ARDENT
CONSULTING ENGINEERS
AN EMPLOYEE OWNED COMPANY

ANSTY GARDEN COMMUNITY,

WEST SUSSEX

DESIGNERS RESPONSE

REPORT REF NO. 2207280-R13A

PROJECT NO. 2207280

MAY 2025

Head Office: Third Floor, The Hallmark Building, 52-56 Leadenhall Street, London EC3M 5JE | 020 7680 4088
Edinburgh: Suite 35, 4-5 Lochside Way, Edinburgh EH12 9DT | 0131 516 8111
Essex: 1-2 Crescent Court, High Street, Billericay CM12 9AQ | 01277 657677
Kent: Suite 10, 40 Churchill Business Square, Kings Hill, West Malling, Kent ME19 4YU | 01732 752155
Midlands: Office 3, The Garage Studios, 41-43 St Mary's Gate, The Lace Market, Nottingham NG1 1PU | 0115 697 0940
South West: Temple Studios, Temple Gate, Bristol BS1 6QA | 0117 456 4994
Suffolk: Suffolk Enterprise Centre, Felaw Maltings, 44 Felaw Street, Ipswich IP2 8SJ | 01473 407321

Ardent Consulting Engineers Limited | Registered in England | Company No 05463029

Contents

Page

APPENDICES

Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	Draft for M&S Approval	DV	DH/KK	Draft	19/10/2023
-	Draft for M&S Approval	DV	DH/KK	Draft	24/10/2023
-	Final for Submission to WSCC	DV	JS/KK	DH	26/10/2023
A	Draft for WSCC Agreement	DH	KM	DH	29/04/2025
A	Final	DH	KM	DH	16/05/205
B	Final	DH	KM	DH	22/05/2025

Distribution

This report has been prepared for the exclusive use of Fairfax Acquisitions Ltd. It should not be reproduced in whole or in part, or relied upon by third parties, without the express written authority of Ardent Consulting Engineers.

1.0 INTRODUCTION

1.1 Ardent Consulting Engineers (ACE) has been appointed by Fairfax Acquisitions Ltd to advise on the transport aspects of the proposed development at Land Adjoining Ansty, West Sussex.

1.2 The proposed development comprises a residential-led, mixed-use development comprising up to 1,450 homes, a local centre, two schools and other community uses such as sports pitches.

1.3 This report addresses matters originally raised in the Stage 1 Road Safety Audit (RSA) undertaken by M & S Traffic (M&S), dated October 2023. The Audit is attached at **Appendix A**.

1.4 The Audit was undertaken on the proposed A272 Northern Access roundabout junction, which is located on the northern boundary of the proposed development site. The works involve the construction of a new roundabout junction with pedestrian/cycle infrastructure improvements to include new crossing facilities.

1.5 In advance of submission of this Designers' Response to WSCC as the overseeing organisation, a draft was issued to M&S in order to seek their feedback on the proposed responses and obtain their in-principle approval. The responses incorporated within this Designers Response incorporate M&S recommendations/acceptance as attached at **Appendix B**.

1.6 The following drawing have been prepared to incorporate the findings of the RSA:

- **ACE Drawing 2207280-003G** – Proposed Roundabout Northern Access (A272)

2.0 DESIGNERS RESPONSE TO STAGE 1 ROAD SAFETY AUDIT

Table 2.1 Project Details

Report title:	Designers Response to Stage 1 Road Safety Audit – Northern Access
Date:	May 2025
Document reference and revision:	2207280-R13B
Prepared by:	Ardent Consulting Engineers
On behalf of:	Fairfax Acquisitions Ltd

Table 2.2 Authorisation Sheet

Project:	Ansty Garden Community
Report title:	Designers Response to Stage 1 Road Safety Audit – Northern Access
Prepared by	
Name:	Dan Vallance
Position:	Principal Transport Planner
Signed:	DV
Organisation:	Ardent Consulting Engineers
Date:	22/05/2025
Approved by	
Name:	David Howson
Position:	Associate Director
Signed:	DH
Organisation:	Ardent Consulting Engineers
Date:	22/05/2025

Table 2.3 Key Personnel

Overseeing Organisation:	WSCC Highways– Mr S. Gee
RSA team:	M&S - Mr B. Shawyer & Mr M. Morris
Design organisation:	Ardent – Mr D. Vallance, Mr D. Howson & Mr K. Markey

Table 2.4 Road Safety Audit Decision Log

RSA problem	RSA recommendation	Design Organisation response	Overseeing Organisation response	Agreed RSA action
3.1.1 Insufficient construction details could lead to overshoot or rear end shunt collisions. The proposals do not include the introduction of anti-skid surfacing or detail the Polished Stone Value (PSV) to be used on the approaches to the roundabout and surfacing as part of the scheme. Surfacing with an insufficient PSV could lead to overshoot or rear end shunt collisions.	It is recommended that high friction surfacing should be provided on all the approaches to the roundabout and that the PSV of all surfacing should be provided for assessment.	Agree. Details of PSV values and surfacing materials will be provided for Stage 2 Audit.	High friction surfacing should be provided and details of PSV values to be provided at detailed design stage.	High friction surfacing will be provided and details of PSV values to be provided at detailed design stage.
3.1.2 Ponding of surface water could lead to loss of control collisions. Kerblines are being amended as part of these proposals, where no details of	It is recommended that drainage details should be provided at Stage 2 Safety Audit.	Agreed. Drainage details will be provided for Stage 2 Audit.	Drainage details to be provided at detailed design.	Drainage details to be provided at detailed design.

carriageway drainage have been provided for assessment; ponding on the carriageway or water moving across the carriageway at junctions or bends could lead to loss of control collisions, particularly in wet / icy conditions.				
3.1.3 Irregular usage of the crossing could lead to vehicle to pedestrian collisions or rear end shunts. From observations on site there appears limited demand for this crossing facility, however development is taking place in the surrounding areas. Lack of usage of a controlled crossing can lead to drivers continually seeing a green signal aspect or no one using the crossing, then being surprised when the crossing is operated and driving through a red aspect, or when a pedestrian steps onto the crossing. This could lead to vehicle to pedestrian collisions, or sudden braking and rear end shunts.	It is recommended that there should be a sufficient degree of usage or future usage, for the proposed controlled crossing. Should there be a lack of usage then alternative crossing facilities should be examined.	Agree. The proposed crossing has been designed in accordance with relevant guidance and standards to ensure potential pedestrian use of the proposed facilities is clearly visible to other road users. As part of Active Travel Guidance pedestrian and cycle facilities are proposed to encourage other modes of transport in line with WSCC consultation feedback, and are designed in order to encourage increased use compared to current levels, which will occur as a result of the new development proposals. The proposed facility will allow for safe crossing of the A272 which does not currently exist and so in itself would act to encourage new use compared to current level, thereby accommodating a new	A PV2 assessment has been undertaken and provides the justification for a controlled crossing. The facility would provide a connection between the development and the local secondary school in Cuckfield.	No further action at this stage.

