

Land East of Downend Road (APP/A1720/W/21/3272188)

Second Addendum Agreed Statement on Transport Matters (2nd ASoTM)

An ASoTM was completed on 1 July 2021 between HCC (the Highway Authority) and Miller Homes (the Appellant) to present the matters of agreement relating to the scheme. On this basis, HCC raises no objection to the scheme subject to the securing of a package of agreed mitigation.

An Addendum ASoTM was completed between HCC and Miller Homes on 30 July 2021 to present the agreed position and further clarification on matters of detail identified and raised in the Fareham Borough Council's (FBC) case presented to the Appeal.

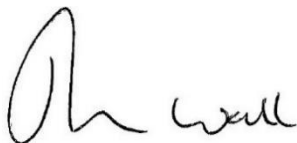
Following the adjournment of the Inquiry in August 2021, FBC requested that Miller Homes consider an amendment to the proposed improvement scheme for Downend Road Bridge to provide dedicated pedestrian crossing facilities within the traffic signal junction.

Without prejudice to the agreed scheme, Miller Homes prepared an alternative improvement scheme (demonstrated on Drawing ITB12212-GA-071 Rev B) which included the alternative pedestrian facilities FBC requested (with the pedestrian crossing refuge island removed). This scheme, along with a revised modelling assessment of the junction was submitted to HCC for consideration on 20 August 2021 (Appendix A).

Based on this information, it is agreed between HCC and Miller Homes that:

- The original improvement to Downend Road Bridge (demonstrated on Drawing ITB12212-GA-051 Rev D and associated plans explained in the ASoTM and Addendum ASoTM) remains acceptable in all regards, and that furthermore, formal (controlled) pedestrian crossing facilities of Downend Road are not necessary in relation to the Appeal Scheme; and
- The alternative improvement scheme to Downend Road Bridge (demonstrated on Drawing ITB12212-GA-071 Rev B) which would introduce pedestrian crossing facilities within the traffic signal junction is also acceptable, and would:
 - deliver safe and suitable access for all users of Downend Road; and
 - Operate acceptably and within capacity and would not create any unacceptable queuing and/or delay on the local highway network.

Signed By:



*Tim Wall
i-Transport LLP
on behalf of the Appellant*



*Gemma McCart
Highways Development Planning Team Leader
Hampshire County Council*

Dated – 8th September 2021

Appendix A – Email Submission of Alternative Improvement Scheme

Rachel Stout

From: Tim Wall
Sent: 20 August 2021 10:18
To: Gammer, Nick; McCart, Gemma
Cc: Mundy, Jonathan; Drury, Holly; Jacqueline Mulliner
Subject: Downend Road Bridge Alternative Improvement - Inclusion of Pedestrian Facilities
Attachments: Downend Bridge RS JCT - No Pedestrian Called.lsg3x; Downend Bridge RS JCT - Ped Signals N and S.lsg3x; Downend Bridge RS JCT - No Pedestrian Called.pdf; Downend Bridge RS JCT - Ped Signals N and S.pdf; ITB12212-GA-071B.pdf; ITB12212-GA-081.pdf

Importance: High

Hi Nick,

As discussed, FBC has requested that Miller Homes consider amendment to the Downend Road bridge improvement to incorporate dedicated pedestrian facilities either side of the bridge.

If this can be satisfactorily achieved, FBC Officers are intending to take a report to their Planning Committee (in the next week) recommending that the remaining elements of their Reason for Refusal have been addressed. Miller Homes is prepared to amend the scheme to incorporate these changes if they would be acceptable to HCC.

On that basis, we have considered the feasibility of delivering dedicated pedestrian facilities in the design, both north and south of the bridge, and on the back of our initial discussion on this matter. This amendment to the scheme is presented without prejudice to our agreed position on the acceptability of the pedestrian refuge island arrangement as submitted.

Please see attached **Drawing ITB12212-GA-071 Rev B** which demonstrates how the inclusion of pedestrian facilities can be achieved. I also attach swept path analysis of the alternative scheme presenting the path of a maximum legal articulated vehicle through the junction (**Drawing ITB12212-GA-081**) and noting that lorry use of Downend Road is very low.

Whilst we have presented pedestrian facilities both north and south of the scheme for completeness, the crossing to the south of the bridge would be likely to be little used, with the only likely crossing demand expected to arise from those (8) properties on the eastern side of Downend Road between the bridge and the Thicket (and perhaps some properties from The Thicket) seeking access to either Paradise Lane or the gym. Crossing demand on the northern facility would be used by residents of the Appeal Site to access the pedestrian facilities that are provided on the western side of Downend Road towards Cams Hill School and Cams Hill Employment area - we estimate crossing demand in the busiest hour of 10-20 pedestrians. For this reason, we have considered these facilities to operate independently in the assessment.

In terms of the impacts of this alternative scheme on the operation of the junction, we have prepared additional modelling assessment which is attached. This is presented for the '2026 + Development' scenario and considers the busiest period at the junction – i.e. 07:30 – 08:30. The following scenarios are presented:

- **Scenario 1** - No call of the pedestrian crossings – i.e. how the junction would operate typically throughout the peak hour and when no pedestrian phase is called
- **Scenario 2** - Calling of the pedestrian crossing to the north of the bridge – Pedestrian crossing flows to the north are estimated as 10-20 movements in the busiest hour, so this would mean that the northern crossing may be called every 3-6 cycles, assuming all pedestrians cross alone. In practice groups of pedestrians are likely to arrive together, reducing the instances of the crossing being called.
- **Scenario 3** - Calling of the pedestrian crossing to the south of the bridge. Demand here will be very low and occasional.

- **Scenario 4** - Calling of both pedestrian crossings at the same time - this is expected to be an extremely irregular scenario because of the limited demand for the southern crossing.

The summary results are presented in the below Table.

Approach	Cycle Time	Degree of Saturation	Mean Max Queue (pcu)	Average Delay per PCU (s/pcu)	Practical Reserve Capacity
Scenario 1: No Pedestrian Call					
Downend Road – South (NB)	60s	73.0%	8.3	24.9	+23.3%
Downend Road – North (SB)	60s	71.4%	7.3	29.5	
Scenario 2: Northern Pedestrian Called					
Downend Road – South (NB)	70s	78.6%	10.4	32.5	+14.1%
Downend Road – North (SB)	70s	78.9%	9.1	39.5	
Scenario 3: Southern Pedestrian Called					
Downend Road – South (NB)	70s	78.6%	10.4	32.5	+14.1%
Downend Road – North (SB)	70s	78.9%	9.1	39.5	
Scenario 4: Both Pedestrians Called					
Downend Road – South (NB)	80s	80.6%	12.0	37.5	+11.7%
Downend Road – North (SB)	80s	77.9%	10.0	41.8	

Outside of junction cycles where a pedestrian phase is called, Scenario 1 would represent the likely operation of the junction. The conditions described in Scenarios 2-4 would occur only for those individual cycles, after which operation would return to Scenario 1. The junction will operate on variable cycle timings and pedestrian phases would only be called on demand.

Under all scenarios, the junction would operate within capacity. The impact of the likely crossing scenario (i.e. Scenario 2) is small, adding some 10 seconds to average vehicle delay during that individual cycle.

In view of the Appeal timescales, and the need for FBC to consider this matter at its Planning Committee prior to the resumption of the Inquiry, we would appreciate your urgent attention to this matter and an early response to confirm if this alternative arrangement is acceptable, noting of course that the final details will be subject to confirmation at the S278 detailed design stage.

Kind regards
Tim



Tim Wall
Partner
for i-Transport LLP

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T: 01256 637940 M: 07508 413269



Our Basingstoke office has now relocated to central Basingstoke, in Basing View. Please note our new address.

