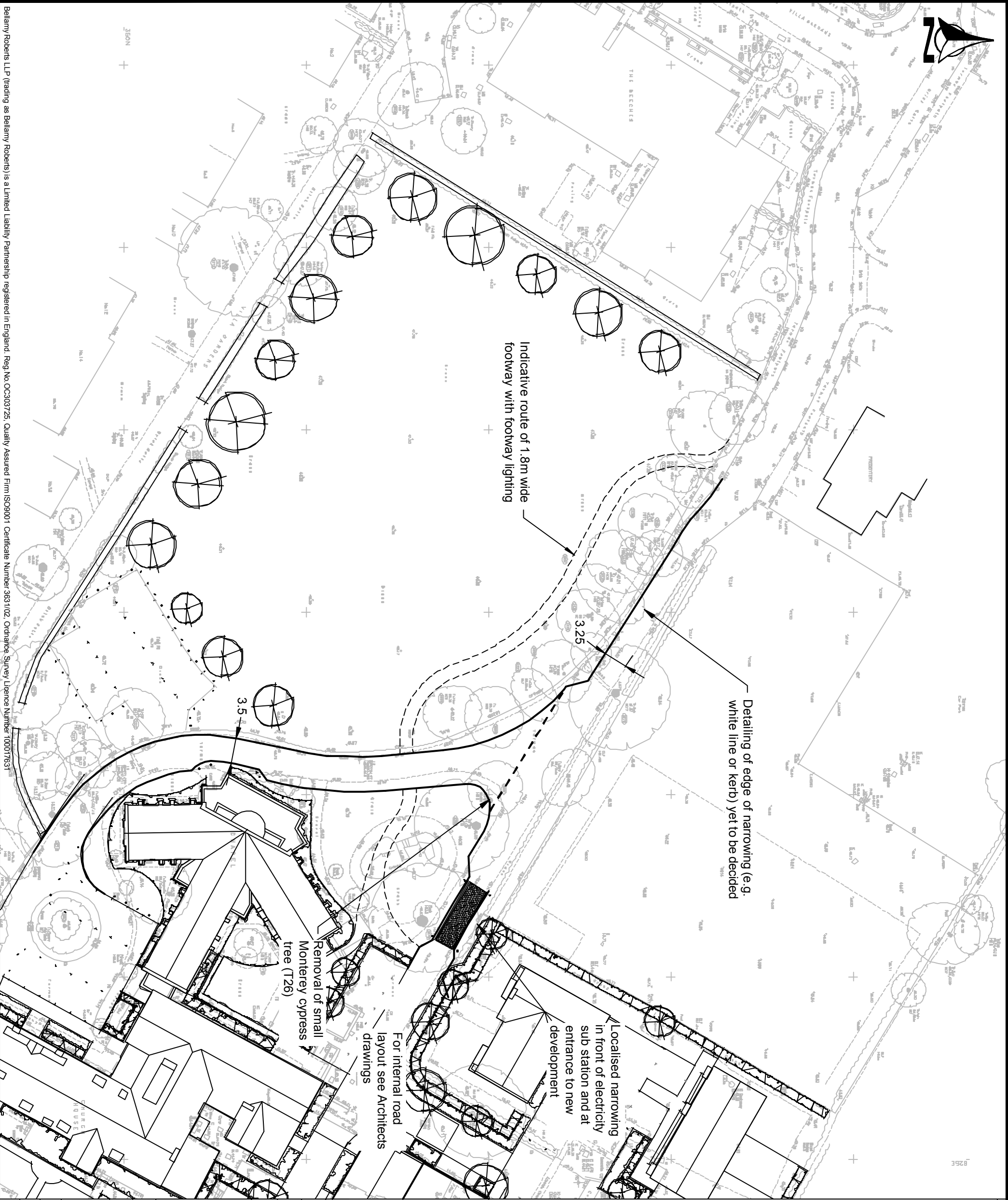


PLANS

PLAN 1



Notes

Do not scale from this drawing
Extent of no dig construction around trees to correlate with tree root protection areas
Dimensions in metres

C	Minor amendment to title block	GPW	12/07/12	ITR
B	Footpath route amended	GPW	12/06/12	ITR
A	Minor design change	GPW	08/06/12	ITR
REVISION	AMENDMENT	DRN	DATE	CHK



Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@belamyroberts.co.uk

CLIENT
Linden Homes

PROJECT
St Michaels Convent, Waterlooville

TITLE
Access Road Alignment

DRAWN BY GPW	DESIGNED BY GPW	CHECKED BY JCB
DATE 06/06/12	DRAWING NO. 4140/003	REV NO. C
SCALE 1:500 @ A3		

APPENDICES

APPENDIX 1



PROJECT	St. Michaels Convent, Waterloo
TITLE	Site Location



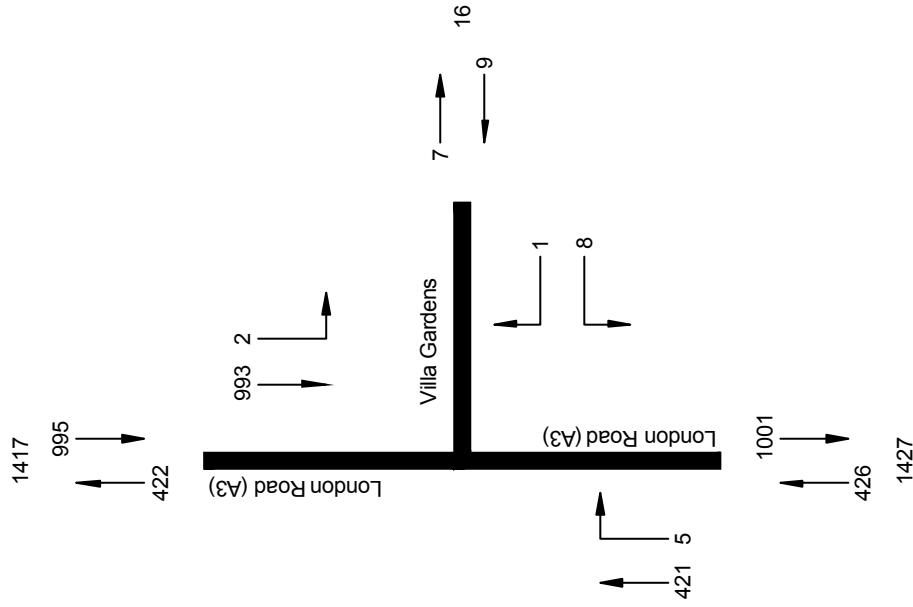
Clover House
Western Lane
Odiham
Hampshire, RG29 1TU

Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

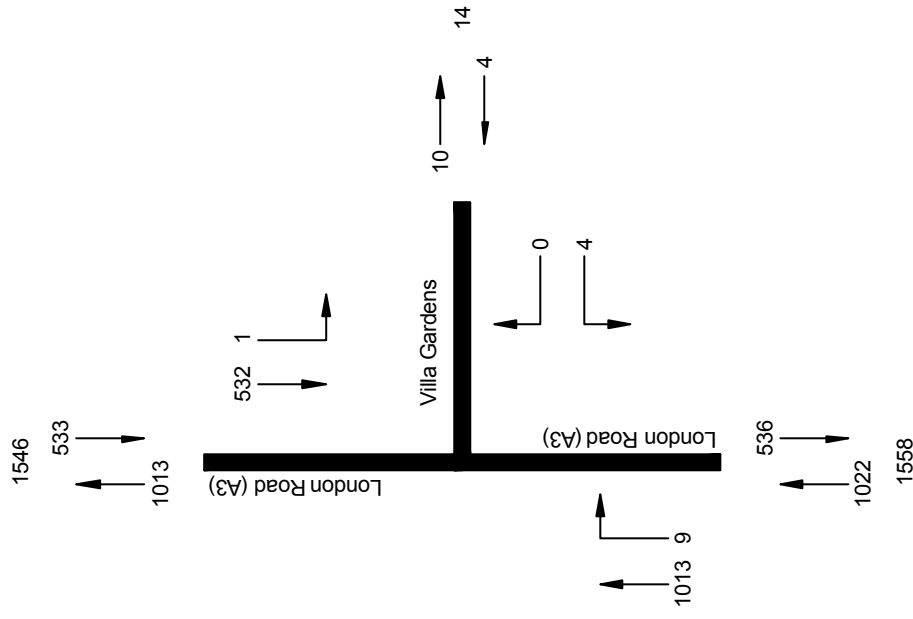
DATE	22/03/12	DRAWN BY	GPW
SCALE	1:50,000 @ A4	CHK BY	ITR
CLIENT	Linden Homes		
DRAWING NO.	4140 / 301		
REV NO.			

APPENDIX 2

AM Peak
08:00-09:00



PM Peak
17:00-18:00



London Road (A3) junction with Villa Gardens Surveyed flows Tuesday 8th May 2012



Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

AM Peak
08:00-09:00

26
16
10

Hulbert Road
16
10

1143

10
1133

1149

1220

PM Peak
17:00-18:00

19
10
9

Hulbert Road
10
9

1211

9

1221

Hulbert Road (B2150)

Hulbert Road (B2150)

Hulbert Road (B2150) junction with Hulbert Road Surveyed flows Tuesday 8th May 2012

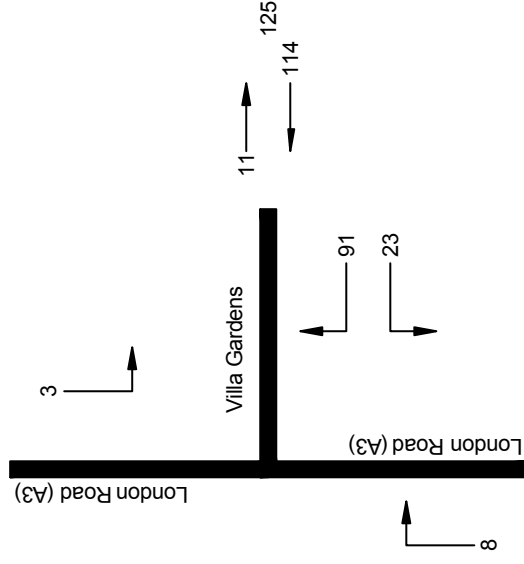
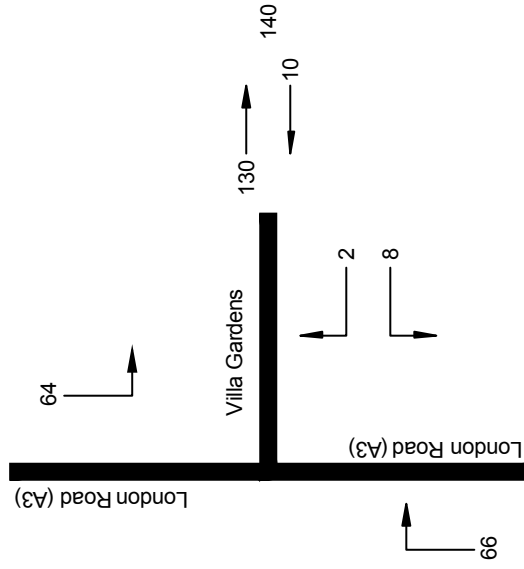


Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

APPENDIX 3

Arriving Peak
09:30-10:30

Departing Peak
11:00-12:00



Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

London Road (A3) junction with Villa Gardens
Surveyed flows Sunday 13th May 2012

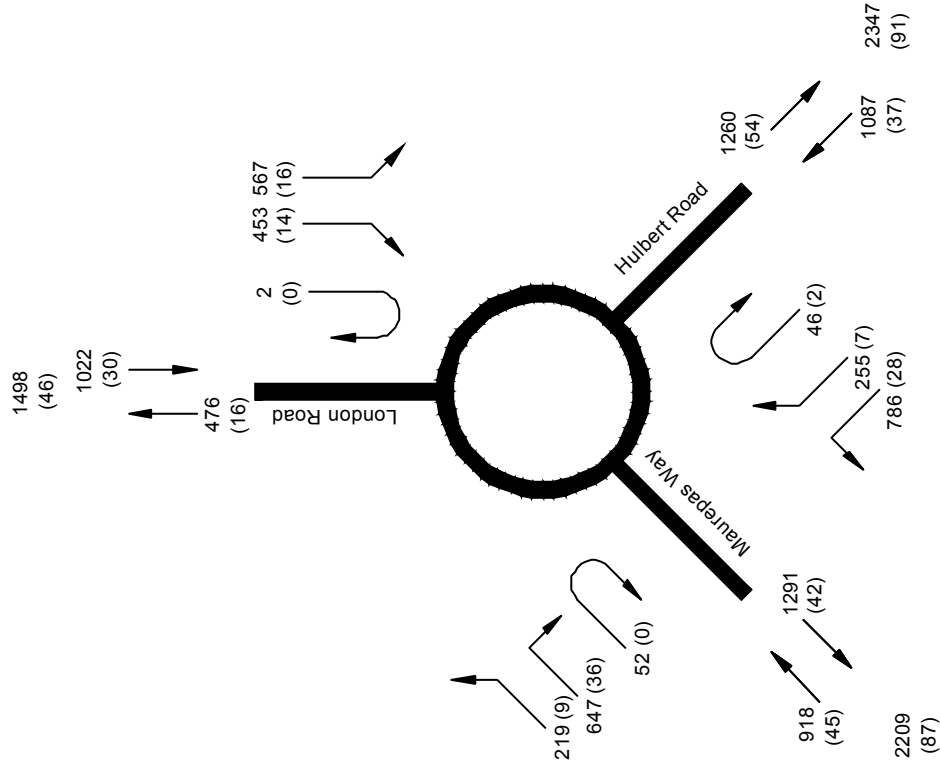
4140/411

London Road (A3) junction with Villa Gardens
 Surveyed flows Sunday 13th May 2012

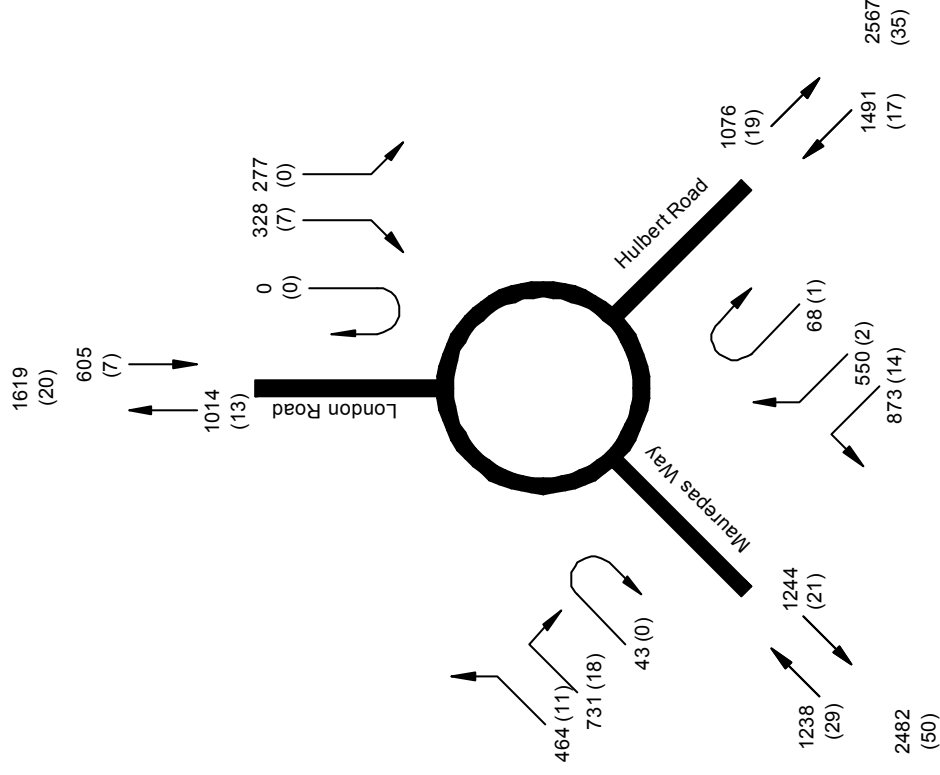
Time	In				Out			
	Right from A3 (S)	Hourly total	Left from A3 (N)	Hourly total	Right to A3 (N)	Hourly total	Left to A3 (S)	Hourly total
09:30	15	-	26	-	1	-	2	-
09:45	43	-	35	-	1	-	4	-
10:00	3	-	2	-	0	-	1	-
10:15	5	66	1	64	0	2	1	8
10:30	2	53	3	41	0	1	0	6
10:45	6	16	3	9	5	5	1	3
11:00	4	17	1	8	5	10	1	3
11:15	2	14	0	7	52	62	11	13
11:30	4	16	1	5	18	80	5	18
11:45	0	10	2	4	13	88	6	23
12:00	2	8	0	3	8	91	1	23
12:15	3	9	0	3	2	41	1	13

