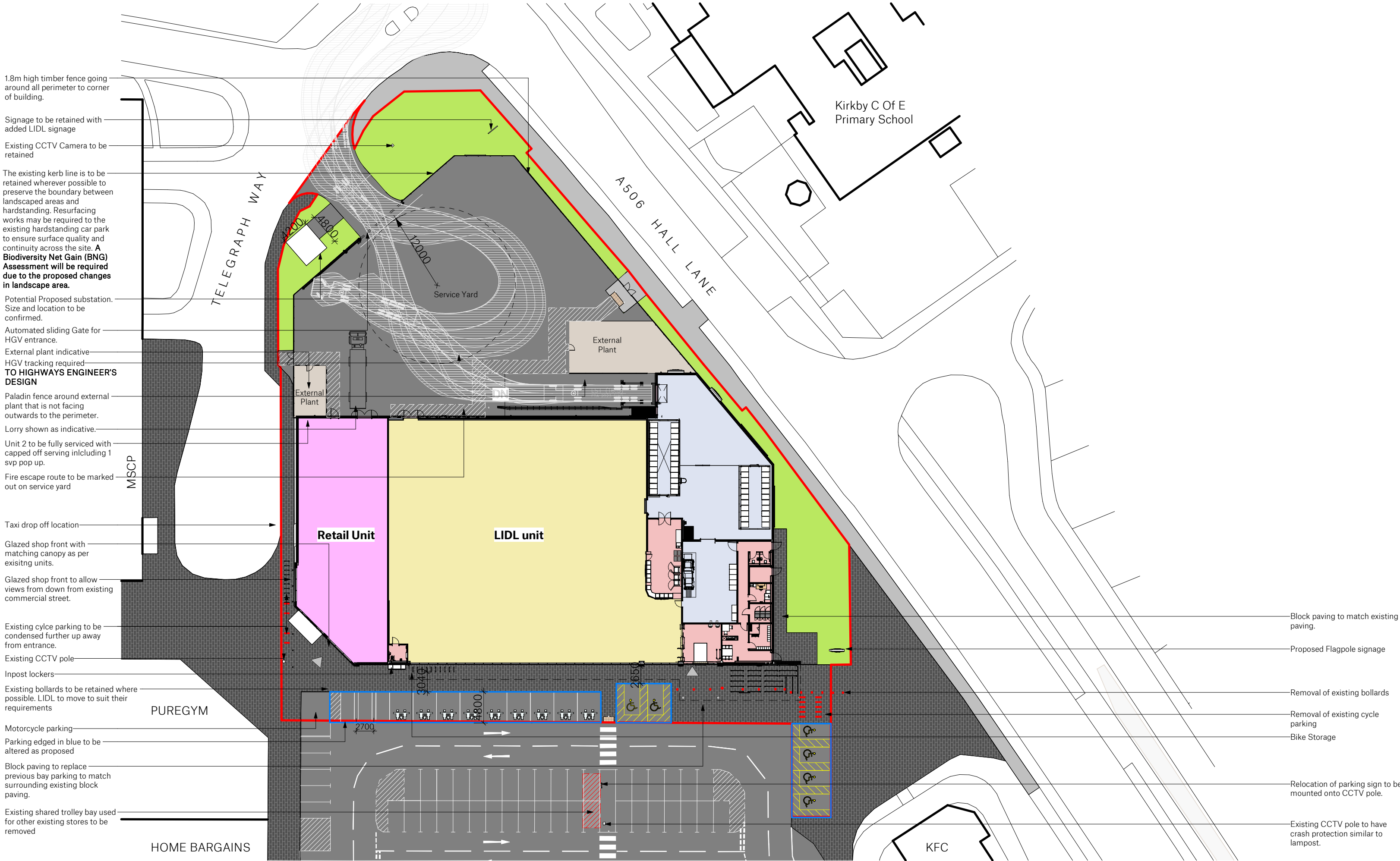
Flood Risk Assessment
Existing Arrangement

Date:	07.03.2025	Drawn By:	CT
Scale:	1:500 @ A1 1:1000 @ A3	Checked:	MT
Status:	For Approval	Approved:	TW

Drawing No.	SCP-250143-0001	Rev.	P01
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Appendix B

Proposed Site Plan V3



OVERALL

SITE AREA (Approx.):	6380 m ²
BUILDING AREAS - LIDL	
Ancillary Area	224 m ²
Sales Area	1516 m ²
Warehouse Area	495 m ²
GROSS INTERNAL AREA (TOTAL)	2235 m ²

Retail Unit	473m2
-------------	-------

	Tarmac (Vehicles)		Tarmac (Pedestrians) to be retained where possible
	Paving to match existing		Concrete cast in-situ
	Soft		Tactile

Store Specification

Bespoke

Drawing Purpose

PLANNING

This drawing has been prepared for the sole purpose of forming part of a planning application, and should not be used for any other purpose.



SPACE

Spaceworks, Benton Park Road, Newcastle upon Tyne, NE7 7LX
T: +44 (0)844 800 6660
www.spacearchitects.co.uk

Project Lidl Kirkby				
Drawing Title Proposed Site Plan				
Project No. 08984	Drawing No. XX-XX-D-A-91001	Status S3	Rev. P26	Scale at A2 1:500
File Reference: 08984-SPACE-XX-XX-D-A-91001-S3-P26				

This drawing is Copyright - Check all dimensions on site - Inform originator of any discrepancies - Work to figured dimensions only - Do not scale



Appendix C

Planning Permission



Knowsley Council

PLACE DIRECTORATE

TOWN AND COUNTRY PLANNING ACT 1990

PLANNING PERMISSION

Application No: 20/00723/FUL

Name and address of applicant

GMI Construction Group PLC
Middleton House, Westland Road
Leeds
LS11 5UH

Name and address of agent

Date of Receipt: 3 December 2020

Date Valid: 4 December 2020

Address/Location Of Development:

**Land At Junction Of County Road/Hall Lane And To Rear Of St Chads Parade
Together With Land At Cherryfield Crescent/Adrians Way/Eagles Court & Spicer
Grove, Kirkby**

Description of Development:

**VARIATION OF CONDITION NO. 2 (APPROVED PLANS) ATTACHED TO
PLANNING PERMISSION 19/00228/FUL TO ALLOW FOR ELEVATIONAL
CHANGES TO FOOD STORE AND AMENDMENT TO DESIGN AND LAYOUT OF
PETROL FILLING STATION BIN STORE / PLANT AREA, AND VARIATION OF
CONDITION 18 TO ALLOW FOR SERVICING AND DELIVERIES TO UNIT 16 TO
TAKE PLACE BETWEEN 06:00 AND 00:00.**

The Council of the Metropolitan Borough of Knowsley hereby give notice in pursuance of the above Act(s) that Planning Permission has been **granted** for the carrying out of the development referred to above in accordance with the application and plans submitted subject to the following condition(s):

1. The development hereby permitted shall be carried out in accordance with the approved plans and documents listed in Schedule 1.
Reason: For the avoidance of doubt.
2. The development shall be carried out in full accordance with the External materials sample schedule received by the Local Planning Authority on 26 February 2021

Reason: In the interests of visual amenity and to and to comply with Policy CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

3. Construction works, shall not take place outside the hours of: 07.30 hours to 18.30 hours Monday to Saturdays and at no time on Sundays or Public Holidays unless

otherwise agreed in writing by the Local Planning Authority. No construction traffic including the delivery and removal of materials shall enter or leave the site outside the hours of construction or between the hours of 08.15 to 09.00 and 15.05 and 15.50 during school term times.

Reason: In the interest of highway safety and to safeguard the amenities of nearby residents and to comply with Policies CS2 and CS7 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

4. The development shall be carried out in full accordance with the Construction Management Plan referenced QES2_4_1_44 received by the Local Planning Authority on 28 March 2019, unless an alternative plan is approved in writing by the Local Planning Authority.

Reason: In the interest of highway safety and to ensure the satisfactory development of the site and in the interests of protecting the amenity of neighbouring occupiers and to comply with Policy CS2 in the Knowsley Local Plan Core Strategy, adopted January 2016 and saved Policy ENV2 of the Knowsley Replacement Unitary Development Plan, adopted June 2006.

5. The development shall be carried out in full accordance with the landscape proposals on plans referenced UG_11784_LAN_SL_DRW_03 P03, UG_11277_LAN_SL_DRW_06 P12, UG_11784_LAN_GA_DRW_01 P03, UG_11784_LAN_LSN_DRW_04 P03, UG_11277_LAN_DET_DRW_10 01, UG_11277_LAN_GA_DRW_01 P11, UG_11277_LAN_HL_DRW_02 P10, UG_11277_LAN_FF_DRW_03 P10, UG_11277_LAN_SL_DRW_04 P12, UG_11277_LAN_SL_DRW_07 P12, UG_11277_LAN_SL_DRW_05 P12, UG_11784_LAN_HL_DRW_02 P03, and the Arboricultural Impact Assessment & Method Statement dated June 2017, issue 3 submitted to the Local Planning Authority on 18 December 2020.

The soft landscaping shall be wholly implemented in its finally approved form within the first available planting season following the substantial completion of development. Any tree or other planting which is lost, felled, removed, becomes diseased, or is substantially damaged within a period of five years thereafter shall be replaced in kind during the first available planting season following the date of loss or damage.

Reason: In the interests of visual amenity and to comply with Policies CS2 and CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

6. No trenches, pipe runs for services or drains shall be sited within the root protection areas of any trees without the prior approval in writing of the Local Planning Authority.