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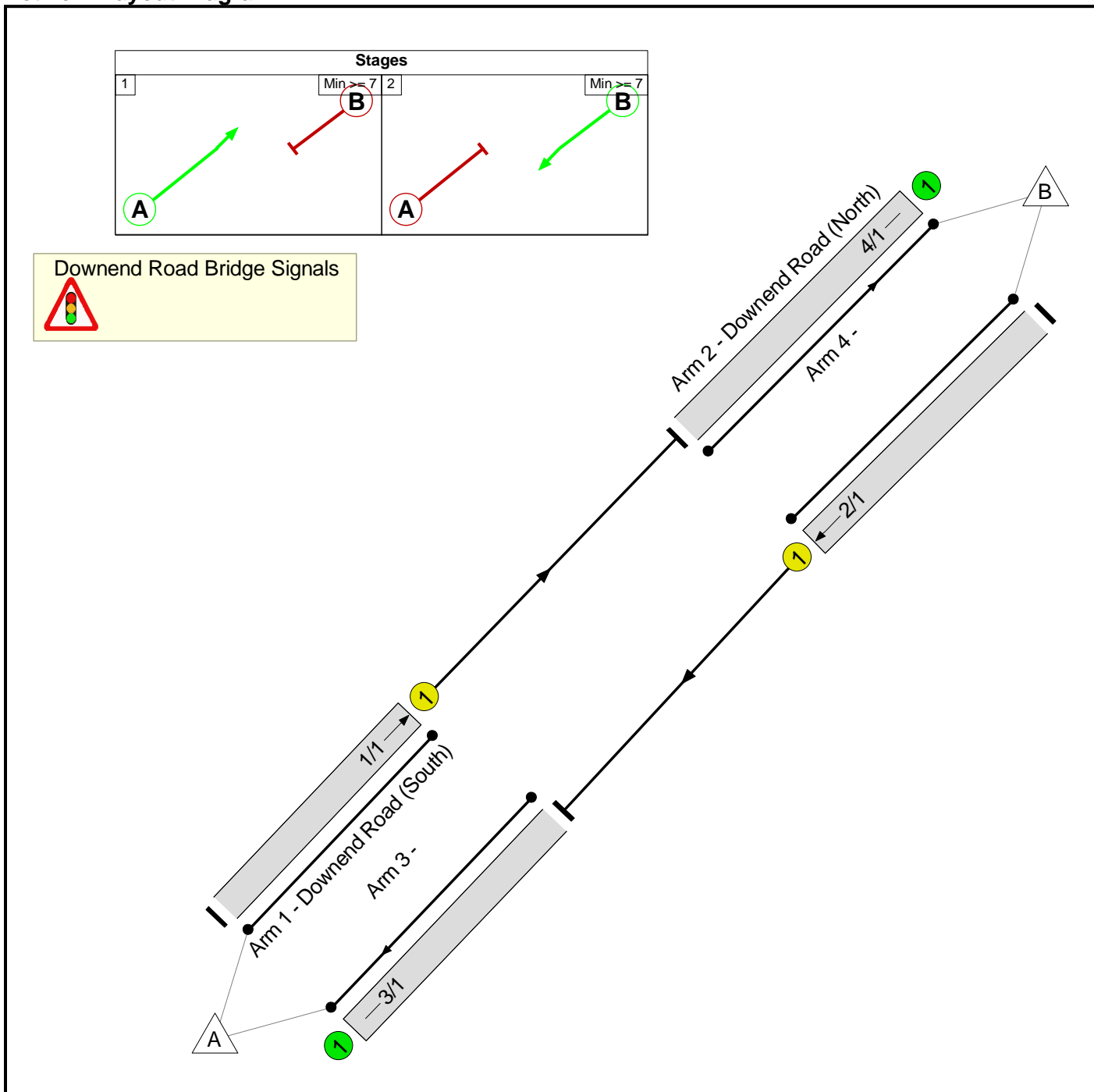
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JCT Revised Submission Full Input Data And Results
JCT Revised Submission Full Input Data And Results

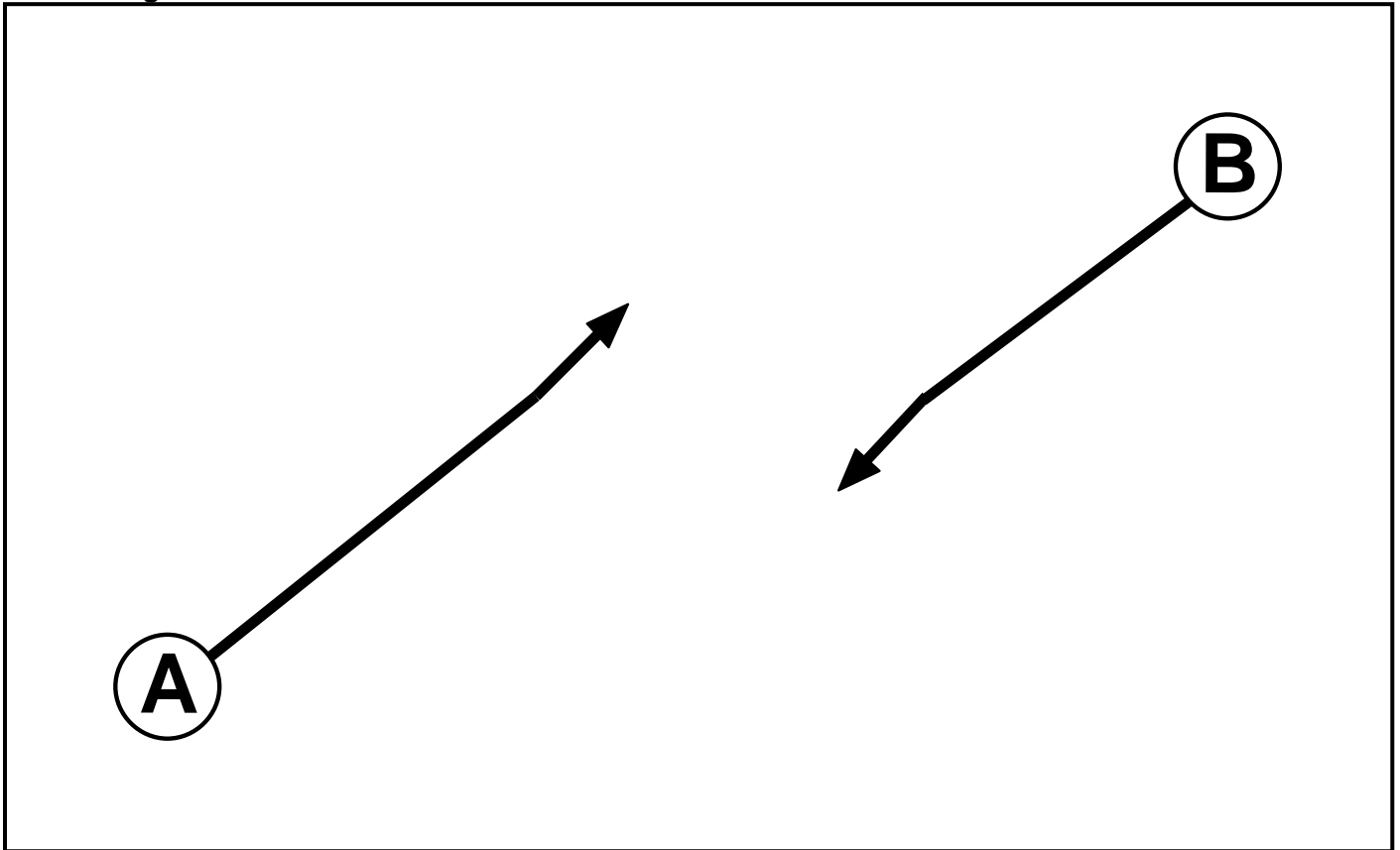
User and Project Details

Project:	Downend Bridge
Title:	Revised Submission
Location:	Fareham
Client:	i-Transport
Design Layout Ref:	ITB12212-GA-051 Rev D
Date Started:	27/11/20
Date Completed:	27/11/20
Model Assumptions:	Model adapted to reflect revised southbound stop line position (Drawing ITB12212-GA-051D) Traffic flow profile for the 07:30 - 08:30 used as higher than the 7am-8am or the 8am-9am flows Intergreen period of 10 seconds used in accordance with Traffic Signs Manual Chapter 6 Cycle times of both 50 secs and 60 secs tested.
Checked By:	Tim Wall
Checked By Date:	27/11/20
Additional detail:	
File name:	Downend Bridge RS JCT - PCU Check.lsg3x
Author:	Andrew Lillington
Company:	i-Transport
Address:	Grove House, Lutyens Close, Chineham Court, Basingstoke RG24 8AG

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7

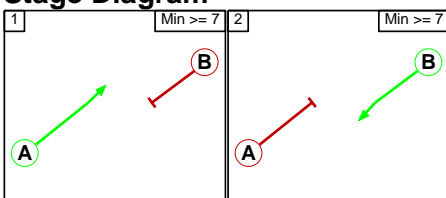
Phase Intergreens Matrix

		Starting Phase	
Terminating Phase		A	B
	A		10
	B	10	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

	To Stage	
From Stage	1	2
	1	10
	2	10
	10	

Give-Way Lane Input Data

Junction: Downend Road Bridge Signals

There are no Opposed Lanes in this Junction

Lane Input Data

Junction: Downend Road Bridge Signals												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Downend Road (South))	U	A	2	3	60.0	Geom	-	3.00	5.00	Y	Arm 4 Ahead	Inf
2/1 (Downend Road (North))	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 3 Ahead	Inf
3/1	U		2	3	60.0	Inf	-	-	-	-	-	-
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2026 with Dev AM 07:30-08:30'	07:30	08:30	01:00	

Scenario 1: 'AM Peak CT60' (FG1: '2026 with Dev AM 07:30-08:30', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
	A	B	Tot.	
Origin	A	0	498	498
	B	410	0	410
	Tot.	410	498	908