APPENDIX 4

AM Peak
08:00-09:00



PM Peak
17:00-18:00

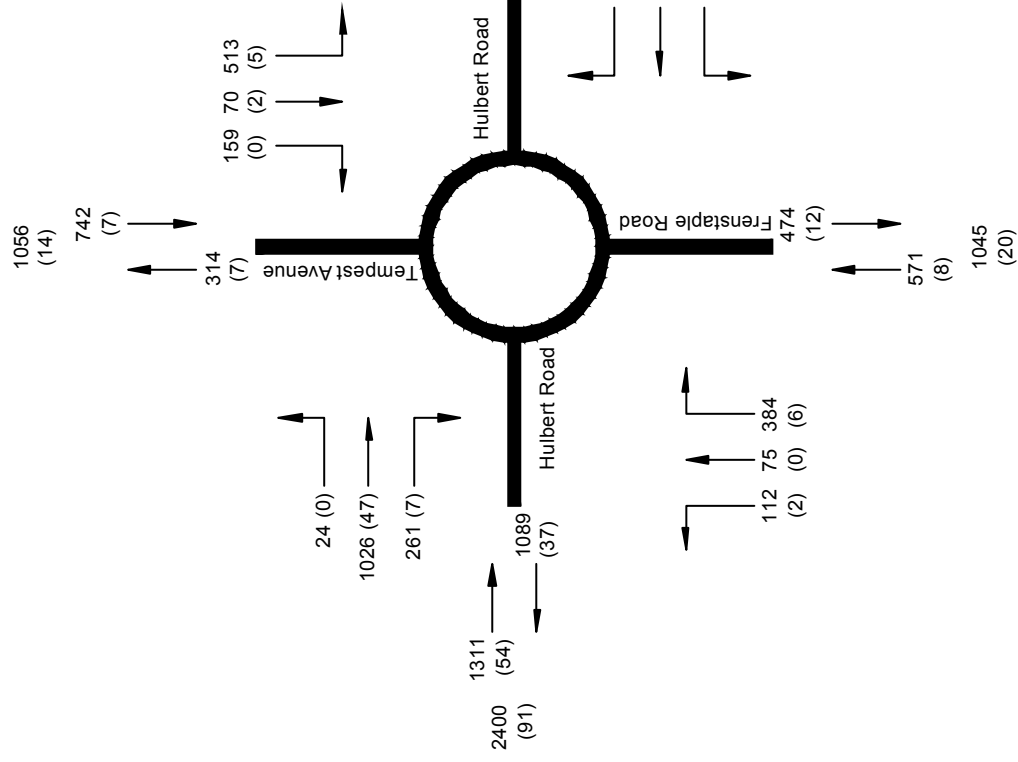


Hulbert Road/London Road/Maurepas Way Roundabout 2012 base traffic flows

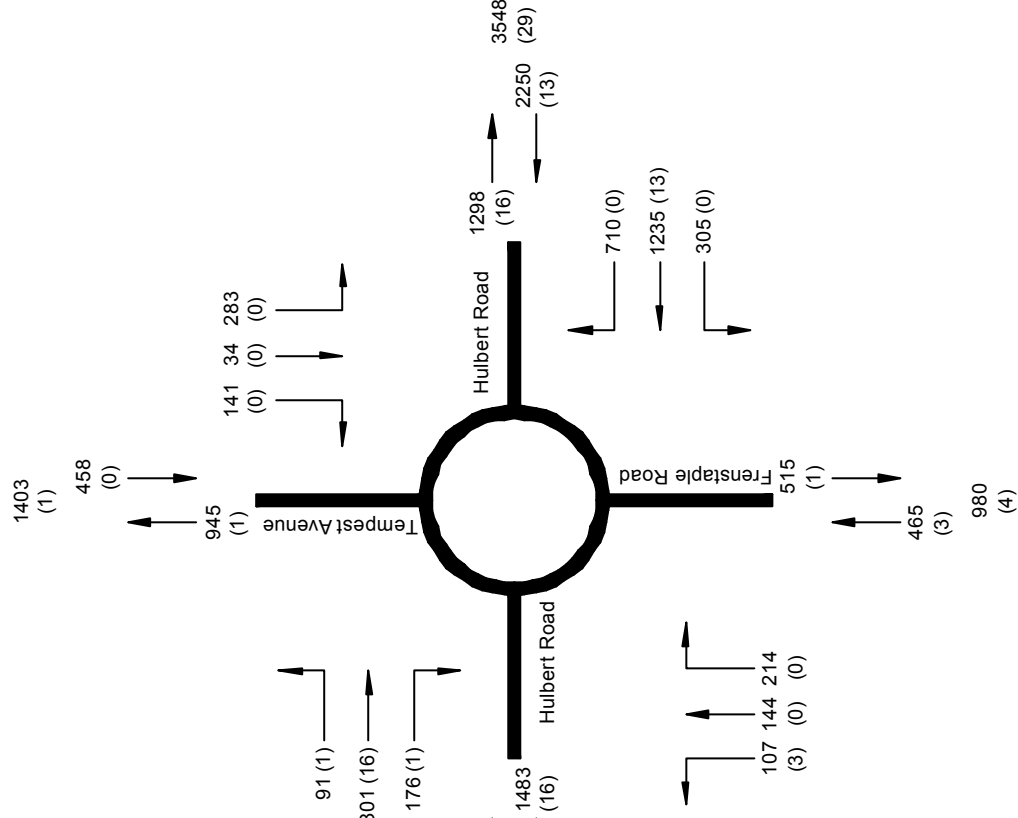


Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

AM Peak
08:00-09:00



PM Peak
17:00-18:00



Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

Hulbert Road/Tempest Avenue Roundabout 2012 base traffic flows

APPENDIX 5

Road Safety Audit Report

Incorporating
Stage 1 – Completion of Preliminary Design



St. Michael's Convent Waterloooville

Client:
Bellamy Roberts

Fenley Partnership
2 Blaenant
Emmer Green
Reading
RG4 8PH
T 0792 985 7229
E info@fenley.co.uk
www.fenley.co.uk

Report Status 2

Job no	RSA-12-001	Issue no	1	Date	July 2012
Prepared by	JJF	Verified by	AJB	Approved by	JJF
Filename and Path	RSA-12-001-JJF-AJB-2				

document control sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
1	Stage 1 Road Safety Audit included	JJF	AJB	JJF	9 th July 2012
2	Designer's Response Incorporated	JJF	AJB	JJF	12 th July 2012

Contents:	1.0	Introduction	1
	2.0	Items Raised in Previous Road Safety Audit	5
	3.0	Items Raised at A Stage 1 Road Safety Audit	6
		A.1 General	
		A.2 Local Alignment	
		A.3 Junctions	
		A.4 Non-Motorised User Provision	
		A.5 Road Signs and Markings and Lighting	
		A.6 Stage 1/2 Audit Team Statement	12

Appendices:	Appendix	A Stage 1 Road Safety Audit	
	A1	Stage 1 Drawings provided with the Audit Brief	
	A2	Stage 1 Designer's Response Items	

1.0 INTRODUCTION

- 1.1 The Fenley partnership has been appointed by Bellamy Roberts LLP to undertake this Stage 1 Road Safety Audit of the access and on-site highway layout associated with the redevelopment of St Michael's Convent, Waterloooville.
- 1.2 The existing vehicular access associated St Michaels Convent is a continuation a private road known as Villa Gardens which links to London Road. The junction of London Road and Villa Gardens offers a good degree of visibility and a right turn lane to assist vehicles manoeuvring. In proximity to Villa Gardens, London Road benefits from a southbound bus lane that has a red surface treatment as well as the right turn lane and directional lanes.
- 1.3 London Road is an advisory cycle route and benefits from cycle lanes with red surface treatment at the bell mouths in proximity. An uncontrolled pedestrian crossing with tactile paving is present across the Villa Gardens access and a signal controlled Toucan crossing is present approximately 10 metres to the south to assist pedestrians and cyclists across London Road
- 1.4 Villa Gardens is approximately 5.5 metres wide until the point where it enters the application site.
- 1.5 A further access to the application site which is approximately 4 metres wide is taken off the service road associated with Herbert Road to the south.
- 1.6 This Road Safety Audit is an assessment of the access with regard to the intensification in traffic flows and on-site highway network.
- 1.7 The site visit associated with this audit was undertaken during the afternoon of Thursday 5th July 2012, the weather conditions during the visit were overcast but dry, visibility was fine.
- 1.8 Minimal pedestrians and cyclists were observed on the local highway network during the site visit but vehicular traffic along the A3 was fairly high. Vehicular speeds were not observed to be in excess of the speed limit.
- 1.9 The site visit allowed the team to assess the existing infrastructure in the vicinity of the site and put the proposed scheme in context with conditions on the local highway network.

Scheme Details

- 1.10 The proposals include a 35 metre road narrowing which allows priority traffic movements only, as well as various further narrowings. The scheme drawings illustrate a carriageway either end of each narrowing which is sufficient to allow two cars to pass.
- 1.11 A footpath is provided between the footway associated with Villa Gardens and the proposed development, however footways are not provided alongside the internal roads which will operate as shared surface areas.

Scheme Documents

- 1.12 Whilst the following Table 1.1 details the drawings that have been examined as part of this audit, A4 copies are attached at the relevant **Appendix 1**.

Table 1.1 - Drawings

Audit Stage	Drawing Number	Rev	Title
Stage 1	4140/003	B	Access road alignment
	PP1144/100-01-SK01		Site Plan

- 1.13 Furthermore, the following Table 1.2 identifies the documents that were supplied with the Audit Brief.

Table 1.2 – Documents

Audit Stage	Drawing Number	Rev	Title
Stage 1	4140/ITR/TA	3	St Michael's Convent, Waterloooville – Transport Assessment

- 1.14 With regard to compliance of the scheme with National Standards, the audit team has been made aware of the following departures identified within the following Table 1.3.

Table 1.3 – Departures from standard

Audit Stage	Departure Reference No.	Description

Terms of Reference

- 1.15 The Terms of Reference of the audit are as described in the Highways Agency document HD19/03, entitled 'Road Safety Audit', which is contained in the Design Manual for Roads and Bridges. The audit takes account of the Chartered Institute of Highways and Transportation publication "Road Safety Audit" published in October 2008. The audit team is sufficiently qualified and experienced in accordance with the requirements of HD19/03 and each hold a Certificate of Competence in accordance with European Legislation.
- 1.16 This audit has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may, in some instances, have referred to a design standard or document without touching on technical audit.

- 1.17 Items identified as **PROBLEM** are considered to be worthy of immediate attention in respect of safety considerations of the proposals. Items raised as **Comments** are considered to be worthy of attention in respect of safety considerations but do not necessarily form part of the assessment required at this stage in accordance with HD19/03. Items raised as **Comments** may also not be a direct result of the proposals or could be outside the scope of the audit as defined by the project sponsor.

Main Parties to the Audit

- 1.18 In accordance with the above documents, this audit has been carried out by an 'Audit Team' consisting of the following members:

Audit Team Leader

J. J. Fenning BSc (Hons) MIHE

Consultant Road Safety Engineer / Transport Planner

Audit Team Member

A. J. Bradley BEng (Hons) MICTH MSORSA

Consultant Road Safety Auditor

General Information

- 1.19 The following **Section 2.0** identifies any previous Road Safety Audits that have been undertaken prior to this document being prepared by ourselves and summarises the items raised. The safety implications of current proposals are discussed within the relevant paragraphs within **Section 3**.
- 1.20 Any new or revised plans associated with the Designer's Response are included at the relevant **Appendix 2** along with any further information that the designer considers appropriate to support their response. A signature of the professional who prepared the Designer's Response is included within the Audit Team Statement.

2.0 ITEMS RAISED IN PREVIOUS ROAD SAFETY AUDITS.

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.1	GENERAL		
	The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals		
A.2	LOCAL ALIGNMENT		
	The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals		
A.3	JUNCTIONS		
	The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals		
A.4	NON-MOTORISED USER PROVISION		
	The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals		
A.5	ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING		
	The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals		

3.0 ITEMS RAISED IN THIS STAGE 1 ROAD SAFETY AUDIT

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.1	GENERAL		
A.1.1	Problem <i>Visibility could become restricted by vegetation</i> Accident Type <i>Head-on Collision</i> Location <i>Villa Gardens on entry to the site</i> The existing vegetation that is to be retained to the south of the 35m section of road 3.25m width carriageway is illustrated on drawing number 4140/003B as overhanging the carriageway. Should the vegetation be permitted to grow to such a degree that it overhangs the carriageway, visibility could become restricted resulting in a head-on collision.	The vegetation should be trimmed / maintained regularly to reduce the likelihood of visibility becoming restricted as a result. The vegetation and carriageway are to be maintained in line with the general maintenance of the grounds and will therefore not be permitted to compromise visibility.	

A.1.1	<table> <tr> <td data-bbox="330 1859 518 2007"> Problem Accident Type Location </td><td data-bbox="330 127 518 1859"> <i>Surface water may pond</i> <i>Loss of control</i> <i>On-site Highways</i> </td></tr> <tr> <td data-bbox="518 1859 837 2007"> At present, the carriageway is not bounded by kerbs and therefore surface water falls into the verges and soaks away. The proposals appear to propose kerbs which will contain surface water. The on-site highways could therefore observe ponding etc which could cause a vehicle to lose control. </td><td data-bbox="518 127 837 1859"> The carriageway make-up should be permeable or a surface water drainage system introduced to prevent any ponding etc. </td></tr> <tr> <td data-bbox="837 1859 1386 2007"></td><td data-bbox="837 127 1386 1859"> Surface water drainage will be dealt with at the detailed design stage. At present, a new surface water drainage system that accords with SUD guidelines will be implemented to address any concerns with the likelihood of ponding etc. </td></tr> </table>	Problem Accident Type Location	<i>Surface water may pond</i> <i>Loss of control</i> <i>On-site Highways</i>	At present, the carriageway is not bounded by kerbs and therefore surface water falls into the verges and soaks away. The proposals appear to propose kerbs which will contain surface water. The on-site highways could therefore observe ponding etc which could cause a vehicle to lose control.	The carriageway make-up should be permeable or a surface water drainage system introduced to prevent any ponding etc.		Surface water drainage will be dealt with at the detailed design stage. At present, a new surface water drainage system that accords with SUD guidelines will be implemented to address any concerns with the likelihood of ponding etc.
Problem Accident Type Location	<i>Surface water may pond</i> <i>Loss of control</i> <i>On-site Highways</i>						
At present, the carriageway is not bounded by kerbs and therefore surface water falls into the verges and soaks away. The proposals appear to propose kerbs which will contain surface water. The on-site highways could therefore observe ponding etc which could cause a vehicle to lose control.	The carriageway make-up should be permeable or a surface water drainage system introduced to prevent any ponding etc.						
	Surface water drainage will be dealt with at the detailed design stage. At present, a new surface water drainage system that accords with SUD guidelines will be implemented to address any concerns with the likelihood of ponding etc.						

A.2	LOCAL ALIGNMENT
A.2.1	Problem Accident Type Location Road narrowings are not highlighted Head-on Collisions On-site The proposals include a number of on-site road narrowings which will maintain low vehicular speeds, however, the plans do not appear to illustrate any street lighting or reflective bollards and therefore the sudden buildouts may not be clearly visible during the hours of darkness. Should the buildouts not be clear, there is a possibility of head-on collisions The buildouts should be highlighted by street lighting or reflective bollards to ensure that drivers of approaching vehicles are aware of their presence Drawing number 4140/003 revision B includes black dots at the majority of buildouts, these are to illustrate bollards with reflective plates that will highlight the measures. A note to that effect will be included on the scheme drawings and details provided for the Detailed Design Stage 2 Road Safety Audit. Additional bollards are to be included at the 35m long narrowing on entry into the site.

A.3	JUNCTIONS
A.3.1	<i>All junctions associated with the proposals to include the existing junctions of London Road / Villa Gardens and Herbert Road/Herbert Road dual carriageway, as well as the realigned junction of the access road with Herbert Road are sufficient in terms of road safety. Furthermore the Transport Assessment identifies that just 7 / 6 additional vehicular movements will be generated by the proposed residential scheme during the morning and afternoon peak hours at the Herbert Road junction and 31 / 26 will be generated at the Villas Garden junction with London Road.</i>

A.4	NON-MOTORISED USER PROVISION		
A.4.1	PROBLEM <i>Pedestrian route proposed is not on the desire line</i> Accident Type <i>Vehicle/ Pedestrian Collision</i> Location <i>Villa Gardens Access road</i> The proposed footpath from Villa Gardens to the redevelopment diverts away from the pedestrian desire line and although the actual distance doesn't increase dramatically, the audit team consider that the perceived distance will. This is likely to result in pedestrians utilising the 35m road narrowing where no pedestrian facilities are provided and could result in vehicle pedestrian collisions.	A facility should be implemented to retain pedestrians off the carriageway should they choose not to follow the footpath.	A footway that meets current requirements cannot be implemented adjacent to the carriageway due to the mature nature of the trees to the south, however, the layout that is proposed maintains a 0.5 metre wide area of shallow construction that can accommodate pedestrians should they choose not to follow the proposed footpath. Furthermore the volume of traffic per hour is very low (approx 20-30 vehicles 2-way). Such volumes of traffic are well within the permitted level of traffic (100 veh/ph) for shared surfaces (ref. MfS)

A.4.1	PROBLEM <i>Visually impaired Persons, wheelchairs, or pedestrians with buggies/wheelchairs have not been accommodated</i> Accident Type <i>Vehicle/Pedestrian Collision</i> Location <i>Pedestrian crossing points</i> The scheme drawings do not include any dropped kerbs or tactile paving to assist pedestrians crossing the access road or accessing the footpath. Dropped kerbs and tactile paving should be included within the scheme and further details provided for the Stage 2 Road Safety Audit. Dropped kerbs and tactile paving will be provided within the scheme in accordance with guidelines and further details supplied for the Stage 2 Road Safety Audit.
A.5	ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING
A.5.1	PROBLEM <i>Approaching drivers are unlikely to be aware of the 35m narrow carriageway</i> Accident Type <i>Head-on Collision</i> Location <i>Villa Gardens Access Road</i> Drivers approaching the 35m section of narrow carriageway may not be aware that the geometry allows one-way working only, especially during hours of darkness. An advanced road sign warning of the approaching measure should be implemented An advanced road sign warning of the narrow one-way working carriageway will be installed on the approach. Further details will be provided for the Stage 2 Road Safety Audit.

A.6 STAGE 1 ROAD SAFETY AUDIT TEAM STATEMENT

We certify that we have examined the relevant drawing and documents listed at Section 1.0 in respect of road safety. The examination of the proposed works has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme or any adjacent highway affected by it. The issues identified have been noted in this report together with associated safety improvement recommendations, where possible, which should be studied for implementation. The audit has been carried out in accordance with HD19/03 with exceptions made by Hampshire County Council's fourth edition Appendix 11 of "Practice Note: Offsite Highway Works Carried Out By Developers On Behalf Of The Highway Authority" I confirm that we have not been involved with the scheme design.

No one on the Audit Team has been involved with the design of the scheme. The Audit Team consists of the following

Audit Team Leader

Name: JJ Fenning *BSc, MEng*
Position: Consultant Highway Safety Engineer
Address: 2 Blaenant
Emmer Green
Reading
RG4 8PH
Tel: 07929 857 229
e-mail: jamie@safeTaudits.com

Signed:



Date:

9th July 2012

Audit Team Member

Name: A. J. Bradley *BEng (Hons) MCHT MSc RSA*
Position: Consultant Road Safety Auditor

Signed:



Date:

12th July 2012

Designer's Response Prepared By

Name: I.T. Roberts
Position and company: Partner, Bellamy Roberts LLP, Clover House, Western Lane, RG29 1TU.