Reason: In the interests of local amenity and to comply with Saved Policy DQ4 of the Knowsley Replacement Unitary Development Plan, adopted June 2006, Policy CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

7. The development shall be carried out in full accordance with SNC Lavalin (May 2018) Remediation Strategy, Kirkby Town Centre for St. Modwen Development Ltd Job No 5145660'. received by the Local Planning Authority on 4 June 2018, unless an alternative is approved in writing by the Local Planning Authority. The approved

remediation scheme shall be implemented and a verification report submitted to and approved in writing by the Local Planning Authority, prior to the development (or relevant phase of development) being brought into use.

Reporting of Unexpected Contamination

In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported immediately to the Local Planning Authority. Development on the part of the site affected must be halted and a risk assessment carried out and submitted to and approved in writing by the Local Planning Authority. Where unacceptable risks are found remediation and verification schemes shall be submitted to and approved in writing by the Local Planning Authority. These shall be implemented prior to the development (or relevant phase of development) being brought into use.

Importation of Soil/Material

No top soil is to be imported to the site until it has been tested for contamination and assessed for its suitability for the proposed development, a suitable methodology for testing this material should be submitted to and agreed by the Local Planning Authority prior to the soils being imported onto site. The methodology should include the sampling frequency, testing schedules, criteria against which the analytical results will be assessed (as determined by the risk assessment) and source material information. The analysis shall then be carried out and evidence submitted to and approved in writing to by the Local Planning Authority.

Reason: To prevent any risk to the public and general pollution of the environment and in accordance with Policy CS2 in the Knowsley Local Plan Core Strategy and saved policy ENV5 of the Knowsley Replacement Unitary Development Plan, adopted June 2006.

8. The development shall be carried out in full accordance with 'GMI: Employment and Skills Plan' received by the Local Planning Authority on 8 August 2018, unless an alternative is approved in writing by the Local Planning Authority.

Reason: To comply with Knowsley Local Plan Core Strategy (2016) policy CS2 'Development Principles' which states that new development in Knowsley will be expected to support the development principle of improving business productivity and employment levels in Knowsley. To comply with Knowsley Local Plan Core Strategy (2016) policy CS4 'Economy and Employment' which states that planning will be used to address skills and educational barriers to employment and to encourage recruitment targeted towards communities living in and around the development site.

9. The development shall be carried out in full accordance with plan reference 1535-SK31 and the email from the planning agent dated 14 March 2018, unless an alternative is approved in writing by the Local Planning Authority.

Reason: In the interests of residential and visual amenity and to comply with Saved Policy ENV3 of the Knowsley Replacement Unitary Development Plan, adopted in June 2006 and Policies CS2 and CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

10. Prior to the occupation of any building or structure hereby approved a scheme for external PTZ/ CCTV security system shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall include all siting and design of columns /fixture details, PTZ domes, audio activated systems including noise levels and management scheme. All works which form part of the scheme shall be completed in accordance with timescales set out in the approved scheme and shall be maintained and thereafter operated as such.

The details approved for Unit 14 set out in Drawing no. 11674-INT-01 Rev 1 and CCTV Specification document (ref. S10 V3.00 01/2021), received by the Local Planning Authority on 04 February 2021

Reason: In the interests of visual amenity and to comply with and Policies CS2 and CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and Saved Policy DQ2 of the Knowsley Replacement Unitary Development Plan, adopted in June 2006 the National Planning Policy Framework.

11. The development shall be carried out in full accordance with the 'Interim Umbrella Travel plan' received by the Local Planning Authority on 14 June 2018, unless an alternative is approved in writing by the Local Planning Authority.

Reason: To maximise opportunities for travel by modes of transport other than the private car, and in the interests of highway safety, and to comply with Saved Policy T9 of the Knowsley Replacement Unitary Development Plan, adopted in June 2006 and Policy CS7 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

12. The development shall be carried out in full accordance with the 'Car Park Management Plan' received by the Local Planning Authority on 3 August 2020, unless an alternative is approved in writing by the Local Planning Authority.

Reason: In the interests of highway safety and to comply with Policy CS7 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

13. The development shall be carried out in full accordance with highway plans referenced;

Drawing 15353-RLL-17-XX-DR-C-209 D - Site Location Plan

Drawing 15353-RLL-17-XX-DR-C-221E Section 278 site clearance plan

Drawing 15353-RLL-17-XX-DR-C-215J - C General Arrangement

Drawing 15353-RLL-17-XX-DR-C-214J - Section 278 Kerbing layout and surfacing

Drawing 15353-RLL-17-XX-DR-C-213 F - Section 278 Highway Construction Details

Drawing 15353-RLL-17-XX-DR-C-211K - Signing and Lining

Drawing 15353-RLL-17-XX-DR-C-217D - Section 278 Road Setting Out

Drawing no. 858166294-SIE-00-XX-DR-Y-0002 C1 - Section 278 Traffic Signal Design

Drawing no. 858166294-SIE-00-XX-DR-Y-0001 C1 - Section 278 Pedestrian Crossing

Drawing SE4198AW-02 A - Street Lighting

unless an alternative is approved in writing by the Local Planning Authority.

Reason: In the interests of highway safety and to comply with Policy CS7 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

14. The development shall be carried out in full accordance with the trolley control scheme as set out in drawing no. 7563_V2_P712 C received by the Local Planning Authority on 26 February 2021.

Reason: In the interests of highway and pedestrian safety and to protect the amenity of neighbouring occupiers in accordance with Policies CS2 and CS7 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

15. The development shall be carried out in full accordance with the details in plans referenced 7563_T117-T6 and 7563_T116-T6 received by the Local Planning Authority on 17 August 2018, unless an alternative is approved in writing by the Local Planning Authority.

Reason: To ensure that adequate provision is made for parking cycles and motorcycles on the site and to comply with Policy CS7 of the Core Strategy, adopted January 2016 and the National Planning Policy Framework.

16. The delivery areas for all the units hereby approved shall be restricted to the areas defined on the approved servicing plan. The service yards/ delivery areas shall be retained for the sole use of the delivery and service vehicles and no other vehicles including those of staff shall park within these areas. Deliveries to Units 2, 3, 4, 14, and 15 and the use of the Service Yard to the rear of units 2, 3 and 4 shall be restricted to the hours between 07.00 and 23.00. Deliveries to Unit 16 shall be restricted to the hours between 06:00 and 00:00.

Reason: In the interests of highway safety and residential amenity and to comply with Policies, CS7 and CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

17. The outdoor seating/ eating areas shall be restricted to Units 1 and 15 and to areas that have been defined within the hardscaping in full accordance with details that have previously been submitted to and approved in writing by the Local Planning Authority. The use of these areas shall be restricted to between the hours of 07.00 and 23.00, unless agreed in writing.

Reason: In the interests of highway safety and residential amenity and to comply with Policies, CS7 and CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

18. Fixed plant and machinery associated with the development shall be designed to a level that is at least 5 dB(A) below the existing LA90 background noise level as measured during the relevant time period. Any tonal, impulsive and/or irregular noise would be addressed by imposing a penalty as per the methodology set out in BS4142:2014, Methods for rating and assessing industrial and commercial sound. Noise limits for fixed plant are to apply at a position 1 metre from the closest affected window of the nearest noise sensitive property. Details of any necessary noise mitigation measures required to achieve the level detailed above and their technical justification shall be submitted to and approved by the Local Planning Authority. The external appearance of the mitigation measures shall be in keeping with the design of the proposed building to which it relates. All such measures shall be fully implemented prior to occupation of each part or phase of the development and shall be maintained thereafter in accordance with the agreed details.

Reason: In the interest of residential amenity and to comply with policy CS19 of the Local Plan Core Strategy, adopted January 2016, Saved Policies ENV2 of the Knowsley Replacement Unitary Development Plan, adopted June 2006 and the National Planning Policy Framework.

19. Prior to the occupation of each unit that will prepare hot food; the following will be submitted to and approved in writing by the Local Planning Authority:
1. Details of a grease trap to be incorporated into the kitchen drainage
 2. A scheme which provides details of the means of ventilation and fume extraction from all kitchen and hot food preparation areas for that part or phase of the development the scheme must include;

- a) Details / specification of the equipment that will be installed to control odour and smoke
- b) The siting of any external ventilation stack; and,
- c) Details of any measures which are necessary to attenuate noise from the ventilation stack;

The approved schemes for each part or phase of development shall be fully installed and operating prior to that part or phase of the development being brought into use. It shall thereafter be retained and operated in accordance with the approved specification at all times that the kitchen and hot food preparation areas are in operation.

Reason: In the interest of residential amenity and to prevent grease entering the drainage system and to comply with policy CS19 of the Local Plan Core Strategy, adopted January 2016, Saved Policies ENV2 of the Knowsley Replacement Unitary Development Plan, adopted June 2006 and the National Planning Policy Framework.

20. The development shall be carried out in full accordance with the signage details on plans referenced 7563_T131 Revision T7 and 7563_T952 Revision 1 received by the Local Planning Authority on 18 December 2019 and 14 January 2020 respectively.

Reason: In the interest of highway safety and to define the permission in the interests of visual amenity, and to comply with Policies CS7 and CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

21. The development shall be carried out in full accordance with the details in plans referenced 7563_T117-T6 and 7563_T116-T6 received by the Local Planning Authority on 17 August 2018, unless an alternative is approved in writing by the Local Planning Authority.

Reason: In the interests of visual amenity and to ensure the development complies with policies CS2 and CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016.

