OPTIMA
Intelligent Highways Solutions

Cliff Hill, Cumberworth Lane, Denby Dale
Proposed Residential Development
Stage 1 Road Safety Audit

March 2024 (Rev 1)

Prepared on behalf of

VIA Solutions

Optima Highways and Transportation Consultancy Ltd
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Quality Management

Cliff Hill, Cumberworth Lane, Denby Dale - Stage 1 Road Safety Audit Project No: 22071				
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Issue/revision	**Initial Issue**	**Revision 1**	**Revision 2**	**Revision 3**
Remarks	Final	2024 Update		
Date	26th May 2022	13th March 2024		
Prepared by	M Whittaker	J Stackhouse		
Signature				
Checked by	E Green	M Whittaker		
Signature				
Authorised by	M Whittaker	M Whittaker		
Signature				

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1. Introduction and Background

1.1 PROJECT DETAILS

Table 1.1 Project Details

Report title	Stage 1 Road Safety Audit
Date	13th March 2024
Document reference and revision	240313 (rev 1)
Prepared by	Optima Highways
On behalf of	VIA Solutions
Overseeing Organisation	Kirklees Council

1.2 INTRODUCTION

1.2.1 The objective of the road safety audit process is to provide an effective, independent review of the road safety implications of engineering interventions for all road users and suggest modifications that could improve road safety. The road safety audit process is not a technical check of compliance with design standards.

1.2.2 Highway schemes subject to the Road Safety Audit process are conducted at the following design stages:

Stage 1 – Completion of Preliminary Design;

Stage 2 – Completion of Detailed Design;

Stage 3 – Completion of Construction; and

Stage 4 – Post-Opening Monitoring.

1.2.3 Optima Highways and Transportation Consultancy Ltd (Optima) has been appointed to undertake this Stage 1 Road Safety Audit of the proposed access arrangements and internal layout associated with a residential development comprising of 62 dwellings on land to the east of Cumberworth Lane, Denby Dale, known as Cliff Hill.

1.3 TERMS OF REFERENCE

1.3.1 This Road Safety Audit has been undertaken in accordance with GG 119 'Road safety Audit' and a Road Safety Audit Brief prepared by VIA Solutions (Design Organisation), which has been approved by Adam Darwin (Group Engineer) of the Overseeing Organisation (Kirklees Council).

1.3.2 A copy of the Road Safety Audit Brief is contained at Appendix A.

1.4 ROAD SAFETY AUDIT TEAM

1.4.1 The Road Safety Audit has been carried out by experienced Road Safety Engineers employed by Optima, who are independent from the design process. The Road Safety Audit Team membership is set out within the Road Safety Audit Brief, agreed by the overseeing organisation and consists of:

Martin Whittaker FIHE MSoRSA

Road Safety Audit Team Leader (Director, Optima)

James Stackhouse BA (Hons) MCIHT AMSoRSA

Road Safety Audit Team Member (Engineer, Optima)

1.5 PREVIOUS ROAD SAFETY AUDITS

1.5.1 Optima produced a Stage 1 Road Safety Audit of the proposed access arrangements to the development in May 2022. The Road Safety Audit did not consider the internal layout of the development.

1.6 DEPARTURE FROM STANDARD

1.6.1 The Road Safety Audit Team has not been made aware from any departures from standard.

1.7 SCHEME DETAILS

1.7.1 The proposed works include the formation of a new priority controlled T junction on to Cumberworth Lane, which comprises of a 5.5m wide carriageway, 10m junction radii and 2.0m wide footways extending along the site frontage.

1.7.2 The internal layout of the Site forms a cul-de-sac, serving 62 dwellings and is laid out with a mixture of traditional estate roads and shared surfaces.

1.7.3 The access arrangements have been amended following the original Stage 1 Road Safety Audit undertaken in May 2022, which now include an extended footway along the eastern flank of Cumberworth Lane, along with other minor amendments.

1.7.4 The following drawings set out within Table 1.2 have been provided to the Audit Team for the purposes of the Audit.