Appendix A1

Audit Brief

Figure 1

Do not scale from this drawing

Extent of no dig construction around trees to compete with tree root protection areas

Dimensions in metres

**FOR DISCUSSION
PURPOSES ONLY**

[illegible]

Custer House
 Western Lane
 Oshtemo
 Hollandale, MS 39204
 Tel: 662-702-2288
 Fax: 662-702-2464
 Email: info@westernhouse.com

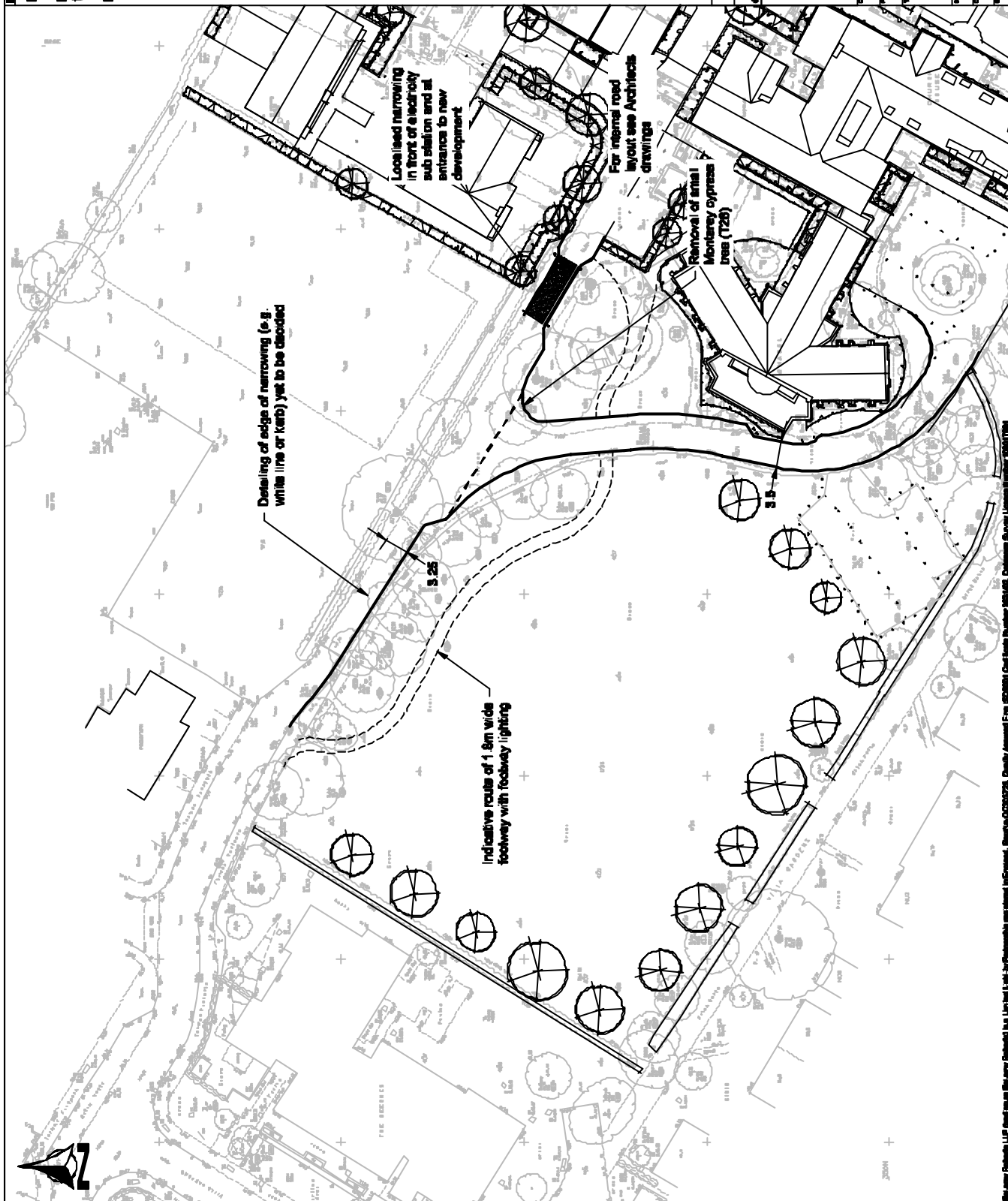
Page: 01234 56789
Page 1: The Great American

Linden Hamm

St. Michael's Convent, Waterlooville

Possible Alternative Access Road Alignment 35m long narrowing

B	4140 / 900	DATE	08/06/12
ECF	MAG	MAG	AS



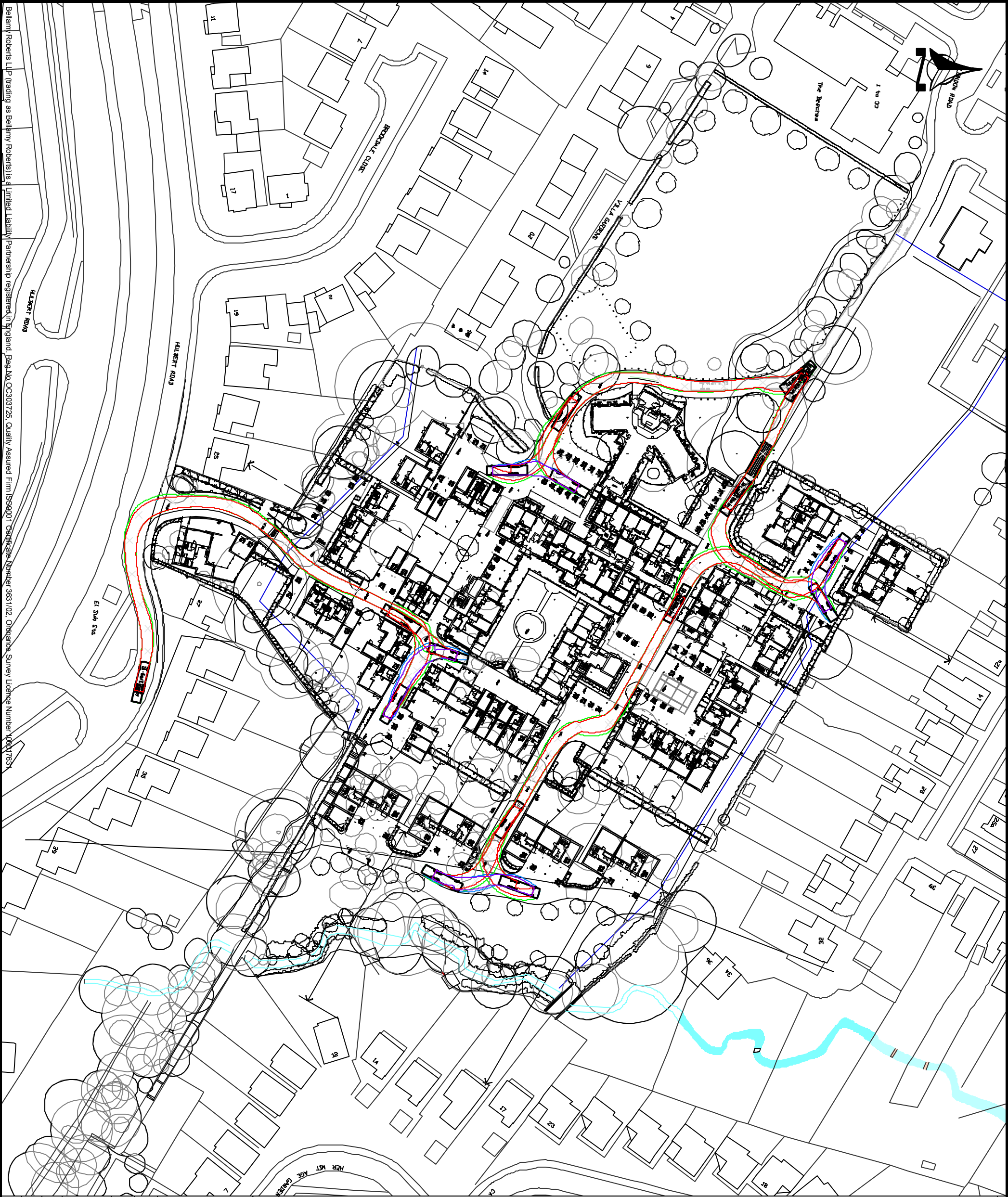
NEW BOOKS | If you're looking for a book that's both fun and educational, look no further than *The Big Book of Numbers* by David A. Reardon. This colorful volume features over 100 pages of numbers, from one to ten billion, and includes fun facts, puzzles, and games.

Appendix A2

Drawings and Documents associated with the Designer's Response

ferley

APPENDIX 6



Notes

A	Scheme updated	REVISION	
		AMENDMENT	
DRN	GPW	DATE	13.07.12
CHK	JTR		

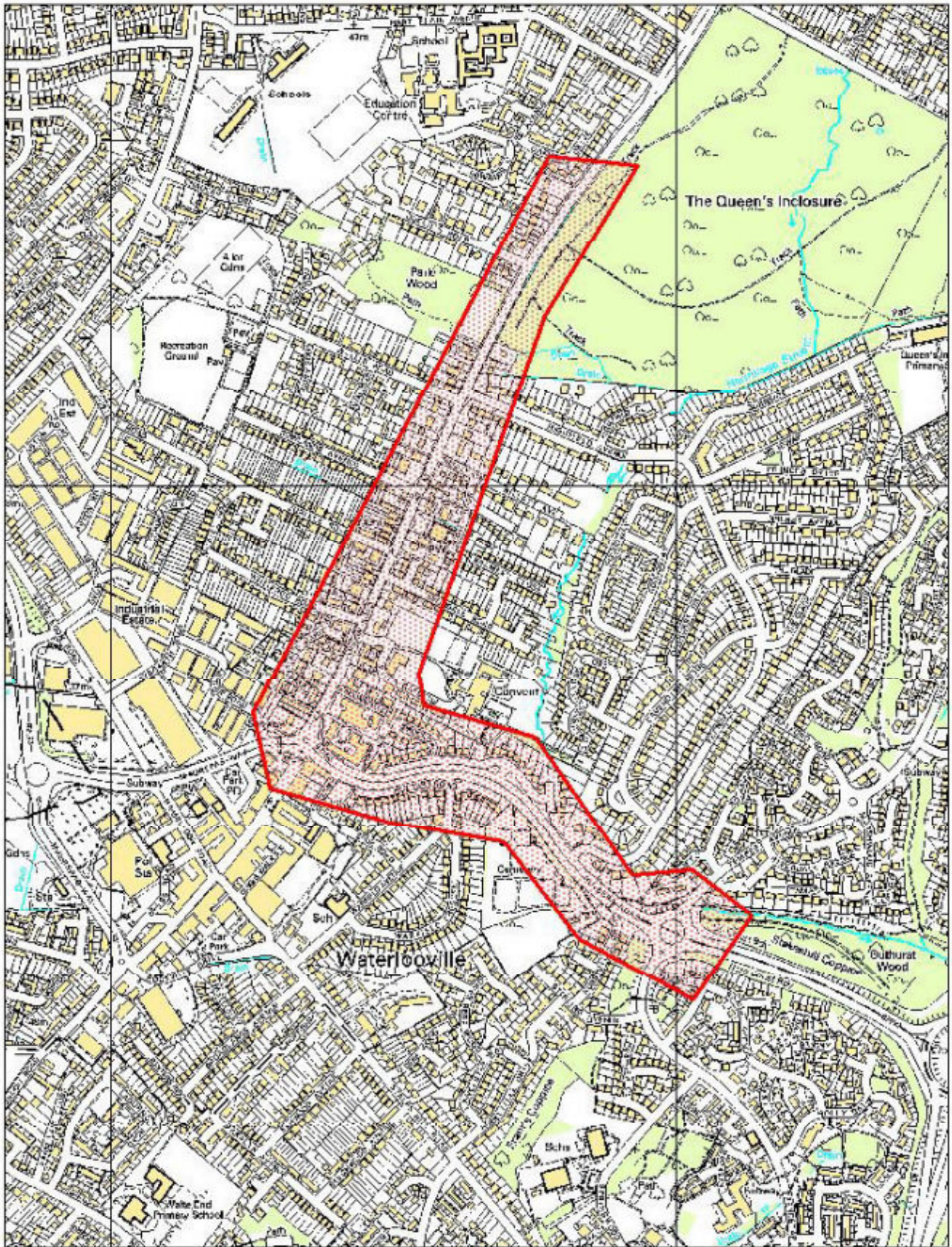


Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

CLIENT Linden Homes			
PROJECT St. Michael's Convent, Waterboville			
TITLE Swept path profile - refuse lorry			
DRAWN BY GPW	DESIGNED BY -	CHECKED BY JCB	REV NO. A
DATE 25/05/12	DRAWING NO. 4140 / 201		SCALE 1:1,000 @ A3

APPENDIX 7

APPENDIX 8



© Crown copyright. All rights reserved.
Hampshire Police
Licence No. 010210 2012

London Road / Hulbert Road, Waterloo

SCALE	1 : 8860
DATE	09/05/2012
DRAWING NO.	
DRAWN BY	

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

Notes:

Selected Polygon:AB LONDON ROAD/HULBERT ROAD

090254080 12/06/2009 Time 0804 Vehicles 2 Casualties 1 Slight
E:468352 N: 109526 First Road: B 2150 Road Type Single carriageway
Speed limit: 40 Junction Detail: Roundabout Give way or controlled A 3
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight: no street lighting Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Following too close	Vehicle 2	Possible	
2nd: Failed to judge other persons path or speed	Vehicle 2	Very Likely	
3rd: Sudden braking	Vehicle 1		
4th:			
5th:			
6th:			

VEH 1 (CAR), HEADING WEST ALONG HULBERT ROAD, STOPPED AT THE ROUNDABOUT FOR THE A3 DUE TO A SPEEDING VEHICLE ON THE ROUNDABOUT, AND WAS STRUCK FROM BEHIND BY VEH 2 (CAR).
Occurred on HULBERT ROAD AT THE JUNCTION WITH LONDON ROAD, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Back Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 48 Female
Not hit and run Breath test Driver not contacted
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 48 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Vehicle Reference 2 Car Stopping
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 30 Female
Not hit and run Breath test Driver not contacted
Left hand drive:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

090191416 04/05/2009 Time 1427 Vehicles 2 Casualties 1 Slight
E:468356 N: 109527 First Road: A 3 Road Type Dual carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled B 2150
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Following too close	Vehicle 2	Possible
2nd:	Failed to look properly	Vehicle 2	Possible
3rd:	Failed to judge other persons path or speed	Vehicle 2	
4th:			
5th:			
6th:			

BOTH VEHS (CARS) TRAV NORTHWEST ALONG B2150 HULBERT ROAD. VEH 1 WAS WAITING TO ENTER
ROUNDAABOUT. VEH 2 FAILED TO BRAKE AND COLLIDED WITH REAR OF VEH 2. DETAILS EXCHANGED
BETWEEN DRIVERS.

Occurred on A3 LONDON ROAD AT JUNCTION WITH B2150 HULBERT ROAD, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 51 Male
Not hit and run Breath test Driver not contacted
Left hand drive:
Casualty Reference: 1 Vehicle: 1 Age: 51 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Vehicle Reference 2 Car Stopping
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

090405758 17/09/2009 Time 0820 Vehicles 3 Casualties 2 Slight
E:468530 N: 109943 First Road: A 3 Road Type Single carriageway
Speed limit: 30 Junction Detail: Not within 20m of junction
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to look properly		Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed		Vehicle 1	Very Likely
3rd:	Following too close		Vehicle 1	Very Likely
4th:	Distraction in vehicle		Vehicle 1	Very Likely
5th:				
6th:				

ALL VEHS (CARS) TRAVELLING SOUTHWEST ALONG A3 LONDON ROAD. DRIVER VEH 1 DISTRACTED AND FAILS TO BRAKE IN TIME AND COLLIDES WITH REAR OF VEH 2 WHICH WAS SLOWING. VEH 2 WAS PUSHED INTO REAR OF VEH 3 WHICH WAS SLOWING.

Occurred on A3 LONDON ROAD OUTSIDE BAPTIST CHURCH, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Stopping
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 21 Female
Not hit and run Breath test Not requested
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 21 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Vehicle Reference 2 Car Stopping
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Back Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 43 Male
Not hit and run Breath test Not requested
Left hand drive:

Casualty Reference: 2 Vehicle: 2 Age: 43 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

Vehicle Reference	3	Car	Stopping	
Vehicle movement from	NE	to SW	No tow / articulation	Leaving the main road
On main carriageway			No skidding, jack-knifing or overturning	
Location at impact	Not at, or within 20M of Jct	First impact	Back	Hit vehicle: 2
Hit object in road	None	Off road:	None	
Did not leave carr		Age of Driver	55	Female
Not hit and run	Breath test	Not requested		
		Left hand drive:		

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

090415734 22/09/2009 Time 0855 Vehicles 2 Casualties 2 Slight
E:469017 N: 109234 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled B 2150
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Junction overshoot	Vehicle 2	Very Likely	
2nd: Careless/Reckless/In a hurry	Vehicle 2	Possible	
3rd: Failed to look properly	Vehicle 2		
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SOUTHWEST ALONG TEMPEST AVENUE WAITING AT RBT TO TURN LEFT ONTO
HULBERT ROAD WHEN VEH 2 (CAR) BEHIND FAILED TO BRAKE ENOUGH AND COLLIDED INTO REAR OF
VEH 1 THEN FAILED TO STOP.

Occurred on B2150 HULBERT ROAD AT THE JUNCTION WITH TEMPEST AVENUE, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Waiting to turn left
Vehicle movement from NE to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 18 Female
Not hit and run Breath test Not requested
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 18 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Casualty Reference: 2 Vehicle: 1 Age: 19 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Front seat

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver Female
Hit and run Breath test Driver not contacted
Left hand drive:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

090424400 29/09/2009 Time 2345 Vehicles 2 Casualties 1 Slight
E:469017 N: 109240 First Road: U Road Type Single carriageway
Speed limit: 40 Junction Detail: Roundabout Give way or controlled B 2150
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lights present but unlit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Following too close	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) APPROCHES ROUNDABOUT OF TEMPEST AVENUE WITH B2150, HULBERT ROAD,
WATERLOOVILLE, TRAVELLING SOUTH AND SLOWS. VEH 1 ATTEMPTS TO ENTER ROUNDABOUT BUT
BREAKS SUDDENLY. VEH 2 (CAR) TRAVELLING IN SAME DIRECTION BEHIND VEH 1 DOES NOT REACT IN
Occurred on TEMPEST AVENUE, AT JUNCTION WITH B2150, HULBERT ROAD, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Starting
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Front Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 43 Male
Not hit and run Breath test Negative
Left hand drive:

Vehicle Reference 2 Car Starting
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Back Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 36 Male
Not hit and run Breath test Negative
Left hand drive:

Casualty Reference: 1 Vehicle: 2 Age: 36 Male Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:
Front seat

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

Notes:

090427733 01/10/2009 Time 1230 Vehicles 2 Casualties 1 Slight
E:468484 N: 109839 First Road: A 3 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 2	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 2	Possible
3rd:	Failed to look properly	Vehicle 1	
4th:			
5th:			
6th:			

VEH 1 (CAR) TURNED LEFT FROM AVONDALE ROAD INTO LONDON ROAD AND COLLIDED HEAD-ON WITH
VEH 2 (PEDAL CYCLE) WHICH HAD CROSSED THE CARRIAGEWAY EARLY TO TURN RIGHT INTO
AVONDALE ROAD.

Occurred on LONDON ROAD AT THE JUNCTION WITH AVONDALE ROAD, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Turning left
Vehicle movement from SE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Cleared junction or waiting/parked First impact Front Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 17 Female
Not hit and run Breath test Negative
Left hand drive:

Vehicle Reference 2 Pedal Cycle Turning right
Vehicle movement from SW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 16 Male
Not hit and run Breath test Not applicable
Left hand drive:

Casualty Reference: 1 Vehicle: 2 Age: 16 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

100008136 05/01/2010 Time 1845 Vehicles 2 Casualties 1 Slight
E:468962 N: 109230 First Road: B 2150 Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Snow
Darkness: street lights present and lit Snowing without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Slippery road (due to weather)	Vehicle 2	Very Likely	
2nd: Loss of control	Vehicle 2	Very Likely	
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SE ALONG B2150 HULBERT ROAD, STOPS ON APPROACH TO RBT AT
FRIENDSTAPLE ROAD.VEH 2 (CAR) BEHIND SKIDS ON ICY/SNOW COVERED ROAD SURFACE INTO REAR
VEH 1.