Traffic Lane Flows

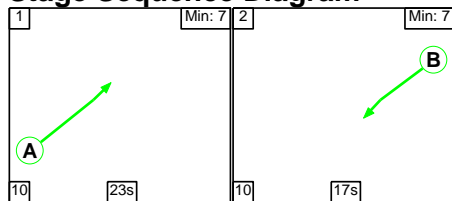
Lane	Scenario 1: AM Peak CT60
Junction: Downend Road Bridge Signals	
1/1	498
2/1	410
3/1	410
4/1	498

Lane Saturation Flows

Junction: Downend Road Bridge Signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Downend Road (South))	3.00	5.00	Y	Arm 4 Ahead	Inf	100.0 %	1705	1705
2/1 (Downend Road (North))	3.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1915	1915
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Peak CT60' (FG1: '2026 with Dev AM 07:30-08:30', Plan 1: 'Network Control Plan 1')

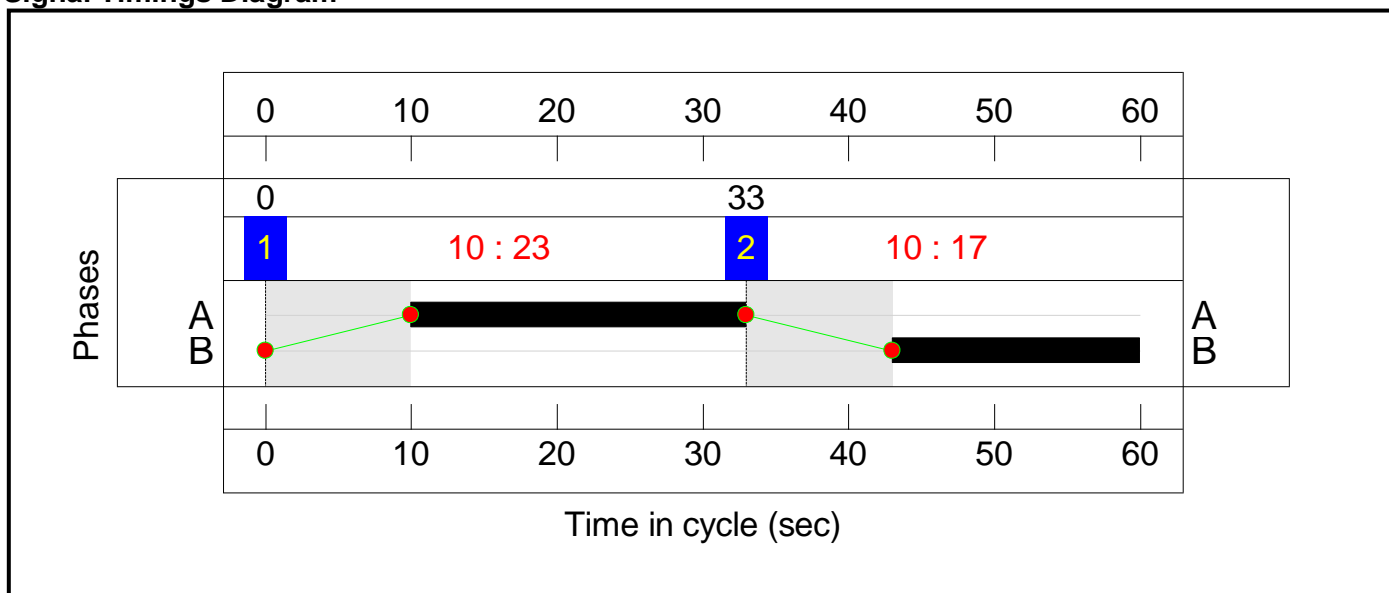
Stage Sequence Diagram



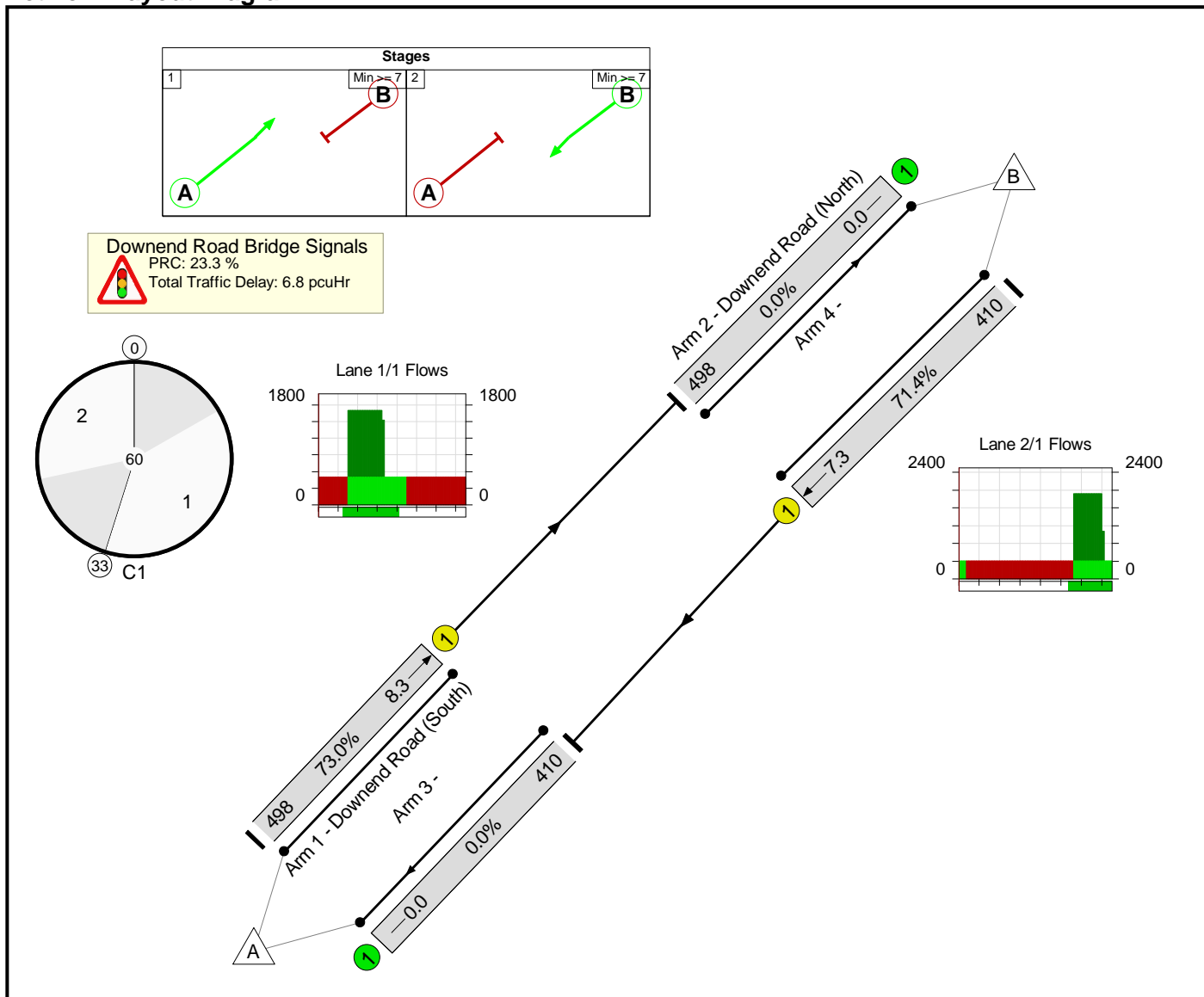
Stage Timings

Stage	1	2
Duration	23	17
Change Point	0	33

Signal Timings Diagram



Network Layout Diagram



JCT Revised Submission Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	
Network: Revised Submission	-	-	N/A	-	-		-	-	-	-	-	-	73.0%	
Downend Road Bridge Signals	-	-	N/A	-	-		-	-	-	-	-	-	73.0%	
1/1	Downend Road (South) Ahead	U	N/A	N/A	A		1	23	-	498	1705	682	73.0%	
2/1	Downend Road (North) Ahead	U	N/A	N/A	B		1	17	-	410	1915	574	71.4%	
3/1		U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%	
4/1		U	N/A	N/A	-		-	-	-	498	Inf	Inf	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network: Revised Submission	-	-	0	0	0	4.2	2.6	0.0	6.8	-	-	-	-	
Downend Road Bridge Signals	-	-	0	0	0	4.2	2.6	0.0	6.8	-	-	-	-	
1/1	498	498	-	-	-	2.1	1.3	-	3.4	24.9	6.9	1.3	8.3	
2/1	410	410	-	-	-	2.1	1.2	-	3.4	29.5	6.0	1.2	7.3	
3/1	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
4/1	498	498	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1			PRC for Signalled Lanes (%):		23.3	Total Delay for Signalled Lanes (pcuHr):		6.80	Cycle Time (s):					60
			PRC Over All Lanes (%):		23.3	Total Delay Over All Lanes(pcuHr):		6.80						

JCT Revised Submission Full Input Data And Results
JCT Revised Submission Full Input Data And Results