		demand that will arise as a result of the proposals.		
3.1.4 Inappropriate surfacing could lead to vehicle to pedestrian collisions or rear end shunts. Drivers travelling at even moderately high speeds, on roads where controlled crossings are installed, can find themselves with a difficult decision to make when the green signal aspect changes to amber or pedestrians step onto a crossing. Drivers are often faced with a choice between attempting to brake to halt at the stop-line or continuing at the same speed through the crossing and clearing it safely. The proposals do not show anti-skid surfacing or a similar material covering the crossing approaches, which, when under heavy breaking or in wet conditions, could lead to vehicle to pedestrian collisions or rear end shunts.	It is recommended that anti-skid surfacing or a similar high Polished Stone Value material should be installed on the approaches to the crossings.	Agree. Details of PSV values and surfacing materials will be provided for Stage 2 Audit.	High friction surfacing should be provided and details of PSV values to be provided at detailed design stage.	High friction surfacing will be provided and details of PSV values to be provided at detailed design stage.
3.1.5 Inappropriate vehicle speeds could lead to could lead to vehicle to pedestrian / cyclist collisions or rear end shunts. A national speed limit currently applies to this	It is recommended that a 30mph speed restriction should be applied to the southern arm of the roundabout.	Agree, the southern arm (development access arm) will be subject to a 20/30mph speed limit as noted on **ACE Drawing 2207280-003G**. Signage to be in accordance with TSRGD and LTN1/20	A 20 or 30mph speed limit should be applied to the southern arm.	A 20 or 30mph speed limit will be applied to the southern arm.

section of the A272 where the proposed speed limit on the southern arm is unknown. This could lead to inappropriate vehicle speeds approaching the Parallel crossing, which should not be installed on roads with an 85th percentile speed of 35 mph or above without speed reducing measures to slow traffic. Inappropriate vehicle speeds could lead to vehicle to pedestrian / cyclist collisions or rear end shunts		standards also been noted on the drawing. Signage details will be provided for Stage 2 Safety Audit.		
3.1.6 Inappropriate surfacing could lead to vehicle to pedestrian / cyclist collisions or rear end shunts. The proposals do not include the introduction of anti-skid surfacing or a surface with a high polished stone value on the approaches to the Parallel crossing. Surfacing with an inadequate PSV could lead to vehicles not being able to stop, leading to possible rear end shunt or vehicle to pedestrian / cyclist collisions.	It is recommended that antiskid surfacing or surfacing with a high PSV should be used on the approaches to the crossing.	Agree. Details of PSV values and surfacing materials will be provided for Stage 2 Audit.	High friction surfacing should be provided and details of PSV values to be provided at detailed design stage.	High friction surfacing will be provided and details of PSV values to be provided at detailed design stage.

3.1.7 Excessive speed on approaches to signals could lead to vehicle to pedestrian / cyclist collisions or rear end shunts. No traffic survey information was provided for assessment, where a National speed limit applies on the A272 at this location. Excessive speeds on the approaches to the Toucan crossing may affect the safe operation of the crossings and could lead to vehicles not being able to stop, leading to possible rear end shunts, or vehicle to pedestrian / cyclist collisions.	It is recommended that the 85th percentile speeds should be checked to see if speed discrimination equipment is required, further with the associated development taking place in the surrounding area that the nature of the area is changing, and a reduced speed limit should be installed.	Disagree. The proposed roundabout will significantly change the nature of speeds approaching the proposed crossing location, resulting in lower than compared to the current speeds Visibility splays for the current posted speed has been shown and noted to be kept clear to be robust at this stage. A change in speed limit is at the discretion of WSCC but agreed, if there is a change, the splays provided will be in accordance with speed limit. As presented, the design incorporates suitable visibility splays based on the current posted speed limit. As per recommendations it has been noted on **ACE Drawing 2207280-003G** that speed discrimination equipment to be considered if required (to be presented for RSA2).	A speed limit reduction is essential for the acceptability of the signalised crossing and would be supported by officers including the head of road safety. The need for discrimination equipment to be considered at detailed design	TRO change to be progressed in liaison with WSCC and speed discrimination equipment to be considered for RSA2.

3.2.1 Approaches to the proposed roundabout. Stopping Sight Distances (SSD) have been provided for assessment and at 215m are acceptable for the current national speed limit. An insufficient SSD may increase the risk of junction related or shunt type collisions at the roundabout and so the 120m SSD, which is commensurate with a 40mph design speed, should only be incorporated if a reduced speed limit of 40mph is introduced.	It is recommended that the SSD should be commensurate with the design speeds, in addition at pedestrian crossing points pedestrian/ vehicle intervisibility splays should also be commensurate with the design speeds.	Agreed. As shown on **ACE Drawing 2207280-003G** 215m (posted speed) visibility splays have been shown. A 120m visibility splay has also been shown should WSCC consider a change to the posted speed limit. Vegetation to be trimmed and cut back to keep visibility splays clear has also been noted on the drawing. Further details will also be provided for Stage 2 Audit.	Visibility splays to be provided in line with future posted speed limit.	Visibility splays to be provided in line with future posted speed limit.
3.2.2 Insufficient Stopping Sight Distance may increase the risk of junction related or shunt type collisions at the roundabout. On the westbound approach to the roundabout there is concern that the SSD could pass over non-highway land. Vegetation or landscaping features in this splay could restrict visibility, where insufficient visibility may increase the risk of junction related or shunt type collisions at the roundabout.	It is recommended that the SSD should be supplied for assessment and that they should be within the adoptable highway, or that a suitable covenant should be arranged to ensure that the splay is not affected by planting or landscaping features.	Agreed. All visibility splays are within highway land or land within the development site and therefore can be kept clear as shown on **ACE Drawing 2207280-003G**.	All visibility splays to be provided in highway land or within land under the applicants control.	No further action at this stage.

3.2.3 Insufficient Stopping Sight Distance may increase the risk of vehicle to pedestrian / cyclist collisions or rear end shunts. On the approaches to the Parallel crossing no SSD has been provided for assessment. There is concern that the SSD could pass over non-highway land. Vegetation or landscaping features in this splay could restrict visibility, where insufficient visibility may increase the risk of vehicle to pedestrian / cyclist collisions or rear end shunts.	It is recommended that the SSD should be supplied for assessment and that they should be within the adoptable highway, or that a suitable covenant should be arranged to ensure that the splay is not affected by planting or landscaping features.	Agreed. The proposed parallel crossing is located on the development access arm and will be subject to a 20/30mph speed limit subject to public transport requirements. 2m x 43m visibility splays have been shown on **ACE Drawing 2207280-003G**.	Visibility splays in keeping with a 30mph speed limit are shown on the plan and are acceptable.	No further action at this stage.
3.3.1 Insufficient capacity could lead to rear end shunt or side impact collisions. No details of expected flows and the capacity of the roundabout have been provided for assessment. Insufficient capacity could lead to congestion where excessive queuing at the roundabout could lead to driver frustration and the use of inappropriate gaps, further unbalanced flows could lead to entry problems on to the roundabout. This may lead to	It is recommended that the roundabout should operate without excessive queuing and with balanced flows and that an ARCADY or similar model should be provided for assessment.	Agreed. An ARCADY assessment has been undertaken and demonstrates that the junction operates with spare capacity in the Development Case scenario. The results are attached at **Appendix C**.	The junction modelling provided indicates the roundabout would work well within capacity in a 2039 future year scenario.	No further action at this stage.