Occurred on B2150 HULBERT ROAD AT JUNCTION WITH FRIENDSTAPLE ROAD, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 18 Female
Not hit and run Breath test Driver not contacted
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 18 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Vehicle Reference 2 Car Stopping
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Jct Approach First impact Front Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

100217769 28/05/2010 Time 0835 Vehicles 2 Casualties 1 Serious
E:468445 N: 109759 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled A 3
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Failed to look properly	Vehicle 1	Very Likely	
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 2 (M/CYCLE) TURNED RIGHT FROM WINIFRED ROAD INTO LONDON ROAD AND CAME TO A STOP IN THE CENTRAL HATCHED AREA. VEH 1 (CAR) ALSO TURNED RIGHT FROM WINIFRED ROAD AND STRUCK THE REAR OF VEH 2.

Occurred on WINIFRED ROAD AT JUNCTION WITH LONDON ROAD, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from NW to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering main road First impact Front Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 47 Female
Not hit and run Breath test Negative
Left hand drive:

Vehicle Reference 2 Motor Cycle over 50 cc and up to 125cc Turning right
Vehicle movement from NW to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering main road First impact Back Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 42 Female
Not hit and run Breath test Negative
Left hand drive:

Casualty Reference: 1 Vehicle: 2 Age: 42 Female Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

Notes:

100236528 09/06/2010 Time 0825 Vehicles 2 Casualties 1 Slight
E:468359 N: 109521 First Road: U Road Type 1
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Following too close	Vehicle 2	Possible
2nd:	Road layout (eg bend, hill etc.)	Vehicle 2	Possible
3rd:	Careless/Reckless/In a hurry	Vehicle 2	
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING NW ALONG HULBERT ROAD APPROACHING RBT WITH MAUREPAS WAY SLOWS
DUE TO TRAFFIC AHEAD. VEH 2 (VAN) TRAVELLING BEHIND VEH 1 FAILS TO SLOW IN TIME AND
COLLIDES.

Occurred on HULBERT ROAD AT JUNCTION WITH MAUREPAS WAY, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Stopping
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 30 Female
Not hit and run Breath test Not requested
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 30 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Stopping
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

100257638 22/06/2010 Time 1550 Vehicles 2 Casualties 1 Slight
E:469026 N: 109181 First Road: B 2150 Road Type Dual carriageway
Speed limit: 70 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to look properly		Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed		Vehicle 1	Very Likely
3rd:				
4th:				
5th:				
6th:				

VEH 2 (VAN) TRAVELLING W ALONG HULBERT ROAD SLOWED FOR RBT AHEAD. VEH 1 (CAR) FOLLOWING
FAILED TO BRAKE IN TIME AND COLLIDED WITH THE REAR OF VEH 2.

Occurred on B2150 HULBERT ROAD AT JUNCTION WITH FRENDSSTAPLE ROAD, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Stopping
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 65 Male
Not hit and run Breath test Negative
Left hand drive:
Casualty Reference: 1 Vehicle: 1 Age: 65 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Going ahead but held up
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Negative
Left hand drive:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

100304982 20/07/2010 Time 2300 Vehicles 1 Casualties 1 Slight
E:468352 N: 109523 First Road: B 2150 Road Type 1 A 3
Speed limit: 30 Junction Detail: Roundabout Give way or controlled
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lights present and lit Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Slippery road (due to weather)	Vehicle 1	Very Likely
2nd:	Travelling too fast for conditions	Vehicle 1	Very Likely
3rd:	Loss of control	Vehicle 1	
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING NW ALONG B2150 HULBERT ROAD, APPROACHES RBT INTENDING TO TAKE 1ST
EXIT ONTO A3 MAUREPAS WAY. VEH 1 CLIPS NEAR SIDE KERB AND HITS METAL RAILINGS.

Occurred on B2150 HULBERT ROAD AT JUNCTION WITH A3 MAUREPAS WAY, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Leaving roundabout First impact Front Hit vehicle:
Hit object in road None Off road: None
Nearside Age of Driver 20 Male
Not hit and run Breath test Negative
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 20 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

100363290 26/08/2010 Time 1742 Vehicles 1 Casualties 1 Slight
E:468808 N: 109342 First Road: B 2150 Road Type Dual carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 1	Very Likely
2nd:	Loss of control	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SE ALONG HULBERT ROAD FOR REASONS UNKNOWN DRIVER LOST CONTROL
AND MOUNTED KERB ONTO CENTRAL RESERVATION.

Occurred on B2150 HULBERT ROAD AT JUNCTION WITH FERNDAL, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Going ahead left bend
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: Oth perm objects
O/S cross cent res Age of Driver 22 Female
Not hit and run Breath test Negative
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 22 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

Notes:

110013560 10/01/2011 Time 2045 Vehicles 2 Casualties 1 Slight
E:468967 N: 109182 First Road: B 2150 Road Type 1
Speed limit: 40 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lighting unknown Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Slippery road (due to weather)	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING NE ALONG FRIENDSTAPLE ROAD ENTERS RBT FAILING TO NOTICE VEH 2 (P/CYCLE) ALREADY ON RBT AND PROCEEDS COLLIDING INTO VEH 2.

Occurred on B2150 HULBERT ROAD AT JUNCTION WITH FRIENDSTAPLE ROAD, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Starting
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Offside Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 76 Male
Not hit and run Breath test Negative
Left hand drive:

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or n First impact Nearside Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Male
Not hit and run Breath test Negative
Left hand drive:

Casualty Reference: 1 Vehicle: 2 Age: 32 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

110044917 31/01/2011 Time 1845 Vehicles 2 Casualties 3 Serious
E:468475 N: 109480 First Road: B 2150 Road Type Dual carriageway
Speed limit: 40 Junction Detail: Not within 20m of junction
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Travelling too fast for conditions	Vehicle 1	Very Likely	
2nd: Loss of control	Vehicle 1	Very Likely	
3rd: Aggressive driving	Vehicle 1		
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING E ALONG B2150 HULBERT ROAD LOST CONTROL ON A LEFT-HAND BEND,
CROSSED THE CENTRAL RESERVATION AND COLLIDED WITH VEH 2 (CAR) WHICH WAS TRAVELLING IN
LANE 2 IN THE OPPOSITE DIRECTION.

Occurred on B2150 HULBERT ROAD 130 METRES SOUTH-EAST OF A3 LONDON ROAD, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Going ahead left bend
Vehicle movement from W to NE No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Not at, or within 20M of Jct First impact Nearside Hit vehicle: 2
Hit object in road None Off road: None
O/S cross cent res Age of Driver 35 Male
Not hit and run Breath test Negative
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 35 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Casualty Reference: 2 Vehicle: 1 Age: 35 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Front seat

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

Vehicle Reference	2	Car	Going ahead right bend
Vehicle movement from	NE to W	No tow / articulation	Leaving the main road
On main carriageway		No skidding, jack-knifing or overturning	
Location at impact	Not at, or within 20M of Jct	First impact	Front
Hit object in road	None	Off road:	None
Did not leave carr		Age of Driver	24
Not hit and run	Breath test	Negative	Female
		Left hand drive:	

Casualty Reference:	3	Vehicle:	2	Age:	24	Female	Driver/rider	Severity:	Serious
Not a pupil									
Seatbelt		Not Applicable		Cycle helmet:					

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

110213594 23/05/2011 Time 1310 Vehicles 2 Casualties 2 Slight
E:468737 N: 110390 First Road: A 3 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Disobeyed Give Way or Stop sign or markings	Vehicle 1	Possible
2nd:	Poor turn or manoeuvre	Vehicle 1	Very Likely
3rd:	Failed to look properly	Vehicle 1	Very Likely
4th:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
5th:	Failed to signal/Misleading signal	Vehicle 2	Possible
6th:			

VEH 1 (VAN) TRAVELLING SE ALONG QUEENS ROAD, TURNS RIGHT ONTO A3 LONDON ROAD ACROSS
PATH OF ON-COMING VEH 2 (CAR) TRAVELLING NE ALONG A3 LONDON ROAD.

Occurred on A3 LONDON ROAD AT JUNCTION WITH QUEENS ROAD, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Turning right
Vehicle movement from NW to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering main road First impact Front Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 28 Male
Not hit and run Breath test Negative
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 28 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Vehicle Reference 2 Car Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Nearside Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 49 Male
Not hit and run Breath test Negative
Left hand drive:

Casualty Reference: 2 Vehicle: 2 Age: 49 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

Notes:

110226523 01/06/2011 Time 1005 Vehicles 2 Casualties 2 Slight
E:469019 N: 109239 First Road: B 2150 Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Failed to look properly	Vehicle 2	Possible
2nd:	Failed to judge other persons path or speed	Vehicle 2	Possible
3rd:	Junction restart	Vehicle 1	
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SW ALONG TEMPEST AVENUE STOPPED AT THE RBT FOR B2150 HULBERT ROAD, BEGAN MOVING OFF BUT BRAKED BEFORE ENTERING THE RBT. VEH 2 (CAR) THEN COLLIDED WITH THE REAR OF VEH 1.

Occurred on TEMPEST AVENUE AT JUNCTION WITH B2150 HULBERT ROAD, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Back Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 45 Female
Not hit and run Breath test Driver not contacted
Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 45 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Casualty Reference: 2 Vehicle: 1 Age: 17 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Front seat

Vehicle Reference 2 Car Starting
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Female
Not hit and run Breath test Driver not contacted
Left hand drive:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

110278119 04/07/2011 Time 0823 Vehicles 2 Casualties 1 Slight
E:469022 N: 109180 First Road: B 2150 Road Type 1
Speed limit: 60 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Junction restart	Vehicle 1	Very Likely	
2nd: Nervous/Uncertain/Panic	Vehicle 2	Possible	
3rd:			
4th:			
5th:			
6th:			

VEH 2 (CAR) TRAVELLING NW IN LANE 1 OF 2 ALONG B2150 HULBERT ROAD STOPS ON APPROACH TO
RBT. VEH 2 MOVES OFF THEN HESITATES, CAUSING FOLLOWING VEH 1 (CAR) TO HIT REAR OF VEH 2.
Occurred on B2150 HULBERT ROAD AT JUNCTION WITH FRENDSSTAPLE ROAD, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 43 Male
Not hit and run Breath test Not requested
Left hand drive:

Vehicle Reference 2 Car Starting
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Back Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 22 Female
Not hit and run Breath test Not requested
Left hand drive:

Casualty Reference: 1 Vehicle: 2 Age: 22 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

Notes:

110502882 18/11/2011 Time 0820 Vehicles 2 Casualties 1 Slight
E:468470 N: 109795 First Road: A 3 Road Type Single carriageway
Speed limit: 30 Junction Detail: Pri Drive Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 1	Possible
3rd:	Failed to judge other persons path or speed	Vehicle 1	Possible
4th:	Sudden braking	Vehicle 1	Possible
5th:			
6th:			

VEH 2 (TAXI) TRAVELLING W OUT OF NUMBER 358 TOO FAST, ENTERED ONTO A3 LONDON ROAD INTO THE PATH OF VEH 1 (P/CYCLE) TRAVELLING N ALONG THE CYCLE LANE ON THE EASTSIDE OF A3 LONDON ROAD. VEH 1 BRAKED HARD CAUSING CAS 1 (RIDER) TO GO OVER HANDLEBARS.
Occurred on A3 LONDON ROAD AT JUNCTION WITH NUMBER 358, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Pedal Cycle Going ahead other
Vehicle movement from S to N No tow / articulation Leaving the main road
Cycle lane (on main carriageway) No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or n First impact Offside Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 42 Female
Not hit and run Breath test Not applicable
Left hand drive:
Casualty Reference: 1 Vehicle: 1 Age: 42 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Vehicle Reference 2 Taxi/Private hire car Starting
Vehicle movement from E to W No tow / articulation Leaving the main road
Cycle lane (on main carriageway) No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or n First impact Front Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Not requested
Left hand drive:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

120037122 26/01/2012 Time 1534 Vehicles 2 Casualties 1 Slight
E:469019 N: 109180 First Road: B 2150 Road Type Dual carriageway
Speed limit: 40 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation			
Factor:		Participant:	Confidence:
1st:	Following too close	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING W ALONG B2150 HULBERT ROAD COLLIDED WITH REAR OF VEH 2 (CAR)
STATIONARY AT RBT AHEAD.

Occurred on B2150 HULBERT ROAD AT JUNCTION WITH FRENDSSTAPLE ROAD, WATERLOOVILLE,
HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle: 2
Hit object in road None Off road: None
Did not leave carr Age of Driver 35 Male
Not hit and run Breath test Driver not contacted
Left hand drive:

Vehicle Reference 2 Car Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle: 1
Hit object in road None Off road: None
Did not leave carr Age of Driver 29 Female
Not hit and run Breath test Driver not contacted
Left hand drive:

Casualty Reference: 1 Vehicle: 2 Age: 29 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

120060153 12/02/2012 Time 1439 Vehicles 1 Casualties 2 Serious
E:468713 N: 109457 First Road: U Road Type Dual carriageway
Speed limit: 40 Junction Detail: Not within 20m of junction
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Exceeding speed limit	Vehicle 1	Very Likely	
2nd: Loss of control	Vehicle 1	Very Likely	
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING E ALONG HULBERT ROAD FAILS TO NEGOTIATE A SHALLOW RIGHT HAND BEND, MOUNTS CENTRAL RESERVATION COLLIDING WITH A LAMP POST. VEH 1 THEN CROSSES ONTO OPPOSING CARRIAGEWAY ENDING UP ON SOUTHERN VERGE.

Occurred on HULBERT ROAD 120 METRES SOUTH EAST OF WARFIELD AVENUE, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Going ahead right bend
Vehicle movement from W to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: Lamp post
O/S onto cent res & rebounded Age of Driver 29 Male
Not hit and run Breath test Negative Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 29 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Casualty Reference: 2 Vehicle: 1 Age: 20 Male Passenger Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet:
Front seat

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Notes:

Selected using Build Query : ; Refined using Accidents within
selected Polygons -RPU Statistics Request ("AB LONDON
ROAD/HULBERT ROAD")

090191428 04/05/2009 Time 1102 Vehicles 1 Casualties 1 Serious
E:468413 N: 109478 First Road: B 2150 Road Type Dual carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: Ped. phase at traffic signal junction Road surface Dry
Daylight:street lights present Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Impaired by alcohol	Vehicle 1	Possible	
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEHICLE 1 (CAR) TRAVELLING WEST ON HULBERT ROAD WHEN NEARSIDE FRONT WHEEL CLIPPED KERB
CAUSING VEH TO HIT CRASH BARRIER.

Occurred on B2150 HULBERT ROAD AT JUNCTION WITH CURZON ROAD, WATERLOOVILLE, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: Near / off crash barrier
Did not leave carr Age of Driver 52 Female
Not hit and run Breath test Not requested Left hand drive:

Casualty Reference: 1 Vehicle: 1 Age: 52 Female Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet:

Accidents between dates 01/03/2009 and 29/02/2012 (36) months

Selection:

Selected using Build Query : ; Refined using Accidents within selected Polygons -RPU Statistics Request ("AB LONDON ROAD/HULBERT ROAD")

Notes:

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	3	14	17
2-wheeled motor vehicles	0	1	0	1
Pedal cycles	0	0	3	3
Horses & other	0	0	0	0
Total	0	4	17	21

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	2	17	19
Passenger	0	1	4	5
Motorcycle rider	0	1	0	1
Cyclist	0	0	3	3
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	4	24	28

APPENDIX 9

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : M - MIXED PRIVATE/NON-PRIVATE HOUSING

MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

01	GREATER LONDON	
	NH NEWHAM	1 days
	WF WALTHAM FOREST	1 days
02	SOUTH EAST	
	ES EAST SUSSEX	1 days
	HF HERTFORDSHIRE	1 days
	KC KENT	1 days
	RE READING	1 days
	SC SURREY	3 days
03	SOUTH WEST	
	BR BRISTOL CITY	2 days
06	WEST MIDLANDS	
	HE HEREFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days
09	NORTH	
	CB CUMBRIA	1 days
10	WALES	
	CM CARMARTHENSHIRE	1 days
11	SCOTLAND	
	FA FALKIRK	1 days
14	LEINSTER	
	KD KILDARE	1 days
	KK KILKENNY	1 days

Parameter: Number of dwellings
Range: 14 to 500 (units:)

Selection by: Include all surveys

Selected survey days:

Monday	7 days
Tuesday	2 days
Wednesday	3 days
Thursday	6 days
Friday	2 days

Manual count	20 days
Directional ATC Count	0 days

Suburban Area (PPS6 Out of Centre)	11
Edge of Town	7
Neighbourhood Centre (PPS6 Local Centre)	2

Industrial Zone	1
Residential Zone	14
Built-Up Zone	1
Village	2
No Sub Category	2

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

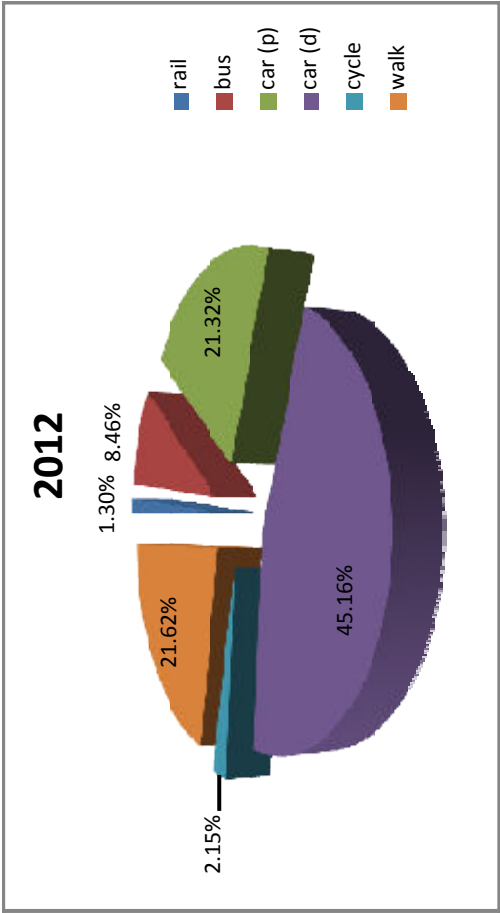
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	20	120	0.115	20	120	0.408	20	120	0.523
08:00 - 09:00	20	120	0.223	20	120	0.735	20	120	0.958
09:00 - 10:00	20	120	0.198	20	120	0.272	20	120	0.470
10:00 - 11:00	20	120	0.196	20	120	0.224	20	120	0.420
11:00 - 12:00	20	120	0.189	20	120	0.252	20	120	0.441
12:00 - 13:00	20	120	0.241	20	120	0.236	20	120	0.477
13:00 - 14:00	20	120	0.246	20	120	0.251	20	120	0.497
14:00 - 15:00	20	120	0.284	20	120	0.294	20	120	0.578
15:00 - 16:00	20	120	0.487	20	120	0.298	20	120	0.785
16:00 - 17:00	20	120	0.461	20	120	0.296	20	120	0.757
17:00 - 18:00	20	120	0.537	20	120	0.288	20	120	0.825
18:00 - 19:00	20	120	0.453	20	120	0.282	20	120	0.735
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			3.630			3.836			7.466

