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			1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL
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			3. THE CONTRACTOR MUST ENSURE AND WILL BE HELD RESPONSIBLE FOR THE OVERALL STABILITY OF THE BUILDING/STRUCTURE/EXCAVATION AT ALL STAGES OF THE
	0.	<sup>9</sup> 6	WORK.
38	+ 96.22	+ 96.05	4. ALL WORK BY THE CONTRACTOR MUST BE CARRIED OUT IN SUCH A WAY THAT ALL REQUIREMENTS UNDER THE HEALTH AND SAFETY AT WORK ACT ARE SATISFIED.
			5. ALL WORK IS TO BE CARRIED OUT IN COMPLIANCE WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES AND REGULATIONS.
		+ 96.18	KEY:
	+	+	EXISTING ROAD
70	96.53	96.36	PROPOSED PAVEMENT ROUTE PROPOSED ROUTE OF SHARED FOOTWAY / CYCLEWAY
			PROPOSED ROUTE OF SHARED FOOTWAY / CYCLEWAY AND EMERGENCY ACCESS
			PROPOSED LANDSCAPED AREA
05	+ 96.93	+ 96.79	PROPOSED RETRACTABLE BOLLARDS
	96.99 0 * 2	6	UNCONTROLLED CROSSING (TACTILES)
			<b>EXISTING FOLIAGE / VEGETATION</b>
	+	+	
32	97.47	97.33	
25	+ 98.10 <sup>+</sup> 98.09	0 • \$ 697.97	
RIAGE		+	
	0.66	98.69	
	0 00		
99.38			
70	+ 99.58	+ 99.47	
0°00I			P02 19.03.24 DESIGN UPDATED FOLLOWING RSA 1 NYP DW
- 001 -			P01         15.02.24         FIRST ISSUE         NYP         DW
			Rev     Date     Description     By     Chk       Amendments
0.54	+ 100.41	+ + 100.27 100.33	Project LAND TO THE EAST OF THE FORMER TAMWORTH GOLF COURSE, TAMWORTH
			Title
			ROBEY'S LANE ACCESS NO. 3B PRELIMINARY
38	+ 101.24	+ 101.15	LAYOUT
			Client HALLAM LAND MANAGEMENT LTD
	+ + + 101.79	+	
2.24	102.11	102.04	Waterman
			5th Floor Alan House Clumber Street Nottingham NG1 3ED t 0115 948 2612 mail@watermangroup.com www.watermangroup.com
3.16	+ 103.04	1 98	Work Stage STAGE 2 RIBA
			Suitability INFORMATION S2
			Designed By NYP Director DW Waterman Ref WIE
			Drawn By         Date         JANUARY 2024         Scales @ A1         1:250           Project         Originator         Functional         Spatial         Form         Discipline         Number         Revision
4.06	103.98		15596-WIE-HGN-ZZ-DR-C-950101 P02





A1-Wat-ISO-S-2023, WIE15596-ZZ-XX-DR-C-0003- Main Junction DB Alterations, x - Mastertopo



D. Stage 1 Road Safety Audit & Designers Response

38 Land to the East of the Former Tamworth Golf Course Project Number: CIV15596 Document Reference: CIV15596-100-R-1-2-3-TAA

# HALLAM LAND MANAGEMENT LAND EAST OF FORMER TAMWORTH GOLF COURSE

# STAGE 1 ROAD SAFETY AUDIT

SA 4433 March 2024



1st Floor French's Gate 18-22 Springfield Road Chelmsford Essex CM2 6FA T: +44 (0)1245 203333 roadsafetyaudits@watermanaspen.co.uk RSAquotes@watermanaspen.co.uk

#### watermanaspen.co.uk

REV	ISSUE STATUS	PREPARED BY/DATE	CHECKED BY/DATE	APPROVED BY/DATE
1	DRAFT	JC 06 March 2024	PH 06 March 2024	
2	FINAL	JC 06 March 2024	PH 06 March 2024	GW 06 March 2024

#### **Disclaimer notes**

The client has confirmed that it is entering into the agreement under which this report is being prepared on its own behalf and not on behalf of, or for the benefit of any other party and has agreed that in any event of any claim arising out of or in connection with that agreement and/or the report itself it shall be entitled to recover from Waterman Aspen Limited only the losses, if any, it has itself suffered.