22. Unit 14 shall not operate outside the hours of 07.00 to 23.00 unless acoustic mitigation measures previously approved in writing by the Local Planning Authority have been fully installed in accordance with the approved details. The mitigation measures shall be retained at all times thereafter.

Reason: In the interest of residential and visual amenity, and to comply with Policy CS19 of the Knowsley Local Plan Core Strategy, adopted January 2016, and the National Planning Policy Framework.

23. If the approved sustainable drainage system is not adopted by a public body or statutory undertaker then, prior to the first occupation, a Management and Maintenance Plan for the sustainable drainage system relating to the lifetime of the development shall be submitted to and approved in writing by the Local Planning Authority. This shall include:

- The arrangements for adoption by an appropriate public body or statutory undertaker or details of provision for management and maintenance.
- A schedule for on-going inspections relating to performance and condition. Details for planned maintenance and a mechanism for remedial and urgent repair works.

Reason: To ensure effectiveness of the flood risk measures during the lifetime of the development and to comply with Policies CS2 and CS24 of the Knowsley Local Plan Core Strategy, adopted January 2016.

24. The development shall be carried out in full accordance with the agreed servicing arrangements for Unit 15 as detailed in plan reference 7563_V2_P750 submitted to the Local Planning Authority on 26 February 2021.

Reason: to ensure pedestrian and driver safety in the area around Unit 15 and to ensure the unit can be adequately serviced.

SCHEDULE 1

Date Received	Reference No. on Plan/Report	Version No.
1 November 2019	7563_V2_P001	C
3 December 2020	7563_V2_P101	L
3 December 2020	7563_V2_P103	K
1 November 2019	7563_V2_P104	E
1 November 2019	7563_V2_P110	F
1 November 2019	7757_P101	D
3 December 2020	7563_V2_P201	H
3 December 2020	7563_V2_P202	G
3 December 2020	7563_V2_P203	J
3 December 2020	7563_V2_P203-1	J
3 December 2020	7563_V2_P204	J
7 January 2021	7563_V2_P205	H
7 January 2021	7563_V2_P206	J
1 November 2019	7563_V2_P301	F
1 November 2019	7563_V2_P302	E
1 November 2019	7563_V2_P304	F
1 November 2019	7563_V2_P311	F
1 November 2019	7563_V2_P312	E
1 November 2019	7563_V2_P313	E
1 November 2019	7563_V2_P313-1	E
1 November 2019	7563_V2_P314	F
1 November 2019	7563_V2_P401	E
1 November 2019	7563_V2_P501	E
1 November 2019	7563_V2_P601	D
1 November 2019	7563_V2_P705	F
1 November 2019	7563_V2_P708	C
1 November 2019	7563_V2_P710	A
1 November 2019	7563_V2_P711	B
1 November 2019	7563_V2_P712	B
1 November 2019	7563_V2_P713	D
1 November 2019	7563_V2_P715	A
1 November 2019	7563_V2_P716	C
1 November 2019	7563_V2_P717	A
1 November 2019	7563_V2_P718	G
1 November 2019	7563_V2_P719	A
1 November 2019	7563_V2_P720	B
3 December 2020	7563_P801	H
12 November 2019	7757_P700	A
12 November 2019	7563_V2_P700	D
12 November 2019	15353-RLL-19-XX-DR-C-224	
September 2017	Air Quality Assessment Dated 24 August 2017	

1 September 2017	Drainage Strategy Dated August 2017	
1 September 2017	Arboricultural Impact Assessment Dated June 2017	
9 November 2017	Breakdown of Proposed Uses	

REASON(S) FOR THE GRANTING OF PLANNING PERMISSION

The decision to grant planning permission has also been taken having regard to the policies and proposals as set out below, and to all relevant material considerations including supplementary planning guidance:-

Local Plan Core Strategy Policies;

The site is allocated as part town centre and part primarily residential within an Action Area on the Local Plan Policies Map

CS7 Transport Networks

CS4 Economy and Employment

CS10 Principal Regeneration Area - Kirkby Town Centre

CS19 Design Quality and Accessibility in New Development

Knowsley Replacement UDP Policies;

ENV2 Noise and Vibration

ENV3 Light Pollution

DQ2 Security in the Built Environment

DQ4 Trees and Development

Supplementary Planning Documents / Guidance;

Design Quality in New Development (January 2016)

Trees and Development (June 2016)

Ensuring a Choice of Travel (September 2010)

National Planning Policy Framework (NPPF)

National Planning Practice Guidance (NPPG)

This informative is only intended as a summary of the reason(s) for the granting of planning permission. Should you require any further details relating to the decision please contact the relevant case officer (Kevin Foster on 0151 443 2893)

ARTICLE 35 STATEMENT

Officers have worked with the applicant in a positive and proactive manner to seek solutions to the issues relevant to the proposed development, consistent with the requirement in the National Planning Policy Framework (NPPF), paragraph 38.

NOTE FOR APPLICANT:

IMPORTANT - PLEASE READ CAREFULLY THE NOTES BELOW AS FAILURE TO COMPLY COULD MAKE THE DEVELOPMENT HEREBY PERMITTED UNAUTHORISED

- 1) This planning permission is granted in strict accordance with the approved plans. It should be noted however that:
 - a) Any variation from the approved plans following commencement of the development, irrespective of the degree of variation, will constitute unauthorised development and may be liable to enforcement action.
 - b) You or your agent or any other person responsible for implementing this permission should inform Planning Services immediately of any proposed variation from the approved plans

and ask to be advised as to the best method to resolve the matter. Most proposals for variation to the approved plans will require the submission of a new planning application.

- 2) This permission is granted subject to conditions and it is the owner of the property and the person responsible for the implementation of the development who will be fully responsible for their compliance throughout the development and beyond.
- 3) If there is a condition that requires work to be carried out or details to be approved prior to the commencement of the development this is called a "condition precedent". The following should be noted with regards to conditions precedent.
 - a) If a condition precedent is not complied with prior to the start of development, the whole of the development will be unauthorised, and you may be liable to enforcement action.
 - b) In addition, if the requirements of a condition precedent are subsequently not complied with, the development is unauthorised and the only way to rectify the development is the submission of a new application.

If any other type of condition is breached, then you will be liable to a breach of condition notice.



Executive Director - Regeneration and Economic Development

Date: 9 April 2021

IMPORTANT NOTES FOR YOUR ATTENTION:

1. This permission refers only to that required under the Town and Country Planning Acts and does not include any consent or approval under any other enactment, bylaw, order or regulation.
2. This permission refers only to those plans submitted as part of the Planning Application a copy of which is retained by the Local Planning Authority. The Local Planning Authority should be contacted in writing if it is proposed to amend these plans in any way as a further permission, may be required.
3. You should ensure that you understand the requirements of all planning conditions and that you fully comply with their requirements. If you are in any doubt about what a condition requires of you, please ask us for assistance. Planning conditions may require you to submit further information to us and await our approval before you can start your development. A failure to do so could result in your development being unlawful and necessitate the submission of a further planning application. A failure to comply with the conditions of the permission/consent may result in the taking of enforcement and potentially legal action, against you to remedy the breach of planning control.
4. A fee is normally payable to discharge planning conditions in accordance with government regulations.
5. This permission does not convey any rights or approval to build on, or develop, any land that is not fully owned or controlled by you, including on party boundaries. You should satisfy yourself that the agreement of any adjoining landowners has been given prior to commencing any building works.
6. If a Building Regulations Consent is required for these works it is your responsibility to ensure that the plans submitted for both the Building Regulations Consent and Planning Permission are the same in all respects. Should the plans relating to one consent vary from the other, it will be necessary for you to submit amended plans to this Department and obtain the relevant approval(s) prior to commencing any works. Knowsley Council's Building Control team are contactable on (0151)-443 2342 and they would be pleased to assist you.

Appeals to the Secretary of State

- If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.
- If you want to appeal against your local planning authority's decision then you must do so within 6 months of the date of this notice.
- Appeals can be made online at: <https://www.gov.uk/planning-inspectorate>.
If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.
- The Secretary of State can allow a longer period for giving notice of an appeal but will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.
- The Secretary of State need not consider an appeal if it seems to the Secretary of State that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.

Appendix D

Phase 1 Site Investigation & Preliminary Risk Assessment

Phase 1 Ground Investigation

Phase 1 Site Investigation & Preliminary Risk Assessment

Client: Lidl Great Britain
Ltd

Irlam Drive, Kirkby

Report No: 1373.01.01

February 2025





Executive Summary

Remada Ltd was commissioned by Lidl Great Britain Ltd (hereafter 'the client') to undertake a Phase 1 Geoenvironmental Site Investigation for a proposed store development at Irlam Drive, Kirkby, Merseyside. The objectives of this assessment were to present a preliminary conceptual site model to identify plausible pollutant linkages as a preliminary risk assessment and to provide recommendations for subsequent investigation work.

Site Setting

The site occupies a broadly triangular plot to the south of A506 Hall Lane and to the east and north-east of Telegraph Way. The majority of the site comprises an asphalt surfaced car park (named Hall Lane Car Park), accessed via Telegraph Way along the western boundary. The remainder of the site is occupied by soft landscaping, particularly in the east and north-western corner. No buildings are indicated to be present at the time of writing, although several lamp posts are indicated to be present associated with Hall Lane Car Park.

The site boundary to the north and west is predominantly formed by the pavements of A506 Hall Road and Telegraph Way respectively. The southern and eastern boundary is typically formed by pavements and walkways associated with the adjacent Kirkby Retail Park.