Parameter summary

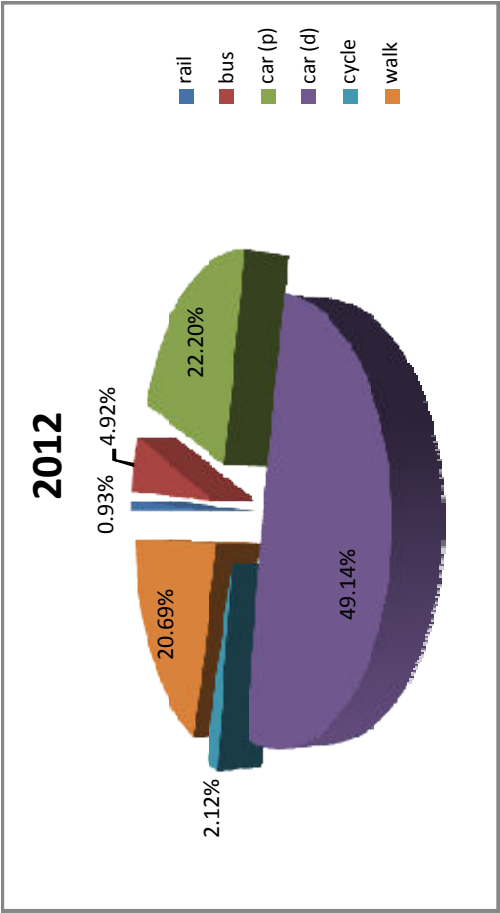
Trip rate parameter range selected: 14 - 500 (units:)
Survey date date range: 01/01/03 - 08/09/11
Number of weekdays (Monday-Friday): 20
Number of Saturdays: 0
Number of Sundays: 0
Surveys manually removed from selection: 0

APPENDIX 10

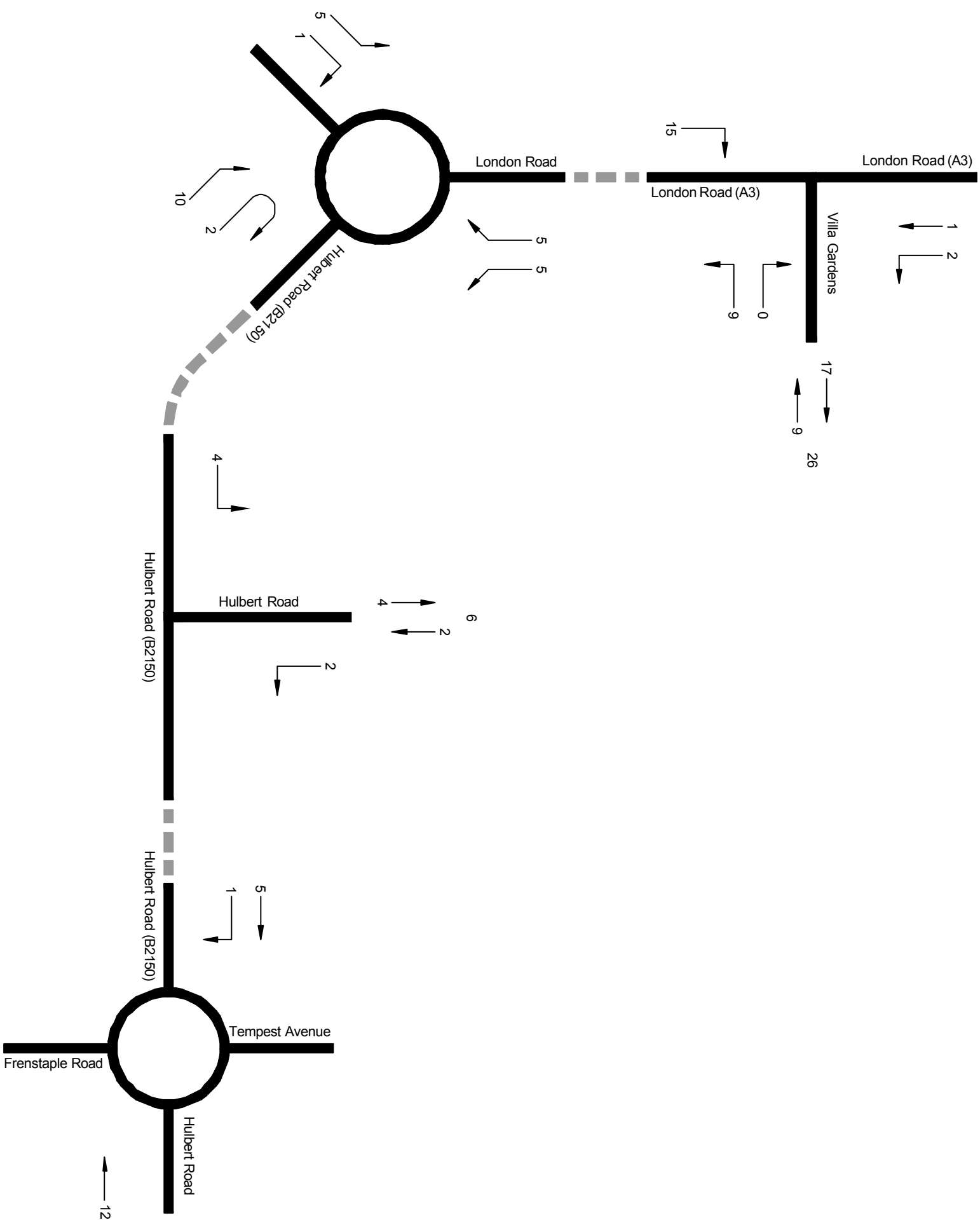
AM Peak		combined		rail		bus		car (p)		car (d)		cycle		walk	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2012 Peak	2012 Origin	27721	100.00%	504	1.82%	2331	8.41%	5568	20.09%	12558	45.30%	657	2.37%	6104	22.02%
	Desination	21226	100.00%	131	0.62%	1811	8.53%	4868	22.93%	9545	44.97%	394	1.86%	4477	21.09%
	2 way	48947	100.00%	635	1.30%	4142	8.46%	10436	21.32%	22103	45.16%	1051	2.15%	10581	21.62%



PM Peak		combined		rail		bus		car (p)		car (d)		cycle		walk	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2012 Origin	Desination	24265	100.00%	117	0.48%	1192	4.91%	5671	23.37%	11824	48.73%	467	1.92%	4993	20.58%
	2 way	28507	100.00%	375	1.32%	1404	4.93%	6043	21.20%	14109	49.49%	654	2.29%	5924	20.78%
		52772	100.00%	492	0.93%	2596	4.92%	11714	22.20%	25933	49.14%	1121	2.12%	10917	20.69%



APPENDIX 11



CLIENT	Linden Homes		
PROJECT	St. Michaels Convent, Waterbooville		
TITLE	PM Peak Development flows		
DRAWN BY	GPW	DESIGNER	-
DATE	24/05/12	CHK BY	ITR
SCALE	N.T.S. @ A3	DRAWING NO.	4140/413
		REV NO.	

APPENDIX 12

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL

Category : M - MIXED PRIVATE/NON-PRIVATE HOUSING

VEHICLES**Selected regions and areas:****09 NORTH**

CB CUMBRIA

1 days

10 WALES

WR WREXHAM

1 days

Filtering Stage 2 selection:

Parameter: Number of dwellings

Range: 44 to 285 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/03 to 08/09/11

Selected survey days:

Sunday

2 days

Selected survey types:

Manual count

2 days

Directional ATC Count

0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)

1

Edge of Town

1

Selected Location Sub Categories:

Residential Zone

1

Built-Up Zone

1

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

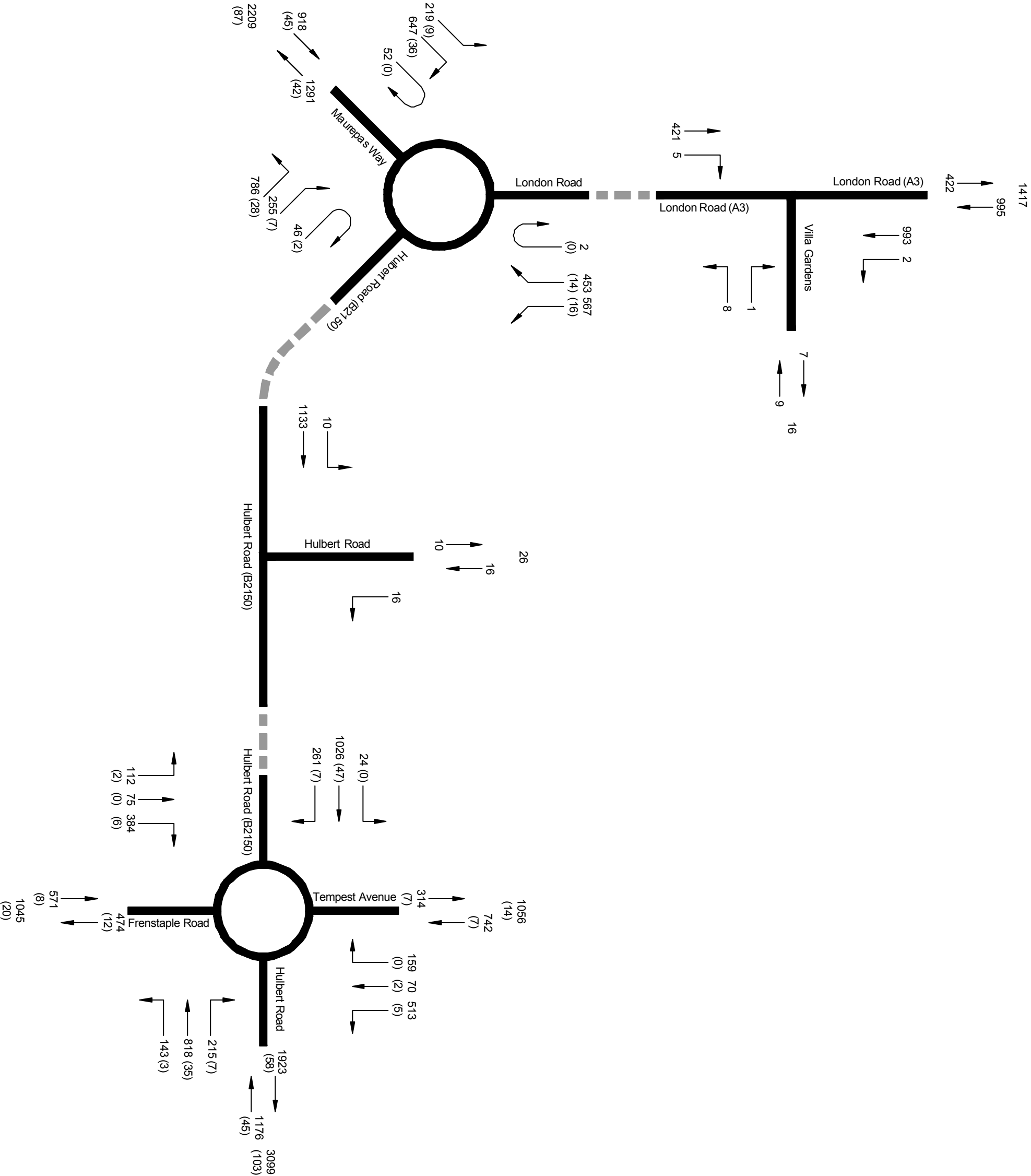
VEHICLES**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	2	165	0.012	2	165	0.015	2	165	0.027
08:00 - 09:00	2	165	0.033	2	165	0.043	2	165	0.076
09:00 - 10:00	2	165	0.058	2	165	0.079	2	165	0.137
10:00 - 11:00	2	165	0.106	2	165	0.143	2	165	0.249
11:00 - 12:00	2	165	0.097	2	165	0.112	2	165	0.209
12:00 - 13:00	2	165	0.134	2	165	0.158	2	165	0.292
13:00 - 14:00	2	165	0.122	2	165	0.094	2	165	0.216
14:00 - 15:00	2	165	0.119	2	165	0.140	2	165	0.259
15:00 - 16:00	2	165	0.164	2	165	0.146	2	165	0.310
16:00 - 17:00	2	165	0.125	2	165	0.103	2	165	0.228
17:00 - 18:00	2	165	0.137	2	165	0.109	2	165	0.246
18:00 - 19:00	2	165	0.185	2	165	0.173	2	165	0.358
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			1.292			1.315			2.607

Parameter summary

Trip rate parameter range selected: 44 - 285 (units:)
 Survey date date range: 01/01/03 - 08/09/11
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 0
 Number of Sundays: 2
 Surveys manually removed from selection: 0

APPENDIX 13

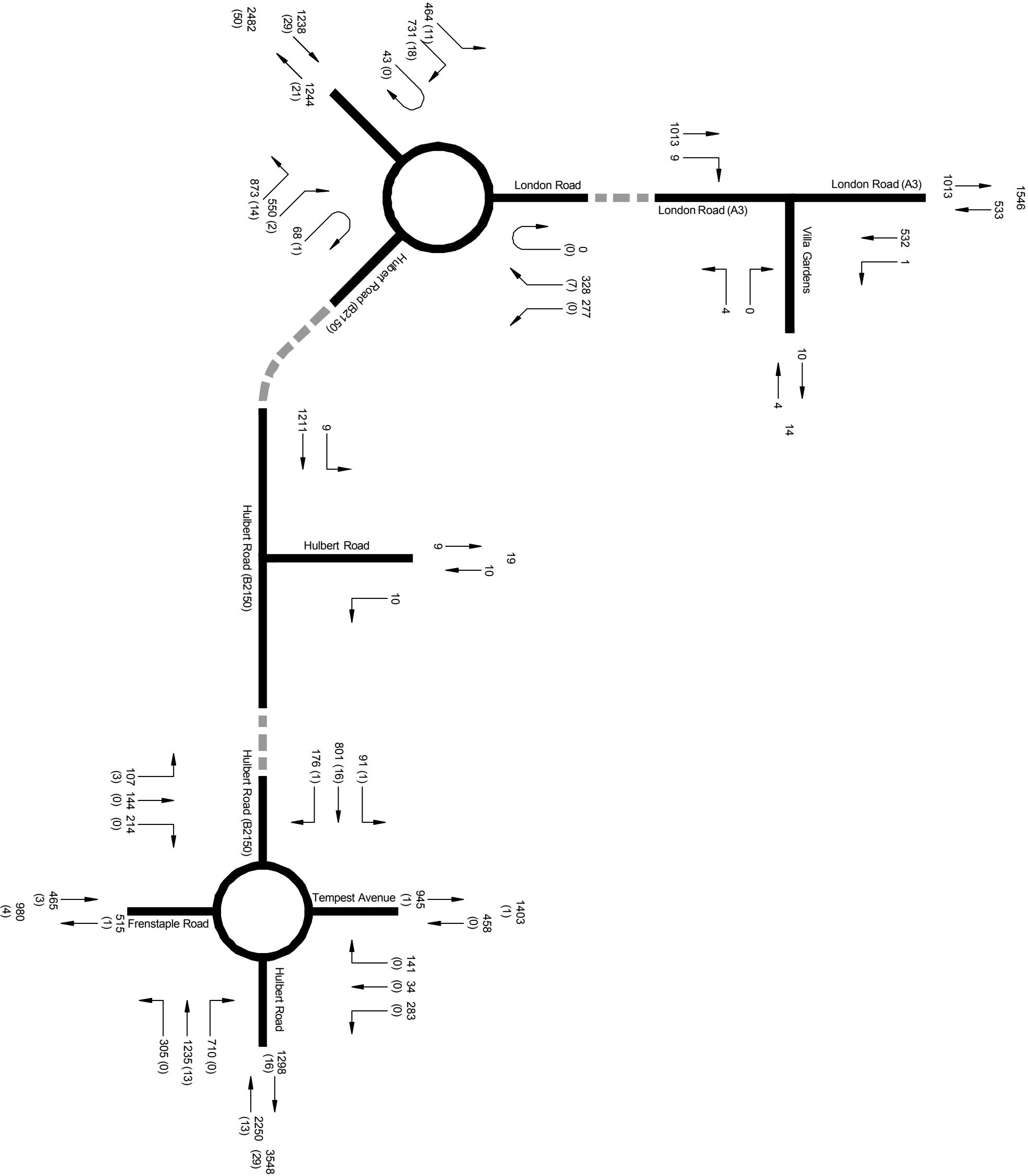


Notes



Clover House
 Western Lane
 Odham
 Hampshire, RG29 1TU
 Tel: 01256 703355
 Fax: 01256 704934
 Email: info@bellamyroberts.co.uk

CLIENT			
Linden Homes			
PROJECT			
St. Michael's Convent, Waterloooville			
TITLE			
AM Peak 2012 Base flows			
DRAWN BY	DESIGNER	CHECK BY	ITR
GPW	-		
DATE	DRAWING NO.		
24/05/12	4140 / 405		
SCALE	REV. NO.		
N.T.S. @ A3			



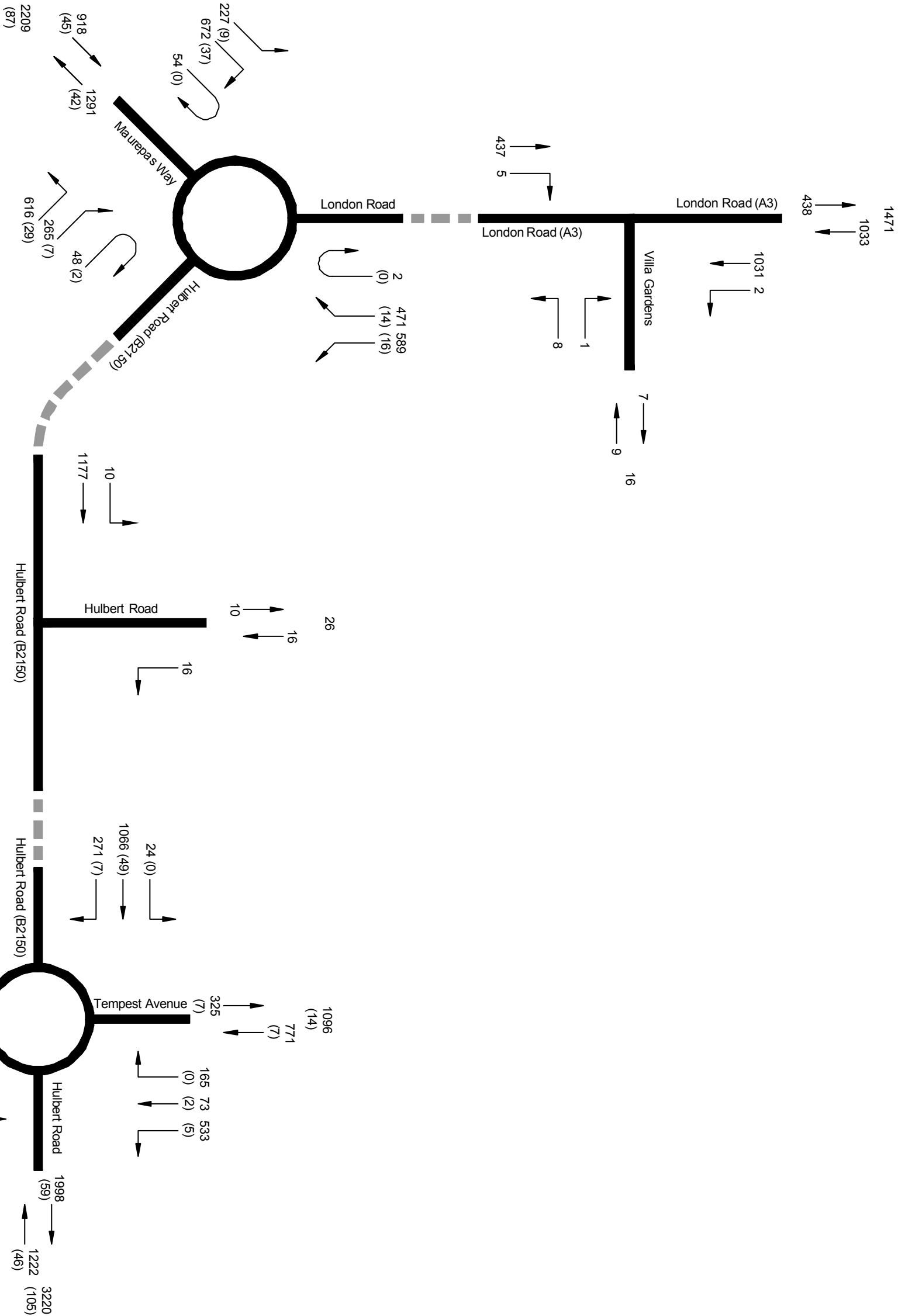
Notes



Clover House
Western Lane
Odiham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