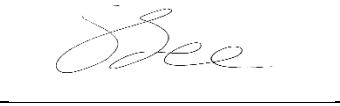
rear end shunt or side impact collisions.				
3.5.1 Insufficient street lighting could lead to vehicle to pedestrian / cyclist collisions during the hours of darkness. At this early stage no details of street lighting have been provided for assessment. A lack of lighting could increase the risk of vehicle to pedestrian / cyclist collisions during the hours of darkness.	It is recommended that street lighting should be checked with the council's street lighting team and that a plan showing the light distribution should be provided for assessment at Stage 2 Safety Audit.	Agreed. It has been noted on **ACE Drawing 2207280-003G** that street lighting is to be considered in liaison with WSCC as per the recommendation. Lighting details to be provided for Stage 2 Audit.	Street lighting details to be provided at detailed design.	Street lighting details to be provided at detailed design.
3.5.2 Insufficient street lighting could lead to vehicle to pedestrian / cyclist collisions during the hours of darkness. At this early stage no details of street lighting have been provided for assessment. A lack of lighting could increase the risk of vehicle to pedestrian / cyclist collisions during the hours of darkness.	It is recommended that street lighting should be checked with the council's street lighting team and that a plan showing the light distribution should be provided for assessment at Stage 2 Safety Audit.	Agreed. It has been noted on **ACE Drawing 2207280-003G** that street lighting is to be considered in liaison with WSCC as per the recommendation. Lighting details to be provided for Stage 2 Audit.	Street lighting details to be provided at detailed design.	Street lighting details to be provided at detailed design.

3.5.3 Insufficient street lighting could compromise the safe operation of the roundabout. At this early stage no details of street lighting have been provided for assessment. A lack of lighting could increase the risk of collisions at the roundabout.	It is recommended that street lighting should be checked with the council's street lighting team and that a plan showing the light distribution should be provided for assessment at Stage 2 Safety Audit.	Agreed. It has been noted on **ACE Drawing 2207280-003G** that street lighting is to be considered in liaison with WSCC as per the recommendation. Lighting details to be provided for Stage 2 Audit.	Street lighting details to be provided at detailed design.	Street lighting details to be provided at detailed design.

Table 2.6 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:	David Howson
Signed	DH
Position:	Associate Director
Organisation:	Ardent Consulting Engineers
Date:	22/05/2025

Table 2.6 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:	Stephen Gee
Signed:	
Position:	Principal Transport Planner
Organisation:	West Sussex County Council Highways
Date:	22/05/2025

Designers Response

Drawings

ARCADY ROUNDABOUT GEOMETRY:	(ARM 1) A272 EAST	(ARM 2) DEVELOPMENT ACCESS	(ARM 3) A272 WEST
APPROACH ROAD HALF WIDTH	3.65m	3.25m	3.50m
ENTRY WIDTH	4.50m	4.50m	4.50m
EFFECTIVE FLARE LENGTH	13.50m	12.50m	4.50m
ENTRY RADIUS	40.00m	42.00m	15.00m
INSCRIBED CIRCLE DIAMETER	30.00m	30.00m	30.00m
CONFLICT ANGLE	26.00°	23.00°	31.00°
DEFLECTION	81.29m	96.25m	92.79m

Sports Pavilion

N

215m FORWARD VISIBILITY ON APPROACH BASED ON 60mph SPEED LIMIT (POSTED SPEED LIMIT)

TIE INTO EXISTING ROAD ALINGMENT

120m FORWARD VISIBILITY ON APPROACH BASED ON 40mph SPEED LIMIT

ENTRY KERB RADIUS AS PER FIG 3.19 OF CD116
RADIUS OF 15m

ENTRY WIDTH AS PER PARA 3.14.1 OF CD116
AT THE GIVE WAY LINE A LANE WIDTH OF 4.5m
SHOULD BE USED AT SINGLE LANE ENTRIES

ENTRY PATH RADIUS AS PER FIG 3.20 OF CD116
ENTRY PATH RADIUS 92.79m

CIRCULATORY CARRIAGEWAY WIDTH AS PER PARA 3.6 OF CD116
THE WIDTH OF THE CIRCULATORY CARRIAGEWAY FOR NORMAL OR COMPACT ROUNDABOUTS SHALL BE BETWEEN 1.0 AND 1.2 TIMES THE MAXIMUM ENTRY WIDTH, EXCLUDING ANY OVERRUN AREA - 5.40m

EXIT WIDTH AND RADIUS AS PER FIG 3.28 OF CD116
EXIT WIDTH 7.00m
EXIT RADIUS 40.00m

PROPOSED SIGNALISED CROSSING POINT / FOOTWAY CONNECTION TO EXISTING PROW

TIE INTO EXISTING ROAD ALIGNMENT

PROPOSED FOOTWAY

EXISTING PUBLIC RIGHT OF WAY

2m x 120m VISIBILITY SPLAY

120m FORWARD VISIBILITY ON APPROACH BASED ON 40mph SPEED LIMIT

2m x 215m VISIBILITY SPLAY

2m x 215m VISIBILITY SPLAY

EXIT WIDTH AND RADIUS AS PER FIG 3.28 OF CD116
EXIT WIDTH 7.00m
EXIT RADIUS 42.00m

ENTRY WIDTH AS PER PARA 3.14.10F CD116
AT THE GIVE WAY LINE A LANE WIDTH OF 4.5m SHOULD BE USED AT SINGLE LANE ENTRIES

ENTRY KERB RADIUS AS PER FIG 3.19 OF CD116
RADIUS OF 42m

ENTRY PATH RADIUS AS PER FIG 3.20 OF CD116
ENTRY PATH RADIUS 96.25m

2m x 43m VISIBILITY SPLAY

ENTRY PATH RADIUS AS PER FIG 3.20 OF CD116
ENTRY PATH RADIUS 81.29m

ENTRY KERB RADIUS AS PER FIG 3.19 OF CD116
RADIUS OF 40m

ENTRY WIDTH AS PER PARA 3.14.1 OF CD116
AT THE GIVE WAY LINE A LANE WIDTH OF 4.5m
SHOULD BE USED AT SINGLE LANE ENTRIES

2m x 43m VISIBILITY SPLAY

EXIT WIDTH AND RADIUS AS PER FIG 3.28 OF CD116
EXIT WIDTH 7.00m
EXIT RADIUS 40.00m

PROPOSED CROSSING POINT

NOTE DEVELOPMENT ACCESS ARM TO BE A 20/30mph SPEED LIMIT

2m x 43m VISIBILITY SPLAY

PROPOSED DEVELOPMENT

PROPOSED FOOT/CYCLEWAY

2m x 120m VISIBILITY SPLAY

215m FORWARD VISIBILITY ON APPROACH BASED ON 60mph SPEED LIMIT (POSTED SPEED LIMIT)

CONTINUATION OF PROPOSED FOOT/CYCLEWAY

EXISTING PUBLIC RIGHT OF WAY

CUTLINE

CUTLINE

A272 (EAST)

A272 (WEST)

Tanks

Tanks

Sewage Treatment Works

H631 Mixed Broadleaves C2

H632 Mixed Broadleaves C2

H634 Mixed Broadleaves C2

G631a Mixed Species C2

G90 Willow, Crack C2

G91 Ash, Common C2

C Category Willow

Oak, English B2

Ash, Common B2

Maple, Field B1

Pine, Austrian B1,2

Pine, Scots B2

Ash, Common C2

Oak, English C3

VISIBILITY SPLAY EXTENSIONS

ROUNDABOUT SWEPT PATHS

1.00m

1m OVERRUN STRIP REQUIRED FOR HGV SWEPT PATHS

NOT TO SCALE

ACCESS LOCATION PLAN

NORTHERN ACCESS

WESTERN ACCESS - SEE DRAWING 004

SOUTHERN ACCESS - SEE DRAWING 005

A272

B2036

NOTES:

ROUNDABOUT DESIGNED TO CD 116 GEOMETRIC DESIGN OF ROUNDABOUTS (FORMERLY TD 16/07, TD 50/04, TD 51/17, TD 54/07, TA 23/81, TA 78/97, TA 86/03, TD 70/08)

DESIGN IS BASED ON TOPOGRAPHICAL SURVEY PRODUCED BY MARVIN & PARTNERS LTD DATED FEB 2023

ROUNDABOUT SUBJECT TO FURTHER DESIGN REFINEMENT OF NON-VEHICULAR WORKS, SPEED SURVEYS, ROAD SAFETY AUDIT, LAND OWNERSHIP CONFIRMATION, ARBORICULTURAL SURVEY AND DISCUSSIONS WITH HIGHWAYS

THE PEDESTRIAN/CYCLE ACCESS STRATEGY IS SUBJECT TO DISCUSSIONS WITH HIGHWAYS BUT INDICATIVE ROUTING/CROSSING LOCATIONS HAVE BEEN SHOWN SUBJECT TO REVIEW AGAINST LAND OWNERSHIP/CONSTRAINTS INFORMATION, ECOLOGY INFORMATION AND ARBORICULTURAL SURVEY.