Table 1.2 Drawing

Designer	Drawing Number	Revision	Date	Title
Bewster Bye Architects	57116-BBA-09-Z00-DR-A-0201	P14	29/02/24	Proposed Site Plan
Bewster Bye Architects	57116-BBA-09-Z00-DR-A-0208	P04	10/01/24	Proposed EV Plan
VIA Solutions	211502	G	February 2024	Proposed Access Arrangements
VIA Solutions	211503	D	February 2024	Long Section
VIA Solutions	211504	D	February 2024	Swept Path Analysis
VIA Solutions	211505	D	February 2024	Swept Path Analysis
VIA Solutions	211506	D	February 2024	Swept Path Analysis
VIA Solutions	211507	D	February 2024	25m Forward Visibility
VIA Solutions	211508	B	February 2024	Swept Path Analysis
VIA Solutions	211509	B	February 2024	Swept Path Analysis
VIA Solutions	211510	B	February 2024	Swept Path Analysis
VIA Solutions	211511	B	February 2024	Swept Path Analysis
VIA Solutions	211512	-	February 2024	Swept Path Analysis

1.7.5 The following additional information set out within Table 1.3 has also been supplied to the Road Safety Audit Team.

Table 1.3 Additional Information

Author	Document Title	Date
Road Data Services Ltd	Denby Dale ATC, Cumberworth Road	14/05/22-20-05/22
VIA Solutions	Designers Response	May 2022

1.8 AUDIT DETAILS

1.8.1 The above plans and information have been examined prior to the site visit, analysed in detail on site and at the offices of Optima following the visit.

1.8.2 A Site visit was carried out by the previous Road Safety Audit Team on Tuesday 24th May 2022 between the hours of 10:30 and 11:00. The weather was fine/dry and the road surface was also dry.

1.8.3 A further site visit has been undertaken by the Road safety Audit Team on Tuesday 12th March 2024 between the hours of 14:30 and 15:00. The weather and road surface was dry.

1.8.4 Low traffic volumes were observed along Cumberworth Lane and a limited number of pedestrians were observed during both Site visits.

1.8.5 The Road Safety Audit considers and reports only on the safety implications of the proposed scheme as presented and has not examined or verified the compliance of the designs to any other criteria. Comments made in this report relate to points which are considered to be worthy of attention in respect of safety.

1.8.6 Recommendations included within this report are intended to identify proportionate means of eliminating or mitigating the concern raised and should not be regarded as being prescriptive design solutions. There may be alternative methods of addressing a problem that would be equally acceptable and these should be considered in full by the Designer.

1.8.7 The reference and location of problems have been indicated on the plans contained at Appendix B, where appropriate.

2. Items Raised at Stage 1 Road Safety Audit

Table 2.1 Problem 1

PROBLEM	
Location	Cumberworth Lane (western crossing position).
Summary	The proposed dropped crossing location may encourage pedestrians to cross with limited visibility.

Visibility to the south from the proposed crossing located on the western flank of Cumberworth Lane is restricted due to the alignment of the carriageway.

The limited visibility from the crossing point may lead to a pedestrian being struck by oncoming traffic travelling northbound along Cumberworth Lane.

Recommendation

It is recommended that a pedestrian visibility exercise is undertaken and the crossing is relocated to a position which maximises visibility in both directions. On site observations suggested that a more suitable position may be situated approximately 15m further south.

Table 2.2 Problem 2

PROBLEM	
Location	Cumberworth Lane Site frontage.
Summary	The absence of suitable drainage may lead to ponding at the junction or running water.
A drainage channel is provided along the eastern flank of Cumberworth Lane, which discharges into a gully located approximately 50-60m below the access. The introduction of a junction bell mouth and dropped crossings may lead to excessive water ponding at the access/on the footway, which may lead to loss of control incidents in poor or icy weather conditions.	
	
Recommendation	
It is recommended that suitable drainage is provided along the extent of the works at the detailed design stage.	