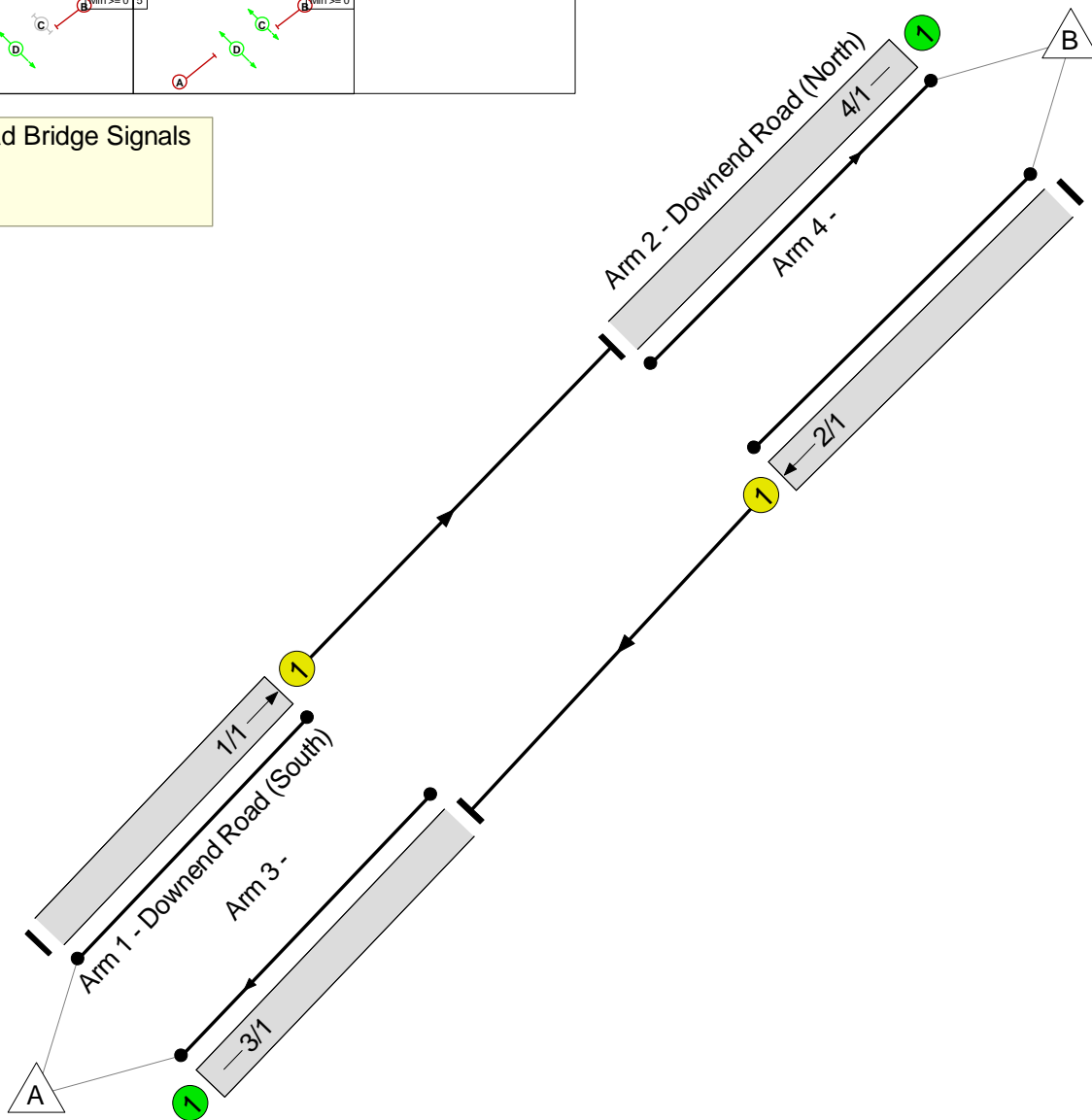
User and Project Details

Project:	Downend Bridge
Title:	Revised Submission
Location:	Fareham
Client:	i-Transport
Design Layout Ref:	Fareham Signalised Ped Scheme
Date Started:	30/07/21
Date Completed:	30/07/21
Model Assumptions:	Introduction of signal ped crossing on northern and southern arms Traffic flow profile for the 07:30 - 08:30 used as higher than the 7am-8am or the 8am-9am flows Intergreen period of 10 seconds used Optimised cycle times
Checked By:	Tim Wall
Checked By Date:	30/07/21
Additional detail:	
File name:	Downend Bridge RS JCT - Ped Signals N and S.lsg3x
Author:	Jon Wilkinson
Company:	i-Transport
Address:	Grove House, Lutyens Close, Chineham Court, Basingstoke RG24 8AG

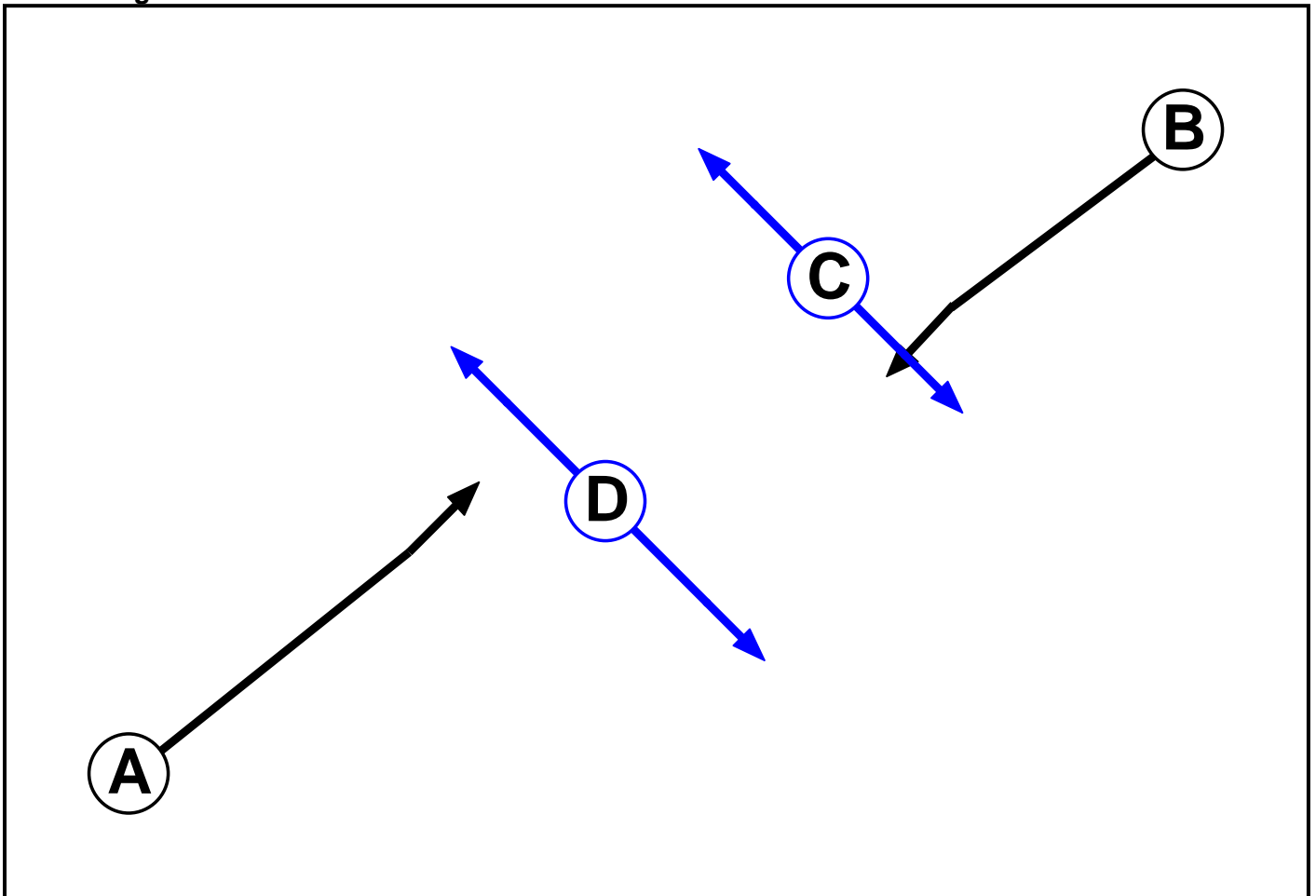
Network Layout Diagram

Stages		
1	2	3
4	5	

Downend Road Bridge Signals



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Pedestrian		5	5
D	Pedestrian		5	5