Site History

The earliest available mapping of 1850 indicates the site to comprise a field which extends off-site towards the east and west, with no structures indicated to be present. Development on-site is recorded between the mapping of 1966 and 1977, when the present-day car park appears to have been constructed in the western and central sectors of the site. Telegraph Way is indicated to within the eastern margins of the site, with associated access roads and footpaths. Between 2006 and 2024, the route of Telegraph Way and associated access roads / footpaths in the eastern area of the site are no longer shown. Their positions have been replaced by the existing grassed landscaping and trio of footpaths radiating out from the on-site car park.

Geology / Hydrogeology

Published geological mapping indicates the eastern and southern areas of the site to be underlain by Made Ground deposits. The superficial deposits underlying the site are indicated to comprise Shirdley Hill Sand, designated as a Secondary (A) Aquifer. The underlying bedrock is indicated to comprised Chester Formation sandstone, designated as a Principal Aquifer. The site is located within an Environment Agency-designated Zone III (Total Catchment) Source Protection Zone.

Mining

The site is located within an area which 'might not be' affected by coal mining activity and is not located within a Coal Authority designated Coal Mining Reporting Area. Consequently, no further action is considered necessary at this stage relating to coal mining at and beneath the site.

Radon

The site is located in a Lower Probability Radon Area as less than 1% of properties are above the Action Level, therefore no radon protective measures are necessary.

Recommendations

Environmental

The desk study has identified a number of on-site and off-site potential sources of contamination that would require further investigation. The following is recommended:

- Investigation of the lateral and vertical extent of made ground/fill beneath the proposed store footprint;
- Collection of soil and groundwater samples from the areas identified above for contaminants of concern; and
- Ground gas monitoring.



In accordance with CIRIA C665 the monitoring period should comprise not less than four visits for a proposed commercial development and should cover the "worst case" scenario which would occur during falling atmospheric pressure and, in particular, weather conditions such as rainfall and frost.

Geotechnical

It is recommended that a ground investigation is undertaken to enable preliminary foundation design.



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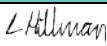
Table 1 Preliminary Conceptual Site Model

FIGURES

Figure 1 Site Location Plan
Figure 2 Existing Site Layout
Figure 3 Proposed Indicative Site Layout

APPENDICES

Appendix A Historical Mapping
Appendix B Envirocheck Mapping
Appendix C Envirocheck Datasheet
Appendix D UXO Risk Mapping

Issue No	Date	Prepared By	Technical Review	Authorised
01	11.02.2025	L Hillman 	P Dickinson 	G Jones 



1. INTRODUCTION

Remada Ltd was commissioned by Lidl Great Britain Ltd (hereafter 'the client') to undertake a Phase 1 Preliminary Risk Assessment for a proposed store development at Irlam Drive, Kirkby, L32 8US at the location indicated in **Figure 1**.

1.1. Objectives

The objectives of this assessment are as follows:

- to develop a preliminary conceptual model of the site to identify plausible pollutant linkages; and
- to provide recommendations for subsequent investigation work.

1.2. Scope of Work

The scope of work comprised a:

- review of local geological, hydrogeological, ground stability, and environmental data and historical mapping pertaining to the site and surrounding area; and
- identification of potential sources, pathways, and receptors, and development of a preliminary conceptual site model.

The scope of work did not include a site reconnaissance visit.

1.3. Previous Reports

It is not known if historic reports are available for review.

1.4. Limitations

The comments given in this report and the opinions expressed are based on the information reviewed and observations during site work. However, there may be conditions pertaining to the site that have not been disclosed by this assessment and therefore could not be taken into account.



2. DESK STUDY

2.1. Description of Site

Site Description The site occupies a broadly triangular plot to the south of A506 Hall Lane and to the east and north-east of Telegraph Way. The majority of the site comprises an asphalt surfaced car park (named Hall Lane Car Park), accessed via Telegraph Way along the western boundary. The remainder of the site is occupied by soft landscaping, particularly in the east and north-western corner. No buildings are indicated to be present at the time of writing, although several lamp posts are indicated to be present associated with Hall Lane Car Park.

The site boundary to the north and west is predominantly formed by the pavements of A506 Hall Road and Telegraph Way respectively. The southern and eastern boundary is typically formed by pavements and walkways associated with the adjacent Kirkby Retail Park.

The existing site layout is presented in **Figure 2**.

Area of Site	5582m ²
Site Elevation	The topographic elevation of the site is approximately 20 – 25m aOD (metres above ordnance datum).
National Grid Co-ordinates	341180, (E), 398910 (N)

2.2. Site Setting

The site is situated in a mixed commercial and residential area.

North:	A506 Hall Lane bounds the site to the north, with Kirkby Church of England Primary School beyond. The area beyond the school is generally occupied by residential housing associated with Milbrook Drive and Milbrook Crescent.
East:	Kirkby Retail Park and the associated car park area is directly east of the site, with Irlam Drive and the A5208 County Road beyond.
South:	Telegraph Way and associated taxi rank forms the southern boundary of the site, with a multi-storey car park beyond.
West:	Telegraph Way, and its respective junctions with Norwich Way and A506 Hall Lane, forms the western boundary of the site. The area beyond is predominantly occupied by grass and deciduous trees.

2.3. Site History

A summary of the historical land use of the site and surrounding area follows.

Map Date	Description of on-site activities
1850	The earliest available mapping of 1850 indicates the site to comprise a field which extends off-site towards the east and west. No structures are indicated to be present.



1891-93	Similar to above.
1894	Similar to above.
1908	Similar to above.
1909	Similar to above.
1927	Similar to above.
1928	Similar to above.
1955-56	Similar to above.
1961	The site remains devoid of any structures but appears to be undeveloped. However, the surrounding area (including the field that once extended away from the site) have been subject to redevelopment.
1962	Similar to above.
1966	Similar to above.
1977	The site has been redeveloped with a car park occupying a similar footprint to the present day in the western and central sectors of the site. Telegraph Way is indicated to within the eastern margins of the site, with associated access roads and footpaths.
1974-78	Similar to above.
1984-89	Similar to above.
1990	Similar to above.
1993	Similar to above.
1994	Similar to above.
1999	Similar to above.
2001	The aerial photography of 2001 concurs with the previous historic mapping.
2006	Similar to above.
2024	The route of Telegraph Way and associated access roads / footpaths in the eastern area of the site are no longer shown. Their positions have been replaced by the existing grassed landscaping and trio of footpaths radiating out from the on-site car park.

Map Date	Description of off-site activities
1850	The earliest available mapping of 1850 shows the surrounding area to be predominantly rural and dominated by fields. A road occupying a similar footprint to the present day A506 Hall Lane is present to the north of the site, whilst a road of similar layout to County Road (A5208) is recorded.



	forming the crossroads approximately 150m east. Kirkby Hall is recorded approximately 100m southwest of site.
1893	Similar to above.
1894	Similar to above.
1908	Similar to above.
1909	Similar to above.
1927	Similar to above.
1928	Similar to above.
1956	Similar to above.
1962	Significant redevelopment of the surrounding environs is recorded. Hall Lane is now named immediately to the north of the site, with residential properties off Milbrook Drive, Hall Drive and Milbrook Crescent being present beyond. Kirkby Hall to the west of the site is now labelled as Council Offices. St Chads Drive has been constructed adjacent to the site's southern and western boundaries, with Kirkby Market from circa 150m south-east and a Bus Station from circa 200m south.
1966	Similar to above.
1977	Further development of the surrounding area of the site is recorded. A multi-storey car park has been established from circa 20m south, a public baths circa 80m west and an electricity substation located from 90m south. The most prominent feature is a large, irregular-shaped, unlabelled building which bounds the site to the east and southern corner. An electricity substation has been installed within this complex circa 60m to the east, with a third labelled 100m to the south-east. Kirkby C of E Primary School has been established to the north of Hall Lane. Kirkby Hall is no longer shown.
1978	Similar to above.
1974-78	Kirkby town centre appears to have developed further.
1984-89	Similar to above.
1990	Similar to above.
1993	Similar to above.
1999	Similar to above.
2006	Similar to above.
2024	The large unnamed building immediately to the east of the site is no longer recorded and appears to have been replaced by Kirkby Retail Park's car park. The public baths are likewise no longer shown, with this area now occupied by parkland / grassed land.



2.4. Proposed Site Use

It is understood that the proposed site use for the site will be a Lidl retail store with soft landscaping. A proposed indicative site layout plan is presented as **Figure 3**, with the site being accessed from the existing Kirkby Retail Park off Irlam Drive and the A5208 to the east. The proposed store footprint is indicated to be in the western areas of the site, with the remaining areas being a combination of HGV access and soft landscaping.

2.5. Environmental Setting

2.5.1. Made Ground and Superficial Geology

Information from the environmental report and the British Geological Survey (BGS) 1:50,000 scale map Sheet 84 (Wigan) indicates Made Ground to be present in the eastern and southern areas of the site, extending off-site towards the east, south and south-west.

Artificial Ground is a term used by the BGS for those areas where the ground surface has been significantly modified by human activity, and includes made ground, worked ground, infilled ground, landscaped ground and disturbed ground. Taking into consideration the site's historic use, satellite imagery and BGS mapping, it is likely that made ground will be encountered underlying the majority of the site.