Table 2.3 Problem 3

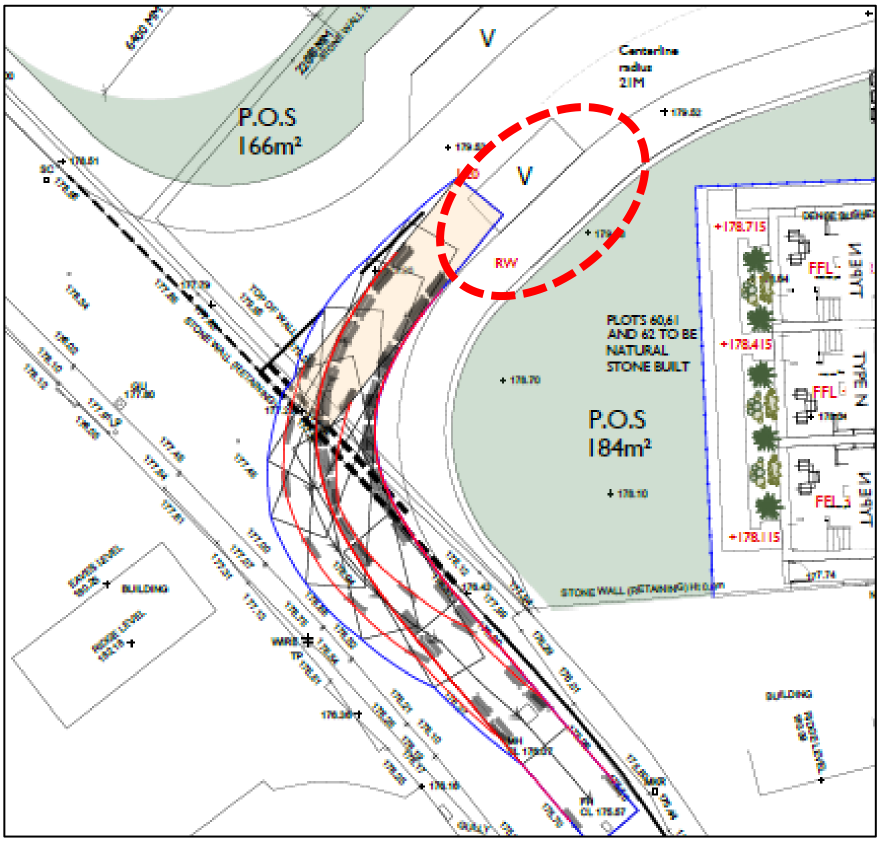
<table>
<tr><th colspan="2">PROBLEM</th></tr>
<tr><td>Location</td><td>Site access.</td></tr>
<tr><td>Summary</td><td>A visitor parking bay may prevent access by larger vehicles.</td></tr>
<tr><td colspan="2">An on-street visitor parking bay is illustrated on the eastern flank of the access road, in close proximity to the access onto Cumberworth Lane.
The visitor bay is illustrated on VIA Solutions drawing 2111510 rev B, however it is not shown on drawing 2111511 rev B or the Proposed Site Plan (57116-BBA-09-Z00-DR-A-0201) and therefore this may be a drafting issue, however the provision of a visitor parking bay in this location may restrict access to the development by larger vehicles.
When occupied, the parking bay could result in the potential for sudden breaking and rear shunt type collisions when larger vehicles are entering the development, or vehicles emerging from the side road on the opposite side of the carriageway, resulting in potential head on collisions.

</td></tr>
<tr><th colspan="2">Recommendation</th></tr>
<tr><td colspan="2">It is recommended that the visitor parking bay is removed.</td></tr>
</table>

Table 2.4 Problem 4

PROBLEM	
Location	Main access road.
Summary	Visitor parking bays may prevent access by larger vehicles.
A number of on-street visitor parking bays are illustrated on the Proposed Site Plan (57116-BBA-09-Z00-DR-A-0201), which are replicated on the various swept path analysis drawings. It is not clear whether it is the intension that these are formally marked bays, or whether these have been illustrated to demonstrate where on street parking could potentially occur within the development. Some swept path analysis drawings illustrate vehicles avoiding these bays (such as drawings 2111506 and 2111512) and others do not (2111504). If visitor parking is anticipated in these areas, then larger refuse vehicles may have difficulty passing the bays without overhanging/overrunning the adjacent footways, in conflict with pedestrians.	
Recommendation	
It is recommended that the swept path analysis is repeated avoiding the identified visitor parking locations.	