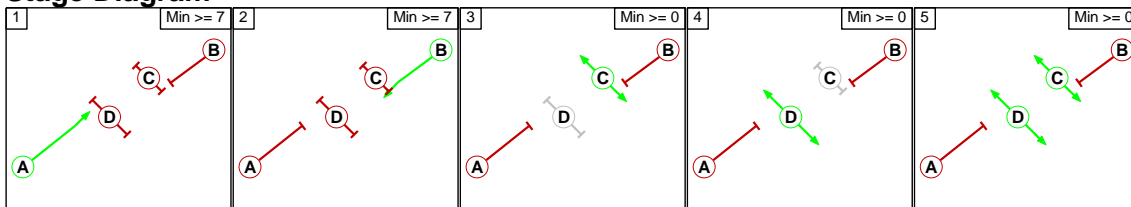
Phase Intergreens Matrix

		Starting Phase			
		A	B	C	D
Terminating Phase	A	10	9	5	
	B	10	5	9	
	C	7	7	-	
	D	7	7	-	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B
3	C
4	D
5	C D

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1	10	9	5	9	
	2	10	5	9	9	
	3	7	7	0	0	
	4	7	7	0	0	
	5	7	7	0	0	

Give-Way Lane Input Data

Junction: Downend Road Bridge Signals

There are no Opposed Lanes in this Junction

Lane Input Data

Junction: Downend Road Bridge Signals												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Downend Road (South))	U	A	2	3	60.0	Geom	-	3.00	5.00	Y	Arm 4 Ahead	Inf
2/1 (Downend Road (North))	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 3 Ahead	Inf
3/1	U		2	3	60.0	Inf	-	-	-	-	-	-
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2026 with Dev AM 07:30-08:30'	07:30	08:30	01:00	

Scenario 1: 'AM Peak CT70 (North Only)' (FG1: '2026 with Dev AM 07:30-08:30', Plan 1: 'North Only')

Traffic Flows, Desired

Desired Flow :

	Destination			
	A	B	Tot.	
Origin	A	0	498	498
	B	410	0	410
	Tot.	410	498	908

Traffic Lane Flows

Lane	Scenario 1: AM Peak CT70 (North Only)
Junction: Downend Road Bridge Signals	
1/1	498
2/1	410
3/1	410
4/1	498

Lane Saturation Flows

Junction: Downend Road Bridge Signals									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
1/1 (Downend Road (South))	3.00	5.00	Y	Arm 4 Ahead	Inf	100.0 %	1705	1705	
2/1 (Downend Road (North))	3.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1915	1915	
3/1	Infinite Saturation Flow						Inf	Inf	
4/1	Infinite Saturation Flow						Inf	Inf	

Scenario 2: 'AM Peak CT70 (South Only)' (FG1: '2026 with Dev AM 07:30-08:30', Plan 2: 'South Only')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	498	498
	B	410	0	410
	Tot.	410	498	908

Traffic Lane Flows

Lane	Scenario 2: AM Peak CT70 (South Only)
Junction: Downend Road Bridge Signals	
1/1	498
2/1	410
3/1	410
4/1	498

Lane Saturation Flows

Junction: Downend Road Bridge Signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Downend Road (South))	3.00	5.00	Y	Arm 4 Ahead	Inf	100.0 %	1705	1705
2/1 (Downend Road (North))	3.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1915	1915
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'AM Peak CT80 (Both Peds)' (FG1: '2026 with Dev AM 07:30-08:30', Plan 3: 'Both Peds')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	498	498
	B	410	0	410
	Tot.	410	498	908

Traffic Lane Flows

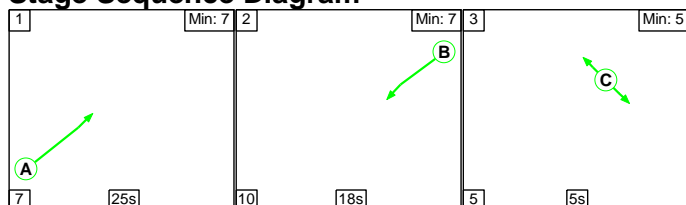
Lane	Scenario 3: AM Peak CT80 (Both Peds)
Junction: Downend Road Bridge Signals	
1/1	498
2/1	410
3/1	410
4/1	498

Lane Saturation Flows

Junction: Downend Road Bridge Signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Downend Road (South))	3.00	5.00	Y	Arm 4 Ahead	Inf	100.0 %	1705	1705
2/1 (Downend Road (North))	3.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1915	1915
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Peak CT70 (North Only)' (FG1: '2026 with Dev AM 07:30-08:30', Plan 1: 'North Only')

