

Technical Note – Applicant Response to LLFA Comments

Introduction

- 1.1 This Technical Note (TN) has been created by Mayer Brown Ltd (MBL) to address the consultation comments received from Wiltshire County Council, acting as the Lead Local Flood Authority (LLFA), in response on the Flood Risk Assessment (FRA) and Drainage Strategy that accompanied the planning application for the proposed new Lidl store at Land East of Eastern Way and South of Sandridge Common, under Planning Reference **PL/2026/02458**.
- 1.2 The LLFA response letter is contained in Appendix A of this TN. The comments in their letter have been subdivided into 4 topics/sections and MBL have endeavoured to address each one individually.
- 1.3 Prior to addressing the LLFA comments there is further explanation below on the Development as a whole, recent amendments and how the drainage design performs against the 8 No. National SuDS Standards.
- 1.4 This TN should also be read in conjunction with the original MBL FRA and Drainage Strategy that accompanied the application.

Proposed Development

- 1.5 The following breakdown of the Development as a whole is relevant to inform the proposed surface water outfall
- 1.6 The proposal is for the *“Full application is for the construction of a new food store (Class E) with associated parking, landscaping, drainage and servicing.* The latest proposed site plan is contained in Appendix B.
- 1.7 The total planning application boundary covers approximately 2 hectares, but the new store covers just over half of this area. The remaining area is S278/S38 access road onto Eastern Way, Eastern Way improvements and new shared paths in the highway verge.
- 1.8 An approximate breakdown of the application area is as follows:
 - New Lidl Food store, car park and access onto the new S38 access road. (1.02 hectares)

- S38/S278 Access Road: 56 metres of the 9-metre-wide main access road with 3m wide shared paths both sides. Will provide access to the new store and future development site immediately to the south. The access road will be offered for adoption to Wiltshire CC. Refer to figure 1.1 and proposed access drawing in Appendix C.
 - 31 metres is new road constructed under a S38 agreement
 - 25 metres is new road and access onto Eastern Way constructed under a S278 agreement.
- S278 Highway Improvements: Road widening, new splitter islands, road markings and a new toucan crossing to the south. Refer to Appendix C.
- S278 Footpath and Landscape Improvements: 215 metres of 3m wide shared path in the very wide existing highway verge. Refer to Appendix C.

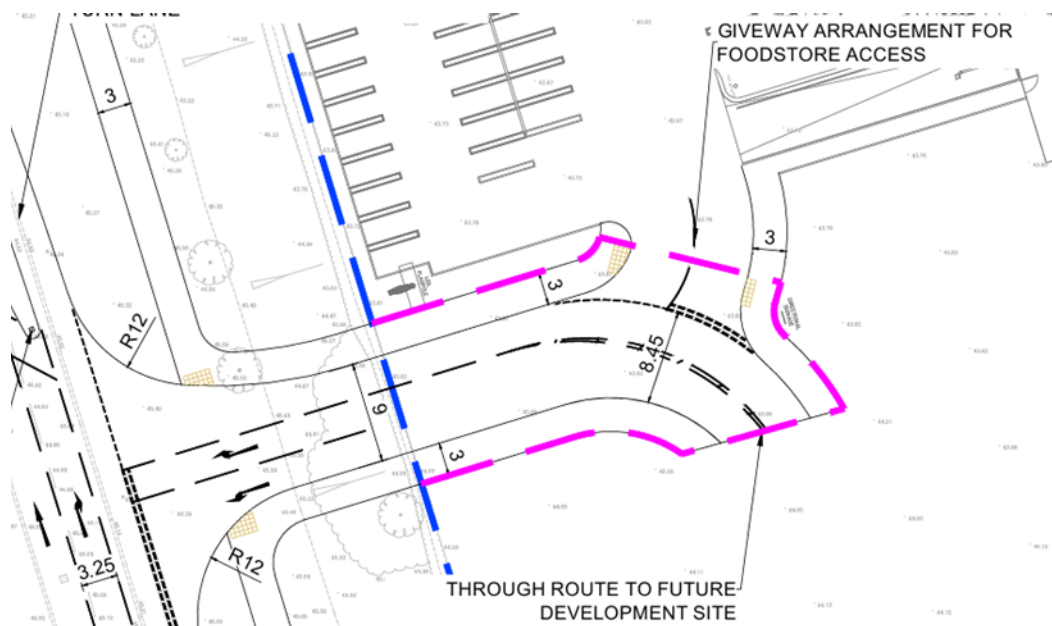


Figure 1.1: New S38/S278 Access Road to Store and Future development

Amendments to Landscape Plan and Drainage Design

- 1.9 Since the LLFA supplied their comments in May 2026 there have been some updates to surface water drainage design as set out below:
- The revised landscape proposals include planting and tree pits in the store car park. The latest landscape plan on the planning portal is contained in Appendix D. The below ground surface water attenuation tank has been shaped to avoid the proposed tree pits.
 - Permeable paving has been added to the car park that will contribute* towards the management of everyday rainfall. (*discussed later in more detail).
 - The peak final surface water discharge is comprised of Qbar greenfield discharge rates from three specific areas (Qbar is 7.1 litres/second/hectare):
 - New Lidl Store (0.81ha imper. area): Qbar = 5.7 litres/second
 - Future Dev Site (0.37ha imper. area): Qbar = 2.7 litres/second
 - S278/S38 Access (0.109 imper. area): Qbar = 0.8 litres/second
 - Total combined Qbar greenfield discharge = **9.2 litres/second**.
 - The configuration of the drainage network has been adjusted to align with the changes above. The model has been extended as far as existing 225mm diameter highway drain that we are proposing to connect into.
 - The Causeway Flow network model and simulation resulted been updated accordingly and are contained in Appendix F.

Review of Surface Water Design against National SuDS Standards

- 1.10 MBL have undertaken a review of submitted surface water drainage strategy/design against the latest National SuDS standards.
- 1.11 It is important to emphasise that this Development is for an out-of-town food store with the necessary access, delivery arrangement and car parking. The site area needs to accommodate the store building and achieve a pre-determined number of parking spaces, otherwise the site is not viable.
- 1.12 We understand the preference is for drainage proposals that deliver the wider benefits of a SuDS approach, particularly where above-ground features can provide interception, water-quality, amenity and biodiversity benefits alongside flood-risk management. Many of these above ground features, however, will potentially reduce the size of the car park and number of parking spaces.

- 1.13 We have reviewed submitted strategy against the national SuDS standards as set out below. The intention has not been to overlook the opportunities highlighted. The proposed approach reflects the constraints of trying to fit a food store on the land available and focuses on the drainage measures that can be delivered reliably over the lifetime of the development.

[Standard 1 – Runoff destinations](#)

- 1.14 We acknowledge the updated National Standards place greater emphasis on Priority 1 measures, including rainwater harvesting and reuse. Rainwater reuse has been considered; however, the proposed foodstore has a very low non-potable demand (3 x WCs: 1 for customers, 2 for staff). In practical terms, a rainwater harvesting system would need sufficient regular drawdown to create usable storage before the next rainfall event. Without that drawdown, it would not provide reliable attenuation or interception benefit.
- 1.15 The opportunity for external irrigation is also limited by the extent and nature of the landscaped areas. A rainwater reuse system would therefore add significant complexity, cost and ongoing maintenance without delivering a dependable drainage benefit proportionate to the development.
- 1.16 Regarding methods of surface water disposal
- Infiltration is not possible due to the impermeable nature of the underlying soil, which has been recorded as Oxford Clay.
 - There are no watercourses available for discharge within a reasonable proximity to the site. The nearest watercourse is Clackers Brook located approximately 400 metres south of the Development access as can be seen in Figure 1.1 below. The only way to reach this watercourse is via the highway verge, but this is dedicated to WCC only and the subsoil is actually owned by a consortium of residential Developers. Lidl have approached one of the Developers who have confirmed there will be a considerable cost imposed upon running a 400 metre outfall pipe through the highway verge.
 - Wessex Water asset plans do not identify existing public surface water sewers within a reasonable proximity to the site.
 - There are no combined water sewers in the area.
 - There is a highway sewer manhole on the opposite side of Eastern Way (18 metres from the development access) that is deep enough to allow a gravity discharge from the development. The drainage design drawings (Brookbanks Consulting Engineers) that were used to construct Eastern Way are contained in Appendix G. These show the

highways sewer conveys surface water run-off all the way to Clackers Brook to the south.

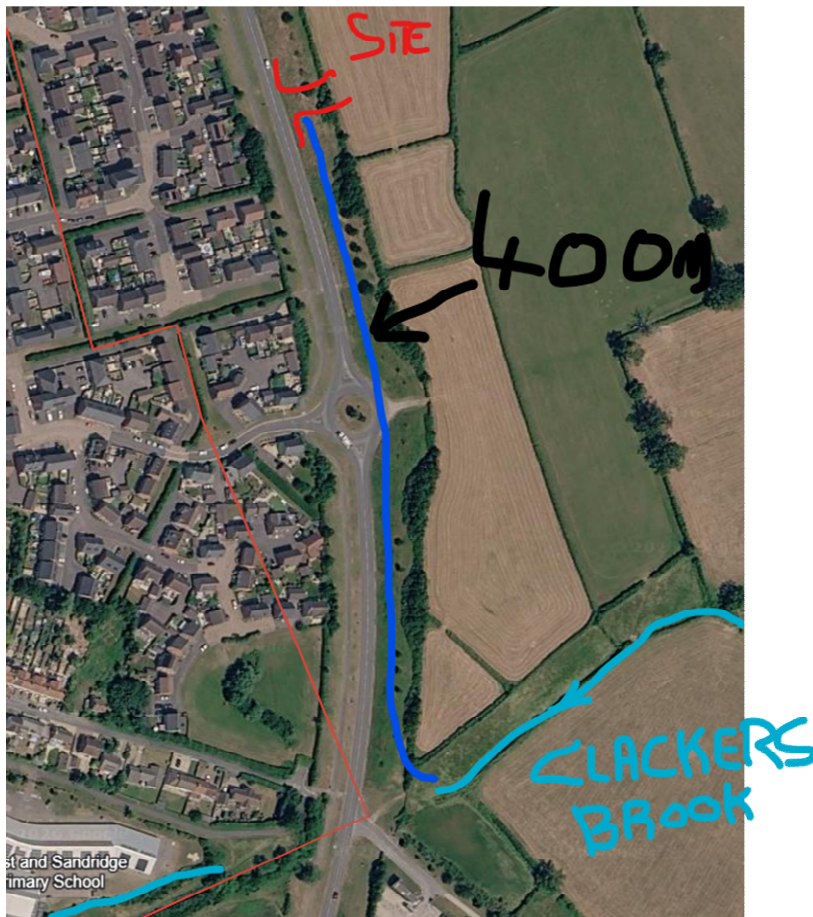


Figure 1.2: Nearest Watercourse – Clackers Brook 400 metres south

- 1.17 Upon review of the discharge options available, we believe a restricted discharge into the highway sewer on Eastern Way is the most appropriate option within the drainage hierarchy. The proposed discharge location is shown on the updated drainage general arrangement plan in Appendix E.
- 1.18 For these reasons, we consider the submitted information demonstrates compliance with Standard 1 by following the drainage hierarchy and selecting the most appropriate discharge destination.

Standard 2 – Management of Everyday Rainfall

- 1.19 Swales, detention basins, rain gardens, SuDS planters and permeable paving have also been considered. Apart from permeable paving, their use is constrained by the required store footprint, servicing, parking and access arrangements.
- 1.20 Therefore, the proposed drainage strategy has been updated to **include permeable paving**, which is shown on the drainage general arrangement plan in Appendix E. The underlying soil is not suitable for infiltration, but the inclusion of permeable paving will certainly absorb much of the run-off from the car park for low intensity rainfall events.
- 1.21 We are aware that including permeable paving in the car park alone does not fully achieve the requirement for the first 5mm of rainfall to never leave the completed development because the 2,350m² store building still drains directly to the attenuation tank.
- 1.22 MBL believe the submitted drainage strategy provides the most practical means of managing everyday rainfall within the constraints of the proposed development

Standard 3 – Extreme Rainfall and Exceedance

- 1.23 The maximum rate of surface water run-off from the impermeable surfaces on the completed store, access road and future development site will be no more than the undeveloped Qbar greenfield run-off (9.2 litres/second from 1.289 hectares – refer to paragraph 1.9)
- 1.24 The proposed surface water system has been designed so all surface water run-off will be safely contained within the Development boundary for up to and including the 1in100year event +45% climate change allowance. The updated Causeway Flow modelling in Appendix F demonstrates this.
- 1.25 Surface water drainage systems could potentially become blocked or overloaded resulting from even more extreme rainfall events. In the event of exceedance, surface water will flow away from the store building and towards the outer edges of the car park. A large volume of water can remain on the surface of the car park that will not impact the store operation or any surrounding properties.
- 1.26 The S38/278 access road is also designed so failure run-off will safely flow into the car park as described above.
- 1.27 Exceedance flow arrows have been added to the drainage general arrangement plan in Appendix E that show the route exceedance flow would take.

- 1.28 For these reasons, we consider the submitted information demonstrates compliance with Standard 3 by showing surface water run-off is safely managed within the Development for up to the relevant extreme rainfall event, and that exceedance (failure) flows have been considered through the proposed levels design and drainage layout.

Standard 4 – Water Quality

- 1.29 Permeable paving has been added to the store drainage system as a means of treating surface water run-off from most of the car park.
- 1.30 The network will continue to use a bypass separator (with enhanced silt removal as explained in the FRA.) This will treat the run-off from the entire car park so the areas treated with permeable paving will receive a 2nd round of treatment.
- 1.31 Separators provide a predictable and reliable treatment solution for runoff from a busy retail car park, where the opportunity for above-ground SuDS is limited. The CIRIA assessment in the FRA demonstrates compliance with the required mitigation indices for suspended solids, metals and hydrocarbons.
- 1.32 For these reasons, we consider the submitted information demonstrates compliance with Standard 4 by providing an appropriate and policy-compliant treatment train for the proposed land use as a food store car park.