Table 2.5 Problem 5

PROBLEM	
Location	Internal junction.
Summary	Visibility from the junction is restricted by the visitor parking bays.
A row of three visitor parking bays are proposed adjacent to plot 2 along the northern flank of the carriageway, in close proximity to the junction serving plots 2-18. Although junction visibility splays have not been indicated, given the proximity of the bays to the junction, these are likely to restrict visibility to the west of the junction when occupied – as shown indicatively below.  Although it is acknowledged that approach speeds are likely to be low, the restricted visibility to the west increases the likelihood of an emerging vehicle or cyclist being struck by an oncoming vehicle.	
Recommendation	
It is recommended that the visitor parking bay location/size is amended to ensure suitable visibility is provided to the west.	

3. Audit Team Statement

3.1.1 We certify this Road Safety Audit has been carried out following GG 119 guidance.

Road Safety Audit Team Leader

Name: Martin Whittaker FIHE MSoRSA

Position: Director

Organisation: Optima Highways & Transportation Ltd

Date: 13th March 2024

Signed:……………………………………..

Road Safety Audit Team Member

Name: James Stackhouse BA (Hons) MCIHT

Position: Engineer

Organisation: Optima Highways & Transportation Ltd

Date: 13th March 2024

Signed:……………………………………..

Appendices

Appendix A Road Safety Audit Brief

TABLE C.1 PROJECT SUMMARY

Date:	11/03/2024
Document reference:	21115 Cliff Hill, Denby Dale RSAB Stage 1
Prepared by:	Via Solutions Ltd
On behalf of:	Urban Developments Ltd
AUTHORISATION SHEET	
Project:	Cliff Hill, Denby Dale
Report title:	Road Safety Audit Brief Stage 1
PREPARED BY:	
Name:	James Longley
Signed:	
Organisation:	VIA Solutions
Date:	11/03/2024
I APPROVE THE RSA BRIEF AND INSTRUCT THE RSA TO TAKE PLACE ON BEHALF OF THE OVERSEEING ORGANISATION:	
Name:	Adam Darwin
Signed:	
Organisation:	Kirklees Council
Date:	11/03/2024

TABLE C.2 GENERAL DETAILS

<table>
<tr><td colspan="6">General details</td></tr>
<tr><td colspan="3">Highway scheme name and number:</td><td colspan="3">21115 Cliff Hill, Denby Dale</td></tr>
<tr><td>Type of scheme:</td><td colspan="5">Proposed Access Junction - associated with a residential development consisting of 62 dwellings.</td></tr>
<tr><td colspan="2" rowspan="2">RSA stage tick as appropriate</td><td>1 ✓</td><td>2</td><td>3</td><td rowspan="2">4</td></tr>
<tr><td colspan="3">Interim</td></tr>
<tr><td colspan="3">Overseeing organisation details</td><td colspan="3">Design organisation details</td></tr>
<tr><td colspan="3">Kirklees Council</td><td colspan="3">Via Solutions</td></tr>
<tr><td colspan="3">Police contact details</td><td colspan="3">Maintaining agent contact details</td></tr>
<tr><td colspan="3">N/A</td><td colspan="3">Kirklees Council</td></tr>
<tr><td colspan="6">RSA team membership</td></tr>
<tr><td colspan="6">Martin Whittaker and James Stackhouse, Optima Highways</td></tr>
<tr><td colspan="6">Terms of reference</td></tr>
<tr><td colspan="6">GG119</td></tr>
</table>

TABLE C.3 SCHEME DETAILS

Scheme description/objective
General
Development proposals include 62 houses with associated parking. The site is currently occupied by vacant, vegetated land. The scheme to be audited consists of the proposed new access on to Cumberworth Lane and internal roads serving the proposed dwellings.
Design standards applied to the scheme design
Manual for Streets and KMC Street Design Guide
Design speeds
35mph (southbound)
Speed limits
30 mph
Existing traffic flows/queues
The existing site generates low levels of traffic throughout the day, there will be some minor increase in flows.
Forecast traffic flows
The site will generate approximately 30 vehicle trips per peak hour.
Pedestrian, cyclist and equestrian desire lines
Pedestrians and cyclists will emerge onto Cumberworth Lane and generally route southwards towards the local amenities and nearby schools. Public footpath DEN/61/10 runs along the northwest boundary of the site.
Environmental constraints
None