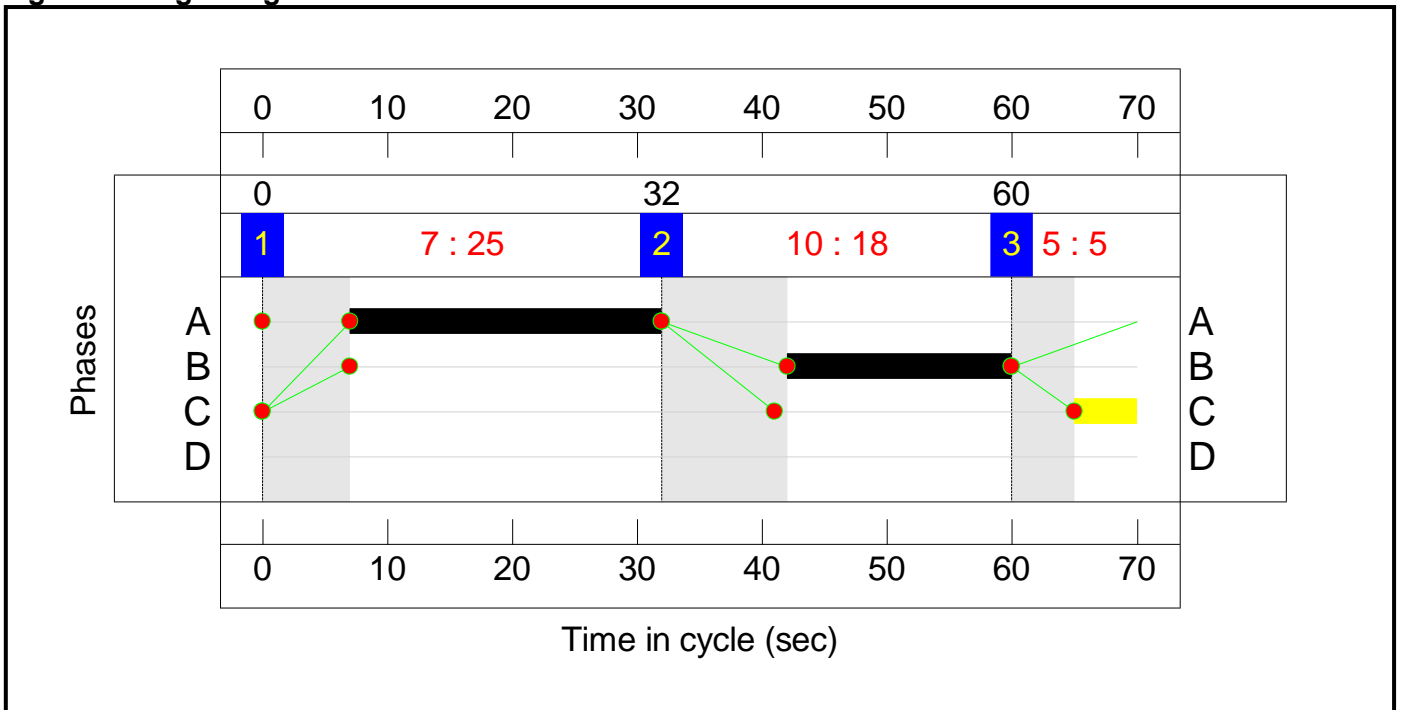
Stage Sequence Diagram



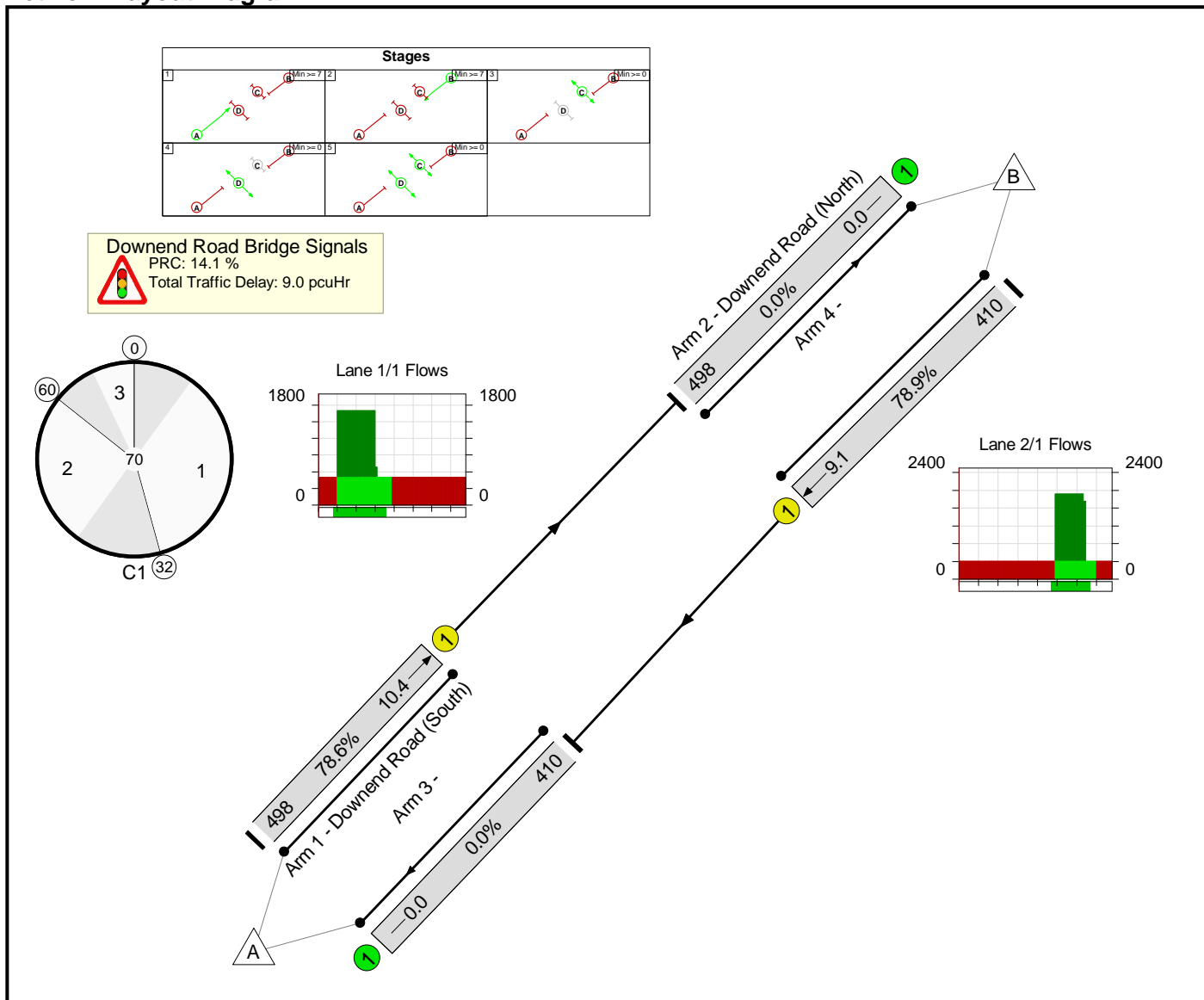
Stage Timings

Stage	1	2	3
Duration	25	18	5
Change Point	0	32	60

Signal Timings Diagram



Network Layout Diagram

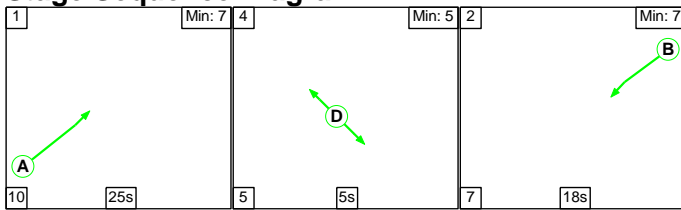


JCT Revised Submission Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Revised Submission	-	-	N/A	-	-		-	-	-	-	-	-	78.9%
Downend Road Bridge Signals	-	-	N/A	-	-		-	-	-	-	-	-	78.9%
1/1	Downend Road (South) Ahead	U	N/A	N/A	A		1	25	-	498	1705	633	78.6%
2/1	Downend Road (North) Ahead	U	N/A	N/A	B		1	18	-	410	1915	520	78.9%
3/1		U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	498	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Revised Submission	-	-	0	0	0	5.4	3.6	0.0	9.0	-	-	-	-
Downend Road Bridge Signals	-	-	0	0	0	5.4	3.6	0.0	9.0	-	-	-	-
1/1	498	498	-	-	-	2.7	1.8	-	4.5	32.5	8.6	1.8	10.4
2/1	410	410	-	-	-	2.7	1.8	-	4.5	39.5	7.3	1.8	9.1
3/1	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	498	498	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		14.1	Total Delay for Signalled Lanes (pcuHr):		9.00	Cycle Time (s):		70		
			PRC Over All Lanes (%):		14.1	Total Delay Over All Lanes(pcuHr):		9.00					