This report therefore is for the private and confidential use of the client for whom it was prepared solely for the purposes requested by the client. It should not be reproduced in whole or in part or relied upon by any third party for any use whatsoever without the express written authority of Waterman Aspen Limited.

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#### 1.0 INTRODUCTION

- 1.1 This report provides details of a Stage 1 Road Safety Audit (RSA) carried out on the proposed highways alteration / facilitation works associated with opening up a strategic land parcel for delivery of a large scale mixed-use development on land to the east of the former Tamworth Golf Course site in Tamworth, Staffordshire. This report was requested by WIE on behalf of their client Hallam Land Management.
- 1.2 The RSA team, staff members from Waterman Aspen, present at the RSA were:

Joe Clarbour Audit Team Leader

Pete Howarth Audit Team Member

- 1.3 We confirm that no member of the Audit Team has been involved with the design process and that at least one member of the Audit Team holds the National Highways Certificate of Competency.
- 1.4 The Audit Team visited the site together on Wednesday, 28 February 2024. The weather during the site visit was raining and the carriageway surface was wet.
- 1.5 The RSA brief issued to the team comprised various elements listed at Appendix Two.
- 1.6 The scheme has been examined and this report compiled only with regard to the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other Standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. Any audit comments should not be construed as implying that a technical audit has been undertaken in any respect.
- 1.7 All of the problems described in this report are considered by the RSA team to require action in order to improve the safety of the scheme and minimise collision occurrence. However, if any of the problems or recommendations within this Road Safety Audit report is not accepted, a copy of the signed exception report from the Overseeing Organisation should be sent to the Road Safety Audit Team Leader.
- 1.8 Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, in accordance with GG119, and in no way imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.



#### 2.0 SCHEME DESCRIPTION

- 2.1 The scheme involves delivery of a new four-arm roundabout junction at the junction of the B5000 Tamworth Road / Chiltern Road to tie in a new strategic access road that will run to the north and north-west of the new junction. It is understood the new highway alignment is to provide access to a mixed-use development of 1,370 dwellings, a community hub and primary school.
- 2.2 The proposed scheme also includes amendments and alterations to the existing B5000 Tamworth Road / Robey's Lane junction including signalisation inclusive of pedestrian crossing facilities on the western arm of Tamworth Road. To the north of the junction, Robey's Lane is to be closed as a through route for traffic and diverted to provide access to a development site in the vicinity of the karting circuit at Priory Park. Through traffic will instead be required to route via the new strategic link accessed by way of the four-arm roundabout at Chiltern Road. Th scheme also includes footways running alongside the newly proposed roads, new bus layby / stop facilities to the east of the Chiltern Road roundabout and a stand-alone signalised pedestrian crossing facility to the west of the junction.

#### 3.0 RECORDED INJURY COLLISION HISTORY

3.1 No recorded injury accident data was provided within the Audit Brief.

#### 4.0 DEPARTURES FROM STANDARD

4.1 No departures from standard have been highlighted within the Audit Brief

#### 5.0 DOCUMENTS AND INFORMATION NOT PROVIDED

- 5.1 The following information was not provided within the audit brief and therefore has not been considered with the audit:
  - Street lighting
  - Landscaping
  - Traffic/pedestrian counts
  - Visibility splays/dimensions
  - Signs and lines plans
  - Construction details



#### 6.0 MATTERS ARISING FROM PREVIOUS AUDITS

- 6.1 A Stage 1 Road Safety Audit was undertaken on a previous iteration of the scheme proposals in April 2018, a copy of which was provided to the Audit Team for review. The previous report raised six problems concerning the proposed design, four of which the Audit Team consider remain relevant. In summary the problems raised were as follows:
  - Problem 7.2 concerning forward visibilities to the proposed Tamworth Road / Chiltern Road roundabout, re-raised as Problem 7.1;
  - Problem 7.3 concerning the proposed location of bus stops on Tamworth Road near to the proposed Tamworth Road / Chiltern Road roundabout, re-raised as Problem 7.2;
  - Problem 7.5 concerning the proposed visibility of signal heads approaching the Tamworth Road / Robey's Lane junction, re-raised as Problem 7.3; and,
  - Problem 7.6 concerning the potential for vehicles to strike signalling apparatus at the Tamworth Road / Robey's Lane junction, re-raised as Problem 7.4.