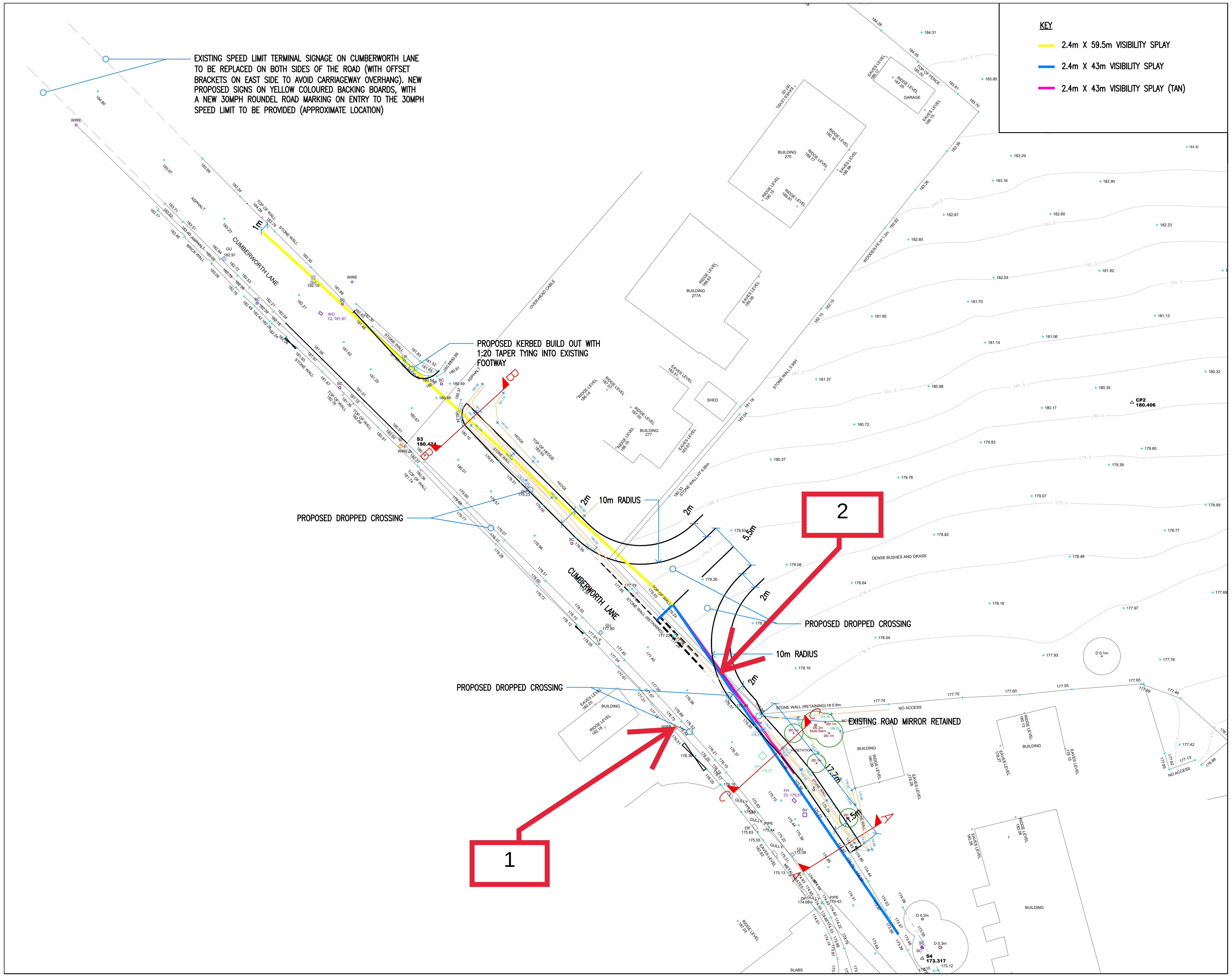
TABLE C.4 LOCALITY

Description of locality
The site sits on the outside of a bend off Cumberworth Lane opposite the Denby Dale Methodist Church and lies within the village of Denby Dale, south east of Huddersfield.
General Description
New vehicular and pedestrian site access to serve a small residential development.
Relevant factors which may affect road safety
None