The superficial deposits underlying the site are indicated to comprise Shirdley Hill Sand Formation. The BGS describe these as typically comprising *'moderately to well-sorted, fine-grained sand with peat layers in the lower part. Sand grains are dominated by rounded to sub-rounded quartz grains. The formation is divisible into an upper "white" sand and a lower "brown" sand that is olive grey and brown'*.

The superficial deposits are designated as Secondary (A) Aquifer (ref Envirocheck **Appendix B**).

2.5.2. Bedrock Geology

The bedrock geology underlying the site is indicated to comprise the Chester Formation. The BGS describes this sandstone bedrock as typically comprising *'conglomerates and reddish brown, cross-bedded, pebbly sandstones with subordinate beds of red-brown mudstone. The conglomerates have a reddish brown sandy matrix and consist mainly of pebbles of brown or purple quartzite, with quartz conglomerate and vein quartz.'*

The bedrock is designated as a Principal Aquifer (ref Envirocheck **Appendix B**).

2.5.3. Historic BGS Borehole Records

There are no pertinent historic BGS borehole records within a relevant distance of the site.

2.5.4. Groundwater Abstractions

There is one (1 No.) groundwater abstraction points within 1km of the study site. This is located 766m to the north at Kirkby Pumping Station and pertains to United Utilities' abstraction from a borehole for potable water supply (ref Envirocheck **Appendix B**).

2.5.5. Source Protection Zones

The site is located within an Environment Agency-designated Zone III (Total Catchment) Source Protection Zone. This is defined by the EA as *'the total area needed to support the discharge from the protected groundwater source'* (ref Envirocheck **Appendix B**).



2.5.6. Surface Water Features and Abstractions

The nearest surface water feature is 329m northwest of the site, appearing to pertain to Kirkby Brook (ref Envirocheck **Appendix B**).

There is one (1 No.) surface water abstraction points within 1km of the study site, located 889m northwest at Mill Dam, Mill Lane, Kirkby pertaining to Metropolitan Borough of Knowsley's abstraction from Bank Bark for general agriculture (ref Envirocheck **Appendix B**).

2.5.7. Flooding Vulnerability

The site is located in an area with the potential for groundwater flooding to occur and the northeast of the site is recorded to be within a low risk surface water flood zone (ref Envirocheck **Appendix B**).

2.5.8. Ground Stability

The Envirocheck Report (**Appendix B**) provides the following information regarding ground stability.

Collapsible Deposits	There is a 'very low' hazard rating from collapsible rocks.
Compressible Ground	There is a 'very low' hazard rating from compressible ground.
Rock Solubility / Dissolution	There is a 'no' hazard rating from rock solubility at the site.
Landslides	There is a 'very low' hazard rating from landslides.
Running Sand	There is a 'low' hazard rating for running sands.
Shrinking / Swelling of Clay	There is a 'no' hazard rating for shrinkage / swelling of clay.

2.5.9. Radon

The site is located in a Lower Probability Radon Area as less than 1% of properties are above the Action Level, therefore no radon protective measures are necessary (ref Envirocheck **Appendix B**).

2.5.10. Environmentally Sensitive Site Designations

The nearest environmentally sensitive zone is within the site boundary pertaining to a nitrate vulnerable zone for surface water (ref Envirocheck **Appendix B**).

2.6. Industrial Land Use

There are twenty (20 No.) contemporary trade directory entries locations within 250m of the site. The nearest is for car breakdown and recovery service 50m northwest of the site and is recorded as inactive (ref Envirocheck **Appendix B**).

There is one fuel station entry within 250m of the study site. This is located 175m to the east on Irlam Drive, pertaining to Morrisons Kirkby and is recorded as being open (ref Envirocheck **Appendix B**).

2.7. Environmental Permits, Incidents & Registers

There are two (2 No.) permitted process entry within 250m of the study site. They are both Local Authority Pollution Prevention and Control permits, with the nearest located 157m south pertaining to Johnsons Dry Cleaners at 11 St Chad's Parade, Kirkby for dry cleaning and became effective in October 2007.

There are five (5 No.) recorded pollution incident entries within 500m of the site. The nearest was located 334m to the east and pertains to a 'not given' pollutant impacting the Kirkby Brook is August 1993. The incident was recorded as being a Category 3 (Minor Incident) (ref Envirocheck **Appendix B**).



2.8. Landfill & Waste Sites

The Envirocheck search has included a check on the Local Authority's landfill coverage at the site. Knowsley Metropolitan Borough Council and Merseyside Waste Disposal Authority have both supplied data.

There are two (2 No) local authority landfill sites and one (1 No.) historical landfill site within the search area. The nearest is a historical landfill located 442 – 448m south-west of the site at Cherryfield Drive, with the deposited waste included household waste (ref Envirocheck **Appendix B**).

2.9. Mining

The site is located within an area which 'might not' be affected by coal mining activity (ref Envirocheck **Appendix B**).

2.10. Unexploded Ordnance (UXO) Risk

A non-specialist UXO screening exercise was initially carried out for the site by considering (a) any evidence of UK defence activities on or near the site evident from the gathered desk study information and (b) the unexploded aerial-delivered ordnance (UXO) regional risk mapping produced by Zetica.

There is no indication of former military use from the desk study.

Furthermore, the freely available Zetica UXO risk mapping (presented in **Appendix D**) indicates the site to be located within an area where the bomb risk is 'Low'. This is defined by Zetica as an area having an indicated bombing density of 15 bombs per 1000 acres or less.



3. PRELIMINARY RISK ASSESSMENT

3.1. Introduction

A Preliminary Risk Assessment (PRA) has been completed for the site. This PRA identifies the potential sources, pathways, and receptors for the site, in order to assess the potential risks posed by identified potential sources to human health and / or controlled waters receptors. When required, the viability of the Source-Pathway-Receptor pollutant linkage must be evaluated further to determine whether an actual risk is present.

3.2. Potential Sources

On-site Historical

- Made Ground recorded from BGS mapping
- Made Ground associated with former access road

On-site Current

- Operational car park

Off-site Historical

- Development of Kirkby Town Centre
- Demolition of former structures including public baths

Off-site Current

- Operational retail park and associated car park
- Residential housing
- Electrical sub-stations
- Bus Station

3.3. Potential Contaminants of Concern (PCOCs)

- Metals
- Asbestos (associated with demolition and redevelopment of the existing site).
- Total petroleum hydrocarbons (TPH)
- Polycyclic aromatic hydrocarbons (PAH).
- Ground gases (carbon dioxide and methane)
- Polychlorinated Biphenyls (PCBs)

3.4. Potential Receptors

Human Health

- On-site Lidl store staff.
- Construction workers.
- On-site general public and visiting staff (such as contractors, including those conducting excavation works).
- Neighbouring residents

Controlled Waters

- Secondary (A) Aquifer in Superficial Deposits



- Principal Aquifer in bedrock;
- Kirkby Brook

3.5. Preliminary Conceptual Model

The Preliminary Conceptual Site Model of the site has been prepared and illustrates the potentially active pollutant linkages. A pollutant linkage is present only when a source, pathway and receptor exist together.

- A **source** is a substance that has potential to cause harm or adversely affect human health, water resources or the wider environment.
- A **pathway** is the route or means by which a source of contamination can migrate resulting in exposure to a receptor.
- A **receptor** is something that could be adversely affected by a contaminant such as human health, an ecological system, animals or crops, buildings or controlled waters.

The Preliminary Conceptual Site Model is presented in **Table 1**.



Potential Source Areas	Potential Contaminant of Concern	Pathways	Potential Receptor	Exposure Route (Human unless otherwise stated)	Potential Identified Linkage (unmitigated)	Findings of Ground investigation	Risk (Un-mitigated)	Proposed Remediation (Mitigation) Measures	Residual Risk Estimation
<u>On-site Sources</u>				Direct Soil Ingestion	N/A	N/A	N/A	N/A	N/A
Operational car park		Disturbance due to construction plant causing direct contact, dusts, vapours.		Indoor Dust ingestion	Yes	As above	Potential risk	TBA	TBA
Made Ground associated with former access road				Skin Contact with Soils	Yes	As above	Potential risk	TBA	TBA
<u>Off-site Sources</u>	Asbestos / Metals As, Be, Cd, Cu, Cr (VI), Cr (III) Hg, Ni, Se, Va, Zn, Boron, TPH /PAH, PCBs	Direct Contact with occupants of the proposed development	Occupants of the development / building fabric	- Skin Contact with Dust - Inhalation of Outdoor Dust	- Yes - Yes	As above	Potential risk	TBA	TBA
Residential housing				Ingestion of home grown produce	N/A	N/A	N/A	N/A	N/A
Operational retail park		Inhalation of fibres / vapours / gases by occupants of proposed development		Inhalation of Outdoor Vapours	Yes	As above	Potential risk	TBA	TBA
Electrical sub stations			Adjacent residents during construction	- Inhalation of Indoor Vapours - Inhalation of ground gas	- Yes - Yes	As above	Potential risk	TBA	TBA
Bus station				Inhalation of radon gas	No	Lower Probability Area	Negligible	None	Negligible
Development of Kirkby town centre		Permeation of water supply pipework	Kirkby Brook	Ingestion via permeated water supply pipework	Yes	As above	Potential risk	TBA	TBA
				Direct contact with Secondary (A) Aquifer in Superficial Deposits	Yes	As above	Potential risk	TBA	TBA
		Leachate	Secondary Aquifer & Principal Aquifer	In-direct contact with Principal Aquifer in bedrock	Yes	As above	Potential risk	TBA	TBA

Table 1: Preliminary Conceptual Site Model

Direct contact with subsurface soil and/or groundwater during redevelopment works are not assessed as part of the CSM. It is considered that risks to workers will be managed as part of any the redevelopment works at the site through the application of health and safety procedures, where required.