#### 7.0 MATTERS ARISING FROM THIS STAGE 1 ROAD SAFETY AUDIT

#### 7.1 Problem

Location: Tamworth Road / Chiltern Road roundabout, south-east arm

#### Summary: Forward visibility to roundabout

The approach to the junction from the south-east on Tamworth Road is on the brow of a hill. This could act to reduce forward visibility to the roundabout for drivers approaching from this direction. If drivers do not see and are not aware of the roundabout, then a variety of types of collisions could occur as drivers do not slow down in time to cede priority thereby running the risk of overshooting the junction.

#### Recommendation

It is recommended that there is appropriate forward visibility for drivers approaching the roundabout.

#### 7.2 Problem

**Location:** Tamworth Road / Chiltern Road roundabout, south-east arm at proposed bus stop locations

#### Summary: Risk of rear shunt / head-on type collisions

New bus stops are proposed in both directions immediately off the roundabout on the south eastern arm. Drivers leaving the roundabout may not be expecting a bus to stop such a short distance off the roundabout, which could lead to rear shunt type collisions. A stationary bus at the bus stop could also lead to following drivers overtaking the bus, which given the limited visibility of vehicles leaving the roundabout could lead to head on type collisions.

#### Recommendation

It is recommended that the bus stops are relocated further from the roundabout



#### 7.3 Problem

Location: Tamworth Road / Robey's Lane junction

#### Summary: Risk of rear shunt type collisions

No signal layout has been provided, nor the achievable forward visibility on the approach to the signals. If insufficient it could lead to rear shunt type collisions as vehicles approach the rear of a queue.

#### Recommendation

It is recommended that there is appropriate forward visibility for drivers approaching the junction.

#### 7.4 Problem

**Location:** Left turn out of Robey's Lane

#### Summary: Risk of vehicles striking island / signals equipment

No swept path analysis has been provided to the Audit team. The left turn out of Robey's Lane appears to be tight past the central island. If insufficient it could lead to larger vehicles striking the island and in turn the signal equipment, guard railing or pedestrians on the island.

#### Recommendation

It is recommended that vehicle swept path analysis is carried out to ensure vehicles can make all manoeuvres at the proposed junction.



#### 7.5 Problem

Location: Robey's Lane northbound at closure section

#### Summary: Risk of "see through" issue and overshooting bend in road

The proposed closure of a section of Robey's Lane close to Priory Park results in the creation of a sharp left bend into the development site / field to the west. If a driver unfamiliar with the changes were to proceed down Robey's Lane at speed, there is a risk that they could attempt to go straight on along the old alignment of the road resulting in them overshooting the bend and leaving the carriageway.

#### Recommendation

It is recommended that measures be included within the design to ensure the potential hazard posed by the road realignment is made obvious to all drivers and mitigated.



### APPENDIX ONE

#### 8.0 AUDIT TEAM STATEMENT



#### AUDIT TEAM STATEMENT

We certify that the audit has been carried out in accordance with the requirements set out in GG119. The problems identified have been noted in this report together with associated safety improvement suggestions which we recommend should be studied for implementation.

#### AUDIT TEAM LEADER

Joe Clarbour MSc, BA Hons Senior Road Safety Engineer Waterman Aspen 5th Floor 1 Cornwall Street Birmingham B3 2DX

Signed

Date: 06 March 2024

#### AUDIT TEAM MEMBER

Peter Howarth, MSc BSc (Hons) FCIHT Senior Road Safety Engineer Waterman Aspen 5th Floor 1 Cornwall Street Birmingham B3 2DX

Signed...