Standards 5 & 6 – Amenity and Biodiversity

- 1.33 There are tree pits, small grass areas incorporated throughout and surrounding the car park and large wildflower grass areas surrounding the north, east and south of the proposed Lidl store. These will provide a range of biodiversity onsite.
- 1.34 The proposed drainage strategy comprises an underground attenuation tank, petrol interceptor and newly added permeable paving, representing the most appropriate and practicable solution for managing surface water runoff within the constraints of the site. Therefore, there are no further above ground SuDS features proposed. However, they are not considered necessary in this instance because there is a clear biodiversity and amenity benefit associated with the proposed tree pits, grass areas and wildflower grass areas described above.
- 1.35 There is a fixed hedge surrounding the north and west perimeter of the site, with a wide landscaped verge further beyond the hedge. A shared 3m path has been proposed in the surrounding landscaped verge, providing amenity to the area surrounding the development.

The proposed site design incorporates trees and grass areas to tie into the existing space, maintaining biodiversity.

1.36 Further biodiversity and amenity enhancements will be achieved through the wider landscape strategy, including the provision of soft landscaping and planting throughout the development.

1.37 The proposed development does not demonstrate compliance with Standard 5 & 6 from the proposed drainage features, but there are many non-drainage related landscape enhancements throughout the development which do provide biodiversity and amenity benefit.

Standard 7 – Design, Maintenance and Management

1.38 The submitted drainage strategy includes a detailed drainage design together with hydraulic calculations, proprietary component specifications and long-term maintenance arrangements.

- The proposed drainage infrastructure for the new store will remain under Lidl ownership, ensuring the system can be operated and maintained throughout its design life.
- The S278/SS38 access road and gullies and gully connections will be adopted by Wiltshire County Council. The road and drainage will be maintained in perpetuity in accordance with their scheduled maintenance programme.
- The main carrier drain in the S278/S38 access road access road (from S38-01 to the outfall) will be adopted by Wessex Water under a S104 agreement. This drainage will be maintained in perpetuity in accordance with their scheduled maintenance programme.

1.39 For these reasons, we consider the submitted information demonstrates compliance with Standard 7 by showing that the drainage system can be constructed, operated and maintained effectively for the lifetime of the development.

Summary

1.40 Having completed the above review we consider the proposed drainage system is as follows when assessed against the national SuDS standards

- Standard 1 – Runoff Destinations – Complies.
- Standard 2 – Management of Everyday Rainfall – Partially Complies.
- Standard 3 – Extreme Rainfall and Exceedance – Complies

- Standard 4 – Water Quality – Complies
- Standards 5 & 6 – Amenity and Biodiversity – Partially complies,
- Standard 7 – Design, Maintenance and Management – Complies

Response to LLFA Comments

- 1.41 The LLFA response letter is contained in Appendix A of this TN. The comments in their letter have been subdivided into 4 topics/sections and MBL have endeavoured to address each one individually.

LLFA Comment 01

- 1.42 *“The proposed surface water drainage strategy accords with the SuDS hierarchy. Infiltration has been discounted due to ground conditions, discharge to a watercourse is not practicable, and discharge to the existing highway surface water sewer on Eastern Way is proposed, subject to agreement with the Highway Authority. However, Section 5.5 states ‘BRE 365 infiltration testing is needed to confirm suitability for surface water infiltration’.”*

MBL Response (1)

- 1.43 The surface water hierarchy has been expanded upon earlier in this report which includes further justification on why the final outfall into the highway drain in Eastern Way is the most appropriate discharge location in this instance.
- 1.44 Infiltration will not be possible due to the impermeable nature of the underlying soil, which has been recorded as Oxford Clay. Infiltration testing will not be carried out to confirm this. The statement about undertaking infiltration testing in the submitted FRA is not correct and should not have been written.

LLFA Comment 02

- 1.45 *“Surface water runoff from the site will be restricted to the greenfield runoff rate of 5.3 l/s (QBAR) for all storm events up to and including the 1 in 100 year event plus 45% climate change allowance however this is not in line with WCC betterment policy. The applicant needs to show the 30% betterment on the 1 in 1yr event as well. It is noted that this is unlikely to significantly impact on the attenuation size as that will be governed by the larger magnitude events, and therefore this is a detail that can be resolved at a future stage.”*

[MBL Response \(2\)](#)

- 1.46 Noted and this detail is to be resolved at a future stage and is likely to incorporate a complex hydro brake solution.

[LLFA Comment 03](#)

- 1.47 *“Furthermore, a final discharge point has not yet been presented: Two are shown on the drainage strategy plan. Connection to the highway drainage system is not encouraged and other methods of surface water disposable should be considered first. Connection to highway drainage should only be seen as a last resort after exhausting all other options.”*

[MBL Response \(3\)](#)

- 1.48 The final (and only) outfall point from the Development has been updated on the drainage general arrangement plan, which outfalls into the existing highway sewer in Eastern Way.
- 1.49 The surface water hierarchy has been expanded upon earlier in this report and includes further justification on why the final outfall into the highway drain in Eastern Way is the most appropriate discharge location in this instance.

[LLFA Comment 04](#)

- 1.50 *“The current drainage approach does not currently prioritise source control features and solely relies on pipe to tank system with an interceptor to provide water quality. Appropriate surface water treatment is proposed in accordance with CIRIA SuDS guidance.”*

[MBL Response \(4\)](#)

- 1.51 It is important to re-iterate that this Development is for an out-of-town food store with the necessary access, delivery arrangement and car parking. The site area needs to accommodate the store building and achieve a pre-determined number of parking spaces, otherwise the site is not viable. The drainage design has been undertaken with this in mind.
- 1.52 MBL have undertaken a review of submitted surface water drainage strategy/design against the latest National SuDS standards. As a reminder the summary is as follows:
- Standard 1 – Runoff Destinations – Complies.
 - Standard 2 – Management of Everyday Rainfall – Partially Complies.
 - Standard 3 – Extreme Rainfall and Exceedance – Complies

Lidl Great Britain Ltd, Eastern Way, Melksham

Applicant Response to LLFA Comments

- Standard 4 – Water Quality – Complies
- Standards 5 & 6 – Amenity and Biodiversity – Partially complies,
- Standard 7 – Design, Maintenance and Management – Complies

Conclusion

1.53 Having completed this drainage technical note, the conclusion is the proposed new Lidl supermarket at Eastern Way, Melksham is not at risk of flooding and can be safely constructed without flooding itself and/or increasing the risk of flooding to downstream/surrounding properties

Author: Sean Foley, Associate Civil Engineer

Date: 30th September 2026

APPENDIX A: LLFA Consultation Response

To:	Russell Brown	From:	James Playfair
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Planning App Ref:	PL/2026/02458
Service Ref:	Drainage
Date:	06 May 2026

PROPOSAL

Full planning permission

Full application for the construction of a new food store (Class E) with associated parking, landscaping, drainage and servicing. The proposed development incorporates:

- A single storey building with a total floor space of 2184m² (GIA) including a net sales area of 1529m².
- 132 car parking spaces including 6 disabled bays, 9 parent and child spaces and 2 electric vehicle charging spaces.
- Comprehensive landscaping scheme.
- SUDS drainage scheme.

SITE LOCATION

Land East of Eastern Way, Melksham

SUMMARY OF THE CONSULTEE POSITION

Object	X
Holding Objection: Further information required	
Support	
No comment	
No objection	
No objection subject to conditions	
Consultation not required	

APPLICATION DOCUMENTS REVIEWED

- Design and Access Statement
- Flood Risk Assessment and Drainage Strategy
- Geo-Environmental Investigation Report

ASSESSMENT OF THE PROPOSAL

Context

In planning terms, flood risk refers to the potential for development to increase the likelihood or severity of flooding on-site or elsewhere, while drainage considerations relate to the capacity of the site and surrounding infrastructure to manage surface water runoff in a sustainable and effective manner.

The local planning authority must be satisfied that the proposed development will not increase flood risk, either on-site or elsewhere, and that surface water will be managed in a sustainable and coordinated manner.

Where necessary, planning conditions or legal agreements may be used to secure the implementation, maintenance, and monitoring of SuDS and other drainage infrastructure.

Assessment

The application has been supported with a Site-Specific Flood Risk Assessment (FRA). It should be noted that our comments below are reliant on the accuracy and completeness of the FRA and we do not take any responsibility for incorrect data or interpretation made by the authors.

The site is located wholly within Flood Zone 1 and is therefore at low risk of flooding from fluvial sources. The FRA appropriately considers all potential sources of flooding, including surface water, groundwater and sewer flooding, and concludes that the site is at low risk.

The proposed surface water drainage strategy accords with the SuDS hierarchy. Infiltration has been discounted due to ground conditions, discharge to a watercourse is not practicable, and discharge to the existing highway surface water sewer on Eastern Way is proposed, subject to agreement with the Highway Authority.

However, Section 5.5 states '*BRE 365 infiltration testing is needed to confirm suitability for surface water infiltration*'

Surface water runoff from the site will be restricted to the greenfield runoff rate of 5.3 l/s (QBAR) for all storm events up to and including the 1 in 100 year event plus 45% climate change allowance however this is not in line with WCC betterment policy. The applicant needs to show the 30% betterment on the 1 in 1yr event as well. It is noted that this is unlikely to significantly impact on the attenuation size as that will be governed by the larger magnitude events, and therefore this is a detail that can be resolved at a future stage

Furthermore, a final discharge point has not yet been presented: Two are shown on the drainage strategy plan

The current drainage approach does not currently prioritise source control features and solely relies on pipe to tank system with an interceptor to provide water quality

Connection to the highway drainage system is not encouraged and other methods of surface water disposal should be considered first. Connection to highway drainage should only be seen as a last resort after exhausting all other options.

Appropriate surface water treatment is proposed in accordance with CIRIA SuDS guidance

RECOMMENDATION

Object for the following reason(s):

The applicant has not provided a viable drainage strategy that aligns with WCCs requirements and that of the [National Standards for SuDS](#):

The developer should provide the following information as part of future planning applications

Standard 1: runoff destinations

- Post development runoff rates. These must also be in accordance with Wiltshire Council's betterment policy update, which can be found [here](#).
- Evidence that the [surface water disposal hierarchy](#) has been applied and how all other options have been exhausted.
- If infiltration is proposed, it is implemented in manner that does not create an offsite impact, particularly if there are reports of groundwater flooding in the area.
- Consent for any outfalls from the proposed drainage systems into a public sewer or other drainage system not owned by the applicant.
- The following information is required in support of any proposal to connect surface water into a highway drain:
 - CCTV survey from the proposed connection point to the outfall point of that system (even if it's 1km+ away).
 - Hydraulic modelling of the system, and evidence that the proposed discharge would not cause surcharge/flooding/capacity issues downstream.
 - If surcharge/flooding/capacity issues occur, a schedule of works for repairs/upgrades to the downstream system, including hydraulic modelling evidence that the repairs/upgrades will provide sufficient capacity.

Standard 2: interception

- The first 5mm of rainfall from the majority of rainfall events will be managed by interception features and will not result in runoff from the site to surface water or piped systems.
- SuDS source control measures to manage water quantity and maintain water quality will be implemented wherever possible, and throughout the management train, so the development is not reliant upon large attenuation features close to the points of discharge.
- A schedule and plan of interception features must be provided, showing their location, type, and contributing catchment.
- A schedule and plan of interception features must be provided, showing their location, type, and contributing catchment.

Standard 4: water quality

- At least two stages of SuDS treatment must be provided for runoff from high-risk areas (e.g., car parks, roads), and at least one stage for low-risk areas (e.g., roofs).
- Calculations and supporting plans must be submitted to evidence compliance.
- A maintenance plan must be provided to ensure the long-term effectiveness of water quality treatment.

Standard 5: amenity

- The applicant must provide details of how SuDS features will deliver amenity benefits, including integration with public open space, accessibility, safety, and opportunities for recreation or education. Plans should clearly show how SuDS contribute to the quality and usability of the site for future occupants and the wider community. Note this may require additional engagement with the council's urban design and landscape officers.

Standard 6: biodiversity

- The applicant must provide details of how SuDS features will deliver biodiversity benefits, including planting schedules, habitat creation, and connectivity to existing ecological networks.

A biodiversity net gain statement should be included, demonstrating how the SuDS proposals contribute to site-wide ecological enhancement. Maintenance plans should support the long-term success of these features. Note this may require additional engagement with the council's ecology and landscape officers.

Standard 7: design of drainage for construction, operation, maintenance, decommissioning and structural integrity

- A clearly labelled drainage layout plan showing the pipe networks and any attenuation ponds. The plan should show any pipe node numbers referred to within the drainage calculations.
- A plan showing the cross sections and design of any attenuation pond and its components.
- Adequate measures during construction to control pollution to existing watercourses and groundwater.
- Details of how the proposed and existing drainage features on the site will be maintained and managed after completion with confirmation from the relevant authority that they will adopt any systems that are being offered for adoption.