4. CONCLUSIONS & RECOMMENDATIONS

4.1. Conclusions

The site occupies a broadly triangular plot to the south of A506 Hall Lane and to the east and north-east of Telegraph Way. The majority of the site comprises an asphalt surfaced car park (named Hall Lane Car Park), accessed via Telegraph Way along the western boundary. The remainder of the site is occupied by soft landscaping, particularly in the east and north-western corner. No buildings are indicated to be present at the time of writing, although several lamp posts are indicated to be present associated with Hall Lane Car Park.

The site boundary to the north and west is predominantly formed by the pavements of A506 Hall Road and Telegraph Way respectively. The southern and eastern boundary is typically formed by pavements and walkways associated with the adjacent Kirkby Retail Park.

The earliest available mapping of 1850 indicates the site to comprise a field which extends off-site towards the east and west, with no structures indicated to be present. Development on-site is recorded between the mapping of 1966 and 1977, when the present-day car park appears to have been constructed in the western and central sectors of the site. Telegraph Way is indicated to within the eastern margins of the site, with associated access roads and footpaths. Between 2006 and 2024, the route of Telegraph Way and associated access roads / footpaths in the eastern area of the site are no longer shown. Their positions have been replaced by the existing grassed landscaping and trio of footpaths radiating out from the on-site car park.

Published geological mapping indicates the eastern and southern areas of the site to be underlain by Made Ground deposits. The superficial deposits underlying the site are indicated to comprise Shirdley Hill Sand, designated as a Secondary (A) Aquifer. The underlying bedrock is indicated to comprised Chester Formation sandstone, designated as a Principal Aquifer. The site is located within an Environment Agency-designated Zone III (Total Catchment) Source Protection Zone.

The site is located within an area which 'might not be' affected by coal mining activity and is not located within a Coal Authority designated Coal Mining Reporting Area. Consequently, no further action is considered necessary at this stage relating to coal mining at and beneath the site.

The site is located in a Lower Probability Radon Area as less than 1% of properties are above the Action Level, therefore no radon protective measures are necessary.

4.2. Recommendations

Environmental

The desk study has identified a number of on-site and off-site potential sources of contamination that would require further investigation. The following is recommended:

- Investigation of the lateral and vertical extent of made ground beneath the proposed store footprint.
- Collection of soil and groundwater samples from the areas identified above for contaminants of concern; and
- Ground gas monitoring.



In accordance with CIRIA C665 the monitoring period should comprise not less than four visits for a proposed commercial development and should cover the "worst case" scenario which would occur during falling atmospheric pressure and, in particular, weather conditions such as rainfall and frost.

Geotechnical

It is recommended that a ground investigation is undertaken to enable preliminary foundation design.



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STUDY LIMITATIONS

IMPORTANT. This section should be read before reliance is placed on any of the information, opinions, advice, recommendations or conclusions contained in this report.

1. This report has been prepared by Remada, Ltd with all reasonable skill, care and diligence within the terms of the Appointment and with the resources and manpower agreed with (the 'Client'). Remada does not accept responsibility for any matters outside the agreed scope.

2. This report has been prepared for the sole benefit of the Client unless agreed otherwise in writing.

3. Unless stated otherwise, no consultations with authorities or funders or other interested third parties have been carried out. Remada is unable to give categorical assurance that the findings will be accepted by these third parties as such bodies may have published, more stringent objectives. Further work may be required by these parties.

4. All work carried out in preparing this report has used, and is based on, Remada's professional knowledge and understanding of current relevant legislation. Changes in legislation or regulatory guidance may cause the opinion or advice contained in this report to become inappropriate or incorrect. In giving opinions and advice pending changes in legislation, of which Remada is aware, have been considered. Following delivery of the report Remada has no obligation to advise the Client or any other party of such changes or their repercussions.

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6. Whilst this report and the opinions made are to the best of Remada's belief, Remada cannot guarantee the accuracy or completeness of any information provided by third parties.

7. This report has been prepared based on the information reasonably available during the project programme. All information relevant to the scope may not have received.

8. This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of changes in the condition of the site since the time of the investigation.

9. The content of this report represents the professional opinion of experienced environmental consultants. Remada does not provide specialist legal or other professional advice. The advice of other professionals may be required.

10. Where intrusive investigation techniques have been employed they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature of sampling, no investigation technique is capable of identifying all conditions present in all areas. In some cases the investigation is further limited by site operations, underground obstructions and above ground structures. Unless otherwise stated, areas beyond the boundary of the site have not been investigated.

11. If below ground intrusive investigations have been conducted as part of the scope, service tracing for safe location of exploratory holes has been carried out. The location of underground services shown on any drawing in this report has been determined by visual observations and electromagnetic techniques. No guarantee can be given that all services have been identified. Additional services, structures or other below ground obstructions, not indicated on the drawing, may be present on site.

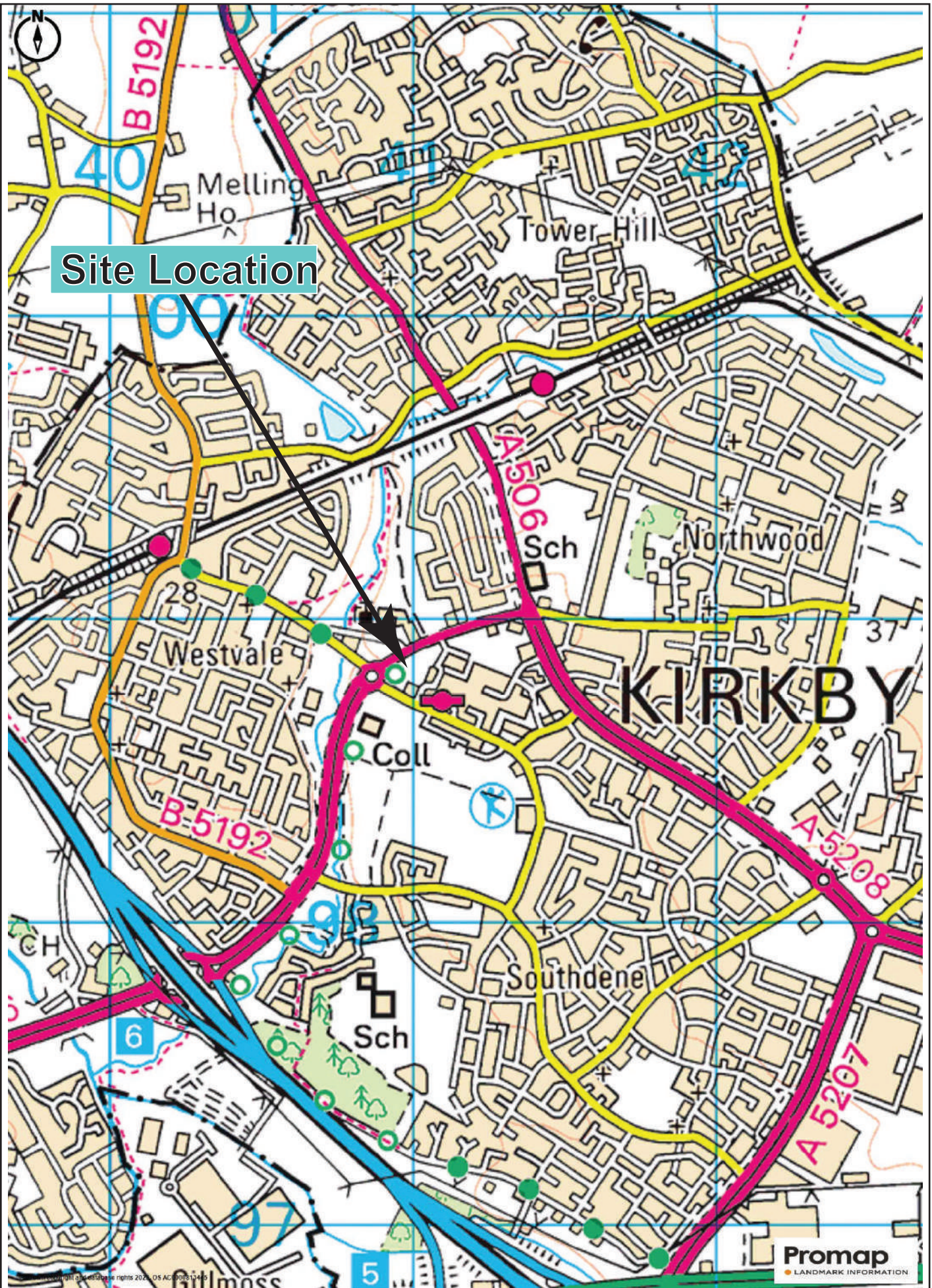
12. Unless otherwise stated the report provides no comment on the nature of building materials, operational integrity of the facility or on any regulatory compliance issues.

13. Unless otherwise stated, samples from the site (soil, groundwater, building fabric or other samples) have NOT been analysed or assessed for waste classification purposes.



FIGURES

- | | |
|----------|---------------------------------|
| Figure 1 | Site Location Plan |
| Figure 2 | Existing Site Layout |
| Figure 3 | Proposed Indicative Site Layout |



Site Location

Notes	Revision	Approved	Date	Project Title	Scale	Drawn	Size
				Irlam Drive, Kirkby	as shown	LH	A4
				Drawing Title	Date	Job No.	Figure No.
				Site Location Plan	10.02.25	1373.01	01
				Client			
				Lidl Great Britain Ltd			





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Legend

Notes:

Red line boundary shown within Figure 2-
Existing Site Layout is for illustrative purposes
only.