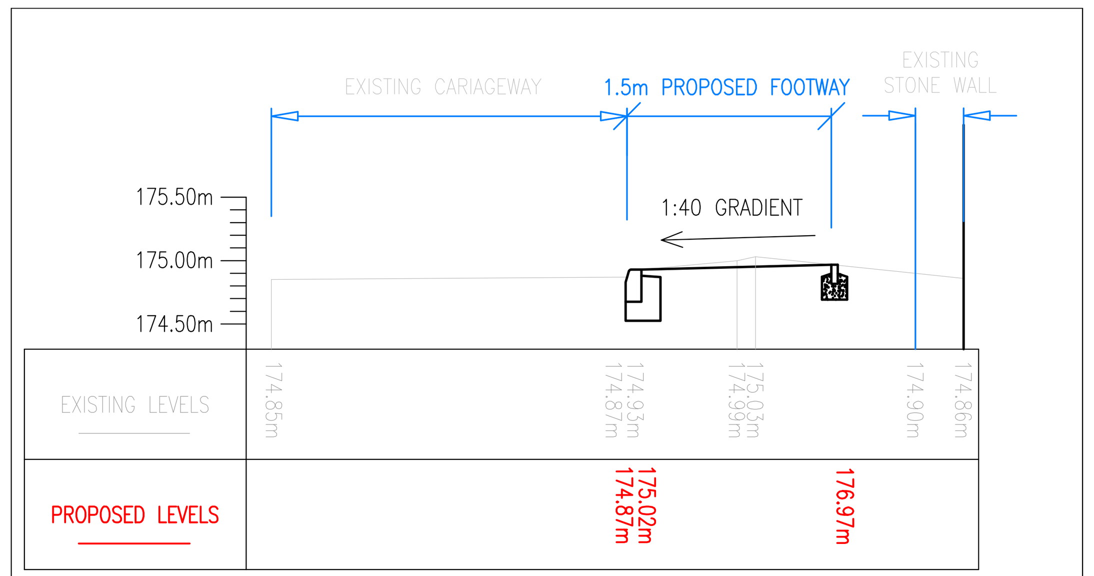
TABLE C.5 ANALYSIS

Collision data analysis
There were no recorded incidents within the search area which does not indicate a safety concern nor any safety trends on this section on the local highway network.
Departures from standards
None
Previous road safety audit stage reports, road safety audit response reports and evidence of agreed actions
None
Strategic decisions
None
List of included documents and drawings
Documents; Automated Traffic Count / Speed Survey
Drawings Proposed Access Arrangement - 2111502 Rev G Long Section – 2111503 Rev D Swept Path Analysis - 2111504 Rev. D Swept Path Analysis -2111505 Rev. D Swept Path Analysis - 2111506 Rev. D Forward Visibility - 2111507 Rev. D Swept Path Analysis - 2111508 Rev. B Swept Path Analysis - 2111509 Rev. B Swept Path Analysis - 2111510 Rev. B Swept Path Analysis - 2111511 Rev. B Swept Path Analysis - 2111512 57116 - BBA - 09 - Z00 - DR - A - 0201 Rev. P14 - Proposed Site Plan 57116 - BBA - 09 - Z00 - DR - A - 0208 Rev. P04 - Proposed Ev Plan