STREET LIGHTING TO BE CONSIDERED.

SPEED DISCRIMINATION EQUIPMENT TO BE CONSIDERED IF REQUIRED.

VEGETATION WITHIN VISIBILITY SPLAYS TO BE TRIMMED AND CUT BACK TO KEEP VISIBILITY SPLAYS CLEAR.

DESIGN IN ACCORDANCE WITH THE CURRENT POSTED SPEED LIMIT, ANY REDUCTION IN SPEED LIMIT IS SUBJECT TO REVIEW BY WSCC.

SIGNAGE TO BE IN ACCORDANCE WITH TSRGD AND LTN 1/ 20 STANDARDS.

KEY:

- INDICATIVE SITE BOUNDARY
- EXISTING PUBLIC RIGHT OF WAY
- DEFLECTION ANGLE
- FORWARD VISIBILITY SPLAY BASED ON 40mph SPEED LIMIT
- FORWARD VISIBILITY SPLAY BASED ON 60mph SPEED LIMIT
- 120m PEDESTRIAN VISIBILITY SPLAY
- 215m PEDESTRIAN VISIBILITY SPLAY
- 43m PEDESTRIAN VISIBILITY SPLAY
- HIGHWAY BOUNDARY TRANSCRIBED FROM WEST SUSSEX RECORDS

VEHICLE SPECIFICATION:

Max Legal Articulated Vehicle (16.5m)	
Overall Length	16.500m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.396m
Max Track Width	2.500m
Lock to lock time	6.0s
Kerb to Kerb Turning Radius	6.870m

DRAFT

Rev	Description	Drn	Chk	App	Date
G	REDLINE BOUNDARY UPDATED	BT	DV	DH	22.05.25
F	UPDATED FOLLOWING STAGE 1 RSA COMMENTS	DV	DV	DH	17.10.23
E	UPDATED TO LATEST PROPOSALS	DV	DH	KM	14.09.23
D	UPDATED TO WSCC COMMENTS	DV	DH	KM	12.07.23
C	OFF-SITE WORKS UPDATED	DV	DH	KM	15.06.23
B	ACCESS SHIFTED WEST AS PER MASTERPLAN	DV	DH	KM	16.05.23
A	TREES SURVEY ACEED / REDLINE UPDATED	DV	DH	KM	10.04.23

ARDENT | CONSULTING ENGINEERS

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

Client

FAIRFAX ACQUISITIONS LTD

Project Title:

LAND AT ANTSY FARM, MID SUSSEX

Drawing Title:

PROPOSED ROUNDABOUT NORTHERN ACCESS (A272)

AO Scale	Date	Designed by
1:500	22.02.23	DV
Drawn by	Checked by	Approved by
DV	DV	DH

Drawing Number: 2207280-003 Rev: G

Designers Response Appendix A

Stage 1 Road Safety Audit

M & S Traffic

Road Safety Audit Stage 1

Land at Ansty Farm

Proposed Roundabout A272

Northern Access

West Sussex

Date: 13th October 2023

Report produced for: Ardent Consulting Engineers

Report produced by: M & S Traffic Ltd

DOCUMENT CONTROL SHEET

M&S Traffic has prepared this report in accordance with the instructions from Ardent Consulting Engineers. M&S Traffic shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Report Title:	Land at Antsy Farm, Mid Sussex (Proposed Roundabout A272 - Northern Access) Road Safety Audit Stage 1
Date:	13th October 2023
Document reference and revision:	ARD/23//2207280/1/MM
Prepared by:	M & S Traffic
On behalf of:	West Sussex County Council

	Prepared by: (Name)	Checked by: (Name)	Approved by (Signature)	Date Approved
Revision	Martin Morris	Bryan Shawyer		13th October 2023
Designers Response				
Authority Response				

Distribution

Organisation	Contact	Copies
Ardent Consulting Engineers	David Howson	-

CONTENTS

1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit carried out on proposed Section 278 works associated with a proposed development in Ansty, West Sussex, comprising of:

- The provision of a three arm roundabout on the A272 at Ansty to serve the development.
- A controlled crossing on the A272.
- A Parallel crossing on the southern arm of the roundabout.

The Audit was requested by the design organisation, Ardent Consulting Engineers, Crescent Court, High St, Billericay, CM12 9AQ on behalf of West Sussex County Council as the Highway Authority.

1.2 The Audit Team membership was as follows:

Martin Morris, PGD, MCIHT, MSoRSA – Audit Team Leader
Highways England Approved RSA Certificate of Competency

Bryan Shawyer B.Eng. (Hons), MSc, MCIHT, MSoRSA– Audit Team Member
Highways England Approved RSA Certificate of Competency

1.3 The audit was undertaken following the principles of GG 119, The Design Manual for Roads and Bridges. The documents available at the time of the report are detailed in Appendix A.

1.4 The Audit took place at the Gillingham offices of M&S Traffic during October 2023 and comprised an examination of the documents provided as listed in Appendix A. A joint site visit and inspection was undertaken on the 10th of October 2023 between 11:30 and 17:30 hours. Weather conditions at the time were fine and the road surfaces were dry. Traffic flows and free flow speeds were moderate to high. There were no pedestrian or cyclist movements observed during the site visit.

1.5 The report has been compiled, only with regards to the safety implications for road users of the layout presented in the supplied drawings. It has not been examined or verified for compliance with any other standards or criteria. This safety audit does not perform any “Technical Check function on these proposals. It is assumed that the Project Sponsor is satisfied that such a Technical Check” has been successfully completed prior to requesting this safety audit.

1.6 No Departures from Standard, traffic flow or personal injury collision data was provided to the Audit Team.

1.7 All comments and recommendations are referenced to the detailed drawings and the locations have been detailed relating to the plans supplied with the audit brief, Appendix B.

2 ITEMS RAISED BY PREVIOUS AUDITS

2.1 No previous Road Safety Audits were supplied for assessment.

3 ITEMS RAISED AT THE STAGE 1 AUDIT

3.1 General

3.1.1 PROBLEM

Location: The scheme.

Summary: Insufficient construction details could lead to overshoot or rear end shunt collisions.

The proposals do not include the introduction of anti-skid surfacing or detail the Polished Stone Value (PSV) to be used on the approaches to the roundabout and surfacing as part of the scheme. Surfacing with an insufficient PSV could lead to overshoot or rear end shunt collisions.

RECOMMENDATION

It is recommended that high friction surfacing should be provided on all the approaches to the roundabout and that the PSV of all surfacing should be provided for assessment.

3.1.2 PROBLEM

Location: Proposed roundabout.

Summary: Ponding of surface water could lead to loss of control collisions.

Kerblines are being amended as part of these proposals, where no details of carriageway drainage have been provided for assessment; ponding on the carriageway or water moving across the carriageway at junctions or bends could lead to loss of control collisions, particularly in wet / icy conditions.