Revision	Approved	Date

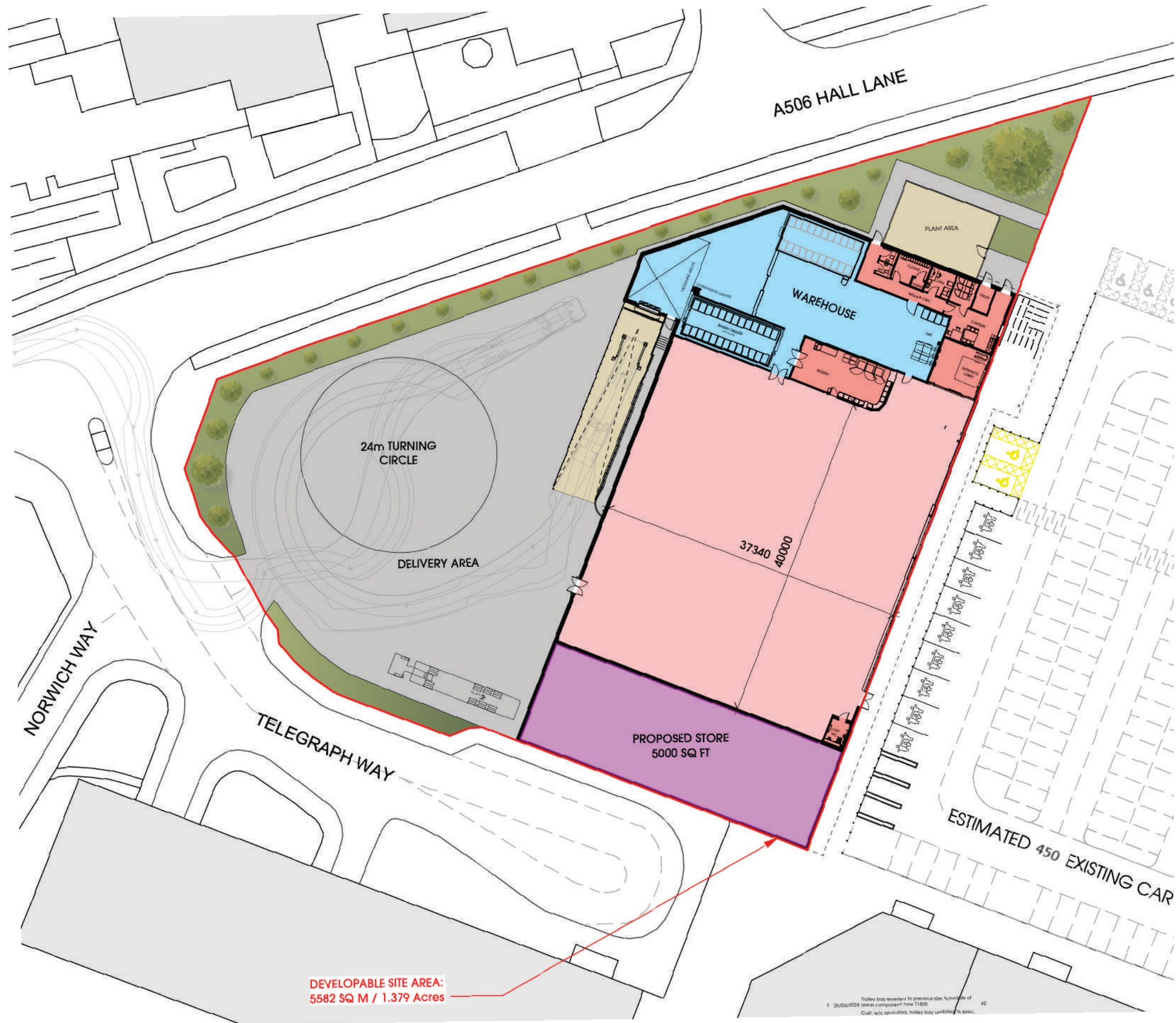
Project Title
Irlam Drive, Kirkby

Drawing Title
Existing Site Layout

Client
Lidl Great Britain Ltd 

Scale	Drawn	Size
as shown	LH	A4
Date	Job No.	Figure No.
10.02.25	1373	02

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Legend

Notes:

Proposed Layout reproduced from HTC Architects Ltd's Proposed Site Plan (Option 14), drawing ref: 3288_F414 Rev F, dated January 24.

The proposed site layout plan presented here is indicative only and may be subject to change following publication of Remada's Phase 1 report.

Revision	Approved	Date

Project Title

Irlam Drive, Kirkby

Drawing Title

Proposed Indicative Site Layout Plan

Client

Lidl Great Britain Ltd

Scale	Drawn	Size
as shown	LH	A4
Date	Job No.	Figure No.
10.02.25	1373	03





APPENDIX A

1:2500 & 1:10000 Scale Historical Mapping

Ordinance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information

	Quarry		Gravel Pit		Sand Pit
	Clay Pit		Shingle		Refuse Heap
	Sloping Masonry		Flat Rock		
	Marsh		Reeds		Osiers
	Rough Pasture		Furze		Wood
	Mixed Wood		Brushwood		Orchard
	Fir		Ford		Stepping Stones
	Ferry		Waterfall		Lock

	Trig. Station	507 	Altitude at Trig. Station
<i>B.M.</i> 325.9 	Bench Mark	342 +	Surface Level
	Arrow denotes flow direction		Antiquities (site of)

Railway crossing
Road

Level Crossing

Road crossing
Railway

**Railway crossing
River or Canal**

**Road over
single stream**

**Road over
River or Canal**

-----	County Boundary (Geographical)
- . - . - .	County & Civil Parish Boundary
+ . + . + .	Administrative County & Civil Parish Boundary
-----	County Borough Boundary (England)
-----	County Burgh Boundary (Scotland)

<i>B.P.B.S.</i>	Boundary Post or Stone	<i>P.C.B.</i>	Police Call Box
<i>B.R.</i>	Bridge Road	<i>P.</i>	Pump
<i>E.P.</i>	Electricity Pylon	<i>S.P.</i>	Signal Post
<i>F.B.</i>	Foot Bridge	<i>Sl.</i>	Sluice
<i>F.P.</i>	Foot Path	<i>Sp.</i>	Spring
<i>G.P.</i>	Guide Post or Board	<i>T.C.B.</i>	Telephone Call Box
<i>M.S.</i>	Mile Stone	<i>Tr.</i>	Trough
<i>M.P.M.R.</i>	Mooring Post or Ring	<i>W.</i>	Well

Inactive Quarry,
Chalk Pit or
Clay Pit

Active Quarry,
Chalk Pit or
Clay Pit

Rock

Boulders

Slopes

Top

Cliff

Top

Roofed Building

Glazed Roof
Building

Top

Sloping
Masonry

Archway

Non-Coniferous Tree
(surveyed)

Coniferous Tree
(surveyed)

Non-Coniferous Trees
(not surveyed)

Coniferous Trees
(not surveyed)

	Orchard Tree		Scrub		Bracken
	Coppice, Osier		Reeds		Marsh, Saltings

 Direction of water flow
  B.M. Bench Mark
  Antiquity (site of)

 Cave Entrance
 Triangulation Station
 Electricity Pylon

ETL Electricity Transmission Line

	County Boundary (Geographical)
	County & Civil Parish Boundary
	Civil Parish Boundary
	Admin. County or County Bor. Boundary
	London Borough Boundary
	Symbol marking point where boundary merging changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
EI P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
N TL	Normal Tidal Limit	Wd Pp	Wind Pump

Slopes	
Cliff	Top
Rock	Rock (scattered)
Boulders	Boulders (scattered)
Positioned Boulder	Scree
Non-Coniferous Tree (surveyed)	Coniferous Tree (surveyed)
Non-Coniferous Trees (not surveyed)	Coniferous Trees (not surveyed)
Orchard Tree	Bracken
Coppice, Osier	Reeds
Rough	Heath
Culvert	Culvert

 Direction of water flow
  Triangulation Station
  Antiquity (site of)

E T L Electricity Transmission Line
  Electricity


 BM 231.60m Bench Mark 
 Buildings with Building Seed

Roofed Building

Glazed Roof Building

• • • • • Civil parish/community boundary

— — District boundary

— • — County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismdtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station

EIP	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
EI Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governor	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1891 - 1893	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1927	4
Lancashire And Furness	1:2,500	1937 - 1939	5
Ordnance Survey Plan	1:1,250	1961 - 1962	6
Ordnance Survey Plan	1:2,500	1962	7
Ordnance Survey Plan	1:1,250	1966 - 1977	8
Additional SIMs	1:1,250	1984 - 1989	9
Additional SIMs	1:1,250	1986 - 1991	10
Large-Scale National Grid Data	1:1,250	1993	11
Large-Scale National Grid Data	1:1,250	1994 - 1995	12
Large-Scale National Grid Data	1:1,250	1994 - 1995	13
Large-Scale National Grid Data	1:1,250	1995	14
Large-Scale National Grid Data	1:1,250	1996	15
Historical Aerial Photographv	1:2,500	2001	16

A 5x5 grid of points labeled A1 to A25. A 2x2 square is centered at A13, with vertices at A12, A14, A16, and A18. A purple ellipse is centered at A13, passing through A12 and A14.