As-Built SuDS and Watercourse/Ditch Modification Drawings (AutoCAD Format)

No later than 3 months following completion of the SuDS infrastructure and any associated watercourse or ditch modifications, and in any event prior to the first occupation of any dwelling (or first use of the development, whichever is sooner), the developer shall submit to and obtain written approval from the Local Planning Authority, in consultation with the Lead Local Flood Authority, the following as-built information:

1. As-built SuDS construction drawings, including all attenuation basins, flow controls, pipe networks, swales, inlets/outlets, exceedance routing and all constructed drainage assets.
2. As-built plans of all watercourse, ditch or land-drain modifications, including dimensions, levels, cross-sections, long-sections and construction details.
3. All as-built SuDS and watercourse/ditch drawings shall be provided in:
 - AutoCAD (DWG) format, fully georeferenced to OS National Grid; and
 - PDF format for record purposes.
4. A full drainage asset schedule including dimensions, levels, materials, and long-term maintenance responsibilities.
5. An updated SuDS Maintenance Plan reflecting the final as-built arrangement.

The approved as-built drawings and documentation shall thereafter form the definitive drainage record for the development and must be complied with for the lifetime of the drainage system.

Reason:

To ensure the constructed drainage system and watercourse/ditch modifications accord with the approved design, to maintain accurate LLFA drainage records, and to ensure the development does not increase flood risk on- or off-site, in accordance with the NPPF and Wiltshire Council SuDS guidance.

RELEVANT PLANNING POLICY & GUIDANCE

National Planning Policy Framework (NPPF) [NPPF December 2024 Link](#)
Planning and Flood Risk (Paras 170–182)

Wiltshire Core Strategy – Adopted January 2015 [Wiltshire Core Strategy Link](#)
Core Policy 67 requires that all new development must address flood risk from all sources and not increase flood risk elsewhere. It supports the use of Sustainable Drainage Systems (SuDS) and requires that developments demonstrate how surface water will be managed sustainably.

Wiltshire Local Plan (emerging) [Local Plan Review Link](#)
Development must avoid high flood risk areas using the sequential approach. Proposals require a Flood Risk Assessment, Surface Water Drainage Strategy, and Groundwater Assessment where relevant. All schemes must include Sustainable Drainage Systems (SuDS), with major developments achieving a 30% reduction in runoff compared to greenfield rates, following the surface water discharge hierarchy.

Culverting and building over watercourses is discouraged, and natural drainage features should be retained or restored. Drainage strategies must ensure safety during extreme flood events (1-in-100-year + climate change) and provide safe access/egress. SuDS should also deliver biodiversity, amenity, and water quality benefits.

Supplementary Planning Documents

Wiltshire Council Drainage Betterment Strategy (2024) [SPD Link](#)
This technical guidance outlines expectations for surface water discharge hierarchy, attenuation, exceedance routes, water quality, and post-development monitoring.

Wiltshire Design Guide (March 2024) [SPD Link](#)
Includes principles of good design, including integration of SuDS and flood resilience.

Other Relevant Policies and Guidance

Planning Practice Guidance (PPG) – Flood Risk and Drainage [Guidance Link](#)
Covers detailed expectations for flood risk assessments, SuDS design, discharge hierarchy, sequential testing and climate change allowances.

Wiltshire SFRA (2024) [SFRA Link](#)
This document underpins the Sequential and Exception Test application and provides site screening evidence.

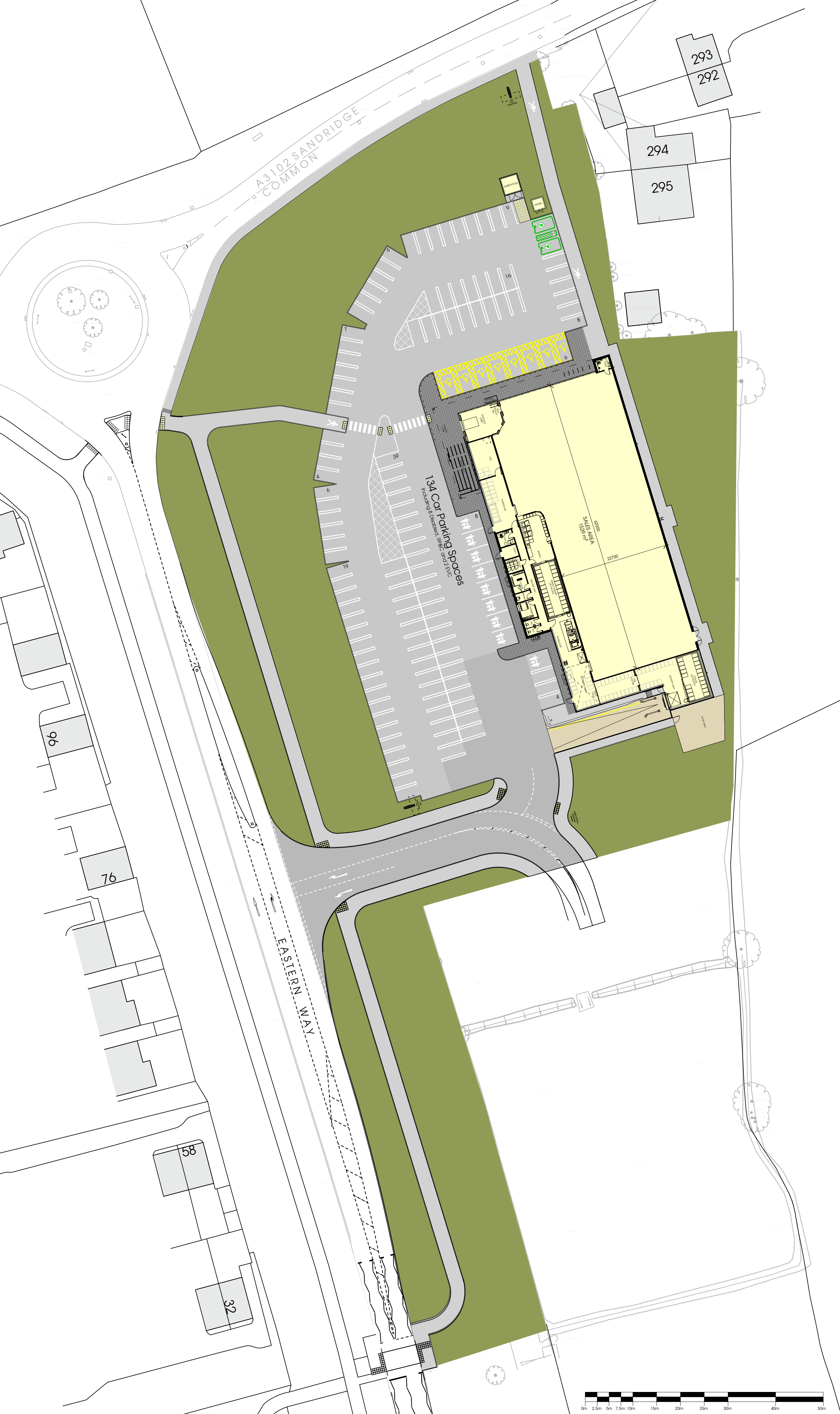
Section 19 Flood Investigation Reports [Section 19 Reports Link](#)
These documents summarise investigations into significant local flood incidents and establish what caused the flooding, how authorities responded, and actions needed to prevent future floods.

National Standards for Sustainable Drainage Systems (SuDS) June 2025 [Guidance Link](#)
Establishes mandatory criteria for runoff destination hierarchy, interception, flood resilience, water quality, amenity, biodiversity, and long-term maintenance for all new developments in England.

SuDS Manual (CIRIA C753)
This document set outs design principles, especially where attenuation, exceedance routing, and water quality are discussed.

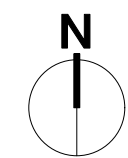
Infiltration drainage design must be supported by ground investigations, including infiltration testing in accordance with *British Research Establishment (BRE) Digest 365 – Soakaway Design*, and groundwater level monitoring that accounts for seasonal variation.

Appendix B: Proposed Site Plan



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THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION BY OTHERS: -
TOPOGRAPHIC SURVEY - EDI SURVEYS REF: 21702
PELL FRISCHMANN LAYOUT
110865-PEF-XX-XX-DR-C-001001 P03



Highway updated in line with Pell Frischmann drawing 110865-PEF-XX-XX-DR-C-001001 P03 received on 24.08.2026. Parking spaces around the edges increased from 4.7m to 4.8. Surface treatments updated accordingly.				NG
C	27/08/2026	Treatments Updated Accordingly		IC
B	14/01/2026	Additional 2no. accessible spaces added		IC
A	08/01/2026	Landscaping scheme overlaid		Drawn
Rev.	Date	Description		

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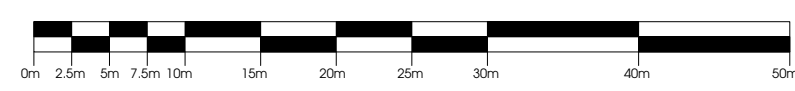
client
Lidl GB Ltd.



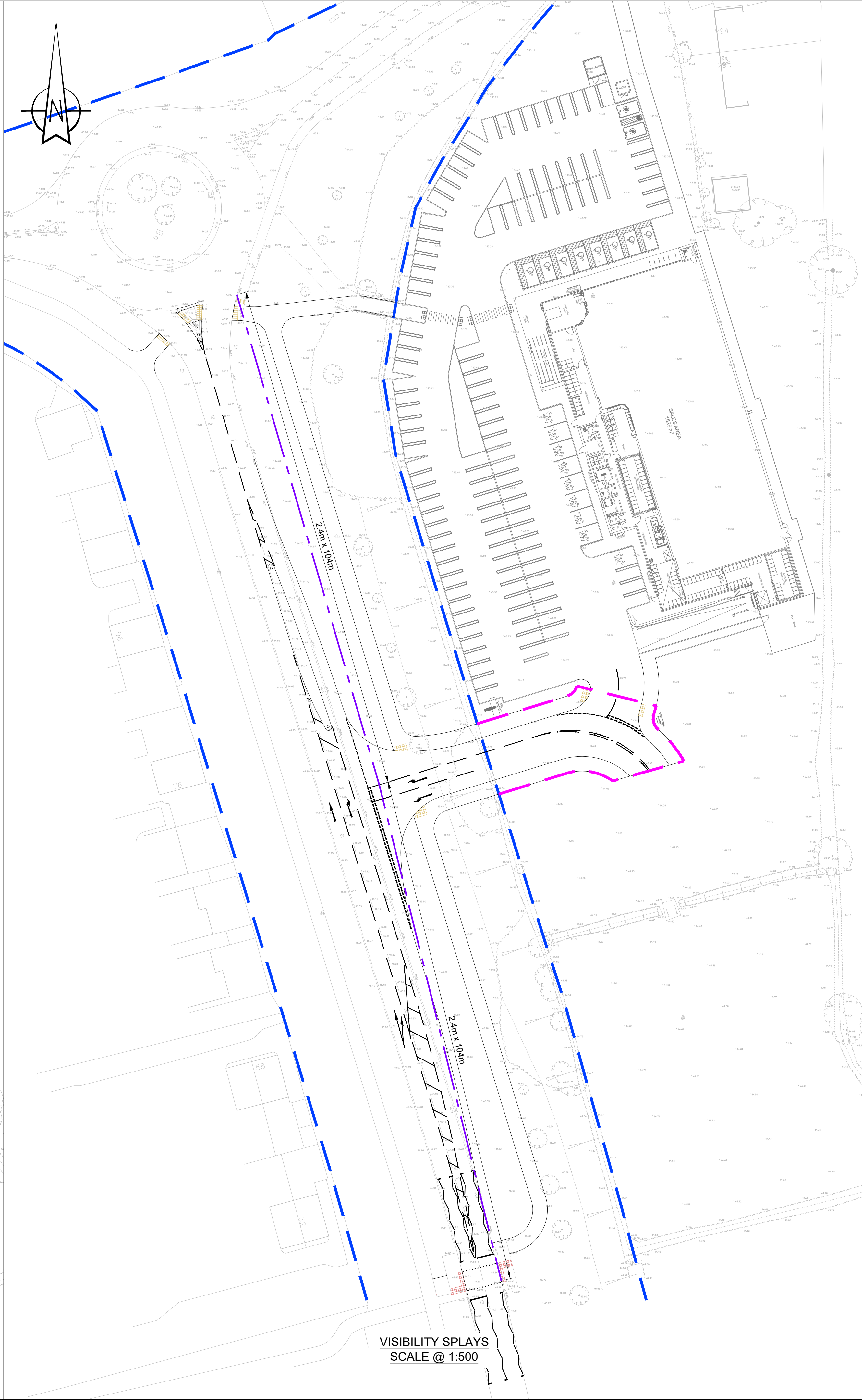
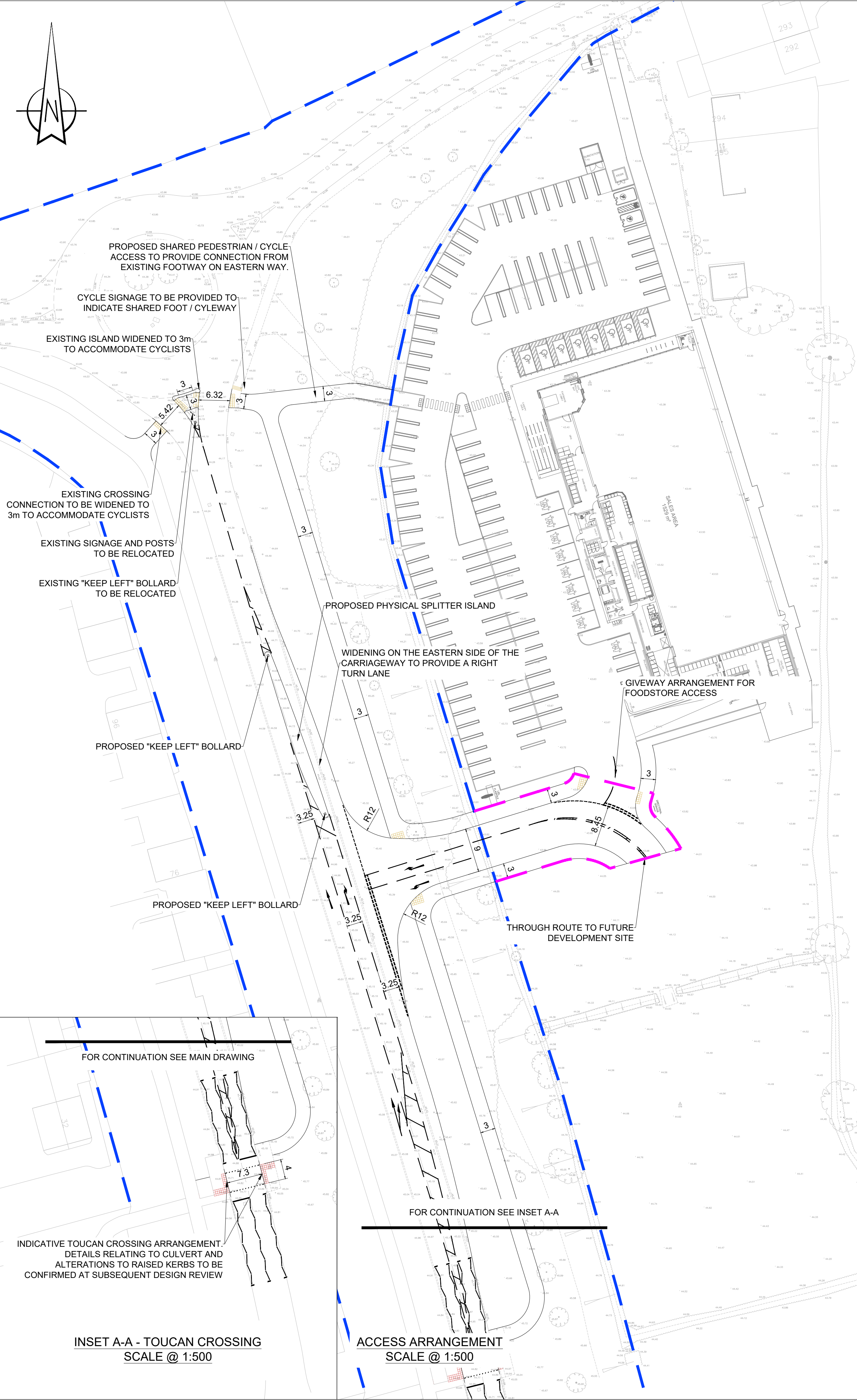
project
**Melksham,
Eastern Way**