RECOMMENDATION

It is recommended that drainage details should be provided at Stage 2 Safety Audit.

3.1.3 PROBLEM

Location: Proposed controlled crossing A272.

Summary: Irregular usage of the crossing could lead to vehicle to pedestrian collisions or rear end shunts.

From observations on site there appears limited demand for this crossing facility, however development is taking place in the surrounding areas. Lack of usage of a controlled crossing can lead to drivers continually seeing a green signal aspect or no one using the crossing, then being surprised when the crossing is operated and driving through a red aspect, or when a pedestrian steps onto the crossing. This could lead to vehicle to pedestrian collisions, or sudden braking and rear end shunts.

RECOMMENDATION

It is recommended that there should be a sufficient degree of usage or future usage, for the proposed controlled crossing. Should there be a lack of usage then alternative crossing facilities should be examined.

3.1.4 PROBLEM

Location: Proposed controlled crossing A272.

Summary: Inappropriate surfacing could lead to vehicle to pedestrian collisions or rear end shunts.

Drivers travelling at even moderately high speeds, on roads where controlled crossings are installed, can find themselves with a difficult decision to make when the green signal aspect changes to amber or pedestrians step onto a crossing. Drivers are often faced with a choice between attempting to brake to halt at the stop-line or continuing at the same speed through the crossing and clearing it safely. The proposals do not show anti-skid surfacing or a similar material covering the crossing approaches, which, when under heavy breaking or in wet conditions, could lead to vehicle to pedestrian collisions or rear end shunts.

RECOMMENDATION

It is recommended that anti-skid surfacing or a similar high Polished Stone Value material should be installed on the approaches to the crossings.

3.1.5 PROBLEM

Location: Proposed Parallel crossing.

Summary: Inappropriate vehicle speeds could lead to could lead to vehicle to pedestrian / cyclist collisions or rear end shunts.

A national speed limit currently applies to this section of the A272 where the proposed speed limit on the southern arm is unknown. This could lead to inappropriate vehicle speeds approaching the Parallel crossing, which should not be installed on roads with an 85th percentile speed of 35 mph or above without speed reducing measures to slow traffic.
Inappropriate vehicle speeds could lead to vehicle to pedestrian / cyclist collisions or rear end shunts.

RECOMMENDATION

It is recommended that a 30mph speed restriction should be applied to the southern arm of the roundabout.

3.1.6 **PROBLEM**

Location: Approaches to the Parallel crossing.

Summary: Inappropriate surfacing could lead to vehicle to pedestrian / cyclist collisions or rear end shunts.

The proposals do not include the introduction of anti-skid surfacing or a surface with a high polished stone value on the approaches to the Parallel crossing. Surfacing with an inadequate PSV could lead to vehicles not being able to stop, leading to possible rear end shunt or vehicle to pedestrian / cyclist collisions.

RECOMMENDATION

It is recommended that antiskid surfacing or surfacing with a high PSV should be used on the approaches to the crossing.

3.1.7 **PROBLEM**

Location: Proposed controlled crossing A272.

Summary: Excessive speed on approaches to signals could lead to vehicle to pedestrian / cyclist collisions or rear end shunts.

No traffic survey information was provided for assessment, where a National speed limit applies on the A272 at this location. Excessive speeds on the approaches to the Toucan crossing may affect the safe operation of the crossings and could lead to vehicles not being able to stop, leading to possible rear end shunts, or vehicle to pedestrian / cyclist collisions.

RECOMMENDATION

It is recommended that the 85th percentile speeds should be checked to see if speed discrimination equipment is required, further with the associated development taking place in the surrounding area that the nature of the area is changing, and a reduced speed limit should be installed.

3.2 Local Alignment

3.2.1 **PROBLEM**

Location. Approaches to the proposed roundabout.

Stopping Sight Distances (SSD) have been provided for assessment and at 215m are acceptable for the current national speed limit. An insufficient SSD may increase the risk of junction related or shunt type collisions at the roundabout and so the 120m SSD, which is commensurate with a 40mph design speed, should only be incorporated if a reduced speed limit of 40mph is introduced.

RECOMMENDATION

It is recommended that the SSD should be commensurate with the design speeds, in addition at pedestrian crossing points pedestrian/ vehicle intervisibility splays should also be commensurate with the design speeds.

3.2.2 **PROBLEM**

Location. Western approach to proposed roundabout.

Summary: Insufficient Stopping Sight Distance may increase the risk of junction related or shunt type collisions at the roundabout.

On the westbound approach to the roundabout there is concern that the SSD could pass over non-highway land. Vegetation or landscaping features in this splay could restrict visibility, where insufficient visibility may increase the risk of junction related or shunt type collisions at the roundabout.

RECOMMENDATION

It is recommended that the SSD should be supplied for assessment and that they should be within the adoptable highway, or that a suitable covenant should be arranged to ensure that the splay is not affected by planting or landscaping features.

3.2.3 **PROBLEM**

Location. Approaches to proposed Parallel crossing.

Summary: Insufficient Stopping Sight Distance may increase the risk of vehicle to pedestrian / cyclist collisions or rear end shunts.

On the approaches to the Parallel crossing no SSD has been provided for assessment. There is concern that the SSD could pass over non-highway land. Vegetation or landscaping features in this splay could restrict visibility, where insufficient visibility may increase the risk of vehicle to pedestrian / cyclist collisions or rear end shunts.

RECOMMENDATION

It is recommended that the SSD should be supplied for assessment and that they should be within the adoptable highway, or that a suitable covenant should be arranged to ensure that the splay is not affected by planting or landscaping features.

3.3 Junctions

3.3.1 **PROBLEM**

Location: Proposed roundabout.

Summary: Insufficient capacity could lead to rear end shunt or side impact collisions.

No details of expected flows and the capacity of the roundabout have been provided for assessment. Insufficient capacity could lead to congestion where excessive queuing at the roundabout could lead to driver frustration and the use of inappropriate gaps, further unbalanced flows could lead to entry problems on to the roundabout. This may lead to rear end shunt or side impact collisions.

RECOMMENDATION

It is recommended that the roundabout should operate without excessive queuing and with balanced flows and that an ARCADY or similar model should be provided for assessment.

3.4 Non-Motorised User (NMU) Provision

3.4.1 No comment.

3.5 Road Signs, Carriageway Markings and Lighting

3.5.1 **PROBLEM**

Location: Proposed Parallel crossing.

Summary: Insufficient street lighting could lead to vehicle to pedestrian / cyclist collisions during the hours of darkness.

At this early stage no details of street lighting have been provided for assessment. A lack of lighting could increase the risk of vehicle to pedestrian / cyclist collisions during the hours of darkness.

RECOMMENDATION

It is recommended that street lighting should be checked with the council's street lighting team and that a plan showing the light distribution should be provided for assessment at Stage 2 Safety Audit.

3.5.2 **PROBLEM**

Location: Proposed controlled crossing A272.

Summary: Insufficient street lighting could lead to vehicle to pedestrian / cyclist collisions during the hours of darkness.

At this early stage no details of street lighting have been provided for assessment. A lack of lighting could increase the risk of vehicle to pedestrian / cyclist collisions during the hours of darkness.

RECOMMENDATION

It is recommended that street lighting should be checked with the council's street lighting team and that a plan showing the light distribution should be provided for assessment at Stage 2 Safety Audit.

3.5.3 **PROBLEM**

Location: Proposed roundabout.

Summary: Insufficient street lighting could compromise the safe operation of the roundabout.

At this early stage no details of street lighting have been provided for assessment. A lack of lighting could increase the risk of collisions at the roundabout.