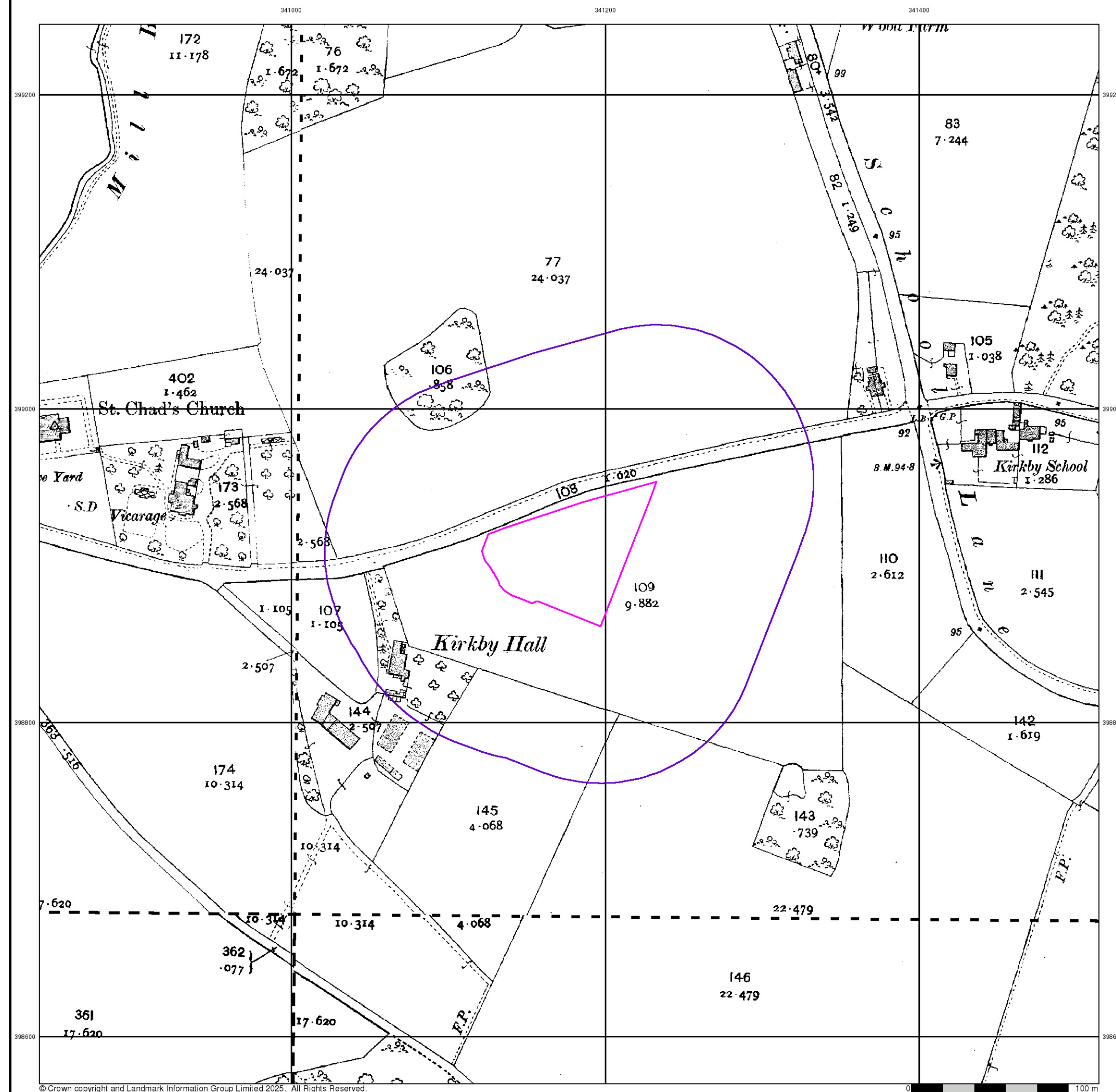


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Customer Ref: 1373.01
National Grid Reference: 341180, 398910
Slice: A
Site Area (Ha): 0.56
Search Buffer (m): 100

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Lancashire And Furness

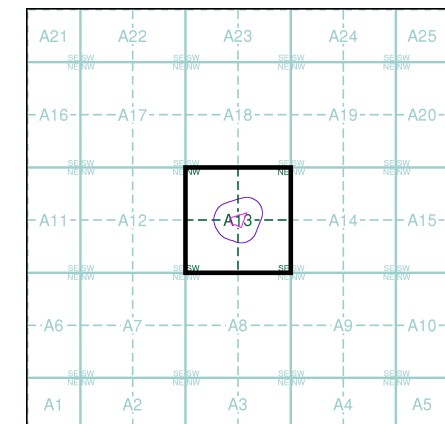
Published 1908

Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

Historical Map - Segment A13



Order Details

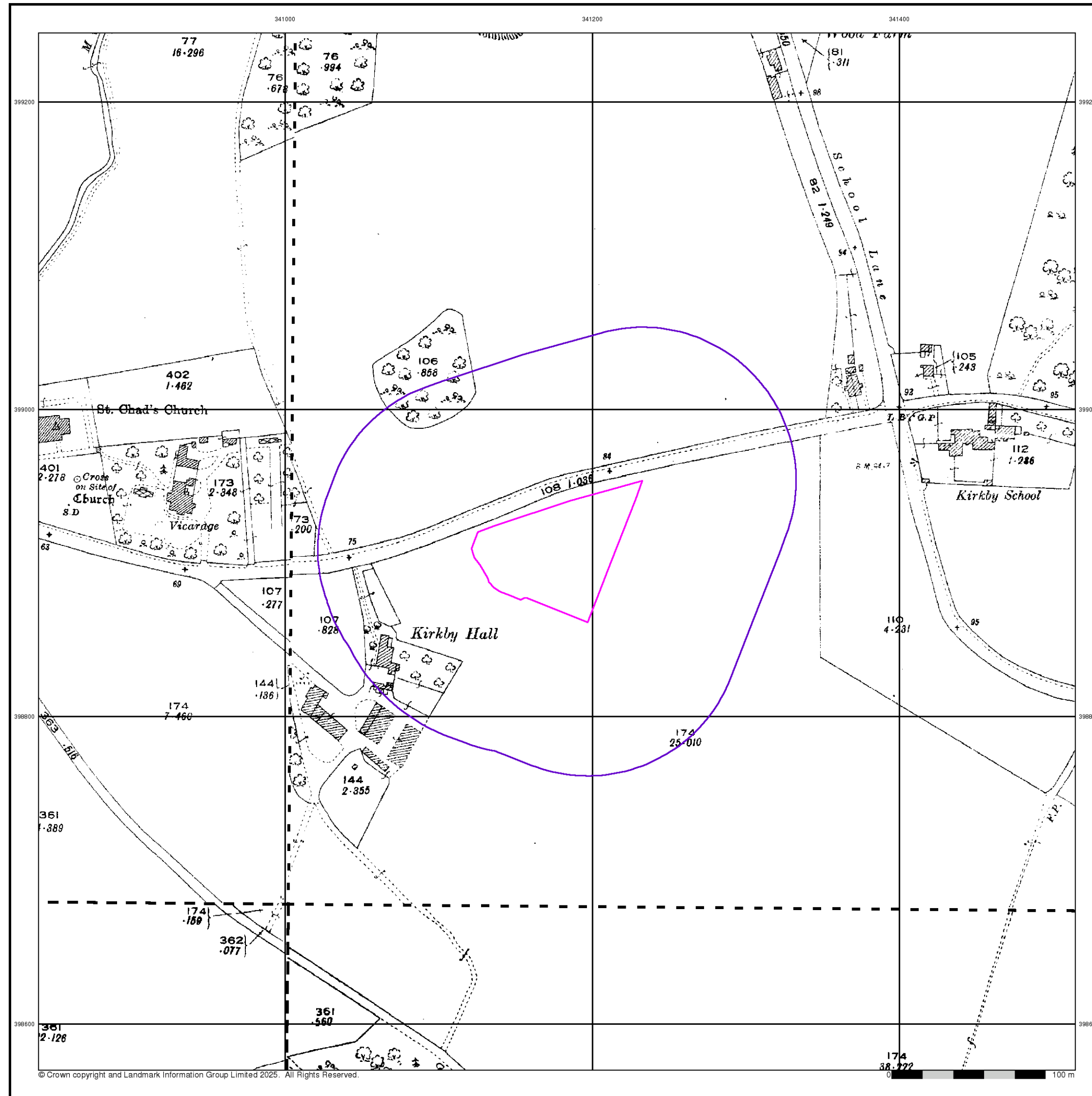
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Slice: A
Site Area (Ha): 0.56
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Published 1927

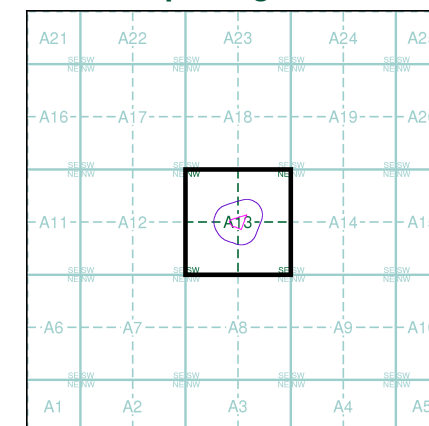
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

099_08 1927 1:2,500	100_05 1927 1:2,500
099_12 1927 1:2,500	100_09 1927 1:2,500

Historical Map - Segment A13



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