drawing title
Proposed GA Site Plan

date **December 2025**
status **Planning**
scale **1:500 @ A2**
drawn **NG** checked **IC**
job no. **4034** dwg no. **P403** rev. **C**



APPENDIX C: Proposed Access and Highway Boundaries



- KEY:
- PROPOSED KERBS
 - PROPOSED ROAD MARKINGS
 - 2.4m x 104m JUNCTION VISIBILITY SPLAYS BASED ON MIS2 FOR 40mph DESIGN SPEED
 - EXISTING HIGHWAY BOUNDARY
 - PROPOSED HIGHWAY BOUNDARY

- NOTES:
- ALL DIMENSIONS ARE IN METRES.
 - DESIGN BASED ON A COMBINATION OF ORDNANCE SURVEY MAPPING AND TOPOGRAPHICAL SURVEY, PELL FRISCHMANN SHALL NOT BE LIABLE FOR ANY INACCURACIES OR DISCREPANCIES.

P03	Updated to suit Highway Comments	EF	AJT	LC	10.08.2026
P02	Proposed Highway Boundary Added	EF	AJT	LC	06.03.2026
P01	First Issue	EF	AJT	LC	15.01.2026
REV	DESCRIPTION	DRN	CHK	APP	DATE

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Client

LIDL UK

Project

**LIDL - MELKSHAM,
EASTERN WAY**

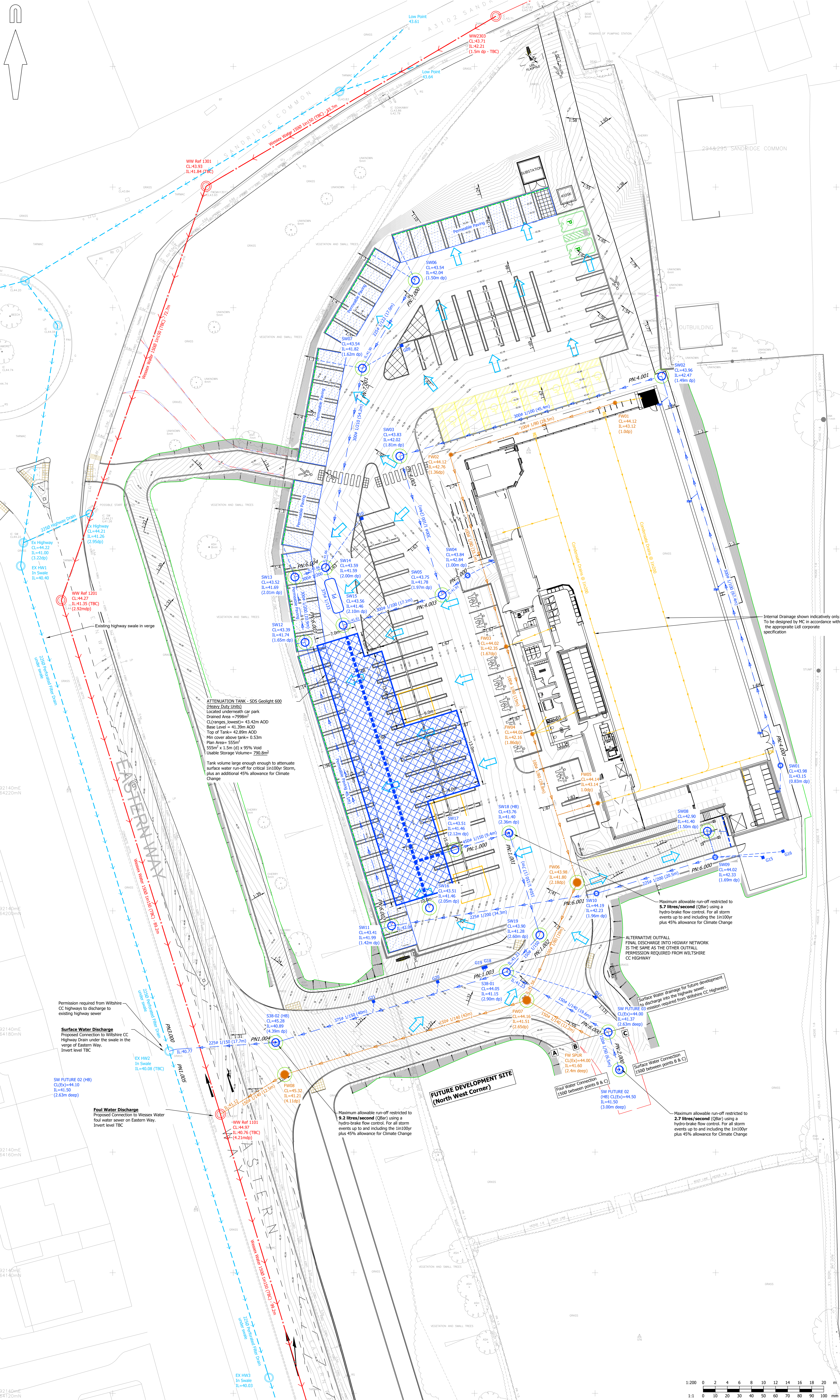
Drawing Title

**EASTERN WAY -
PROPOSED ACCESS
ARRANGEMENT**

	Name	Date	Scale	1:500 @ A1
Drawn	EF	JAN 2026	File No.	110865-PEF-XX-XX-DR-C-001001.dwg
Designed	EF	JAN 2026	Drawing Status	FOR INFORMATION
Checked	AJT	JAN 2026		
Approved	LC	JAN 2026		
Drawing No.	110865-PEF-XX-XX-DR-C-001001			Revision
				P03

Appendix D: Proposed Landscape Plan

Appendix E: Proposed Drainage General Arrangement Plan



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A0 ORIGINAL

© 2006 Wiley Periodicals, Inc. *J Biomed Mater Res Part B: Appl Biomater* 78B: 103–111, 2006
DOI 10.1002/jbm.b.30271

KEY:

- | | |
|--|---|
| | PROPOSED SURFACE WATER SEWER AND MANHOLE |
| | PROPOSED SURFACE WATER SEWER AND INSPECTION CHAMBER |
| | PROPOSED PUMPING CHAMBER |
| | PROPOSED HYDROBRAKE |
| | PROPOSED SURFACE WATER LINEAR DRAINAGE CHANNEL |
| | PROPOSED PERFORATED PIPE |
| | PROPOSED PETROL INTERCEPTOR |
| | PROPOSED ATTENUATION TANK |
| | PROPOSED RAIN WATER PIPE |
| | PROPOSED GULLY AND GULLY LEAD |
| | PROPOSED FOUL WATER SEWER AND INSPECTION CHAMBER |
| | PROPOSED FOUL WATER SEWER AND MANHOLE |
| | PROPOSED FOUL DRAINAGE RODDING EYE |
| | EXISTING FOUL SEWER AND MANHOLE |
| | EXISTING SURFACE WATER SEWER AND MANHOLE |
| | RED LINE BOUNDARY |
| | EXCEEDENCE FLOW ROUTES |
| | PERMEABLE PAVING |
| | FILTER DRAIN COLLECTION PIPE |

NOTES:

1. This drawing is not to be scaled.
2. Drawing based on htc Architect's "4034 P402A Proposed Setting Out Site Plan" received on 08/12/2025.
3. This drawing is to be read in conjunction with the following Mayer Brown drawing reference:
 - LIDL.MELKSHAM.23/11 - Proposed Engineering Layout

— Internal Drainage shown indicatively only.
To be designed by MC in accordance with
the appropriate Lidl corporate
specification

Maximum allowable run-off restricted to **5.7 litres/second** (QBar) using a hydro-brake flow control. For all storm events up to and including the 1in100yr plus 45% allowance for Climate Change

ALTERNATIVE OUTFALL
FINAL DISCHARGE INTO HIGHWAY NETWORK
IS THE SAME AS THE OTHER OUTFALL
PERMISSION REQUIRED FROM WILTSHIRE
CC HIGHWAY

SW FUTURE 03
CL(Ex)=44.00

FIGURE 02
 $CL(Ex)=44.50$
 $.50$
 (n deep)

hydro-b events plus 45

KEY TO HEALTH AND SAFETY SYMBOLS

-  INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION.
-  INDICATES A RESIDUAL RISK FOR INFORMATION.
-  INDICATES A RESIDUAL RISK REQUIRING A PROHIBITIVE ACTION.
-  INDICATES A RESIDUAL RISK AS A WARNING.

FOR INFORMATION

P6	Drainage amended. (TC)	SF	29/09/202
P5	Scale bar added following comments from Wiltshire County Council. (TC)	SF	27/04/202
P4	Surface and foul water drainage provision for future disposal land updated (SF)	SF	16/03/202
P3	Wexsex Water & Highway sewers added, S38 drainage added. Surface and foul water outfalls amended. Disposal land future connection spurs revised. (AR)	SF	11/03/202
P2	Initial Issue. (AR)	SF	06/03/202
P1	Draft Issue. (AR)	SF	24/12/202
rev.	amendment	checked	date



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LIDL GREAT BRITAIN LIMITED

MELKSHAM
EASTERN WAY

1:200

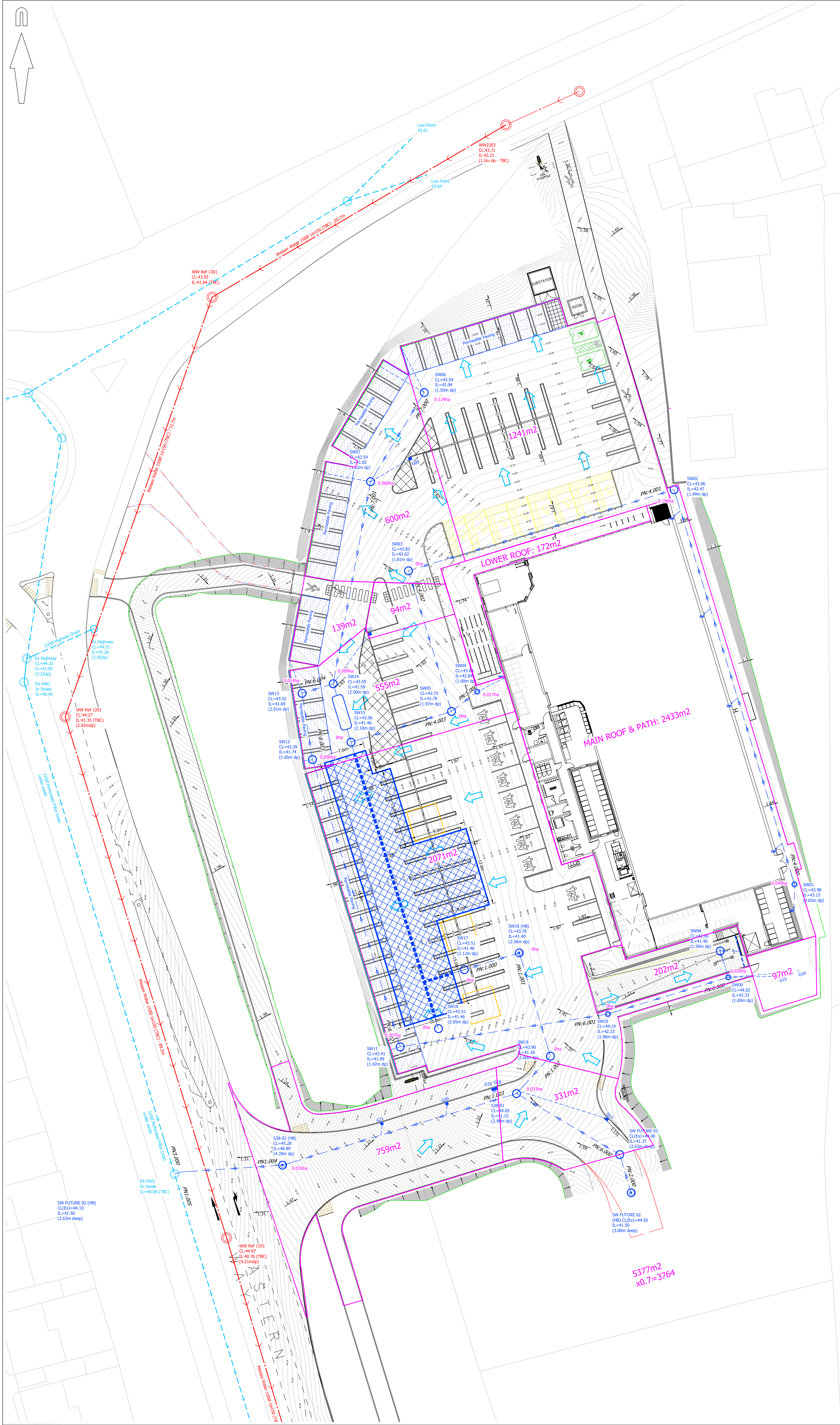
date

DRAINAGE GENERAL ARRANGEMENT

Mayer Brown Limited jobcode	suitability	re
	-	

LIDLMEKRSHAM.23/20

Appendix F: Causeway Flow Calculations



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A0 ORIGINAL

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KEY:

- PROPOSED SURFACE WATER SEWER AND MANHOLE
- PROPOSED SURFACE WATER SEWER AND INSPECTION CHAMBER
- PROPOSED HYDROBRAKE
- PROPOSED SURFACE WATER LINEAR DRAINAGE CHANNEL
- PROPOSED PERFORATED PIPE
- PROPOSED PETROL INTERCEPTOR
- PROPOSED ATTENUATION TANK
- PROPOSED RAIN WATER PIPE
- PROPOSED GULLY AND GULLY LEAD
- RED LINE BOUNDARY
- PROPOSED CATCHMENT AREA
- EXCEEDANCE FLOWS
- PERMEABLE PAVING

NOTES:

- This drawing is not to be scaled.
- Drawing based on htc Architect's "4034 P402A Proposed Setting Out Site Plan" received on 08/12/2025.
- This drawing is to be read in conjunction with the following Mayer Brown drawing reference:
 - LIDL MELKSHAM.23/20 - Drainage General Arrangement

KEY TO HEALTH AND SAFETY SYMBOLS

- INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION.
- INDICATES A RESIDUAL RISK FOR INFORMATION.
- INDICATES A RESIDUAL RISK REQUIRING A PROHIBITIVE ACTION.
- INDICATES A RESIDUAL RISK AS A WARNING.

FOR INFORMATION

rev.	amendment	checked	date
P3	Drainage amended, (TC)	SF	29/09/2026
P2	Initial Issue, (AR)	SF	06/03/2026
P1	Draft Issue, (AR)	SF	24/12/2025

client
LIDL GREAT BRITAIN LIMITED

project
MELKSHAM EASTERN WAY

scale
1:200

drawn by
AR

checked by
SF

date
December 2025

cad file
21.DWG

site

SITE AREA AND SURFACE WATER MODEL PLAN

Mayer Brown Limited jobcode	suitability	revision
		P3

drawing number
LIDL MELKSHAM.23/21

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Add Inflow (l/s)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
SW01	0.049	5.00		43.980	1200	392270.740	164224.099	0.830	43.150
SW02	0.196	5.00		43.960	1200	392251.051	164288.650	1.490	42.470
SW03				43.830	1200	392207.617	164275.386	1.810	42.020
SW04	0.017	5.00		43.840	450	392218.858	164255.609	1.000	42.840
SW05				43.750	1200	392214.645	164252.371	1.970	41.780
SW06	0.124	5.00		43.540	1200	392210.190	164304.547	1.500	42.040
SW07	0.060	5.00		43.540	1200	392201.415	164289.962	1.720	41.820
SW09	0.030	5.00		44.020	450	392259.911	164208.892	1.690	42.330
SW10				44.190	450	392240.233	164202.882	1.960	42.230
SW11	0.207	5.00		43.410	1200	392206.256	164197.520	1.420	41.990
SW12	0.056	5.00		43.390	1200	392191.907	164244.507	1.650	41.740
SW13	0.014	5.00		43.520	1200	392190.213	164255.347	1.830	41.690
SW14	0.009	5.00		43.590	1200	392195.300	164256.901	2.000	41.590
SW15				43.560	1200	392198.216	164247.354	2.100	41.460
SW17 (TANK)		5.00		43.510	1200	392216.752	164210.146	2.050	41.460
SW18 (HB)				43.760	1200	392225.736	164212.889	2.360	41.400
SW19				43.900	1200	392230.839	164195.986	2.620	41.280
SW FUTURE 03				44.000	1200	392238.977	164183.683	2.630	41.370
SW FUTURE 02 (HB)		5.00		44.500	1200	392240.450	164177.009	3.000	41.500
SW FUTURE 01			2.7	44.500	1200	392245.191	164156.349	3.000	41.500
S38-01	0.109	5.00		44.050	1200	392225.281	164189.872	2.970	41.080
S38-02 (HB)				45.280	1500	392187.036	164178.156	4.390	40.890
EX HW3				45.080	1200	392185.922	164122.599	5.050	40.030
EX HW2				44.820	1200	392169.365	164176.718	4.740	40.080
EX HW1		5.00		44.270	1200	392144.749	164257.181	3.870	40.400

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
4.000	SW01	SW02	67.487	0.600	43.150	42.470	0.680	99.2	300	5.71	50.0
4.001	SW02	SW03	45.414	0.600	42.470	42.020	0.450	100.9	300	6.20	50.0
4.002	SW03	SW05	24.064	0.600	42.020	41.780	0.240	100.3	300	6.45	50.0
5.000	SW04	SW05	5.314	0.600	42.840	41.930	0.910	5.8	150	5.02	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
4.000	1.578	111.5	8.9	0.530	1.190	0.049	0.0	57	0.951
4.001	1.565	110.6	44.3	1.190	1.510	0.245	0.0	132	1.479
4.002	1.570	111.0	44.3	1.510	1.670	0.245	0.0	132	1.484
5.000	4.198	74.2	3.1	0.850	1.670	0.017	0.0	21	2.077

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
4.003	SW05	SW15	17.178	0.600	41.780	41.610	0.170	101.0	300	6.64	50.0
7.000	SW06	SW07	17.021	0.600	42.040	41.900	0.140	121.6	225	5.24	50.0
7.001	SW07	SW14	33.622	0.600	41.820	41.660	0.160	210.1	300	5.76	50.0
6.000_1	SW09	SW10	20.575	0.600	42.330	42.230	0.100	205.8	225	5.38	50.0
6.001	SW10	SW11	34.397	0.600	42.230	42.060	0.170	202.3	225	6.00	50.0
6.002	SW11	SW12	49.129	0.600	41.990	41.740	0.250	196.5	300	6.74	50.0
6.003	SW12	SW13	10.972	0.600	41.740	41.690	0.050	219.4	300	6.91	50.0
6.004	SW13	SW14	5.319	0.600	41.690	41.660	0.030	177.3	300	6.99	50.0
6.005	SW14	SW15	9.982	0.600	41.590	41.460	0.130	76.8	375	7.07	50.0
2.000	SW FUTURE 02 (HB)	SW FUTURE 03	6.835	0.600	41.500	41.370	0.130	52.6	150	5.08	50.0
1.000	SW17 (TANK)	SW18 (HB)	9.393	0.600	41.460	41.400	0.060	156.6	450	5.10	50.0
1.001	SW18 (HB)	SW19	17.657	0.600	41.400	41.280	0.120	147.1	150	5.45	50.0
1.002	SW19	S38-01	8.263	0.600	41.280	41.150	0.130	63.6	150	5.56	50.0
1.003	S38-01	S38-02 (HB)	39.999	0.600	41.150	40.890	0.260	153.8	375	6.02	50.0
1.004	S38-02 (HB)	EX HW2	17.729	0.600	40.890	40.770	0.120	147.7	225	6.29	50.0
6.000	SW FUTURE 03	S38-01	15.029	0.600	41.370	41.080	0.290	51.8	150	5.19	50.0
1.005	EX HW2	EX HW3	56.595	0.600	40.080	40.030	0.050	1131.9	225	9.23	50.0
3.000	EX HW1	EX HW2	84.144	0.600	40.400	40.080	0.320	263.0	225	6.75	50.0

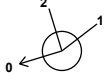
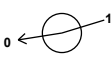
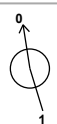
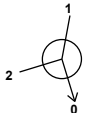
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
4.003	1.564	110.5	47.3	1.670	1.650	0.262	0.0	137	1.504
7.000	1.184	47.1	22.4	1.275	1.415	0.124	0.0	109	1.171
7.001	1.081	76.4	33.2	1.420	1.630	0.184	0.0	139	1.045
6.000_1	0.908	36.1	5.4	1.465	1.735	0.030	0.0	58	0.654
6.001	0.915	36.4	5.4	1.735	1.125	0.030	0.0	58	0.660
6.002	1.118	79.0	42.8	1.120	1.350	0.237	0.0	157	1.139
6.003	1.057	74.7	52.9	1.350	1.530	0.293	0.0	187	1.143
6.004	1.177	83.2	55.5	1.530	1.630	0.307	0.0	180	1.258
6.005	2.069	228.5	90.4	1.625	1.725	0.500	0.0	164	1.953
2.000	1.390	24.6	0.0	2.850	2.480	0.000	0.0	0	0.000
1.000	1.622	258.0	0.0	1.600	1.910	0.000	0.0	0	0.000
1.001	0.826	14.6	0.0	2.210	2.470	0.000	0.0	0	0.000
1.002	1.263	22.3	0.0	2.470	2.750	0.000	0.0	0	0.000
1.003	1.458	161.0	19.7	2.525	4.015	0.109	0.0	88	0.997
1.004	1.073	42.7	19.7	4.165	3.825	0.109	0.0	108	1.054
6.000	1.400	24.7	0.0	2.480	2.820	0.000	0.0	0	0.000
1.005	0.380	15.1	19.7	4.515	4.825	0.109	0.0	225	0.388
3.000	0.801	31.9	0.0	3.645	4.515	0.000	0.0	0	0.000

Pipeline Schedule

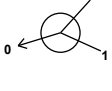
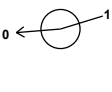
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.000	67.487	99.2	300	Circular	43.980	43.150	0.530	43.960	42.470	1.190
4.001	45.414	100.9	300	Circular	43.960	42.470	1.190	43.830	42.020	1.510
4.002	24.064	100.3	300	Circular	43.830	42.020	1.510	43.750	41.780	1.670
5.000	5.314	5.8	150	Circular	43.840	42.840	0.850	43.750	41.930	1.670
4.003	17.178	101.0	300	Circular	43.750	41.780	1.670	43.560	41.610	1.650
7.000	17.021	121.6	225	Circular	43.540	42.040	1.275	43.540	41.900	1.415
7.001	33.622	210.1	300	Circular	43.540	41.820	1.420	43.590	41.660	1.630
6.000_1	20.575	205.8	225	Circular	44.020	42.330	1.465	44.190	42.230	1.735
6.001	34.397	202.3	225	Circular	44.190	42.230	1.735	43.410	42.060	1.125
6.002	49.129	196.5	300	Circular	43.410	41.990	1.120	43.390	41.740	1.350
6.003	10.972	219.4	300	Circular	43.390	41.740	1.350	43.520	41.690	1.530
6.004	5.319	177.3	300	Circular	43.520	41.690	1.530	43.590	41.660	1.630
6.005	9.982	76.8	375	Circular	43.590	41.590	1.625	43.560	41.460	1.725
2.000	6.835	52.6	150	Circular	44.500	41.500	2.850	44.000	41.370	2.480
1.000	9.393	156.6	450	Circular	43.510	41.460	1.600	43.760	41.400	1.910
1.001	17.657	147.1	150	Circular	43.760	41.400	2.210	43.900	41.280	2.470
1.002	8.263	63.6	150	Circular	43.900	41.280	2.470	44.050	41.150	2.750
1.003	39.999	153.8	375	Circular	44.050	41.150	2.525	45.280	40.890	4.015
1.004	17.729	147.7	225	Circular	45.280	40.890	4.165	44.820	40.770	3.825
6.000	15.029	51.8	150	Circular	44.000	41.370	2.480	44.050	41.080	2.820
1.005	56.595	1131.9	225	Circular	44.820	40.080	4.515	45.080	40.030	4.825
3.000	84.144	263.0	225	Circular	44.270	40.400	3.645	44.820	40.080	4.515