RECOMMENDATION

It is recommended that street lighting should be checked with the council's street lighting team and that a plan showing the light distribution should be provided for assessment at Stage 2 Safety Audit.

4 ISSUES IDENTIFIED DURING THE ROAD SAFETY AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE

4.1 Safety issues identified during the audit and site inspection that are outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrant that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.

4.2 The Audit Team had no issues to raise within this section.

5 AUDITOR TEAM STATEMENT

5.1 We certify that this audit has been carried out following the principles of GG 119.

Audit Team Leader

Martin Morris
PGD, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency

Signed:  Date: 13/10/2023

Audit Team Member

Bryan Shawyer
BEng (Hons), MSc, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency

Signed:  Date: 13/10/2023

M & S Traffic
Aeolus House
32 Hamelin Road
Gillingham
Kent ME7 3EX

 +44 (0) 1634 307 498

 contact@mstraffic.co.uk

 www.mstraffic.co.uk

APPENDIX A

List of Drawings and other information submitted for auditing:

Drawing Number	Title
2207280-003 E	PROPOSED ROUNDABOUT NORTHERN ACCESS (A272)

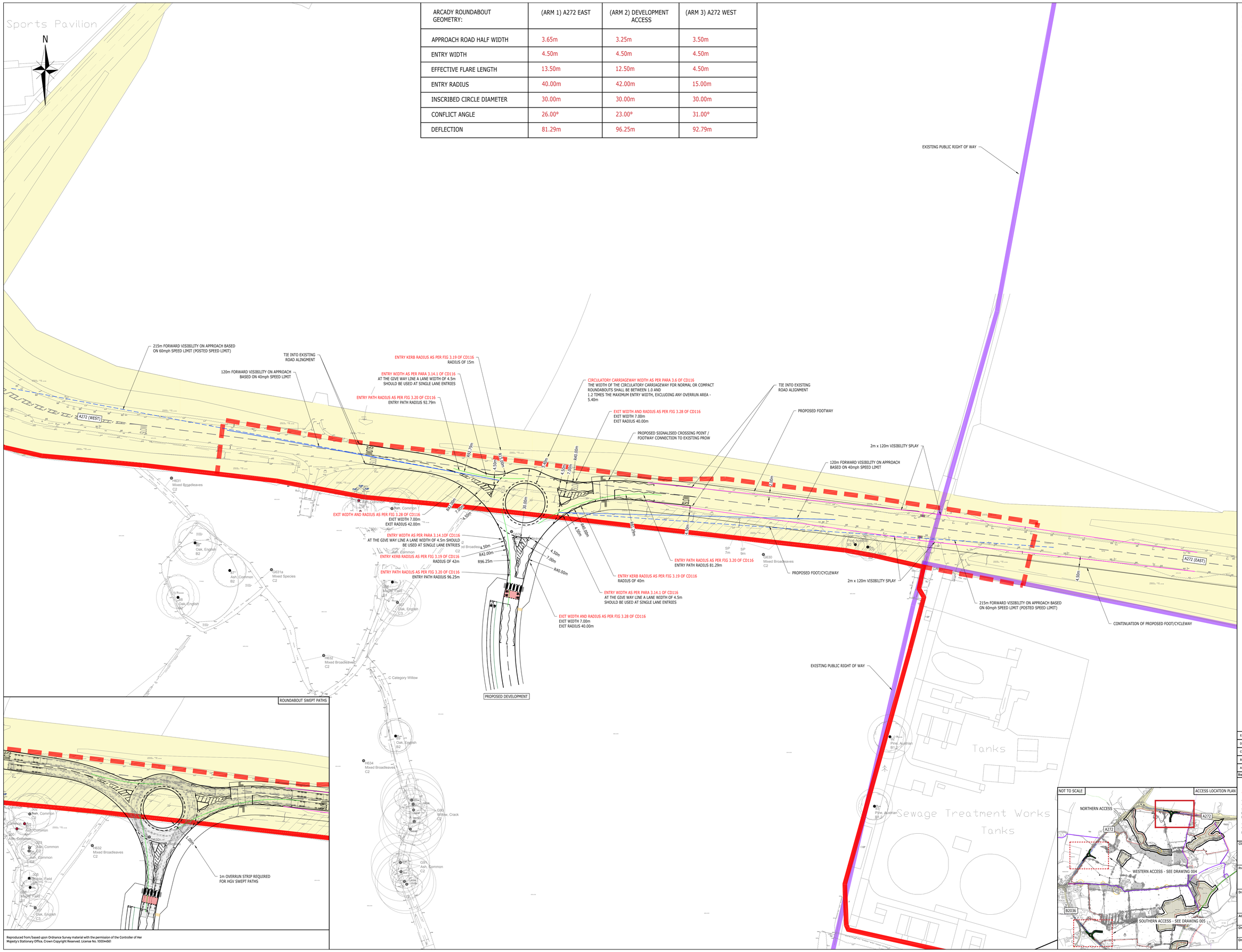
Supporting documentation:

- None Supplied.

APPENDIX B

Plan attached showing the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

ARCADY ROUNDABOUT GEOMETRY:	(ARM 1) A272 EAST	(ARM 2) DEVELOPMENT ACCESS	(ARM 3) A272 WEST
APPROACH ROAD HALF WIDTH	3.65m	3.25m	3.50m
ENTRY WIDTH	4.50m	4.50m	4.50m
EFFECTIVE FLARE LENGTH	13.50m	12.50m	4.50m
ENTRY RADIUS	40.00m	42.00m	15.00m
INSCRIBED CIRCLE DIAMETER	30.00m	30.00m	30.00m
CONFLICT ANGLE	26.00°	23.00°	31.00°
DEFLECTION	81.29m	96.25m	92.79m



ROUNDABOUT SWEPT PATHS

NOTES:

ROUNDABOUT DESIGNED TO CD 116 GEOMETRIC DESIGN OF ROUNDABOUTS (FORMERLY TD 16/07, TD 50/04, TD 51/17, TD 54/07, TA 23/81, TA 78/97, TA 86/03, TD 70/08)

DESIGN IS BASED ON TOPOGRAPHICAL SURVEY PRODUCED BY MARVIN & PARTNERS LTD DATED FEB 2023

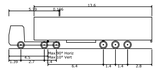
ROUNDABOUT SUBJECT TO FURTHER DESIGN REFINEMENT OF NON-VEHICULAR WORKS, SPEED SURVEYS, ROAD SAFETY AUDIT, LAND OWNERSHIP CONFIRMATION, ARBORICULTURAL SURVEY AND DISCUSSIONS WITH HIGHWAYS

THE PEDESTRIAN/CYCLE ACCESS STRATEGY IS SUBJECT TO DISCUSSIONS WITH HIGHWAYS BUT INDICATIVE ROUTING/CROSSING LOCATIONS HAVE BEEN SHOWN SUBJECT TO REVIEW AGAINST LAND OWNERSHIP/CONSTRAINTS INFORMATION, ECOLOGY INFORMATION AND ARBORICULTURAL SURVEY.