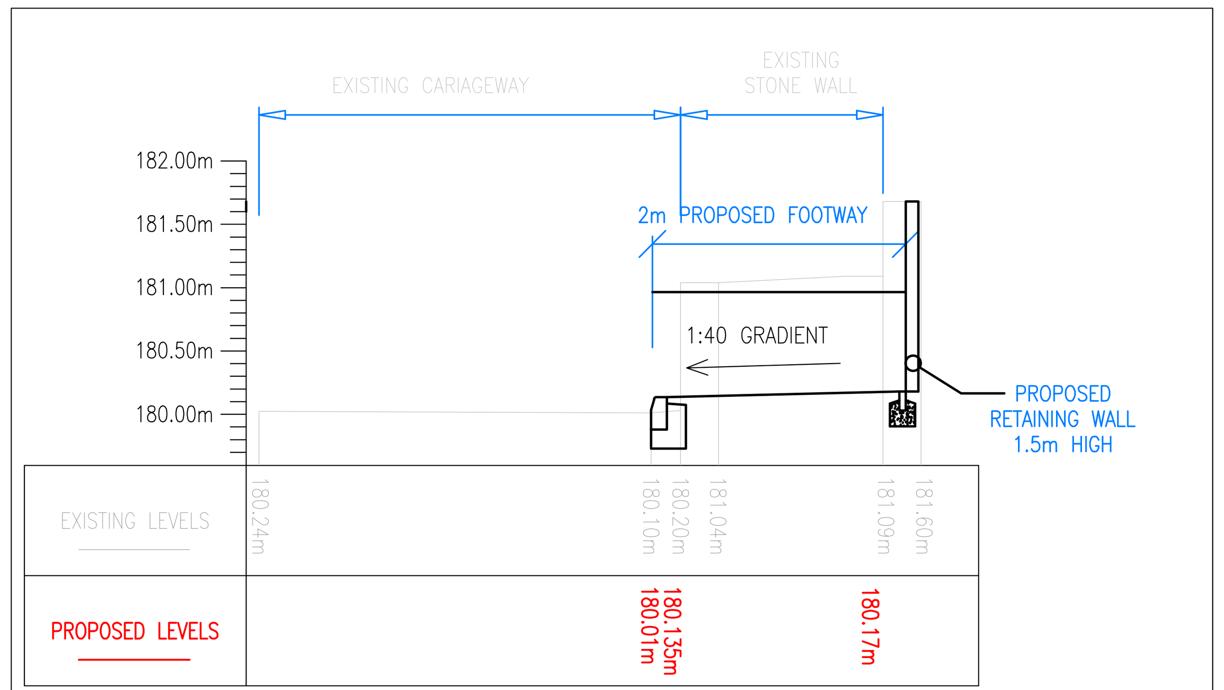
Appendix B Problem Location Plans



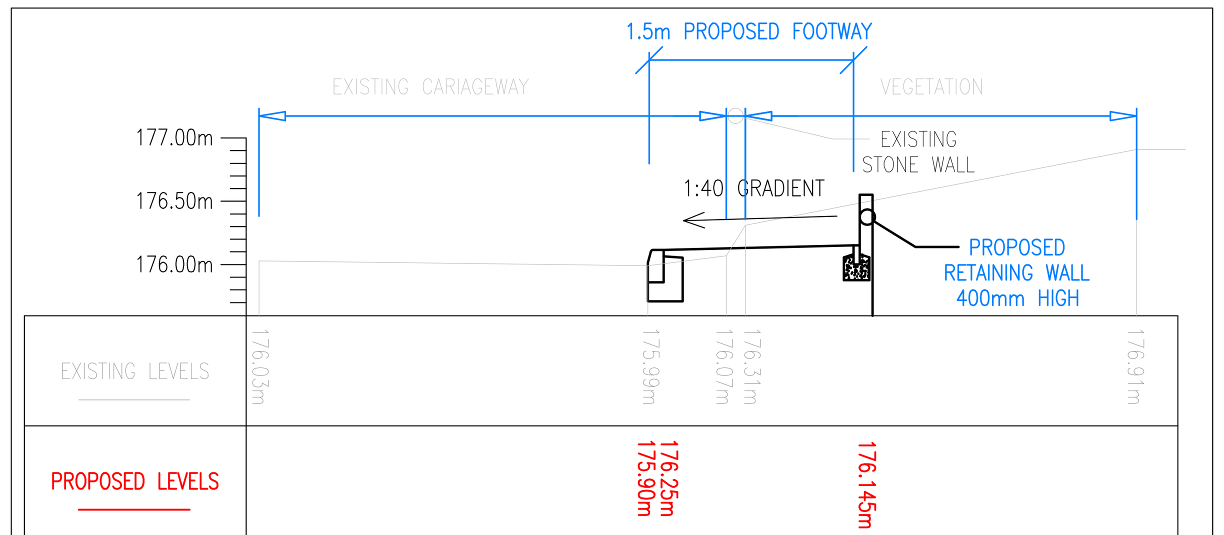
SCALE: 1:250 @A1



SECTION A SCALE: 1:50 @A3



SECTION B SCALE: 1:50 @A3



SECTION C SCALE: 1:50 @A3

REV.	AMENDMENTS	DATE
-	-	-

NOTES

1. THIS DRAWING SHOWS THE PRELIMINARY LAYOUT ONLY (NOT TO BE USED FOR CONSTRUCTION) AND IS SUBJECT TO DETAILED DESIGN, FULL CDM COMPLIANCE, STATUTORY UNDERTAKERS SEARCH/DIVERSION REQUIREMENTS, HIGHWAY DRAINAGE PROVISION, LAND OWNERSHIP AND LOCAL AUTHORITY APPROVAL.