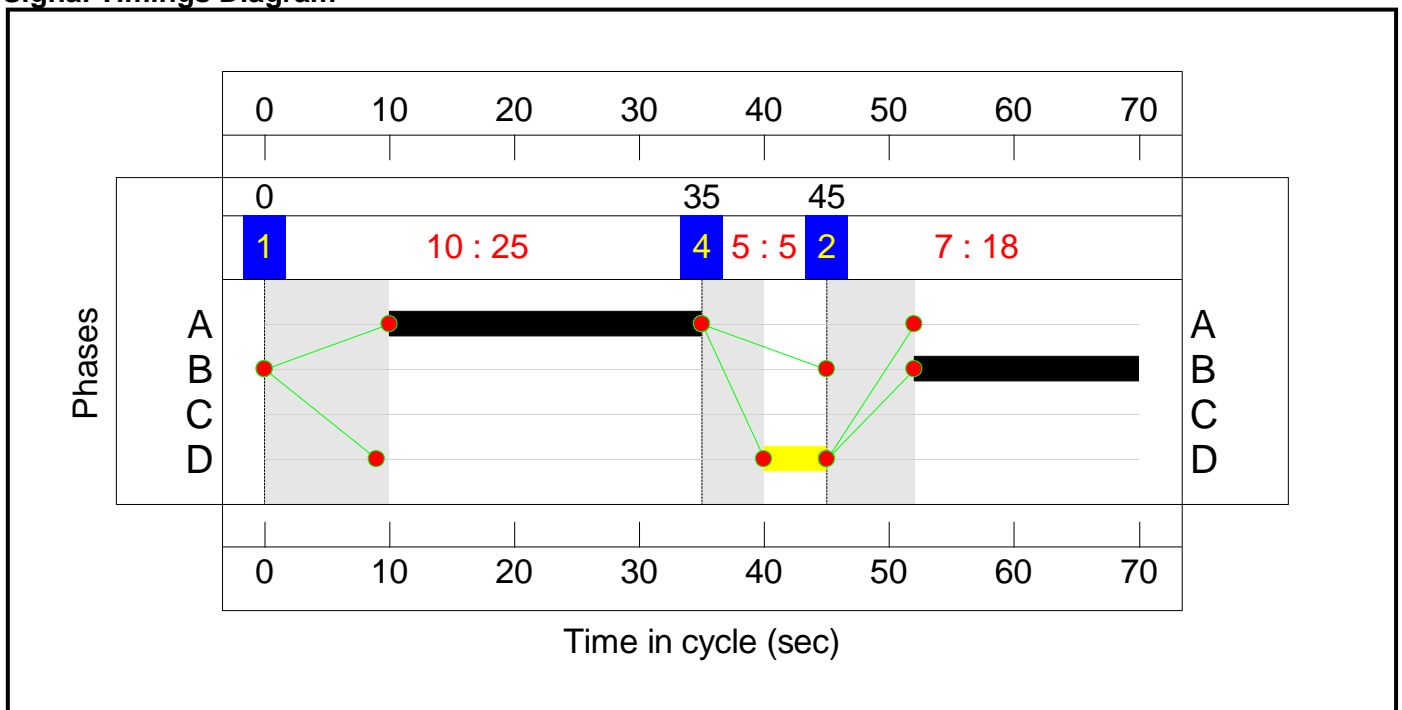
Stage Sequence Diagram



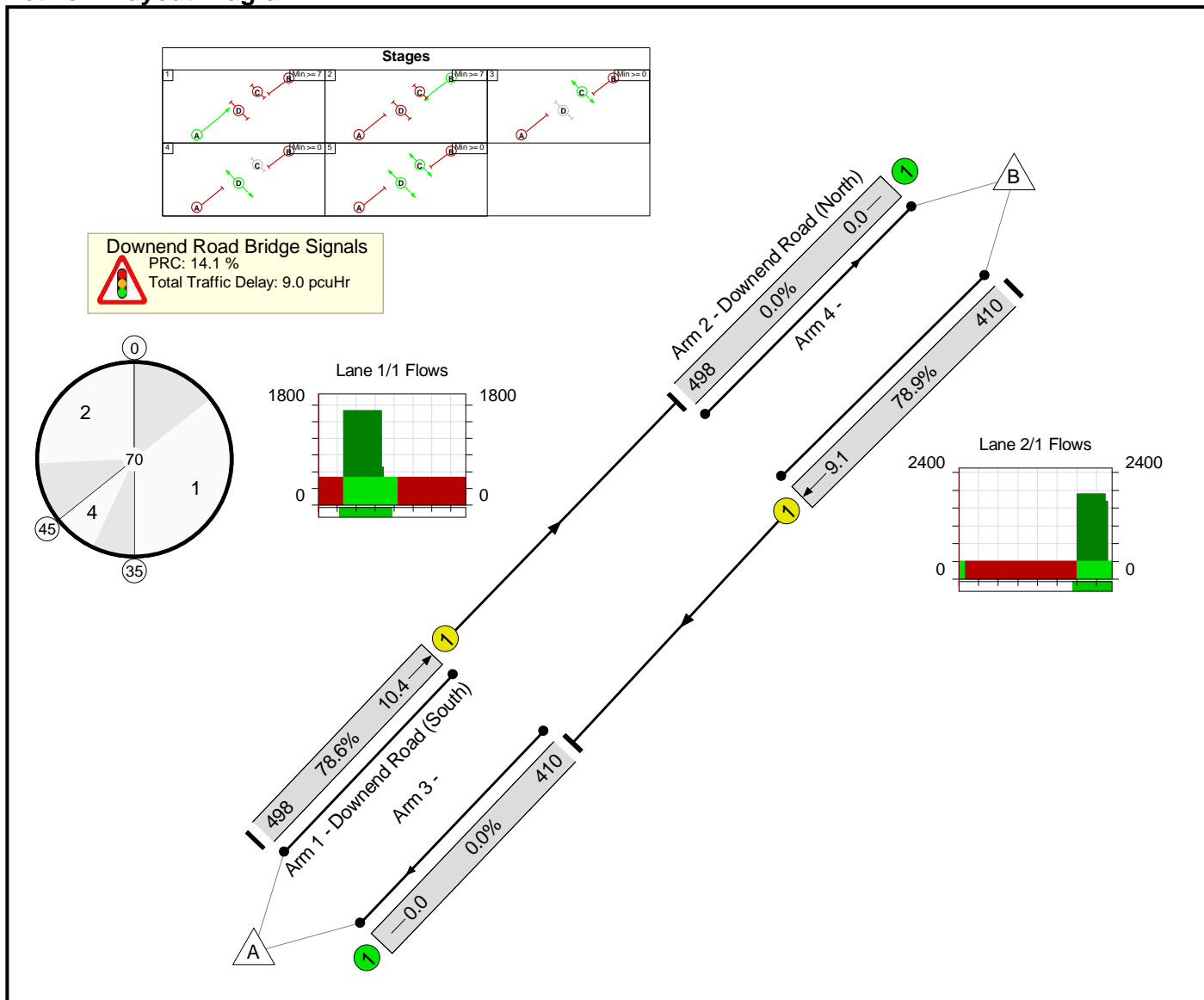
Stage Timings

Stage	1	4	2
Duration	25	5	18
Change Point	0	35	45

Signal Timings Diagram



Network Layout Diagram

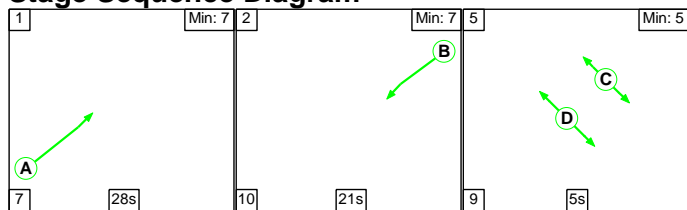


JCT Revised Submission Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Revised Submission	-	-	N/A	-	-		-	-	-	-	-	-	78.9%
Downend Road Bridge Signals	-	-	N/A	-	-		-	-	-	-	-	-	78.9%
1/1	Downend Road (South) Ahead	U	N/A	N/A	A		1	25	-	498	1705	633	78.6%
2/1	Downend Road (North) Ahead	U	N/A	N/A	B		1	18	-	410	1915	520	78.9%
3/1		U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	498	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Revised Submission	-	-	0	0	0	5.4	3.6	0.0	9.0	-	-	-	-
Downend Road Bridge Signals	-	-	0	0	0	5.4	3.6	0.0	9.0	-	-	-	-
1/1	498	498	-	-	-	2.7	1.8	-	4.5	32.5	8.6	1.8	10.4
2/1	410	410	-	-	-	2.7	1.8	-	4.5	39.5	7.3	1.8	9.1
3/1	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	498	498	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		14.1	Total Delay for Signalled Lanes (pcuHr):		9.00	Cycle Time (s):		70		
			PRC Over All Lanes (%):		14.1	Total Delay Over All Lanes(pcuHr):		9.00					