KEY:

- INDICATIVE SITE BOUNDARY
- INDICATIVE APPLICATION ACCESS WORKS BOUNDARY TO BE CONFIRMED
- EXISTING PUBLIC RIGHT OF WAY
- DEFLECTION ANGLE
- FORWARD VISIBILITY SPLAY BASED ON 40mph SPEED LIMIT
- FORWARD VISIBILITY SPLAY BASED ON 60mph SPEED LIMIT
- PEDESTRIAN VISIBILITY SPLAY
- HIGHWAY BOUNDARY TRANSCRIBED FROM WEST SUSSEX RECORDS

VEHICLE SPECIFICATION:



Max Legal Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.230m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

DRAFT

Rev	Description	Drn	Chk	App	Date
E	UPDATED TO LATEST PROPOSALS	DV	DH	KM	14.09.23
D	UPDATED TO WSCC COMMENTS	DV	DH	KM	12.07.23
C	OFF-SITE WORKS UPDATED	DV	DH	KM	15.06.23
B	ACCESS SHIFTED WEST AS PER MASTERPLAN	DV	DH	KM	16.05.23
A	TREES SURVEY ADDED / REDLINE UPDATED	DV	DH	KM	13.04.23

ARDENT | CONSULTING ENGINEERS
Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE
Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

Client: FAIRFAX ACQUISITIONS LTD

Project Title: LAND AT ANTSY FARM, MID SUSSEX

Drawing Title: PROPOSED ROUNDABOUT NORTHERN ACCESS (A272)

A0 Scale	Date	Designed by
1:500	22.02.23	DV
Drawn by	Checked by	Approved by
DV	DV	DH

Drawing Number: 2207280-003 Rev E

Designers Response Appendix B

M&S Traffic Response

David Howson

From: martin.morris <martin.morris@mstraffic.co.uk>
Sent: 25 October 2023 08:15
To: David Howson; bryan.shawyer
Cc: Jamie Symington; Dan Vallance
Subject: RE: Ansty - Designers Response 2nd draft - Northern Access

Hi David

Many thanks for these our comments are as follows:

3.1.1 Noted and accepted.
3.1.2 Noted and accepted.
3.1.3 Noted.
3.1.4 Noted and accepted.
3.1.5 Noted and accepted.
3.1.6 Noted and accepted.
3.1.7 Noted and accepted.
3.2.1 Noted and accepted.
3.2.2 Noted and accepted.
3.2.3 Noted and accepted.
3.3.1 Noted and accepted.
3.5.1 Noted and accepted.
3.5.2 Noted and accepted.
3.5.3 Noted and accepted.

Martin

Martin Morris
Managing Director

M&S Traffic Ltd
Aeolus House, 32 Hamelin Road, Gillingham, Kent ME7 3EX

M: 07772 163843 T: 01634 307498

From: David Howson <dhowson@ardent-ce.co.uk>
Sent: Tuesday, October 24, 2023 5:36 PM
To: martin.morris <martin.morris@mstraffic.co.uk>; bryan.shawyer <bryan.shawyer@mstraffic.co.uk>
Cc: Jamie Symington <jsymington@ardent-ce.co.uk>; Dan Vallance <dvallance@ardent-ce.co.uk>
Subject: Ansty - Designers Response 2nd draft - Northern Access

Dear Martin,
Further to receipt of the Stage 1 RSA prepared by M&S Traffic, we have collated a Designers Response (DR) and in accordance with GG119 will be sending to WSCC Highways as the Overseeing Organisation in due course.

However, in the interim we though it appropriate to send our draft DR for M&S feedback and comment that we have suitably addressed the points raised for RSA1.

Kind regards
David

David Howson
Associate

ARDEN
CONSULTING ENGIN

An Employee-Owned Company
Infrastructure | Transport Planning | Flood Risk | Acoustics | Air Quality

T | 01473 407321 **E** | dhowson@ardent-ce.co.uk
Suffolk Enterprise Centre | Felaw Maltings | 44 Felaw Street | Ipswich IP2 8SJ

London | Edinburgh | Essex | Kent | Midlands | South West | **Suffolk**

Designers Response Appendix C

ARCADY Output

Junctions 10

ARCADY 10 - Roundabout Module

Filename: Jct F - Northern Site Access.j10
Path: Y:\ARDENT PROJECTS\2207280 - Land at Ansty Farm, Mid Sussex\Transport\ARCADY
Report generation date: 27/09/2023 12:06:06

»2039 Do Something Isolated, AM
»2039 Do Something Isolated, PM

Summary of junction performance

	AM			PM		
	Q (Veh)	Delay (s)	RFC	Q (Veh)	Delay (s)	RFC
	2039 Do Something Isolated					
1 - A272 (E)	0.6	4.48	0.39	2.5	9.38	0.72
2 - Site Access 1	0.2	4.08	0.16	0.1	4.77	0.08
3 - A272 (W)	3.0	14.40	0.75	1.0	6.12	0.49

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle.

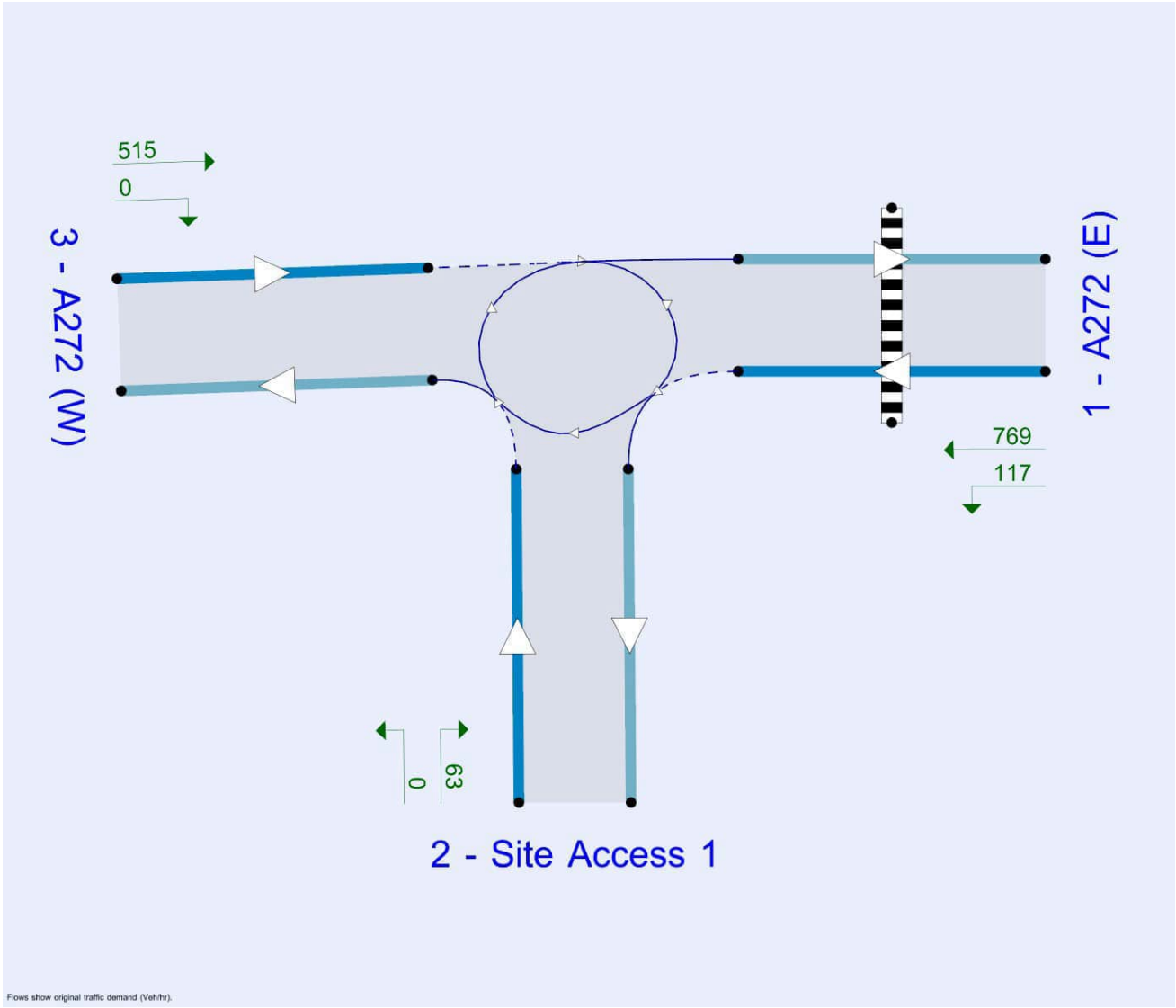
File summary

File Description

Title	A272 / Site Access 1
Location	
Site number	
Date	27/04/2023
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Hour	perHour