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.000	SW01	1200	Manhole	Adoptable	SW02	1200	Manhole	Adoptable
4.001	SW02	1200	Manhole	Adoptable	SW03	1200	Manhole	Adoptable
4.002	SW03	1200	Manhole	Adoptable	SW05	1200	Manhole	Adoptable
5.000	SW04	450	Manhole	Adoptable	SW05	1200	Manhole	Adoptable
4.003	SW05	1200	Manhole	Adoptable	SW15	1200	Manhole	Adoptable
7.000	SW06	1200	Manhole	Adoptable	SW07	1200	Manhole	Adoptable
7.001	SW07	1200	Manhole	Adoptable	SW14	1200	Manhole	Adoptable
6.000_1	SW09	450	Manhole	Adoptable	SW10	450	Manhole	Adoptable
6.001	SW10	450	Manhole	Adoptable	SW11	1200	Manhole	Adoptable
6.002	SW11	1200	Manhole	Adoptable	SW12	1200	Manhole	Adoptable
6.003	SW12	1200	Manhole	Adoptable	SW13	1200	Manhole	Adoptable
6.004	SW13	1200	Manhole	Adoptable	SW14	1200	Manhole	Adoptable
6.005	SW14	1200	Manhole	Adoptable	SW15	1200	Manhole	Adoptable
2.000	SW FUTURE 02 (HB)	1200	Manhole	Adoptable	SW FUTURE 03	1200	Manhole	Adoptable
1.000	SW17 (TANK)	1200	Manhole	Adoptable	SW18 (HB)	1200	Manhole	Adoptable
1.001	SW18 (HB)	1200	Manhole	Adoptable	SW19	1200	Manhole	Adoptable
1.002	SW19	1200	Manhole	Adoptable	S38-01	1200	Manhole	Adoptable
1.003	S38-01	1200	Manhole	Adoptable	S38-02 (HB)	1500	Manhole	Adoptable
1.004	S38-02 (HB)	1500	Manhole	Adoptable	EX HW2	1200	Manhole	Adoptable
6.000	SW FUTURE 03	1200	Manhole	Adoptable	S38-01	1200	Manhole	Adoptable
1.005	EX HW2	1200	Manhole	Adoptable	EX HW3	1200	Manhole	Adoptable
3.000	EX HW1	1200	Manhole	Adoptable	EX HW2	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SW01	392270.740	164224.099	43.980	0.830	1200				
						0	4.000	43.150	300
SW02	392251.051	164288.650	43.960	1.490	1200		1	4.000	42.470
						0	4.001	42.470	300
SW03	392207.617	164275.386	43.830	1.810	1200		1	4.001	42.020
						0	4.002	42.020	300
SW04	392218.858	164255.609	43.840	1.000	450		0	5.000	42.840
SW05	392214.645	164252.371	43.750	1.970	1200		1	5.000	41.930
						2	4.002	41.780	300
						0	4.003	41.780	300
SW06	392210.190	164304.547	43.540	1.500	1200		0	7.000	42.040
SW07	392201.415	164289.962	43.540	1.720	1200		1	7.000	41.900
						0	7.001	41.820	300
SW09	392259.911	164208.892	44.020	1.690	450		0	6.000_1	42.330
SW10	392240.233	164202.882	44.190	1.960	450		1	6.000_1	42.230
						0	6.001	42.230	225
SW11	392206.256	164197.520	43.410	1.420	1200		1	6.001	42.060
						0	6.002	41.990	300
SW12	392191.907	164244.507	43.390	1.650	1200		1	6.002	41.740
						0	6.003	41.740	300
SW13	392190.213	164255.347	43.520	1.830	1200		1	6.003	41.690
						0	6.004	41.690	300
SW14	392195.300	164256.901	43.590	2.000	1200		1	7.001	41.660
						2	6.004	41.660	300
						0	6.005	41.590	375

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SW15	392198.216	164247.354	43.560	2.100	1200		1 2	6.005 4.003	41.460 41.610 375 300
SW17 (TANK)	392216.752	164210.146	43.510	2.050	1200		0	1.000	41.460 450
SW18 (HB)	392225.736	164212.889	43.760	2.360	1200		1 0	1.000 1.001	41.400 41.400 450 150
SW19	392230.839	164195.986	43.900	2.620	1200		1 0	1.001 1.002	41.280 41.280 150 150
SW FUTURE 03	392238.977	164183.683	44.000	2.630	1200		1 0	2.000 6.000	41.370 41.370 150 150
SW FUTURE 02 (HB)	392240.450	164177.009	44.500	3.000	1200		0	2.000	41.500 150
SW FUTURE 01	392245.191	164156.349	44.500	3.000	1200				
S38-01	392225.281	164189.872	44.050	2.970	1200		1 2 0	6.000 1.002 1.003	41.080 41.150 41.150 375 375
S38-02 (HB)	392187.036	164178.156	45.280	4.390	1500		1 0	1.003 1.004	40.890 40.890 375 225
EX HW3	392185.922	164122.599	45.080	5.050	1200		1	1.005	40.030 225
EX HW2	392169.365	164176.718	44.820	4.740	1200		1 2 0	3.000 1.004 1.005	40.080 40.770 40.080 225 225
EX HW1	392144.749	164257.181	44.270	3.870	1200		0	3.000	40.400 225

Node SW18 (HB) Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	41.400	Product Number	CTL-SHE-0105-5700-1500-5700
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.7	Min Node Diameter (mm)	1200

Node S38-02 (HB) Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	40.890	Product Number	CTL-SHE-0114-9200-3000-9200
Design Depth (m)	3.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	9.2	Min Node Diameter (mm)	1500

Node SW17 (TANK) Tank Storage Structure

Invert Level (m) 41.460 | Time to half empty (mins) 0 | Analyse flow through structure x

Inlets SW15

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1000.0	1.500	1000.0

Node SW FUTURE 02 (HB) Tank Storage Structure

Invert Level (m) 41.500 | Time to half empty (mins) 810 | Analyse flow through structure x

Inlets SW FUTURE 01

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	350.0	1.000	350.0

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 60 minute summer	26.616	7.034	1 year 720 minute summer	7.210	1.932
1 year 60 minute winter	17.683	7.034	1 year 720 minute winter	4.845	1.932
1 year 120 minute summer	20.660	5.460	1 year 960 minute summer	6.000	1.580
1 year 120 minute winter	13.726	5.460	1 year 960 minute winter	3.975	1.580
1 year 180 minute summer	17.496	4.502	1 year 1440 minute summer	4.411	1.182
1 year 180 minute winter	11.373	4.502	1 year 1440 minute winter	2.965	1.182
1 year 240 minute summer	14.619	3.863	30 year 60 minute summer	115.623	30.556
1 year 240 minute winter	9.712	3.863	30 year 60 minute winter	76.817	30.556
1 year 360 minute summer	11.835	3.045	30 year 120 minute summer	70.779	18.705
1 year 360 minute winter	7.693	3.045	30 year 120 minute winter	47.024	18.705
1 year 480 minute summer	9.599	2.537	30 year 180 minute summer	54.471	14.017
1 year 480 minute winter	6.377	2.537	30 year 180 minute winter	35.407	14.017
1 year 600 minute summer	7.999	2.188	30 year 240 minute summer	43.193	11.415
1 year 600 minute winter	5.465	2.188	30 year 240 minute winter	28.696	11.415

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year 360 minute summer	33.161	8.534	100 year 720 minute summer	25.401	6.808
30 year 360 minute winter	21.556	8.534	100 year 720 minute winter	17.071	6.808
30 year 480 minute summer	26.217	6.928	100 year 960 minute summer	20.941	5.514
30 year 480 minute winter	17.418	6.928	100 year 960 minute winter	13.872	5.514
30 year 600 minute summer	21.511	5.884	100 year 1440 minute summer	15.062	4.037
30 year 600 minute winter	14.698	5.884	100 year 1440 minute winter	10.123	4.037
30 year 720 minute summer	19.185	5.142	100 year +45% CC 60 minute summer	218.526	57.750
30 year 720 minute winter	12.893	5.142	100 year +45% CC 60 minute winter	145.183	57.750
30 year 960 minute summer	15.741	4.145	100 year +45% CC 120 minute summer	131.759	34.820
30 year 960 minute winter	10.427	4.145	100 year +45% CC 120 minute winter	87.537	34.820
30 year 1440 minute summer	11.290	3.026	100 year +45% CC 180 minute summer	101.186	26.039
30 year 1440 minute winter	7.588	3.026	100 year +45% CC 180 minute winter	65.773	26.039
100 year 60 minute summer	150.708	39.828	100 year +45% CC 240 minute summer	80.401	21.248
100 year 60 minute winter	100.127	39.828	100 year +45% CC 240 minute winter	53.417	21.248
100 year 120 minute summer	90.868	24.014	100 year +45% CC 360 minute summer	62.278	16.026
100 year 120 minute winter	60.371	24.014	100 year +45% CC 360 minute winter	40.483	16.026
100 year 180 minute summer	69.783	17.958	100 year +45% CC 480 minute summer	49.711	13.137
100 year 180 minute winter	45.361	17.958	100 year +45% CC 480 minute winter	33.027	13.137
100 year 240 minute summer	55.449	14.654	100 year +45% CC 600 minute summer	41.083	11.237
100 year 240 minute winter	36.839	14.654	100 year +45% CC 600 minute winter	28.070	11.237
100 year 360 minute summer	42.951	11.053	100 year +45% CC 720 minute summer	36.831	9.871
100 year 360 minute winter	27.919	11.053	100 year +45% CC 720 minute winter	24.753	9.871
100 year 480 minute summer	34.283	9.060	100 year +45% CC 960 minute summer	30.365	7.996
100 year 480 minute winter	22.777	9.060	100 year +45% CC 960 minute winter	20.114	7.996
100 year 600 minute summer	28.333	7.750	100 year +45% CC 1440 minute summer	21.840	5.853
100 year 600 minute winter	19.359	7.750	100 year +45% CC 1440 minute winter	14.678	5.853