CLIENT		
Linden Homes		
PROJECT		
St. Michael's Convent, Waterloooville		
TITLE		
PM Peak 2012 Base flows		
DRAWN BY	DESIGNER	CHECK BY
GPW	-	ITR
DATE	DRAWING NO.	
24/05/12	4140 / 406	
SCALE	REV. NO.	
N.T.S. @ A3		

APPENDIX 14

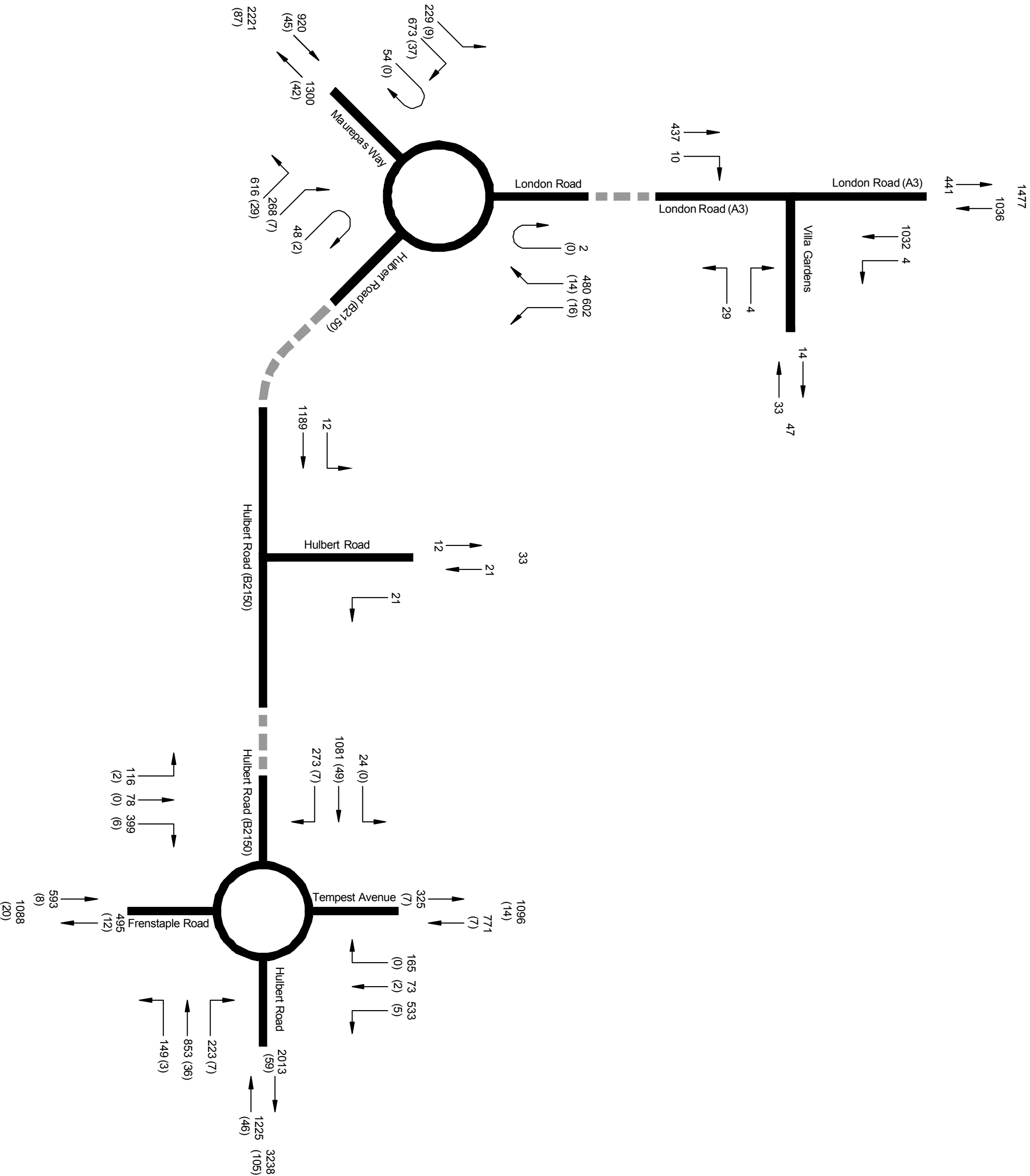


Notes

CLIENT			
Linden Homes			
PROJECT			
St. Michael's Convent, Waterloooville			
TITLE			
AM Peak 2017 Base flows			
DRAWN BY	DESIGNER	CHECK BY	ITR
GPW	-		
DATE	DRAWING NO.		
24/05/12	4140 / 407		
SCALE	REV. NO.		
N.T.S. @ A3			



Clover House
 Western Lane
 Odham
 Hampshire, RG29 1TU
 Tel: 01256 703355
 Fax: 01256 704934
 Email: info@bellamyroberts.co.uk



Notes



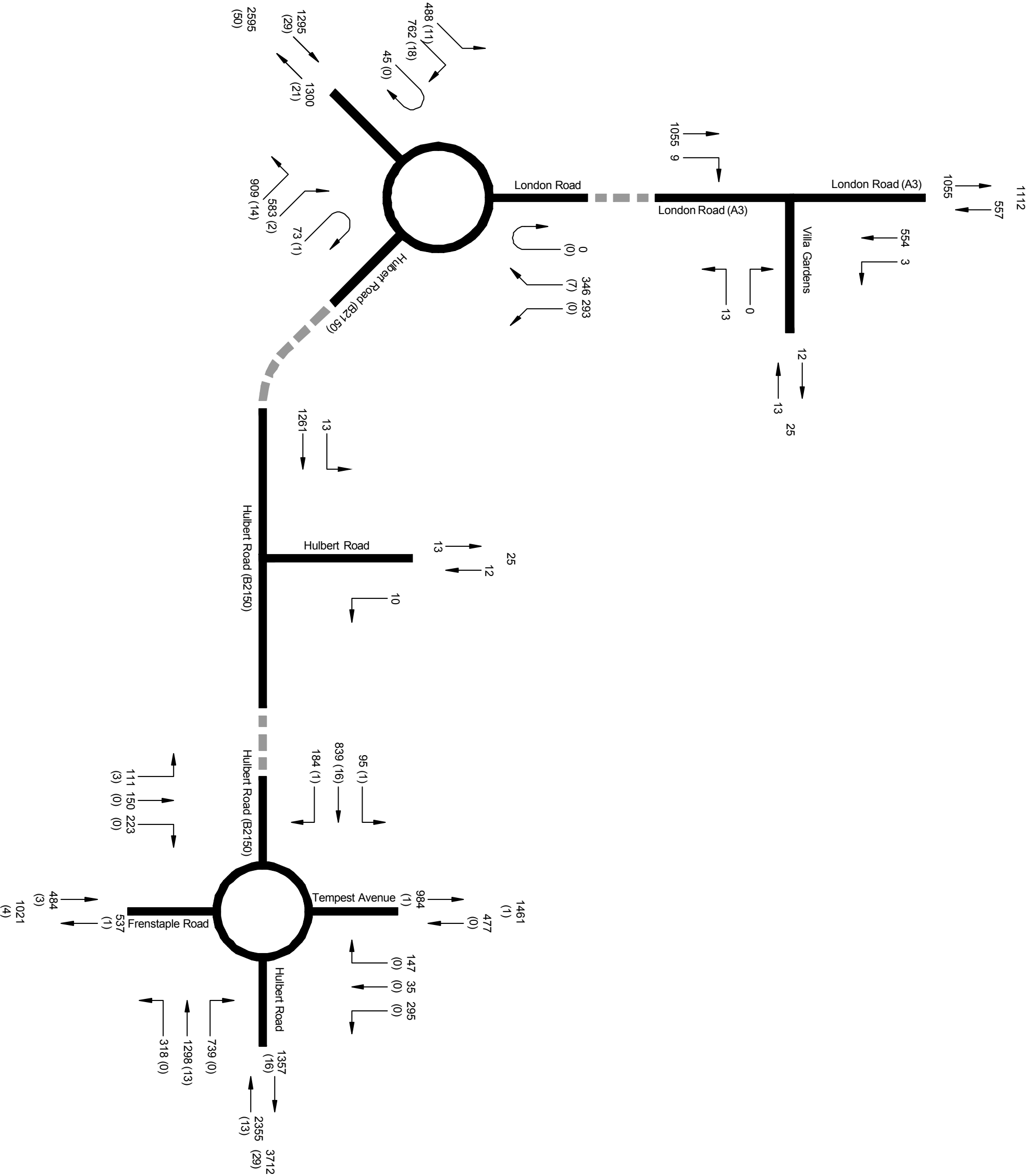
Clover House
Western Lane
Odham
Hampshire, RG29 1TU
Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

CLIENT
Linden Homes

PROJECT
St. Michael's Convent, Waterloooville

TITLE
AM Peak
2017 with development flows

DRAWN BY GPW	DESIGNED BY -	CHECKED BY ITR
DATE 24/05/12	DRAWING NO. 4140 / 409	REV. NO.
SCALE N.T.S. @ A3		



Notes

 Clover House Western Lane Odham Hampshire, RG29 1TU Tel: 01256 703355 Fax: 01256 704934 Email: info@bellamyroberts.co.uk		
CLIENT Linden Homes		
PROJECT St. Michael's Convent, Waterloooville		
TITLE PM Peak 2017 with development flows		
DRAWN BY GPW	DESIGNED BY -	CHECK BY ITR
DATE 24/05/12	DRAWING NO. 4140 / 410	
SCALE N.T.S. @ A3	REV. NO.	

APPENDIX 15

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-A3-2012-AM.vai

At: 17:09:17 on Wednesday, May 16, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Maurepas Way (A3)
Arm B	London Road (A3)
Arm C	Hulbert Road (B2150)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2012 AM Peak
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	7.70	3.80	7.10
Entry Width (m)	9.80	8.30	7.10
Flare Length (m)	11.80	17.40	0.00
Entry Radius (m)	50.00	37.30	28.00
Inscribed Circle Diameter (m)	35.00	30.00	35.00
Entry Angle (degrees)	21.00	35.00	25.00
Slope	0.914	0.702	0.766
Intercept (PCU/Min)	48.406	31.793	36.978

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

From/To	Arm A	Arm B	Arm C
Arm A	52.0	219.0	647.0
Arm B	453.0	2.0	0.0
Arm C	786.0	255.0	46.0

Entry Flow Data for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	11.48	17.21	11.48
Arm B	15.00	45.00	75.00	5.69	8.53	5.69
Arm C	15.00	45.00	75.00	13.59	20.38	13.59

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	4.1	5.6
	Arm B	5.5	0.0	0.0
	Arm C	3.6	2.7	4.3

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	11.48	42.75	0.268	-	0.0	0.4	5.4	-	0.03
	Arm B	5.69	23.64	0.241	-	0.0	0.3	4.6	-	0.06
	Arm C	13.59	30.85	0.440	-	0.0	0.8	11.4	-	0.06
Segment : 2 - 08:00 to 08:15	Arm A	13.70	42.08	0.326	-	0.4	0.5	7.1	-	0.04
	Arm B	6.79	22.37	0.304	-	0.3	0.4	6.4	-	0.06
	Arm C	16.22	29.88	0.543	-	0.8	1.2	17.2	-	0.07
Segment : 3 - 08:15 to 08:30	Arm A	16.78	41.18	0.407	-	0.5	0.7	10.1	-	0.04
	Arm B	8.32	20.62	0.403	-	0.4	0.7	9.8	-	0.08
	Arm C	19.87	28.56	0.696	-	1.2	2.2	31.8	-	0.11
Segment : 4 - 08:30 to 08:45	Arm A	16.78	41.17	0.408	-	0.7	0.7	10.3	-	0.04
	Arm B	8.32	20.61	0.404	-	0.7	0.7	10.1	-	0.08
	Arm C	19.87	28.55	0.696	-	2.2	2.3	33.7	-	0.12
Segment : 5 - 08:45 to 09:00	Arm A	13.70	42.06	0.326	-	0.7	0.5	7.4	-	0.04
	Arm B	6.79	22.35	0.304	-	0.7	0.4	6.7	-	0.06
	Arm C	16.22	29.86	0.543	-	2.3	1.2	18.7	-	0.07
Segment : 6 - 09:00 to 09:15	Arm A	11.48	42.73	0.269	-	0.5	0.4	5.6	-	0.03
	Arm B	5.69	23.62	0.241	-	0.4	0.3	4.9	-	0.06
	Arm C	13.59	30.82	0.441	-	1.2	0.8	12.2	-	0.06

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1258.8	839.2	45.9	0.04	45.9	0.04
B	623.9	415.9	42.5	0.07	42.5	0.07
C	1490.5	993.7	124.9	0.08	124.9	0.08
ALL	3373.2	2248.8	213.3	0.06	213.3	0.06

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-A3-2012-PM.vai

At: 17:23:36 on Wednesday, May 16, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Maurepas Way (A3)
Arm B	London Road (A3)
Arm C	Hulbert Road (B2150)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2012 PM Peak
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	7.70	3.80	7.10
Entry Width (m)	9.80	8.30	7.10
Flare Length (m)	11.80	17.40	0.00
Entry Radius (m)	50.00	37.30	28.00
Inscribed Circle Diameter (m)	35.00	30.00	35.00
Entry Angle (degrees)	21.00	35.00	25.00
Slope	0.914	0.702	0.766
Intercept (PCU/Min)	48.406	31.793	36.978

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

From/To	Arm A	Arm B	Arm C
Arm A	43.0	464.0	731.0
Arm B	328.0	2.0	0.0
Arm C	873.0	550.0	68.0

Entry Flow Data for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	15.48	23.21	15.48
Arm B	15.00	45.00	75.00	4.13	6.19	4.13
Arm C	15.00	45.00	75.00	18.64	27.96	18.64

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	2.4	2.5
	Arm B	2.1	0.0	0.0
	Arm C	1.6	0.4	1.5

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 16:45 to 17:00	Arm A	15.48	40.36	0.383	-	0.0	0.6	9.1	-	0.04
	Arm B	4.13	23.76	0.174	-	0.0	0.2	3.1	-	0.05
	Arm C	18.64	32.97	0.565	-	0.0	1.3	18.6	-	0.07
Segment : 2 - 17:00 to 17:15	Arm A	18.48	39.00	0.474	-	0.6	0.9	13.2	-	0.05
	Arm B	4.93	22.31	0.221	-	0.2	0.3	4.2	-	0.06
	Arm C	22.25	32.27	0.690	-	1.3	2.2	31.2	-	0.10
Segment : 3 - 17:15 to 17:30	Arm A	22.63	37.21	0.608	-	0.9	1.5	22.3	-	0.07
	Arm B	6.03	20.34	0.297	-	0.3	0.4	6.2	-	0.07
	Arm C	27.26	31.30	0.871	-	2.2	6.0	79.1	-	0.22
Segment : 4 - 17:30 to 17:45	Arm A	22.63	37.12	0.610	-	1.5	1.6	23.2	-	0.07
	Arm B	6.03	20.32	0.297	-	0.4	0.4	6.3	-	0.07
	Arm C	27.26	31.30	0.871	-	6.0	6.4	93.6	-	0.24
Segment : 5 - 17:45 to 18:00	Arm A	18.48	38.87	0.475	-	1.6	0.9	14.0	-	0.05
	Arm B	4.93	22.27	0.221	-	0.4	0.3	4.4	-	0.06
	Arm C	22.25	32.25	0.690	-	6.4	2.3	37.0	-	0.11
Segment : 6 - 18:00 to 18:15	Arm A	15.48	40.30	0.384	-	0.9	0.6	9.5	-	0.04
	Arm B	4.13	23.73	0.174	-	0.3	0.2	3.2	-	0.05
	Arm C	18.64	32.95	0.566	-	2.3	1.3	20.4	-	0.07

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1697.6	1131.7	91.3	0.05	91.3	0.05
B	452.5	301.7	27.3	0.06	27.3	0.06
C	2044.5	1363.0	279.9	0.14	279.9	0.14
ALL	4194.5	2796.4	398.5	0.10	398.5	0.10

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-other-2012-AM.vai

At: 15:48:22 on Thursday, May 24, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Hulbert Road (West)
Arm B	Tempest Ave
Arm C	Hulbert Road (East)
Arm D	Fredstaple Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Hulbert Road, Tempest Ave & Fredstaple Road Junction - AM Peak - 2012
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	7.00	3.25	7.70	3.40
Entry Width (m)	7.40	8.00	8.20	7.80
Flare Length (m)	14.50	10.70	5.00	11.20
Entry Radius (m)	29.00	15.00	21.00	30.00
Inscribed Circle Diameter (m)	70.00	70.00	70.00	70.00
Entry Angle (degrees)	8.00	12.00	14.00	30.00
Slope	0.643	0.509	0.659	0.501
Intercept (PCU/Min)	40.611	27.537	43.158	27.455

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	24.0	1026.0	261.0
Arm B	159.0	0.0	513.0	70.0
Arm C	818.0	215.0	0.0	143.0
Arm D	112.0	75.0	384.0	0.0

Entry Flow Data for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	16.39	24.58	16.39
Arm B	15.00	45.00	75.00	9.27	13.91	9.27
Arm C	15.00	45.00	75.00	14.70	22.05	14.70
Arm D	15.00	45.00	75.00	7.14	10.71	7.14

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	4.6	2.7
	Arm B	0.0	0.0	1.0	2.9
	Arm C	4.3	3.3	0.0	2.1
	Arm D	1.8	0.0	0.9	0.0