Date: 06 March 2024



#### **APPENDIX TWO**

#### 9.0 LIST OF DRAWINGS AND DOCUMENTS PROVIDED TO THE AUDIT TEAM



#### LIST OF DRAWINGS AND DOCUMENTS PROVIDED TO THE AUDIT TEAM

#### Drawings

15596-WIE-HGN-ZZ-DR-C-950101-P01

15596-WIE-HGN-ZZ-DR-C-950102-P01

15596-WIE-HGN-ZZ-DR-C-950104-P01

15596-WIE-HGN-ZZ-DR-C-950106-P01

15596-WIE-HGN-ZZ-DR-C-950107-P01

#### (Provided but superseded)

15596-WIE-HGN-ZZ-DR-C-950101-P01

15596-WIE-HGN-ZZ-DR-C-950102-P01

15596-WIE-HGN-ZZ-DR-C-950105-P01

15596-WIE-HGN-ZZ-DR-C-950106-P01 (1)

15596-WIE-HGN-ZZ-DR-C-950106-P01

15596-WIE-HGN-ZZ-DR-C-950107-P01

#### Documents

WIE Robeys Lane Tamworth New Roundabout Junction RSA1 April 2018



#### **APPENDIX THREE**

#### **10.0 PROBLEM LOCATION PLAN**













# Land East of Former Tamworth Golf Course

# Road Safety Audit Response Report

16<sup>th</sup> April 2024

Waterman Infrastructure & Environment Limited 5th Floor, Alan House, Clumber Street, Nottingham, NG1 3ED www.watermangroup.com



Client Name:	Hallam Land Management
Document Reference:	CIV15596-100-R-2-1-3-DR
Project Number:	CIV15596

### Quality Assurance – Approval Status

This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date
A01	April

2024 Prepared by 2024 David Whalley Associate Director **Checked by** Darryl Pearson Associate Director Approved by Darryl Pearson Associate Director

#### Comments

A01 – RSA 1 Designers Response



#### Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

# W waterman

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# 1. Project Details

#### Table 1: Project Details

Report title:	Designers Response	
Date:	20/03/2024	
Document reference and revision:	CIV15596-100-R-2-1-3-DR	
Prepared by:	Waterman	
On behalf of:	Hallam Land Management	

#### Table 2: Authorisation Sheet

Project:	Land east of Former Tamworth Golf Course		
Report title:	Road Safety Audit: Stage 1		
Prepared by:	Waterman Infrastructure & Environment Ltd.		
Name:	Darryl Pearson		
Position:	Associate Director		
Signed:			
Organisation:	Waterman Infrastructure & Environment Ltd.		
Date:	20/03/2024		
Approved by:			
Name:			
Position:			
Signed:			
Organisation:			
Date:			



### 2. Introduction

This designers response report provides details of a Stage 1 Road Safety Audit (RSA) carried out on the proposed highways alteration / facilitation works associated with opening up a strategic land parcel for delivery of a large scale mixed-use development on land to the east of the former Tamworth Golf Course site in Tamworth, Staffordshire. This report was requested by WIE on behalf of their client Hallam Land Management.

A Stage 1 Road Safety Audit was carried out in March 2024 by Waterman Aspen (Document reference: SA 4433)

The scheme involves delivery of a new four-arm roundabout junction at the junction of the B5000 Tamworth Road / Chiltern Road to tie in a new strategic access road that will run to the north and north-west of the new junction. The new highway alignment is to provide access to a mixed-use development of 1,370 dwellings, a community hub and primary school.

The proposed scheme also includes amendments and alterations to the existing B5000 Tamworth Road / Robey's Lane junction including signalisation inclusive of pedestrian crossing facilities on the western arm of Tamworth Road. To the north of the junction, Robey's Lane is to be closed as a through route for traffic and diverted to provide access to a development site in the vicinity of the karting circuit at Priory Park. Through traffic will instead be required to route via the new strategic link accessed by way of the four-arm roundabout at Chiltern Road. The scheme also includes footways running alongside the newly proposed roads, new bus layby / stop facilities to the east of the Chiltern Road roundabout and a stand-alone signalised pedestrian crossing facility to the west of the junction.