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	SW01	33	43.185	0.035	3.3	0.0397	0.0000	OK
60 minute summer	SW02	33	42.548	0.078	16.3	0.0884	0.0000	OK
60 minute summer	SW03	34	42.099	0.079	16.1	0.0890	0.0000	OK
60 minute summer	SW04	32	42.853	0.013	1.1	0.0021	0.0000	OK
60 minute summer	SW05	34	41.864	0.084	17.2	0.0945	0.0000	OK
60 minute summer	SW06	33	42.106	0.066	8.2	0.0742	0.0000	OK
60 minute summer	SW07	33	41.902	0.082	12.2	0.0930	0.0000	OK
60 minute summer	SW09	33	42.366	0.036	2.0	0.0058	0.0000	OK
60 minute summer	SW10	34	42.266	0.036	2.0	0.0057	0.0000	OK
60 minute summer	SW11	33	42.079	0.089	15.6	0.1009	0.0000	OK
60 minute summer	SW12	33	41.852	0.112	19.2	0.1269	0.0000	OK
60 minute summer	SW13	34	41.800	0.110	19.9	0.1247	0.0000	OK
60 minute winter	SW14	12	41.719	0.129	23.8	0.1463	0.0000	OK
600 minute summer	SW15	420	41.568	0.108	17.0	0.0000	0.0000	OK
600 minute summer	SW17 (TANK)	420	41.565	0.105	9.9	105.2458	0.0000	OK
600 minute summer	SW18 (HB)	420	41.565	0.165	3.9	0.1862	0.0000	SURCHARGED
600 minute summer	SW19	390	41.459	0.179	3.9	0.2028	0.0000	SURCHARGED
600 minute summer	SW FUTURE 03	390	41.458	0.088	2.9	0.0996	0.0000	OK
60 minute summer	SW FUTURE 02 (HB)	713	41.535	0.035	2.7	12.5489	0.0000	OK
60 minute summer	SW FUTURE 01	702	41.539	0.039	2.7	0.0000	0.0000	OK
600 minute summer	S38-01	390	41.455	0.375	8.0	0.4240	0.0000	OK
600 minute summer	S38-02 (HB)	390	41.454	0.564	7.8	0.9974	0.0000	SURCHARGED
480 minute winter	EX HW3	400	40.098	0.068	7.0	0.0000	0.0000	OK
480 minute winter	EX HW2	400	40.194	0.114	7.0	0.1289	0.0000	OK
60 minute summer	EX HW1	1	40.400	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	SW01	4.000	SW02	3.3	0.354	0.029	0.6463	
60 minute summer	SW02	4.001	SW03	16.1	1.104	0.146	0.6630	
60 minute summer	SW03	4.002	SW05	16.1	1.050	0.145	0.3694	
60 minute summer	SW04	5.000	SW05	1.1	1.501	0.015	0.0039	
60 minute summer	SW05	4.003	SW15	17.2	1.115	0.156	0.2651	
60 minute summer	SW06	7.000	SW07	8.2	0.877	0.174	0.1593	
60 minute summer	SW07	7.001	SW14	12.1	0.791	0.159	0.5157	
60 minute summer	SW09	6.000_1	SW10	2.0	0.499	0.056	0.0835	
60 minute summer	SW10	6.001	SW11	2.0	0.492	0.054	0.1369	
60 minute summer	SW11	6.002	SW12	15.5	0.750	0.197	1.0209	
60 minute summer	SW12	6.003	SW13	19.0	0.802	0.254	0.2602	
60 minute summer	SW13	6.004	SW14	20.0	0.915	0.240	0.1163	
60 minute winter	SW14	6.005	SW15	23.8	1.920	0.104	0.1684	
600 minute summer	SW17 (TANK)	1.000	SW18 (HB)	3.9	0.128	0.015	0.3776	
600 minute summer	SW18 (HB)	1.001	SW19	3.9	0.761	0.266	0.2198	
600 minute summer	SW19	1.002	S38-01	3.9	0.755	0.174	0.1455	
600 minute summer	SW FUTURE 03	6.000	S38-01	2.8	0.343	0.114	0.2130	
60 minute summer	SW FUTURE 02 (HB)	2.000	SW FUTURE 03	2.7	0.891	0.110	0.0207	
600 minute summer	S38-01	1.003	S38-02 (HB)	7.8	0.283	0.048	4.1256	
600 minute summer	S38-02 (HB)	Hydro-Brake®	EX HW2	7.0				
480 minute winter	EX HW2	1.005	EX HW3	7.0	0.465	0.462	0.8556	466.7
60 minute summer	EX HW1	3.000	EX HW2	0.0	0.000	0.000	0.7699	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	SW01	33	43.221	0.071	14.1	0.0807	0.0000	OK
60 minute summer	SW02	33	42.650	0.180	70.6	0.2036	0.0000	OK
60 minute summer	SW03	33	42.208	0.188	70.4	0.2128	0.0000	OK
60 minute summer	SW04	31	42.866	0.026	4.9	0.0042	0.0000	OK
60 minute summer	SW05	34	41.980	0.200	74.9	0.2261	0.0000	OK
60 minute summer	SW06	33	42.198	0.158	35.7	0.1790	0.0000	OK
60 minute summer	SW07	33	42.013	0.193	53.0	0.2187	0.0000	OK
60 minute summer	SW09	33	42.407	0.077	8.6	0.0122	0.0000	OK
60 minute summer	SW10	33	42.304	0.074	8.6	0.0117	0.0000	OK
60 minute summer	SW11	34	42.225	0.235	68.3	0.2656	0.0000	OK
60 minute summer	SW12	33	42.070	0.330	81.7	0.3734	0.0000	SURCHARGED
60 minute summer	SW13	34	41.975	0.285	85.5	0.3226	0.0000	OK
60 minute summer	SW14	33	41.840	0.250	141.1	0.2833	0.0000	OK
600 minute winter	SW15	570	41.806	0.346	32.6	0.0000	0.0000	OK
600 minute winter	SW17 (TANK)	585	41.801	0.341	17.2	339.1978	0.0000	OK
600 minute winter	SW18 (HB)	585	41.801	0.401	4.7	0.4531	0.0000	SURCHARGED
60 minute summer	SW19	35	41.900	0.620	8.3	0.7013	0.0000	SURCHARGED
60 minute summer	SW FUTURE 03	35	41.767	0.397	15.5	0.4493	0.0000	SURCHARGED
960 minute summer	SW FUTURE 02 (HB)	975	41.677	0.177	3.3	61.1152	0.0000	SURCHARGED
960 minute summer	SW FUTURE 01	975	41.682	0.182	2.7	0.0000	0.0000	OK
60 minute summer	S38-01	35	41.911	0.831	31.4	0.9397	0.0000	SURCHARGED
60 minute summer	S38-02 (HB)	35	41.911	1.021	17.1	1.8044	0.0000	SURCHARGED
60 minute winter	EX HW3	600	40.098	0.068	7.0	0.0000	0.0000	OK
360 minute summer	EX HW2	1432	40.194	0.114	7.0	0.1289	0.0000	OK
60 minute summer	EX HW1	1	40.400	0.000	0.0	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	SW01	4.000	SW02	14.1	0.503	0.126	1.9215	
60 minute summer	SW02	4.001	SW03	70.4	1.553	0.637	2.0586	
60 minute summer	SW03	4.002	SW05	70.0	1.455	0.630	1.1569	
60 minute summer	SW04	5.000	SW05	4.9	2.200	0.066	0.0188	
60 minute summer	SW05	4.003	SW15	75.0	1.601	0.678	0.8042	
60 minute summer	SW06	7.000	SW07	35.7	1.256	0.758	0.4838	
60 minute summer	SW07	7.001	SW14	53.1	1.151	0.695	1.5512	
60 minute summer	SW09	6.000_1	SW10	8.6	0.743	0.238	0.2391	
60 minute summer	SW10	6.001	SW11	8.6	0.568	0.235	0.7279	
60 minute summer	SW11	6.002	SW12	66.1	1.005	0.837	3.1832	
60 minute summer	SW12	6.003	SW13	81.6	1.159	1.092	0.7657	
60 minute summer	SW13	6.004	SW14	85.5	1.332	1.027	0.3368	
60 minute summer	SW14	6.005	SW15	141.3	2.684	0.618	0.5629	
600 minute winter	SW17 (TANK)	1.000	SW18 (HB)	4.7	0.132	0.018	1.3046	
600 minute winter	SW18 (HB)	1.001	SW19	4.6	0.765	0.318	0.3108	
60 minute summer	SW19	1.002	S38-01	-8.3	0.765	-0.370	0.1455	
60 minute summer	SW FUTURE 03	6.000	S38-01	-15.5	-0.882	-0.627	0.2646	
960 minute summer	SW FUTURE 02 (HB)	2.000	SW FUTURE 03	3.8	0.891	0.155	0.1203	
60 minute summer	S38-01	1.003	S38-02 (HB)	17.1	0.623	0.106	4.4118	
60 minute summer	S38-02 (HB)	Hydro-Brake®	EX HW2	7.0				
360 minute summer	EX HW2	1.005	EX HW3	7.0	0.465	0.462	0.8556	680.2
60 minute summer	EX HW1	3.000	EX HW2	0.0	0.000	0.000	0.8485	

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	SW01	33	43.232	0.082	18.4	0.0923	0.0000	OK
60 minute summer	SW02	33	42.689	0.219	92.0	0.2481	0.0000	OK
60 minute summer	SW03	33	42.253	0.233	91.6	0.2634	0.0000	OK
60 minute summer	SW04	33	42.870	0.030	6.4	0.0047	0.0000	OK
60 minute summer	SW05	34	42.027	0.247	97.3	0.2795	0.0000	OK
60 minute summer	SW06	33	42.247	0.207	46.6	0.2345	0.0000	OK
60 minute summer	SW07	33	42.060	0.240	69.0	0.2710	0.0000	OK
60 minute summer	SW09	34	42.596	0.266	11.3	0.0423	0.0000	SURCHARGED
60 minute summer	SW10	34	42.586	0.356	11.7	0.0566	0.0000	SURCHARGED
60 minute summer	SW11	33	42.563	0.573	87.0	0.6479	0.0000	SURCHARGED
60 minute summer	SW12	34	42.216	0.476	106.6	0.5387	0.0000	SURCHARGED
60 minute summer	SW13	34	42.053	0.363	111.8	0.4101	0.0000	SURCHARGED
960 minute winter	SW14	915	41.942	0.352	18.8	0.3982	0.0000	OK
960 minute winter	SW15	915	41.942	0.482	30.3	0.0000	0.0000	OK
960 minute winter	SW17 (TANK)	915	41.936	0.476	16.5	473.7100	0.0000	SURCHARGED
960 minute winter	SW18 (HB)	915	41.936	0.536	5.0	0.6067	0.0000	SURCHARGED
60 minute summer	SW19	35	42.236	0.956	10.6	1.0818	0.0000	SURCHARGED
60 minute summer	SW FUTURE 03	34	41.932	0.562	23.0	0.6352	0.0000	SURCHARGED
1440 minute summer	SW FUTURE 02 (HB)	1470	41.817	0.317	3.2	108.7928	0.0000	SURCHARGED
1440 minute summer	SW FUTURE 01	1470	41.822	0.322	2.7	0.0000	0.0000	OK
60 minute summer	S38-01	35	42.247	1.167	41.0	1.3197	0.0000	SURCHARGED
60 minute summer	S38-02 (HB)	35	42.247	1.357	15.7	2.3984	0.0000	SURCHARGED
60 minute summer	EX HW3	925	40.098	0.068	7.0	0.0000	0.0000	OK
60 minute summer	EX HW2	925	40.194	0.114	7.0	0.1289	0.0000	OK
60 minute summer	EX HW1	1	40.400	0.000	0.0	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	SW01	4.000	SW02	18.4	0.520	0.165	2.3852	
60 minute summer	SW02	4.001	SW03	91.6	1.609	0.829	2.5864	
60 minute summer	SW03	4.002	SW05	91.1	1.512	0.821	1.4514	
60 minute summer	SW04	5.000	SW05	6.4	2.270	0.086	0.0384	
60 minute summer	SW05	4.003	SW15	97.6	1.675	0.883	0.9985	
60 minute summer	SW06	7.000	SW07	46.5	1.293	0.988	0.6159	
60 minute summer	SW07	7.001	SW14	68.9	1.201	0.902	1.9572	
60 minute summer	SW09	6.000_1	SW10	11.7	0.771	0.324	0.8183	
60 minute summer	SW10	6.001	SW11	16.4	0.574	0.450	1.3680	
60 minute summer	SW11	6.002	SW12	86.5	1.228	1.094	3.4596	
60 minute summer	SW12	6.003	SW13	106.8	1.516	1.429	0.7726	
60 minute summer	SW13	6.004	SW14	111.9	1.598	1.345	0.3582	
960 minute winter	SW14	6.005	SW15	20.9	1.123	0.091	1.0869	
960 minute winter	SW17 (TANK)	1.000	SW18 (HB)	5.0	0.126	0.019	1.4883	
960 minute winter	SW18 (HB)	1.001	SW19	5.0	0.754	0.342	0.3108	
60 minute summer	SW19	1.002	S38-01	-10.6	0.765	-0.475	0.1455	
60 minute summer	SW FUTURE 03	6.000	S38-01	-23.0	-1.307	-0.930	0.2646	
1440 minute summer	SW FUTURE 02 (HB)	2.000	SW FUTURE 03	3.8	0.891	0.155	0.1203	
60 minute summer	S38-01	1.003	S38-02 (HB)	15.7	0.678	0.097	4.4118	
60 minute summer	S38-02 (HB)	Hydro-Brake®	EX HW2	7.0				
60 minute summer	EX HW2	1.005	EX HW3	7.0	0.465	0.462	0.8556	552.9
60 minute summer	EX HW1	3.000	EX HW2	0.0	0.000	0.000	0.8485	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	SW01	35	43.271	0.121	26.7	0.1373	0.0000	OK
60 minute summer	SW02	34	43.252	0.782	133.5	0.8846	0.0000	SURCHARGED
60 minute summer	SW03	34	42.598	0.578	122.7	0.6540	0.0000	SURCHARGED
60 minute summer	SW04	33	42.876	0.036	9.3	0.0057	0.0000	OK
60 minute summer	SW05	34	42.215	0.435	131.5	0.4917	0.0000	SURCHARGED
60 minute summer	SW06	33	42.768	0.728	67.6	0.8231	0.0000	SURCHARGED
60 minute summer	SW07	33	42.399	0.579	99.7	0.6550	0.0000	SURCHARGED
60 minute summer	SW09	34	43.457	1.127	16.3	0.1791	0.0000	SURCHARGED
60 minute summer	SW10	34	43.431	1.201	21.5	0.1909	0.0000	SURCHARGED
60 minute summer	SW11	34	43.386	1.396	125.4	1.5791	0.0000	FLOOD RISK
60 minute summer	SW12	34	42.664	0.924	153.9	1.0450	0.0000	SURCHARGED
60 minute summer	SW13	34	42.323	0.633	161.1	0.7160	0.0000	SURCHARGED
960 minute winter	SW14	915	42.210	0.620	27.5	0.7016	0.0000	SURCHARGED
960 minute winter	SW15	930	42.210	0.750	42.3	0.0000	0.0000	OK
960 minute winter	SW17 (TANK)	930	42.204	0.744	23.2	738.5270	0.0000	SURCHARGED
960 minute winter	SW18 (HB)	930	42.204	0.804	5.5	0.9092	0.0000	SURCHARGED
60 minute summer	SW19	35	42.981	1.701	13.2	1.9237	0.0000	SURCHARGED
60 minute summer	SW FUTURE 03	34	42.213	0.843	36.3	0.9534	0.0000	SURCHARGED
1440 minute summer	SW FUTURE 02 (HB)	1530	42.086	0.586	4.9	200.7458	0.0000	SURCHARGED
1440 minute summer	SW FUTURE 01	1530	42.092	0.592	3.8	0.0000	0.0000	OK
60 minute summer	S38-01	35	42.992	1.912	59.4	2.1628	0.0000	SURCHARGED
60 minute summer	S38-02 (HB)	35	42.993	2.103	13.7	3.7156	0.0000	SURCHARGED
60 minute summer	EX HW3	37	40.101	0.071	7.6	0.0000	0.0000	OK
60 minute summer	EX HW2	37	40.199	0.119	7.8	0.1342	0.0000	OK
60 minute summer	EX HW1	1	40.400	0.000	0.0	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	SW01	4.000	SW02	26.7	0.525	0.240	3.2773	
60 minute summer	SW02	4.001	SW03	122.7	1.742	1.109	3.1980	
60 minute summer	SW03	4.002	SW05	122.6	1.742	1.105	1.6946	
60 minute summer	SW04	5.000	SW05	9.3	2.259	0.125	0.0553	
60 minute summer	SW05	4.003	SW15	131.4	1.867	1.189	1.1814	
60 minute summer	SW06	7.000	SW07	67.0	1.684	1.422	0.6769	
60 minute summer	SW07	7.001	SW14	99.1	1.408	1.298	2.3676	
60 minute summer	SW09	6.000_1	SW10	17.1	0.781	0.473	0.8183	
60 minute summer	SW10	6.001	SW11	21.7	0.566	0.596	1.3680	
60 minute summer	SW11	6.002	SW12	124.5	1.769	1.576	3.4596	
60 minute summer	SW12	6.003	SW13	153.9	2.186	2.059	0.7726	
60 minute summer	SW13	6.004	SW14	161.4	2.292	1.939	0.3746	
960 minute winter	SW14	6.005	SW15	31.0	1.220	0.136	1.1010	
960 minute winter	SW17 (TANK)	1.000	SW18 (HB)	5.5	0.124	0.021	1.4883	
960 minute winter	SW18 (HB)	1.001	SW19	5.4	0.754	0.372	0.3108	
60 minute summer	SW19	1.002	S38-01	-13.2	-0.748	-0.590	0.1455	
60 minute summer	SW FUTURE 03	6.000	S38-01	-36.3	-2.063	-1.468	0.2646	
1440 minute summer	SW FUTURE 02 (HB)	2.000	SW FUTURE 03	-4.9	0.891	-0.199	0.1203	
60 minute summer	S38-01	1.003	S38-02 (HB)	13.7	0.697	0.085	4.4118	
60 minute summer	S38-02 (HB)	Hydro-Brake®	EX HW2	7.8				
60 minute summer	EX HW2	1.005	EX HW3	7.6	0.477	0.500	0.9025	605.6
60 minute summer	EX HW1	3.000	EX HW2	0.0	0.000	0.000	0.8930	