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	16.39	33.74	0.486	-	0.0	0.9	13.7	-	0.06
	Arm B	9.27	16.42	0.565	-	0.0	1.3	18.0	-	0.14
	Arm C	14.70	37.62	0.391	-	0.0	0.6	9.4	-	0.04
	Arm D	7.14	19.56	0.365	-	0.0	0.6	8.3	-	0.08
Segment : 2 - 08:00 to 08:15	Arm A	19.57	32.70	0.598	-	0.9	1.5	21.4	-	0.08
	Arm B	11.08	14.29	0.775	-	1.3	3.2	42.4	-	0.29
	Arm C	17.55	36.86	0.476	-	0.6	0.9	13.3	-	0.05
	Arm D	8.52	18.07	0.472	-	0.6	0.9	12.8	-	0.10
Segment : 3 - 08:15 to 08:30	Arm A	23.97	31.30	0.766	-	1.5	3.2	44.0	-	0.13
	Arm B	13.56	11.42	1.188	-	3.2	38.1	320.7	-	2.09
	Arm C	21.50	36.24	0.593	-	0.9	1.4	21.0	-	0.07
	Arm D	10.44	16.26	0.642	-	0.9	1.7	24.5	-	0.17
Segment : 4 - 08:30 to 08:45	Arm A	23.97	31.27	0.766	-	3.2	3.2	47.9	-	0.14
	Arm B	13.56	11.34	1.196	-	38.1	71.7	824.5	-	4.81
	Arm C	21.50	36.21	0.594	-	1.4	1.5	21.7	-	0.07
	Arm D	10.44	16.23	0.643	-	1.7	1.8	26.4	-	0.17
Segment : 5 - 08:45 to 09:00	Arm A	19.57	32.65	0.599	-	3.2	1.5	23.7	-	0.08
	Arm B	11.08	14.19	0.781	-	71.7	28.0	747.9	-	3.60
	Arm C	17.55	36.24	0.484	-	1.5	0.9	14.5	-	0.05
	Arm D	8.52	17.72	0.481	-	1.8	0.9	14.7	-	0.11
Segment : 6 - 09:00 to 09:15	Arm A	16.39	33.70	0.486	-	1.5	1.0	14.7	-	0.06
	Arm B	9.27	16.35	0.567	-	28.0	1.3	75.5	-	0.26
	Arm C	14.70	37.24	0.395	-	0.9	0.7	10.0	-	0.04
	Arm D	7.14	19.34	0.369	-	0.9	0.6	9.1	-	0.08

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1797.7	1198.4	165.3	0.09	165.3	0.09
B	1017.4	678.3	2029.0	1.99	2029.1	1.99
C	1612.5	1075.0	89.9	0.06	89.9	0.06
D	783.0	522.0	95.8	0.12	95.8	0.12
ALL	5210.6	3473.7	2380.0	0.46	2380.1	0.46

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-other-2012-PM.vai

At: 17:22:25 on Wednesday, May 16, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Hulbert Road (West)
Arm B	Tempest Ave
Arm C	Hulbert Road (East)
Arm D	Fredstaple Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Hulbert Road, Tempest Ave & Fredstaple Road Junction - PM Peak - 2012
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	7.00	3.25	7.70	3.40
Entry Width (m)	7.40	8.00	8.20	7.80
Flare Length (m)	14.50	10.70	5.00	11.20
Entry Radius (m)	29.00	15.00	21.00	30.00
Inscribed Circle Diameter (m)	70.00	70.00	70.00	70.00
Entry Angle (degrees)	8.00	12.00	14.00	30.00
Slope	0.643	0.509	0.659	0.501
Intercept (PCU/Min)	40.611	27.537	43.158	27.455

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	92.0	800.0	176.0
Arm B	141.0	0.0	283.0	34.0
Arm C	1235.0	710.0	0.0	305.0
Arm D	107.0	144.0	214.0	0.0

Entry Flow Data for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	13.35	20.03	13.35
Arm B	15.00	45.00	75.00	5.72	8.59	5.72
Arm C	15.00	45.00	75.00	28.13	42.19	28.13
Arm D	15.00	45.00	75.00	5.81	8.72	5.81

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	1.1	2.0	0.6
	Arm B	0.0	0.0	0.0	0.0
	Arm C	1.1	0.0	0.0	0.0
	Arm D	2.8	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	13.35	31.54	0.423	-	0.0	0.7	10.7	-	0.05
	Arm B	5.72	19.89	0.288	-	0.0	0.4	5.9	-	0.07
	Arm C	28.13	40.03	0.703	-	0.0	2.3	33.0	-	0.08
	Arm D	5.81	14.28	0.407	-	0.0	0.7	9.7	-	0.12
Segment : 2 - 08:00 to 08:15	Arm A	15.94	29.92	0.533	-	0.7	1.1	16.5	-	0.07
	Arm B	6.84	18.39	0.372	-	0.4	0.6	8.6	-	0.09
	Arm C	33.58	39.46	0.851	-	2.3	5.3	72.3	-	0.16
	Arm D	6.94	11.76	0.590	-	0.7	1.4	19.6	-	0.20
Segment : 3 - 08:15 to 08:30	Arm A	19.52	28.33	0.689	-	1.1	2.2	30.8	-	0.11
	Arm B	8.37	16.41	0.510	-	0.6	1.0	14.8	-	0.12
	Arm C	41.13	38.70	1.063	-	5.3	49.9	440.5	-	0.86
	Arm D	8.50	9.46	0.899	-	1.4	6.0	69.9	-	0.67
Segment : 4 - 08:30 to 08:45	Arm A	19.52	28.15	0.693	-	2.2	2.2	33.1	-	0.12
	Arm B	8.37	16.34	0.512	-	1.0	1.0	15.5	-	0.13
	Arm C	41.13	38.68	1.063	-	49.9	88.1	1036.9	-	1.89
	Arm D	8.50	9.27	0.917	-	6.0	7.7	104.8	-	0.97
Segment : 5 - 08:45 to 09:00	Arm A	15.94	28.64	0.557	-	2.2	1.3	19.7	-	0.08
	Arm B	6.84	18.26	0.374	-	1.0	0.6	9.3	-	0.09
	Arm C	33.58	39.44	0.851	-	88.1	8.3	712.4	-	1.29
	Arm D	6.94	9.36	0.741	-	7.7	3.1	57.5	-	0.52
Segment : 6 - 09:00 to 09:15	Arm A	13.35	31.33	0.426	-	1.3	0.7	11.5	-	0.06
	Arm B	5.72	19.80	0.289	-	0.6	0.4	6.3	-	0.07
	Arm C	28.13	40.01	0.703	-	8.3	2.4	39.9	-	0.09
	Arm D	5.81	14.04	0.414	-	3.1	0.7	11.8	-	0.13

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1464.5	976.3	122.3	0.08	122.3	0.08
B	628.0	418.7	60.3	0.10	60.4	0.10
C	3085.2	2056.8	2335.0	0.76	2335.1	0.76
D	637.6	425.1	273.3	0.43	273.3	0.43
ALL	5815.3	3876.9	2790.9	0.48	2791.0	0.48

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-A3-2017-AM.vai
 At: 15:28:16 on Thursday, May 24, 2012
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Maurepas Way (A3)
Arm B	London Road (A3)
Arm C	Hulbert Road (B2150)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2017 AM Peak
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	7.70	3.80	7.10
Entry Width (m)	9.80	8.30	7.10
Flare Length (m)	11.80	17.40	0.00
Entry Radius (m)	50.00	37.30	28.00
Inscribed Circle Diameter (m)	35.00	30.00	35.00
Entry Angle (degrees)	21.00	35.00	25.00
Slope	0.914	0.702	0.766
Intercept (PCU/Min)	48.406	31.793	36.978

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

From/To	Arm A	Arm B	Arm C
Arm A	54.0	227.0	672.0
Arm B	471.0	2.0	0.0
Arm C	616.0	265.0	48.0

Entry Flow Data for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	11.91	17.87	11.91
Arm B	15.00	45.00	75.00	5.91	8.87	5.91
Arm C	15.00	45.00	75.00	11.61	17.42	11.61

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	4.1	5.6
	Arm B	5.5	0.0	0.0
	Arm C	3.6	2.7	4.3

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	11.91	42.62	0.280	-	0.0	0.4	5.7	-	0.03
	Arm B	5.91	23.39	0.253	-	0.0	0.3	4.9	-	0.06
	Arm C	11.61	30.66	0.379	-	0.0	0.6	8.9	-	0.05
Segment : 2 - 08:00 to 08:15	Arm A	14.22	41.92	0.339	-	0.4	0.5	7.6	-	0.04
	Arm B	7.06	22.06	0.320	-	0.3	0.5	6.9	-	0.07
	Arm C	13.87	29.66	0.468	-	0.6	0.9	12.8	-	0.06
Segment : 3 - 08:15 to 08:30	Arm A	17.42	40.98	0.425	-	0.5	0.7	10.9	-	0.04
	Arm B	8.65	20.25	0.427	-	0.5	0.7	10.8	-	0.09
	Arm C	16.98	28.29	0.600	-	0.9	1.5	21.4	-	0.09
Segment : 4 - 08:30 to 08:45	Arm A	17.42	40.97	0.425	-	0.7	0.7	11.1	-	0.04
	Arm B	8.65	20.24	0.427	-	0.7	0.7	11.1	-	0.09
	Arm C	16.98	28.28	0.601	-	1.5	1.5	22.3	-	0.09
Segment : 5 - 08:45 to 09:00	Arm A	14.22	41.91	0.339	-	0.7	0.5	7.8	-	0.04
	Arm B	7.06	22.05	0.320	-	0.7	0.5	7.3	-	0.07
	Arm C	13.87	29.64	0.468	-	1.5	0.9	13.6	-	0.06
Segment : 6 - 09:00 to 09:15	Arm A	11.91	42.60	0.280	-	0.5	0.4	5.9	-	0.03
	Arm B	5.91	23.37	0.253	-	0.5	0.3	5.2	-	0.06
	Arm C	11.61	30.64	0.379	-	0.9	0.6	9.4	-	0.05

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1306.8	871.2	49.0	0.04	49.0	0.04
B	648.6	432.4	46.2	0.07	46.2	0.07
C	1273.9	849.2	88.4	0.07	88.4	0.07
ALL	3229.2	2152.8	183.6	0.06	183.6	0.06

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-A3-2017-PM.vai

At: 15:30:01 on Thursday, May 24, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Maurepas Way (A3)
Arm B	London Road (A3)
Arm C	Hulbert Road (B2150)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2017 PM Peak
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	7.70	3.80	7.10
Entry Width (m)	9.80	8.30	7.10
Flare Length (m)	11.80	17.40	0.00
Entry Radius (m)	50.00	37.30	28.00
Inscribed Circle Diameter (m)	35.00	30.00	35.00
Entry Angle (degrees)	21.00	35.00	25.00
Slope	0.914	0.702	0.766
Intercept (PCU/Min)	48.406	31.793	36.978

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

From/To	Arm A	Arm B	Arm C
Arm A	45.0	483.0	761.0
Arm B	341.0	0.0	0.0
Arm C	909.0	573.0	71.0

Entry Flow Data for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	16.11	24.17	16.11
Arm B	15.00	45.00	75.00	4.26	6.39	4.26
Arm C	15.00	45.00	75.00	19.41	29.12	19.41

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	2.4	2.5
	Arm B	2.1	0.0	0.0
	Arm C	1.6	0.4	1.5

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 16:45 to 17:00	Arm A	16.11	40.09	0.402	-	0.0	0.7	9.8	-	0.04
	Arm B	4.26	23.45	0.182	-	0.0	0.2	3.3	-	0.05
	Arm C	19.41	32.85	0.591	-	0.0	1.4	20.6	-	0.07
Segment : 2 - 17:00 to 17:15	Arm A	19.24	38.68	0.497	-	0.7	1.0	14.5	-	0.05
	Arm B	5.09	21.94	0.232	-	0.2	0.3	4.4	-	0.06
	Arm C	23.18	32.12	0.722	-	1.4	2.5	36.0	-	0.11
Segment : 3 - 17:15 to 17:30	Arm A	23.56	36.86	0.639	-	1.0	1.7	25.3	-	0.07
	Arm B	6.23	19.90	0.313	-	0.3	0.5	6.7	-	0.07
	Arm C	28.39	31.12	0.912	-	2.5	8.5	105.2	-	0.29
Segment : 4 - 17:30 to 17:45	Arm A	23.56	36.74	0.641	-	1.7	1.8	26.5	-	0.08
	Arm B	6.23	19.87	0.314	-	0.5	0.5	6.8	-	0.07
	Arm C	28.39	31.11	0.913	-	8.5	9.3	134.2	-	0.35
Segment : 5 - 17:45 to 18:00	Arm A	19.24	38.49	0.500	-	1.8	1.0	15.5	-	0.05
	Arm B	5.09	21.90	0.232	-	0.5	0.3	4.6	-	0.06
	Arm C	23.18	32.10	0.722	-	9.3	2.7	45.6	-	0.12
Segment : 6 - 18:00 to 18:15	Arm A	16.11	40.03	0.403	-	1.0	0.7	10.3	-	0.04
	Arm B	4.26	23.42	0.182	-	0.3	0.2	3.4	-	0.05
	Arm C	19.41	32.83	0.591	-	2.7	1.5	22.8	-	0.08

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1767.5	1178.3	101.9	0.06	101.9	0.06
B	467.6	311.7	29.2	0.06	29.2	0.06
C	2129.5	1419.7	364.4	0.17	364.4	0.17
ALL	4364.6	2909.7	495.5	0.11	495.5	0.11

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-other-2017-AM.vai

At: 15:54:36 on Thursday, May 24, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Hulbert Road (West)
Arm B	Tempest Ave
Arm C	Hulbert Road (East)
Arm D	Fredstaple Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Hulbert Road, Tempest Ave & Fredstaple Road Junction - AM Peak - 2017
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	7.00	3.25	7.70	3.40
Entry Width (m)	7.40	8.00	8.20	7.80
Flare Length (m)	14.50	10.70	5.00	11.20
Entry Radius (m)	29.00	15.00	21.00	30.00
Inscribed Circle Diameter (m)	70.00	70.00	70.00	70.00
Entry Angle (degrees)	8.00	12.00	14.00	30.00
Slope	0.643	0.509	0.659	0.501
Intercept (PCU/Min)	40.611	27.537	43.158	27.455

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	24.0	1066.0	271.0
Arm B	165.0	0.0	533.0	73.0
Arm C	850.0	233.0	0.0	149.0
Arm D	116.0	78.0	399.0	0.0

Entry Flow Data for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	17.01	25.52	17.01
Arm B	15.00	45.00	75.00	9.64	14.46	9.64
Arm C	15.00	45.00	75.00	15.40	23.10	15.40
Arm D	15.00	45.00	75.00	7.41	11.12	7.41

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	4.6	2.7
	Arm B	0.0	0.0	1.0	2.9
	Arm C	4.3	3.3	0.0	2.1
	Arm D	1.8	0.0	0.9	0.0

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	17.01	33.45	0.509	-	0.0	1.0	14.9	-	0.06
	Arm B	9.64	16.00	0.602	-	0.0	1.5	20.7	-	0.15
	Arm C	15.40	37.47	0.411	-	0.0	0.7	10.2	-	0.05
	Arm D	7.41	19.21	0.386	-	0.0	0.6	9.0	-	0.08
Segment : 2 - 08:00 to 08:15	Arm A	20.31	32.36	0.628	-	1.0	1.7	24.1	-	0.08
	Arm B	11.51	13.79	0.835	-	1.5	4.4	56.0	-	0.38
	Arm C	18.39	36.69	0.501	-	0.7	1.0	14.7	-	0.05
	Arm D	8.85	17.65	0.501	-	0.6	1.0	14.3	-	0.11
Segment : 3 - 08:15 to 08:30	Arm A	24.88	30.89	0.805	-	1.7	3.9	53.8	-	0.16
	Arm B	14.09	10.83	1.302	-	4.4	54.8	450.1	-	3.00
	Arm C	22.52	36.23	0.622	-	1.0	1.6	23.6	-	0.07
	Arm D	10.84	15.84	0.684	-	1.0	2.1	29.0	-	0.19
Segment : 4 - 08:30 to 08:45	Arm A	24.88	30.85	0.806	-	3.9	4.0	60.0	-	0.17
	Arm B	14.09	10.73	1.314	-	54.8	105.4	1201.9	-	7.10
	Arm C	22.52	36.21	0.622	-	1.6	1.6	24.4	-	0.07
	Arm D	10.84	15.83	0.685	-	2.1	2.1	31.7	-	0.20
Segment : 5 - 08:45 to 09:00	Arm A	20.31	32.31	0.629	-	4.0	1.7	27.1	-	0.09
	Arm B	11.51	13.65	0.843	-	105.4	75.2	1354.3	-	6.53
	Arm C	18.39	36.23	0.508	-	1.6	1.0	16.0	-	0.06
	Arm D	8.85	17.39	0.509	-	2.1	1.1	16.5	-	0.12
Segment : 6 - 09:00 to 09:15	Arm A	17.01	33.41	0.509	-	1.7	1.0	16.1	-	0.06
	Arm B	9.64	15.92	0.605	-	75.2	1.7	469.9	-	2.05
	Arm C	15.40	36.47	0.422	-	1.0	0.7	11.2	-	0.05
	Arm D	7.41	18.65	0.398	-	1.1	0.7	10.3	-	0.09

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1866.2	1244.1	196.1	0.11	196.1	0.11
B	1057.2	704.8	3552.8	3.36	3552.9	3.36
C	1689.3	1126.2	100.1	0.06	100.1	0.06
D	813.1	542.1	110.9	0.14	110.9	0.14
ALL	5425.9	3617.3	3959.8	0.73	3959.9	0.73

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-other-2017-PM.vai

At: 15:53:23 on Thursday, May 24, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Hulbert Road (West)
Arm B	Tempest Ave
Arm C	Hulbert Road (East)
Arm D	Fredstaple Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Hulbert Road, Tempest Ave & Fredstaple Road Junction - PM Peak - 2017
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	7.00	3.25	7.70	3.40
Entry Width (m)	7.40	8.00	8.20	7.80
Flare Length (m)	14.50	10.70	5.00	11.20
Entry Radius (m)	29.00	15.00	21.00	30.00
Inscribed Circle Diameter (m)	70.00	70.00	70.00	70.00
Entry Angle (degrees)	8.00	12.00	14.00	30.00
Slope	0.643	0.509	0.659	0.501
Intercept (PCU/Min)	40.611	27.537	43.158	27.455

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	95.0	834.0	183.0
Arm B	147.0	0.0	295.0	35.0
Arm C	1286.0	739.0	0.0	318.0
Arm D	111.0	150.0	223.0	0.0

Entry Flow Data for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	13.90	20.85	13.90
Arm B	15.00	45.00	75.00	5.96	8.94	5.96
Arm C	15.00	45.00	75.00	29.29	43.93	29.29
Arm D	15.00	45.00	75.00	6.05	9.08	6.05