2. ORDNANCE SURVEY (C) CROWN COPYRIGHT 2023. ALL RIGHTS RESERVED. LICENCE NUMBER 1000224323

VIASOLUTIONS

THE OLD COACH HOUSE, 1 CAMPBELL STREET PUDSEY LS28 6DP

tel: 0113 3453957 email: highwaymen@viasolutions.co.uk

PROPOSED RESIDENTIAL DEVELOPMENT

CUMBERWORTH LANE, DENBY DALE

PROPOSED ACCESS ARRANGEMENT

SCALE: AS SHOWN @A1

DATE: FEBRUARY 2024

DRAWING NO: 211502

STATUS: - REVISION: G

Highway verges were possible have been designed with consideration to enhanced planting and tree planting inline with local highway design guide policy 4.9, 4.10, 4.1.

where possible grassed and planted verges to be a minimum of 1m wide and provide a minimum 200mm hard surface adjacent to vertical structures 4.19, 4.20

All tree planting to be in accordance with local authority approval.

Suitability Code:
A3
For Planning

SCHEDULE

TYPE A	10X	TYPE A - 2 BED GIA 71.2m²
TYPE B	3X	TYPE B - 3 BED GIA 86.4m²
TYPE C	6X	TYPE C - 4 BED GIA 143.3m²
TYPE D	12X	TYPE D - 4 BED GIA 133.9m²
TYPE H	4X	TYPE H - 4 BED GIA 141.9m²
TYPE K	19X	TYPE E - 3 BED GIA 100m²
TYPE L	2X	TYPE F - 3 BED GIA 120m²
TYPE M	2X	TYPE 2 - 2 BED GIA 75.4m²
TYPE N	3X	TYPE I - 1 BED GIA 58m²
TYPE P	1X	TYPE P - 4 BED GIA 111m²
TOTAL UNITS - 62		

Unit mix
1 bed = 5%
2 Bed = 19%
3 Bed = 39%
4 Bed = 37%

GIFA
6621m2

VISITOR PARKING 15 SPACES (11 MARKED 4 UNMARKED)

* CYCLE STORE

MINE SHAFT ZOI

REV	COMMENT	DATE	DR	CH
P14	AMENDMENTS TO VISITOR PARKING FOLLOWING HIGHWAYS COMMENTS	29.02.24	TC	
P13	AMENDMENTS TO LAYOUT FOLLOWING CLIENT MEETING	21.02.24	TC	MH
P12	AMENDMENTS TO LAYOUT TO MEET HIGHWAY CONCERNS	18.01.24	TC	MH
P11	AMENDMENTS TO LAYOUT TO MEET HIGHWAY CONCERNS	07.12.23	TC	MH
P10	MINOR AMENDMENTS TO INCLUDE CONSULTEE COMMENT PLOT 58 CHANGE	06.10.23	TC	MH
P09	MINE SHAFT LOCATIONS ADDED	27.09.23	TC	MH
P08	RED LINE AMENDMENT	30.08.23	TC	MH
P07	RED LINE AMENDMENT	14.08.23	TC	MH
P06	AMENDMENT TO HIGHWAY MINOR WIDENING AND TURNING HEAD ADJUSTMENT.	14.07.23	TC	MH
P05	AMENDMENT TO HIGHWAY RAMP LOCATION AN SHARED SURFACE	12.07.23	TC	MH

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CLIENT
urban

JOB TITLE
RESDENTIAL DEVELOPMENT
DENBY DALE

PROPOSED
SITE PLAN

Drawn: TC
Date: JUN 23
Scale: 1:500 @ A2
Checked: MH

DWG NO
57116-BBA-09 -Z00 -DR-A- 0201
REV:
P14