Water Quality (TSS)

Node	Treatment	Effectiveness	SuDS Component	Mitigation TSS	Cumulative TSS
SW FUTURE 02 (HB) EX HW3	Tank	1.0	Pond	0.700	0.000 0.000

Water Quality (Metals)

Node	Treatment	Effectiveness	SuDS Component	Mitigation Metals	Cumulative Metals
SW FUTURE 02 (HB) EX HW3	Tank	1.0	Pond	0.700	0.000 0.000

Water Quality (Hydrocarbons)

Node	Treatment	Effectiveness	SuDS Component	Mitigation Hydrocarbons	Cumulative Hydrocarbons
SW FUTURE 02 (HB) EX HW3	Tank	1.0	Pond	0.500	0.000 0.000

Appendix G: Eastern Way S278 Drainage Drawings

KEY

- Proposed 225# perforated filter drain
- Proposed 225# drainage pipe
- Proposed 600 water drainage pipe
- Proposed Manhole
- Proposed Catchpit
- Proposed Gully
- Proposed Siph

Sandridge Common Roundabout (RA4)

Pumping Station

NOTES

- 1.) Do not scale from this drawing.
- 2.) All materials and workmanship to be in accordance with the Contract Specification and the Department of Transport Specification for Highway Works and Wiltshire County Councils Highway Construction Policy.
- 3.) The existing services shown on this drawing are not necessarily complete nor in their location with regard to position and depth profiles. It is the Contractor's responsibility to take with all relevant services comparison to ensure that all services are accurately located and adequately protected during construction.
- 4.) For construction details, refer to DCL drawing series 1237/CD/- numbered 01 onwards.



Rev.	Description	By	Check	Approved	Date
1	Issue for tender				

PRELIMINARY

Issue Status

Drawn: RD Checked: THL Date: APR 06

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East Melksham Consortium

Proposed Development
East Melksham, Wiltshire

Phase 1 Highways
Drainage
Sheet 6 of 6

Scale of A1 Drawing No. 1237/HD/06 Rev. D

1237/HD/05

Refer to BCL drawing
series 1237/CD/... for
details of grade crossing.

Site Access
No. 4

Roundabout
(RA3)

KEY	
	Proposed 2254 perforated filter drain
	Proposed 2254 drainage pipe
	Proposed Ford water drainage pipe
	Proposed Manhole
	Proposed Catchpit
	Proposed Gully
	Proposed Gip

- NOTES**
- 1.) Do not scale from this drawing.
 - 2.) All materials and workmanship to be in accordance with the Contract Specification and the Department of Transport Specification for Highway Works and Wiltshire County Councils Highway Construction Policy.
 - 3.) The existing services shown on this drawing are not necessarily complete nor is their location with regard to position and depth precise. It is the Contractor's responsibility to liaise with all relevant services companies to ensure that all services are accurately located and adequately protected during construction.
 - 4.) For construction details, refer to BCL drawing series 1237/CD/... numbered 01 onwards.



Rev	Description	By	App'd	Date
1	Issue for tender	...	...	...
2	Revised to include...	...	...	...

PRELIMINARY		DATE	12/4/05
Issue Status		Approved	12/4/05
Drawn	RD	Checked	THW
		Date	APR 05

Brookbanks Consulting

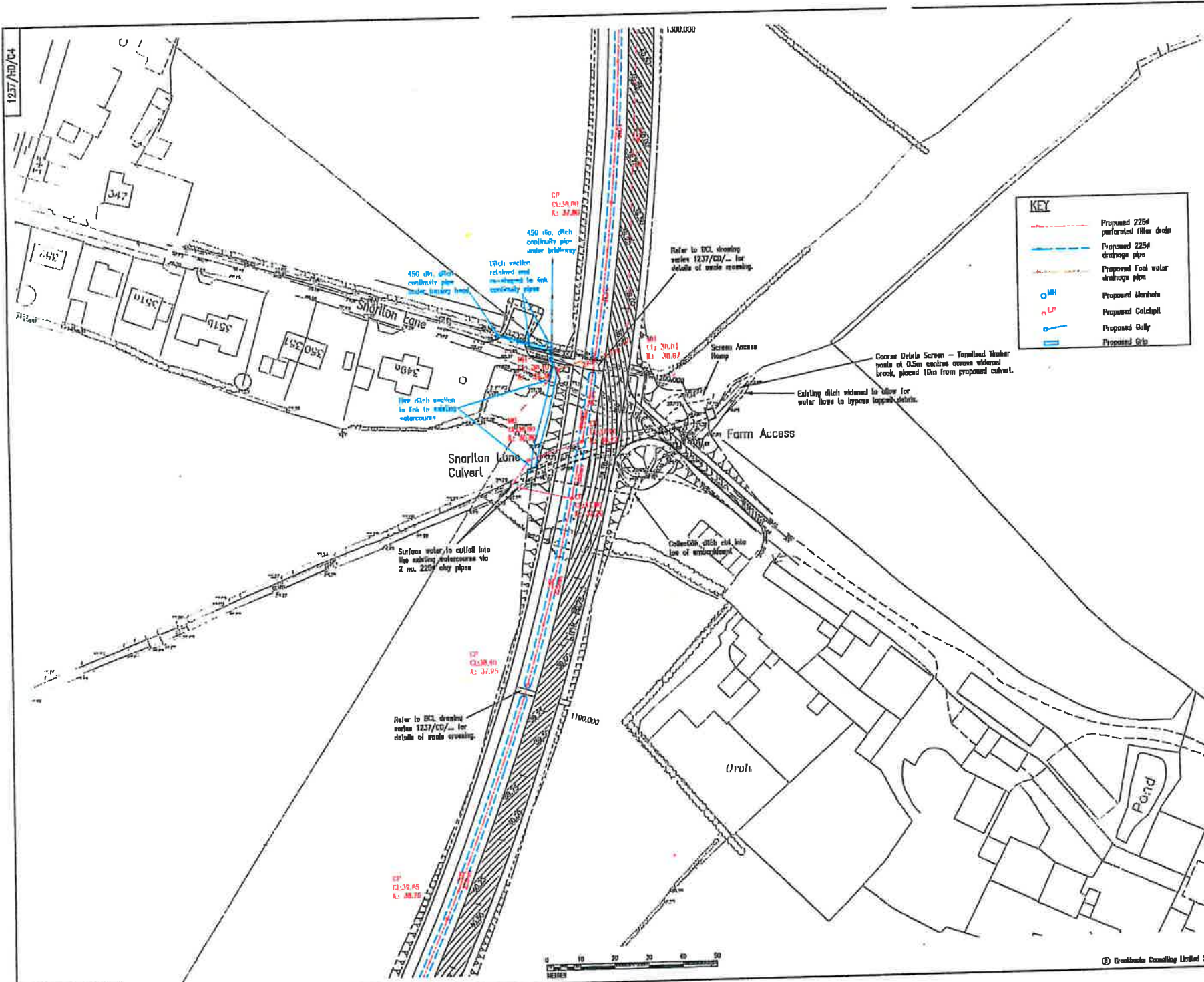
111 Dwyer Road Edgmonton Chesham Wiltshire Wiltshire W19 6LJ
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East Melksham Consortium

Proposed Development
East Melksham, Wiltshire

Phase 1 Highways
Drainage
Sheet 5 of 6

Scale	Drawing No.	Rev.
1:500	1237/HD/05	0



- 1.) Do not work from this drawing.
- 2.) All materials and workmanship to be in accordance with the Contract Specification and the Department of Transport Specification for Highway Works and Wildlife County Council Highway Construction Policy.
- 3.) The military services shown on this drawing are not necessarily complete or in their location with regard to position and depth provided. It is the Contractor's responsibility to take up the necessary services to ensure that all services are correctly located and adequately protected during construction.
- 4.) For construction details, refer to DCL drawing series 1237/021/-, mentioned in A1 schedule.



B	For each cell, indicate if the drug is normally given in combination, or not normally given	YES	NO	YES	NO
A	Combination needed to derive response	YES	NO	YES	NO
Doc.	Responsible Doctor				

PRELIMINARY	PAGE	03/4/00
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Issue Title	Approved	Date
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Drawn	RD	Checked	TLD	Date	APR 06
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Brookbanks
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East Melksham Consortium

7 Proposed Development
East Melksham, Wiltshire

Phase 1 Highways
Drainage
Sheet 4 of 6

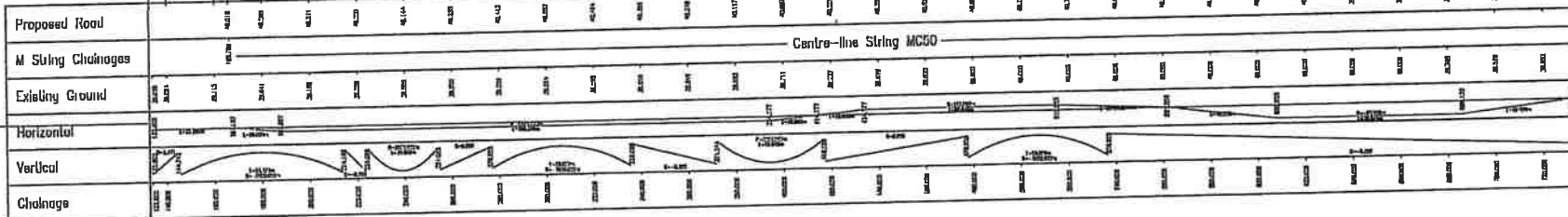
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1237/LS/01

Snowberry Lane Roundabout (RA1) and Site Access No. 1

Site Access No. 2

Level Datum = 35.000

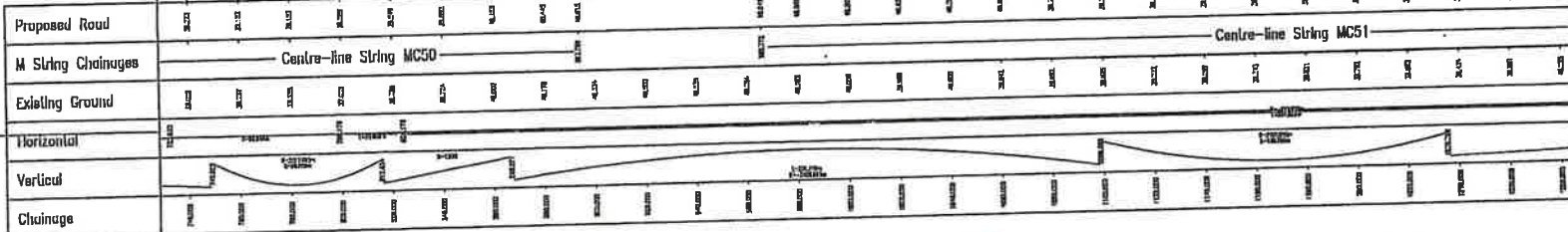


Proposed Culvert (Clickers Brook)

New Roundabout (RA2) and Site Access No. 3

Proposed Culvert, Shorton Lane and Farm Access

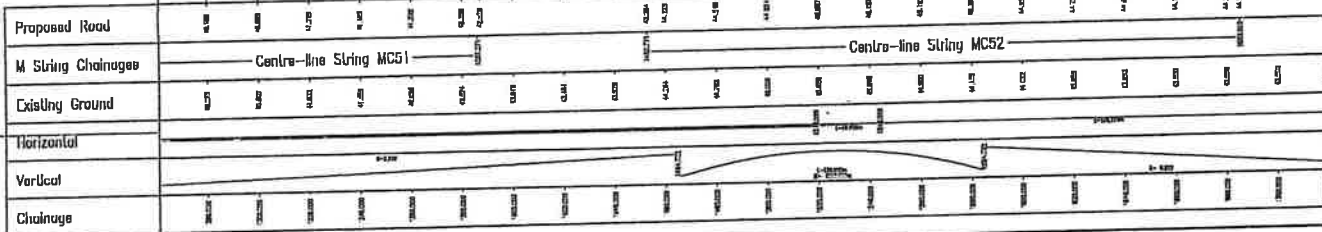
Level Datum = 35.000



New Roundabout (RA3) and Site Access No. 4

Sandridge Common Roundabout (RA4)

Level Datum = 35.000



LONGITUDINAL SECTIONS
ALONG CENTRE-LINE OF MAINLINE

Scale: 1:1000 H, 1:100 V

NOTES

- 1.) Do not scale from this drawing.
- 2.) This Drawing to be read in conjunction with B.L. drawing no. 1237/18/01-06 inclusive.

Rev.	Revised Details	Drawn	Checked	Approved	Date				
PRELIMINARY					21/2/06				
Issue Marked		Approved		Date					
Drawn		Checked		Date					
				20th MAR 06					
Brookbanks Consulting 111 Under Road Edgworths Wiltshire UK SN16 6LR Tel (0121) 492 0010 Fax (0121) 492 0019 Email: info@brookbanks.com									
East Melksham Consortium									
Proposed Development East Melksham, Wiltshire									
Phase 1 Highways Longitudinal Section Sheet 1 of 4									
Drawn at A1	Drawing No.		Rev.						
As Shown	1237/LS/01								