# 3. Key Personnel

### Table 3: Key Personnel

Overseeing Organisation:	Warwickshire County Council and Staffordshire County Council		
RSA team:	Waterman Aspen Joe Clarbour (Audit Team Leader) Pete Howard (Audit Team Member)		
Design organisation:	Waterman Infrastructure & Environment		



# 4. Road Safety Audit Decision Log

Table 4: Road Safety Audit Decision Log

5 Land East of Former Tamworth Golf Course Document Reference: CIV15596-100-R-2-1-3-DR



RSA problem	RSA recommendation	Design organisation response	Overseeing Organisation response	Agreed RSA action
Problem 7.1 The approach to the junction from the south-east on Tamworth Road is on the brow of a hill. This could act to reduce forward visibility to the roundabout for drivers approaching from this direction. If drivers do not see and are not aware of the roundabout, then a variety of types of collisions could occur as drivers do not slow down in time to cede priority thereby running the risk of overshooting the junction.	It is recommended that there is appropriate forward visibility for drivers approaching the roundabout.	A drawing has been produced to illustrate the forward visibility for drivers approaching the Roundabout. The drawing illustrates there to be appropriate visibility. See Drawing 15596-WIE-HGN-ZZ-DR-C-951201- P02		
<b>Problem 7.2</b> New bus stops are proposed in both directions immediately off the roundabout on the south eastern arm. Drivers leaving the roundabout may not be expecting a bus to stop such a short distance off the roundabout, which could lead to rear shunt type collisions. A stationary bus at the bus stop could also lead to following drivers overtaking the bus, which given the limited visibility of vehicles leaving the roundabout could lead to head on type collisions.	It is recommended that the bus stops are relocated further from the roundabout, whilst also taking account of the proposed signals at the Robey's Lane junction.	The bus stops have been removed from the latest proposals. Thee bus stops are no longer considered necessary following the revisions made to the site layout (development removed from the strategic gap)). An update drawing has been prepared. See Drawing 15596-WIE-HGN-ZZ- DR-C-950107-P03 in Transport Assessment Addendum Appendix C		
<b>Problem 7.3</b> No signal layout has been provided, nor the achievable forward visibility on the approach to the signals. If insufficient it could lead to rear shunt type collisions as vehicles approach the rear of a queue.	It is recommended that there is appropriate forward visibility for drivers approaching the junction.	The signal layout would be provided at the detailed design stage. A drawing illustrating the forward visibility splays has been produced and illustrates there to be appropriate visibility. Where there is a shortfall in regard to forward visibility and advanced traffic signal warning sign would be provided. See Drawing 15596-WIE- HGN-ZZ-DR-C-951200-P02		



Problem 7.4 No swept path analysis has been provided to the Audit team. The left turn out of Robey's Lane appears to be tight past the central island. If insufficient it could lead to larger vehicles striking the island and in turn the signal equipment, guard railing or pedestrians on the island.	It is recommended that vehicle swept path analysis is carried out to ensure vehicles can make all manoeuvres at the proposed junction	Vehicle tracking has been undertaken which demonstrates there to be sufficient space for the appropriate design vehicles to enter, exit and manoeuvre along all road and junctions. Drawings illustrating the vehicle swept paths include 15596- WIE-HGN-XX-DR-C-050102-P02 and 15596-WIE-HGN-XX-DR-C-050107- P02	
<b>Problem 7.5</b> The proposed closure of a section of Robey's Lane close to Priory Park results in the creation of a sharp left bend into the development site / field to the west. If a driver unfamiliar with the changes were to proceed down Robey's Lane at speed, there is a risk that they could attempt to go straight on along the old alignment of the road resulting in them overshooting the bend and leaving the carriageway.	It is recommended that measures be included within the design to ensure the potential hazard posed by the road realignment is made obvious to all drivers and mitigated	The layout has been revised to avoid the see-through effect with the old alignment. See Drawing 15596-WIE- HGN-ZZ-DR-C-950102-P02 in Transport Assessment Addendum Appendix C	



### 5. Design Organisation and Overseeing Organisation Statements

#### Table 5: Design Organisation Statement

#### On behalf of the design organisation, I certify that:

# 1) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.

Name:	Darryl Pearson
Signed	
Position:	Associate Director
Organisation:	Waterman Infrastructure & Environment
Date:	16 <sup>th</sup> April 2024

#### Table 6: Overseeing Organisation Statement

On behalf of the Overseeing Organisation, I certify that:

1) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and

#### 2) the agreed RSA actions will be progressed.

Name:	
Signed:	
Position:	
Organisation:	
Date:	



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