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	1.1	2.0	0.6
	Arm B	0.0	0.0	0.0	0.0
	Arm C	1.1	0.0	0.0	0.0
	Arm D	2.8	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	13.90	31.20	0.445	-	0.0	0.8	11.7	-	0.06
	Arm B	5.96	19.57	0.305	-	0.0	0.4	6.3	-	0.07
	Arm C	29.29	39.91	0.734	-	0.0	2.7	38.0	-	0.09
	Arm D	6.05	13.75	0.440	-	0.0	0.8	11.1	-	0.13
Segment : 2 - 08:00 to 08:15	Arm A	16.60	29.53	0.562	-	0.8	1.3	18.5	-	0.08
	Arm B	7.12	18.01	0.395	-	0.4	0.6	9.5	-	0.09
	Arm C	34.97	39.33	0.889	-	2.7	7.2	93.5	-	0.20
	Arm D	7.22	11.16	0.647	-	0.8	1.8	24.2	-	0.25
Segment : 3 - 08:15 to 08:30	Arm A	20.33	28.20	0.721	-	1.3	2.5	35.5	-	0.12
	Arm B	8.72	15.97	0.546	-	0.6	1.2	16.9	-	0.14
	Arm C	42.83	38.53	1.112	-	7.2	75.8	639.0	-	1.21
	Arm D	8.85	9.37	0.944	-	1.8	8.0	88.5	-	0.84
Segment : 4 - 08:30 to 08:45	Arm A	20.33	28.03	0.725	-	2.5	2.6	38.4	-	0.13
	Arm B	8.72	15.88	0.549	-	1.2	1.2	17.9	-	0.14
	Arm C	42.83	38.52	1.112	-	75.8	141.0	1627.2	-	2.89
	Arm D	8.85	9.26	0.955	-	8.0	10.7	142.5	-	1.27
Segment : 5 - 08:45 to 09:00	Arm A	16.60	28.42	0.584	-	2.6	1.4	22.2	-	0.09
	Arm B	7.12	17.84	0.399	-	1.2	0.7	10.4	-	0.09
	Arm C	34.97	39.30	0.890	-	141.0	80.2	1659.6	-	2.85
	Arm D	7.22	9.27	0.779	-	10.7	4.0	80.8	-	0.72
Segment : 6 - 09:00 to 09:15	Arm A	13.90	30.02	0.463	-	1.4	0.9	13.4	-	0.06
	Arm B	5.96	19.47	0.306	-	0.7	0.4	6.8	-	0.07
	Arm C	29.29	39.89	0.734	-	80.2	2.9	340.6	-	0.45
	Arm D	6.05	11.43	0.529	-	4.0	1.2	19.5	-	0.20

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1524.8	1016.5	139.6	0.09	139.6	0.09
B	654.1	436.0	67.8	0.10	67.9	0.10
C	3212.7	2141.8	4397.9	1.37	4398.0	1.37
D	663.7	442.4	366.6	0.55	366.6	0.55
ALL	6055.3	4036.8	4971.8	0.82	4972.0	0.82

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD		
Analysis Program: Release 4.0 (FEBRUARY 2006)		
(c) Copyright TRL Limited, 2004		
Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO		
For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-A3-2017-AM+dev.vai
 At: 15:39:52 on Thursday, May 24, 2012
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Maurepas Way (A3)
Arm B	London Road (A3)
Arm C	Hulbert Road (B2150)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) 2017 AM Peak + Dev
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	7.70	3.80	7.10
Entry Width (m)	9.80	8.30	7.10
Flare Length (m)	11.80	17.40	0.00
Entry Radius (m)	50.00	37.30	28.00
Inscribed Circle Diameter (m)	35.00	30.00	35.00
Entry Angle (degrees)	21.00	35.00	25.00
Slope	0.914	0.702	0.766
Intercept (PCU/Min)	48.406	31.793	36.978

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

From/To	Arm A	Arm B	Arm C
Arm A	54.0	229.0	673.0
Arm B	480.0	2.0	0.0
Arm C	616.0	268.0	48.0

Entry Flow Data for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	11.95	17.92	11.95
Arm B	15.00	45.00	75.00	6.03	9.04	6.03
Arm C	15.00	45.00	75.00	11.65	17.47	11.65

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	4.1	5.6
	Arm B	5.5	0.0	0.0
	Arm C	3.6	2.7	4.3

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	11.95	42.58	0.281	-	0.0	0.4	5.8	-	0.03
	Arm B	6.03	23.38	0.258	-	0.0	0.3	5.1	-	0.06
	Arm C	11.65	30.58	0.381	-	0.0	0.6	9.0	-	0.05
Segment : 2 - 08:00 to 08:15	Arm A	14.27	41.88	0.341	-	0.4	0.5	7.6	-	0.04
	Arm B	7.19	22.05	0.326	-	0.3	0.5	7.1	-	0.07
	Arm C	13.91	29.55	0.471	-	0.6	0.9	12.9	-	0.06
Segment : 3 - 08:15 to 08:30	Arm A	17.48	40.93	0.427	-	0.5	0.7	10.9	-	0.04
	Arm B	8.81	20.24	0.435	-	0.5	0.8	11.1	-	0.09
	Arm C	17.04	28.16	0.605	-	0.9	1.5	21.8	-	0.09
Segment : 4 - 08:30 to 08:45	Arm A	17.48	40.92	0.427	-	0.7	0.7	11.1	-	0.04
	Arm B	8.81	20.23	0.436	-	0.8	0.8	11.5	-	0.09
	Arm C	17.04	28.15	0.605	-	1.5	1.5	22.7	-	0.09
Segment : 5 - 08:45 to 09:00	Arm A	14.27	41.87	0.341	-	0.7	0.5	7.9	-	0.04
	Arm B	7.19	22.04	0.326	-	0.8	0.5	7.5	-	0.07
	Arm C	13.91	29.53	0.471	-	1.5	0.9	13.8	-	0.06
Segment : 6 - 09:00 to 09:15	Arm A	11.95	42.56	0.281	-	0.5	0.4	5.9	-	0.03
	Arm B	6.03	23.36	0.258	-	0.5	0.3	5.3	-	0.06
	Arm C	11.65	30.55	0.381	-	0.9	0.6	9.5	-	0.05

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1310.9	873.9	49.3	0.04	49.3	0.04
B	660.9	440.6	47.6	0.07	47.6	0.07
C	1278.0	852.0	89.8	0.07	89.8	0.07
ALL	3249.8	2166.5	186.7	0.06	186.7	0.06

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD		
Analysis Program: Release 4.0 (FEBRUARY 2006)		
(c) Copyright TRL Limited, 2004		
Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO		
For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-A3-2017-PM+dev.vai

At: 15:36:39 on Thursday, May 24, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Maurepas Way (A3)
Arm B	London Road (A3)
Arm C	Hulbert Road (B2150)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) 2017 PM Peak + Dev
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	7.70	3.80	7.10
Entry Width (m)	9.80	8.30	7.10
Flare Length (m)	11.80	17.40	0.00
Entry Radius (m)	50.00	37.30	28.00
Inscribed Circle Diameter (m)	35.00	30.00	35.00
Entry Angle (degrees)	21.00	35.00	25.00
Slope	0.914	0.702	0.766
Intercept (PCU/Min)	48.406	31.793	36.978

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

From/To	Arm A	Arm B	Arm C
Arm A	45.0	488.0	762.0
Arm B	346.0	0.0	0.0
Arm C	909.0	583.0	73.0

Entry Flow Data for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	16.19	24.28	16.19
Arm B	15.00	45.00	75.00	4.32	6.49	4.32
Arm C	15.00	45.00	75.00	19.56	29.34	19.56

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Maurepas Way (A3), London Road (A3), Hulbert Road (B2150) junction 2009

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	2.4	2.5
	Arm B	2.1	0.0	0.0
	Arm C	1.6	0.4	1.5

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 16:45 to 17:00	Arm A	16.19	39.96	0.405	-	0.0	0.7	10.0	-	0.04
	Arm B	4.32	23.43	0.185	-	0.0	0.2	3.3	-	0.05
	Arm C	19.56	32.80	0.596	-	0.0	1.5	21.0	-	0.07
Segment : 2 - 17:00 to 17:15	Arm A	19.33	38.52	0.502	-	0.7	1.0	14.7	-	0.05
	Arm B	5.16	21.91	0.236	-	0.2	0.3	4.5	-	0.06
	Arm C	23.36	32.06	0.729	-	1.5	2.6	37.1	-	0.11
Segment : 3 - 17:15 to 17:30	Arm A	23.67	36.69	0.645	-	1.0	1.8	25.9	-	0.08
	Arm B	6.33	19.86	0.318	-	0.3	0.5	6.8	-	0.07
	Arm C	28.61	31.05	0.921	-	2.6	9.2	112.6	-	0.31
Segment : 4 - 17:30 to 17:45	Arm A	23.67	36.54	0.648	-	1.8	1.8	27.2	-	0.08
	Arm B	6.33	19.83	0.319	-	0.5	0.5	7.0	-	0.07
	Arm C	28.61	31.04	0.922	-	9.2	10.2	146.9	-	0.38
Segment : 5 - 17:45 to 18:00	Arm A	19.33	38.31	0.505	-	1.8	1.0	15.8	-	0.05
	Arm B	5.16	21.86	0.236	-	0.5	0.3	4.8	-	0.06
	Arm C	23.36	32.05	0.729	-	10.2	2.8	48.2	-	0.13
Segment : 6 - 18:00 to 18:15	Arm A	16.19	39.89	0.406	-	1.0	0.7	10.5	-	0.04
	Arm B	4.32	23.39	0.185	-	0.3	0.2	3.5	-	0.05
	Arm C	19.56	32.78	0.597	-	2.8	1.5	23.3	-	0.08

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1775.7	1183.8	104.0	0.06	104.1	0.06
B	474.4	316.3	29.9	0.06	29.9	0.06
C	2145.9	1430.6	389.1	0.18	389.1	0.18
ALL	4396.1	2930.7	523.0	0.12	523.1	0.12

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-other-2017-AM+dev.vai
 At: **15:59:40 on Thursday, May 24, 2012**
 Mode: **Drive On The Left**
 Units: **Metric**

Arm Labelling

Arm	Full Arm Names
Arm A	Hulbert Road (West)
Arm B	Tempest Ave
Arm C	Hulbert Road (East)
Arm D	Fredstaple Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Hulbert Road, Tempest Ave & Fredstaple Road Junction - AM Peak - 2017 + Dev
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	7.00	3.25	7.70	3.40
Entry Width (m)	7.40	8.00	8.20	7.80
Flare Length (m)	14.50	10.70	5.00	11.20
Entry Radius (m)	29.00	15.00	21.00	30.00
Inscribed Circle Diameter (m)	70.00	70.00	70.00	70.00
Entry Angle (degrees)	8.00	12.00	14.00	30.00
Slope	0.643	0.509	0.659	0.501
Intercept (PCU/Min)	40.611	27.537	43.158	27.455

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	24.0	1081.0	273.0
Arm B	165.0	0.0	533.0	73.0
Arm C	853.0	233.0	0.0	149.0
Arm D	116.0	78.0	399.0	0.0

Entry Flow Data for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	17.23	25.84	17.23
Arm B	15.00	45.00	75.00	9.64	14.46	9.64
Arm C	15.00	45.00	75.00	15.44	23.16	15.44
Arm D	15.00	45.00	75.00	7.41	11.12	7.41

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	4.6	2.7
	Arm B	0.0	0.0	1.0	2.9
	Arm C	4.3	3.3	0.0	2.1
	Arm D	1.8	0.0	0.9	0.0

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	17.23	33.45	0.515	-	0.0	1.1	15.3	-	0.06
	Arm B	9.64	15.89	0.606	-	0.0	1.5	21.0	-	0.15
	Arm C	15.44	37.46	0.412	-	0.0	0.7	10.2	-	0.05
	Arm D	7.41	19.19	0.386	-	0.0	0.6	9.0	-	0.08
Segment : 2 - 08:00 to 08:15	Arm A	20.57	32.36	0.636	-	1.1	1.7	24.9	-	0.08
	Arm B	11.51	13.66	0.843	-	1.5	4.6	58.2	-	0.40
	Arm C	18.43	36.68	0.503	-	0.7	1.0	14.7	-	0.05
	Arm D	8.85	17.63	0.502	-	0.6	1.0	14.4	-	0.11
Segment : 3 - 08:15 to 08:30	Arm A	25.19	30.89	0.815	-	1.7	4.2	56.9	-	0.17
	Arm B	14.09	10.67	1.321	-	4.6	57.2	469.3	-	3.16
	Arm C	22.58	36.23	0.623	-	1.0	1.6	23.7	-	0.07
	Arm D	10.84	15.83	0.685	-	1.0	2.1	29.1	-	0.19
Segment : 4 - 08:30 to 08:45	Arm A	25.19	30.85	0.816	-	4.2	4.3	63.8	-	0.18
	Arm B	14.09	10.56	1.334	-	57.2	110.3	1256.4	-	7.49
	Arm C	22.58	36.22	0.623	-	1.6	1.6	24.6	-	0.07
	Arm D	10.84	15.81	0.685	-	2.1	2.1	31.7	-	0.20
Segment : 5 - 08:45 to 09:00	Arm A	20.57	32.31	0.637	-	4.3	1.8	28.2	-	0.09
	Arm B	11.51	13.51	0.852	-	110.3	82.0	1442.0	-	6.99
	Arm C	18.43	36.23	0.509	-	1.6	1.0	16.0	-	0.06
	Arm D	8.85	17.38	0.509	-	2.1	1.1	16.6	-	0.12
Segment : 6 - 09:00 to 09:15	Arm A	17.23	33.41	0.516	-	1.8	1.1	16.5	-	0.06
	Arm B	9.64	15.81	0.610	-	82.0	1.8	565.0	-	2.51
	Arm C	15.44	36.37	0.424	-	1.0	0.7	11.3	-	0.05
	Arm D	7.41	18.58	0.399	-	1.1	0.7	10.4	-	0.09

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1889.5	1259.7	205.6	0.11	205.6	0.11
B	1057.2	704.8	3811.9	3.61	3812.0	3.61
C	1693.4	1129.0	100.6	0.06	100.7	0.06
D	813.1	542.1	111.2	0.14	111.2	0.14
ALL	5453.3	3635.5	4229.3	0.78	4229.4	0.78

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

ARCADY 6		
GUI Version: 6.00 AD Analysis Program: Release 4.0 (FEBRUARY 2006) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770018 Fax: +44 (0)1344 770864 Email: softwarebureau@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

Run Information

Run with file:- s:\Admin-Projects\4101-4150\4140\surveys\Arcady\4140-other-2017-PM+dev.vai

At: 16:01:34 on Thursday, May 24, 2012

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Hulbert Road (West)
Arm B	Tempest Ave
Arm C	Hulbert Road (East)
Arm D	Fredstaple Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Hulbert Road, Tempest Ave & Fredstaple Road Junction - PM Peak - 2017 + Dev
Location	Waterlooville
Date	16/05/2012
Client	
Enumerator	grahamwickenden [BELLAMY-CAD01]
Job Number	4140
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	7.00	3.25	7.70	3.40
Entry Width (m)	7.40	8.00	8.20	7.80
Flare Length (m)	14.50	10.70	5.00	11.20
Entry Radius (m)	29.00	15.00	21.00	30.00
Inscribed Circle Diameter (m)	70.00	70.00	70.00	70.00
Entry Angle (degrees)	8.00	12.00	14.00	30.00
Slope	0.643	0.509	0.659	0.501
Intercept (PCU/Min)	40.611	27.537	43.158	27.455

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	95.0	839.0	184.0
Arm B	147.0	0.0	295.0	35.0
Arm C	1298.0	739.0	0.0	318.0
Arm D	111.0	150.0	223.0	0.0

Entry Flow Data for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	13.98	20.96	13.98
Arm B	15.00	45.00	75.00	5.96	8.94	5.96
Arm C	15.00	45.00	75.00	29.44	44.16	29.44
Arm D	15.00	45.00	75.00	6.05	9.08	6.05

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: Hulbert Road, Tempest Ave & Fredstaple Road Junction

Vary over entry and calculated from turning count data

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	1.1	2.0	0.6
	Arm B	0.0	0.0	0.0	0.0
	Arm C	1.1	0.0	0.0	0.0
	Arm D	2.8	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh/ Min)	Capacity (Veh/ Min)	Demand/ Capacity (RFC)	Ped Flow (Ped/ Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min/ Time Segment)	Geometric Delay (Veh.Min/ Time Segment)	Arrival Delay (Min/ Veh)
Segment : 1 - 07:45 to 08:00	Arm A	13.98	31.21	0.448	-	0.0	0.8	11.8	-	0.06
	Arm B	5.96	19.53	0.305	-	0.0	0.4	6.4	-	0.07
	Arm C	29.44	39.90	0.738	-	0.0	2.7	38.7	-	0.09
	Arm D	6.05	13.68	0.442	-	0.0	0.8	11.2	-	0.13
Segment : 2 - 08:00 to 08:15	Arm A	16.69	29.54	0.565	-	0.8	1.3	18.7	-	0.08
	Arm B	7.12	17.97	0.396	-	0.4	0.6	9.5	-	0.09
	Arm C	35.15	39.31	0.894	-	2.7	7.5	96.8	-	0.21
	Arm D	7.22	11.08	0.652	-	0.8	1.8	24.7	-	0.25
Segment : 3 - 08:15 to 08:30	Arm A	20.44	28.23	0.724	-	1.3	2.5	35.9	-	0.13
	Arm B	8.72	15.91	0.548	-	0.6	1.2	17.0	-	0.14
	Arm C	43.05	38.52	1.118	-	7.5	79.3	666.2	-	1.26
	Arm D	8.85	9.35	0.946	-	1.8	8.1	89.3	-	0.84
Segment : 4 - 08:30 to 08:45	Arm A	20.44	28.07	0.728	-	2.5	2.6	39.0	-	0.13
	Arm B	8.72	15.82	0.551	-	1.2	1.2	18.1	-	0.14
	Arm C	43.05	38.50	1.118	-	79.3	147.9	1704.8	-	3.03
	Arm D	8.85	9.25	0.956	-	8.1	10.8	144.0	-	1.28
Segment : 5 - 08:45 to 09:00	Arm A	16.69	28.46	0.586	-	2.6	1.4	22.4	-	0.09
	Arm B	7.12	17.80	0.400	-	1.2	0.7	10.4	-	0.09
	Arm C	35.15	39.29	0.895	-	147.9	89.8	1782.9	-	3.06
	Arm D	7.22	9.25	0.781	-	10.8	4.1	81.8	-	0.74
Segment : 6 - 09:00 to 09:15	Arm A	13.98	29.90	0.467	-	1.4	0.9	13.6	-	0.06
	Arm B	5.96	19.43	0.307	-	0.7	0.4	6.8	-	0.07
	Arm C	29.44	39.88	0.738	-	89.8	3.0	422.6	-	0.62
	Arm D	6.05	11.08	0.546	-	4.1	1.2	20.9	-	0.21

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1533.0	1022.0	141.4	0.09	141.4	0.09
B	654.1	436.0	68.2	0.10	68.2	0.10
C	3229.2	2152.8	4712.0	1.46	4712.1	1.46
D	663.7	442.4	371.9	0.56	371.9	0.56
ALL	6080.0	4053.3	5293.4	0.87	5293.6	0.87

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.