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Q Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2039 Do Something Isolated	AM	ONE HOUR	07:45	09:15	15	✓
D2	2039 Do Something Isolated	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2039 Do Something Isolated, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A272 / Site Access 1	Standard Roundabout		1, 2, 3	9.71	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.71	A

Arms

Arms

Arm	Name	Description	No give-way line
1	A272 (E)		
2	Site Access 1		
3	A272 (W)		

Roundabout Geometry

Arm	V (m)	E (m)	I' (m)	R (m)	D (m)	PHI (deg)	Entry only	Exit only
1 - A272 (E)	3.65	4.50	13.5	40.0	30.0	26.0		
2 - Site Access 1	3.25	4.50	12.5	42.0	30.0	23.0		
3 - A272 (W)	3.50	4.50	4.5	15.0	30.0	31.0		

Zebra Crossings

Arm	VGAP (PCU)	Vehs queueing on exit (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)
1 - A272 (E)	3.00	3.00		Distance	7.30	5.21

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A272 (E)	0.602	1371
2 - Site Access 1	0.599	1335
3 - A272 (W)	0.552	1213

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2039 Do Something Isolated	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1 - A272 (E)		ONE HOUR	✓	462	100.000
2 - Site Access 1		ONE HOUR	✓	156	100.000
3 - A272 (W)		ONE HOUR	✓	690	100.000

Demand overview (Pedestrians)

Arm	Profile type	Av. Ped flow (Ped/hr)
1 - A272 (E)	[ONEHOUR]	100.00
2 - Site Access 1		
3 - A272 (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		1 - A272 (E)	2 - Site Access 1	3 - A272 (W)
From	1 - A272 (E)	0	56	406
	2 - Site Access 1	156	0	0
	3 - A272 (W)	690	0	0

Vehicle Mix

HV %s

		To		
		1 - A272 (E)	2 - Site Access 1	3 - A272 (W)
From	1 - A272 (E)	0	0	5
	2 - Site Access 1	0	0	0
	3 - A272 (W)	5	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS	Av. Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A272 (E)	0.39	4.48	0.6	A	424	636
2 - Site Access 1	0.16	4.08	0.2	A	143	215
3 - A272 (W)	0.75	14.40	3.0	B	633	950

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	348	87	0	75.29	1313	0.265	346	633	0.0	0.4	3.720	A
2 - Site Access 1	117	29	304		1144	0.103	117	42	0.0	0.1	3.504	A
3 - A272 (W)	519	130	117		1085	0.479	516	304	0.0	0.9	6.324	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	415	104	0	89.90	1313	0.316	415	759	0.4	0.5	4.007	A
2 - Site Access 1	140	35	365		1106	0.127	140	50	0.1	0.1	3.726	A
3 - A272 (W)	620	155	140		1061	0.585	618	365	0.9	1.4	8.097	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	509	127	0	110.10	1312	0.388	508	925	0.5	0.6	4.471	A
2 - Site Access 1	172	43	446		1055	0.163	172	62	0.1	0.2	4.076	A
3 - A272 (W)	760	190	172		1010	0.752	754	446	1.4	2.9	13.730	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	509	127	0	110.10	1312	0.388	509	931	0.6	0.6	4.478	A
2 - Site Access 1	172	43	447		1054	0.163	172	62	0.2	0.2	4.079	A
3 - A272 (W)	760	190	172		1008	0.753	759	447	2.9	3.0	14.401	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	415	104	0	89.90	1313	0.316	416	767	0.6	0.5	4.016	A
2 - Site Access 1	140	35	366		1105	0.127	140	50	0.2	0.1	3.730	A
3 - A272 (W)	620	155	140		1060	0.585	626	366	3.0	1.4	8.417	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	348	87	0	75.29	1313	0.265	348	639	0.5	0.4	3.734	A
2 - Site Access 1	117	29	306		1143	0.103	118	42	0.1	0.1	3.511	A
3 - A272 (W)	519	130	118		1084	0.479	522	306	1.4	0.9	6.417	A

2039 Do Something Isolated, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A272 / Site Access 1	Standard Roundabout		1, 2, 3	8.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2039 Do Something Isolated	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
1 - A272 (E)		ONE HOUR	✓	886	100.000
2 - Site Access 1		ONE HOUR	✓	63	100.000
3 - A272 (W)		ONE HOUR	✓	515	100.000

Demand overview (Pedestrians)

Arm	Profile type	Av. Ped flow (Ped/hr)
1 - A272 (E)	[ONEHOUR]	100.00
2 - Site Access 1		
3 - A272 (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		1 - A272 (E)	2 - Site Access 1	3 - A272 (W)
From	1 - A272 (E)	0	117	769
	2 - Site Access 1	63	0	0
	3 - A272 (W)	515	0	0

Vehicle Mix

HV %s

		To		
		1 - A272 (E)	2 - Site Access 1	3 - A272 (W)
From	1 - A272 (E)	0	0	1
	2 - Site Access 1	0	0	0
	3 - A272 (W)	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS	Av. Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A272 (E)	0.72	9.38	2.5	A	813	1220
2 - Site Access 1	0.08	4.77	0.1	A	58	87
3 - A272 (W)	0.49	6.12	1.0	A	473	709

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	667	167	0	75.29	1359	0.491	663	433	0.0	1.0	5.147	A
2 - Site Access 1	47	12	576		987	0.048	47	88	0.0	0.1	3.830	A
3 - A272 (W)	388	97	47		1174	0.330	386	576	0.0	0.5	4.555	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	796	199	0	89.90	1359	0.586	795	519	1.0	1.4	6.361	A
2 - Site Access 1	57	14	690		918	0.062	57	105	0.1	0.1	4.178	A
3 - A272 (W)	463	116	57		1167	0.397	462	690	0.5	0.7	5.101	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	976	244	0	110.10	1359	0.718	971	635	1.4	2.5	9.193	A
2 - Site Access 1	69	17	843		825	0.084	69	128	0.1	0.1	4.761	A
3 - A272 (W)	567	142	69		1156	0.491	566	843	0.7	1.0	6.090	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	976	244	0	110.10	1359	0.718	975	636	2.5	2.5	9.384	A
2 - Site Access 1	69	17	847		823	0.084	69	129	0.1	0.1	4.774	A
3 - A272 (W)	567	142	69		1156	0.491	567	847	1.0	1.0	6.116	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	796	199	0	89.90	1359	0.586	801	521	2.5	1.4	6.500	A
2 - Site Access 1	57	14	695		915	0.062	57	106	0.1	0.1	4.195	A
3 - A272 (W)	463	116	57		1167	0.397	464	695	1.0	0.7	5.129	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Ped demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A272 (E)	667	167	0	75.29	1359	0.491	669	436	1.4	1.0	5.232	A
2 - Site Access 1	47	12	581		984	0.048	47	88	0.1	0.1	3.845	A
3 - A272 (W)	388	97	47		1174	0.330	388	581	0.7	0.5	4.587	A