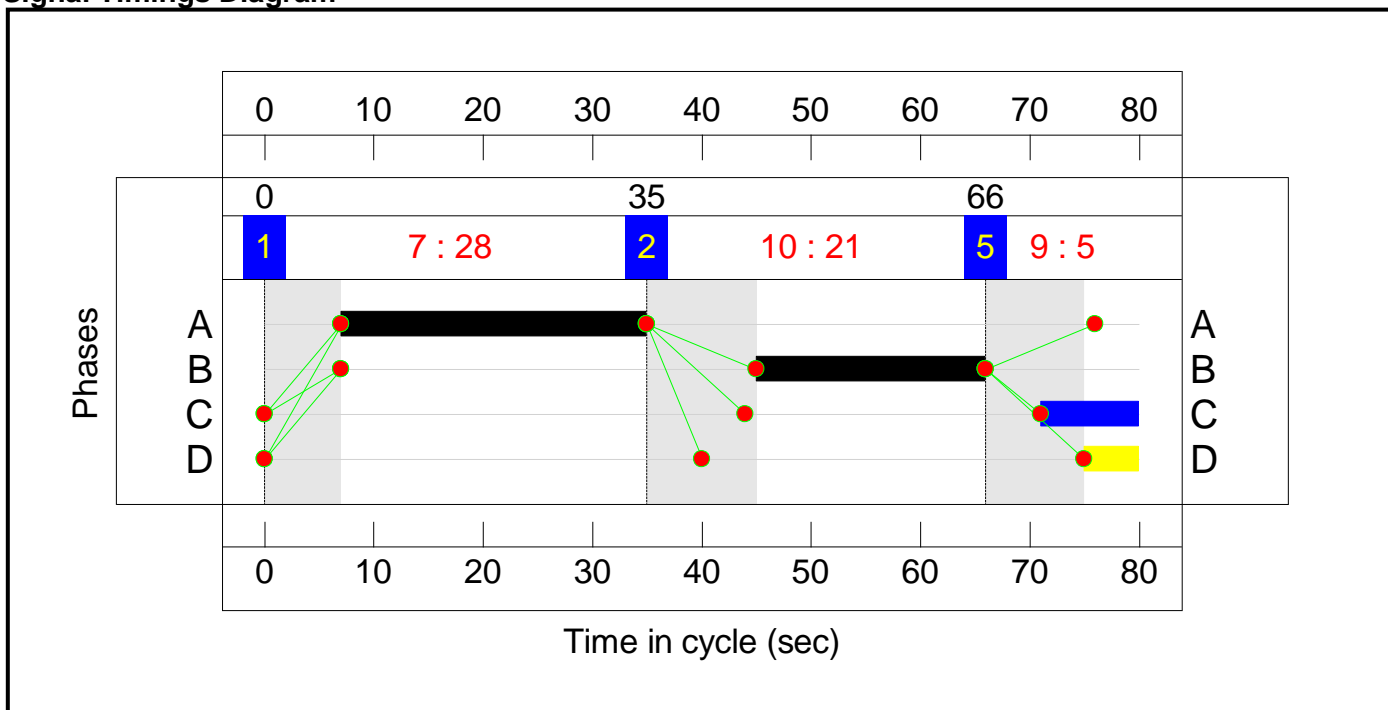
Stage Sequence Diagram



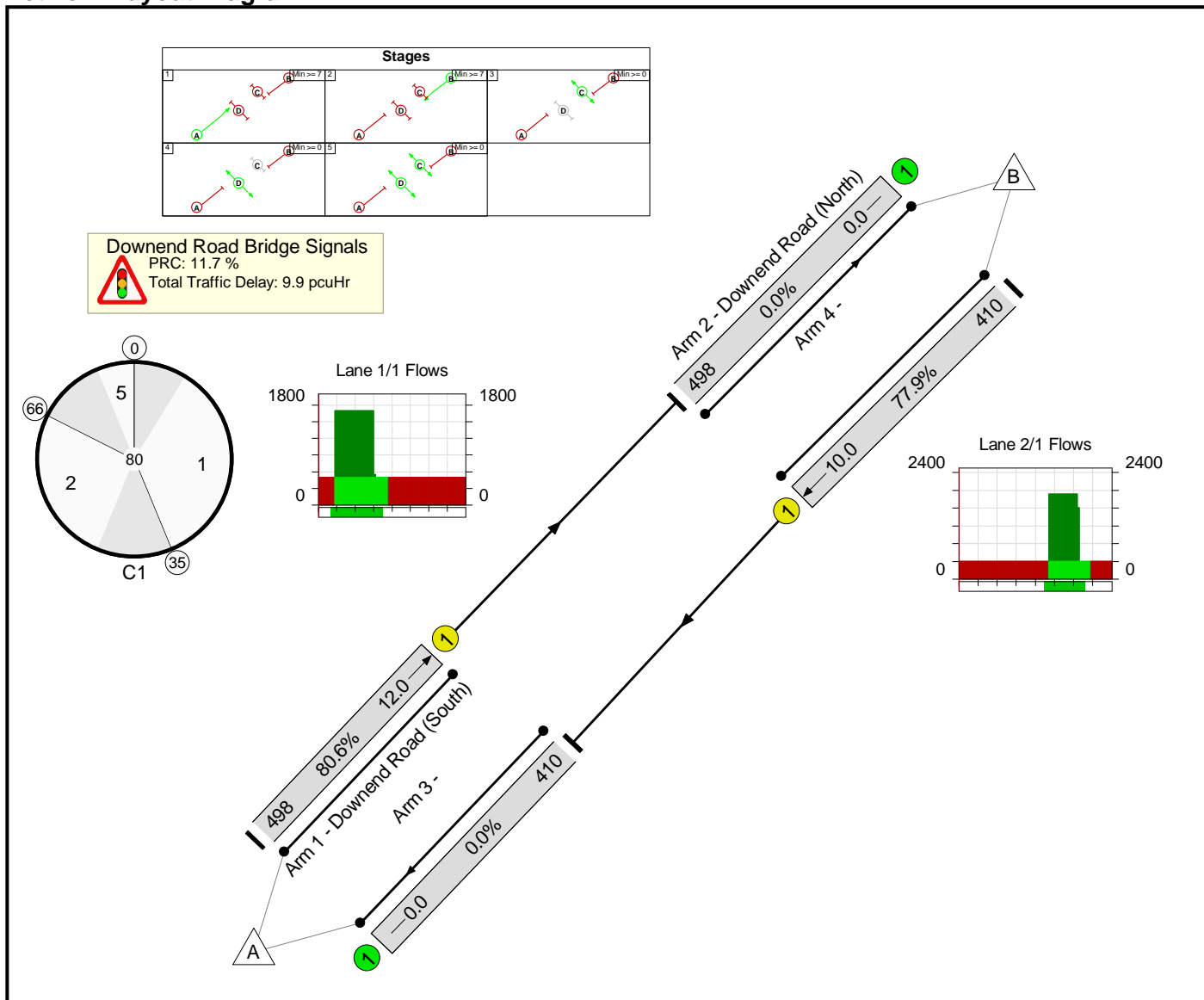
Stage Timings

Stage	1	2	5
Duration	28	21	5
Change Point	0	35	66

Signal Timings Diagram



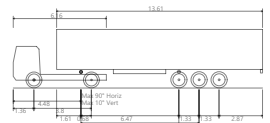
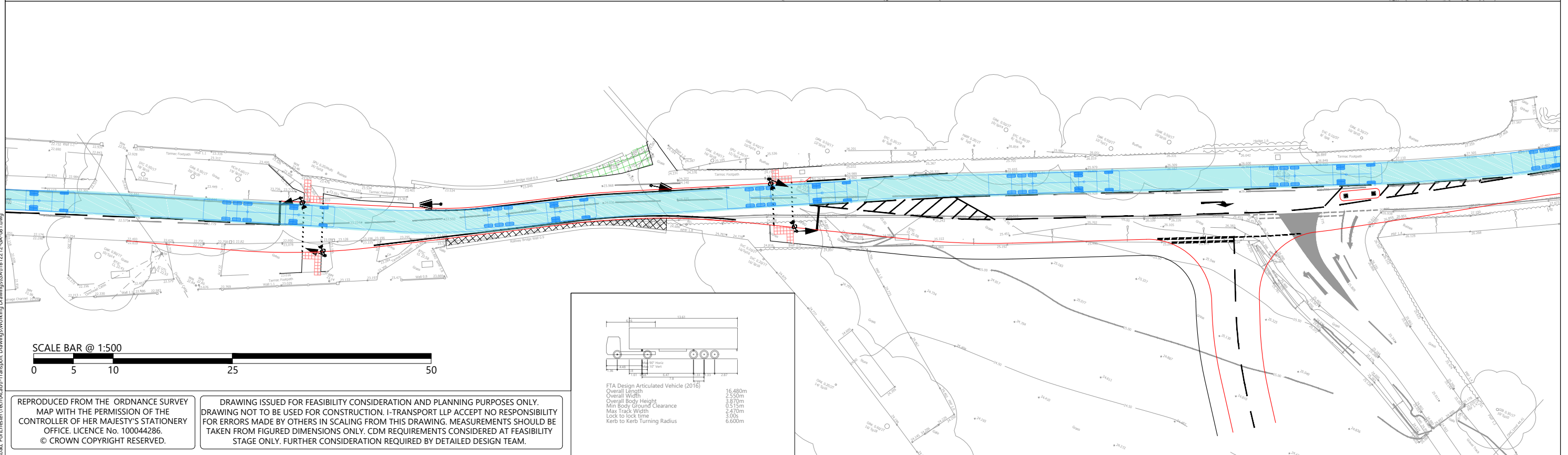
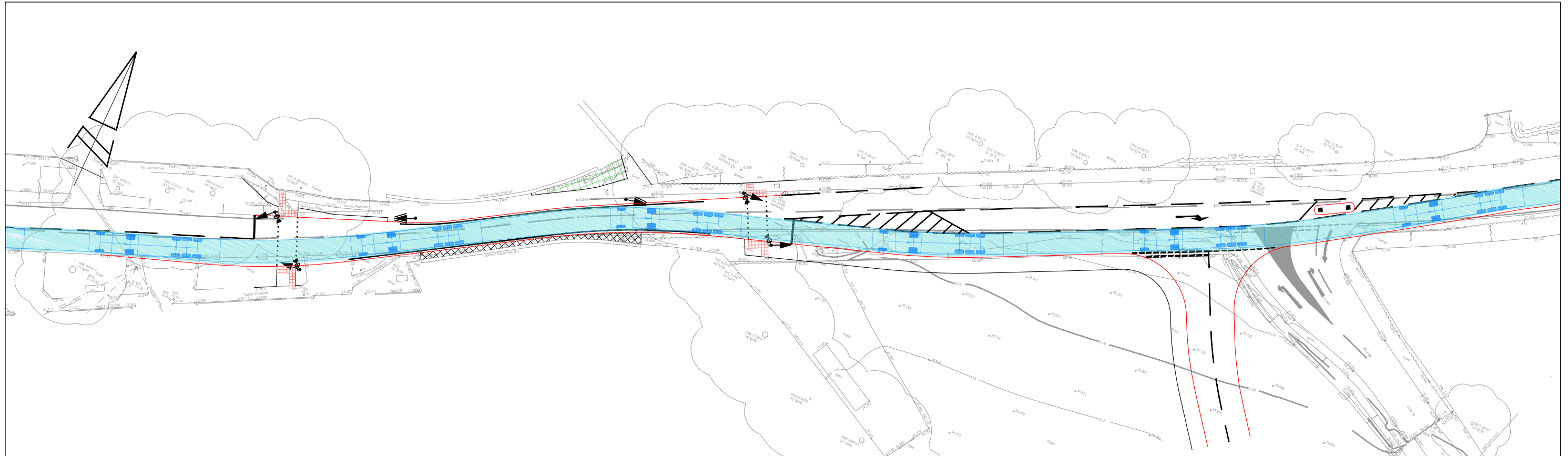
Network Layout Diagram



JCT Revised Submission Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Revised Submission	-	-	N/A	-	-		-	-	-	-	-	-	80.6%
Downend Road Bridge Signals	-	-	N/A	-	-		-	-	-	-	-	-	80.6%
1/1	Downend Road (South) Ahead	U	N/A	N/A	A		1	28	-	498	1705	618	80.6%
2/1	Downend Road (North) Ahead	U	N/A	N/A	B		1	21	-	410	1915	527	77.9%
3/1		U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	498	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Revised Submission	-	-	0	0	0	6.2	3.7	0.0	9.9	-	-	-	-
Downend Road Bridge Signals	-	-	0	0	0	6.2	3.7	0.0	9.9	-	-	-	-
1/1	498	498	-	-	-	3.2	2.0	-	5.2	37.5	10.0	2.0	12.0
2/1	410	410	-	-	-	3.0	1.7	-	4.8	41.8	8.3	1.7	10.0
3/1	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	498	498	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		11.7	Total Delay for Signalled Lanes (pcuHr):		9.94	Cycle Time (s):		80		
			PRC Over All Lanes (%):		11.7	Total Delay Over All Lanes(pcuHr):		9.94					



FTA Design Articulated Vehicle (2016)
 Overall Length 16.480m
 Overall Width 2.350m
 Overall Body Height 3.870m
 Min Body Ground Clearance 0.515m
 Max Track Width 2.470m
 Lock to lock time 3.00s
 Kerb to kerb Turning Radius 6.600m

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REV	DATE	BY	DESCRIPTION	CHK	APD
STATUS: FOR INFORMATION					

TITLE: DOWNEND ROAD BRIDGE - PROPOSED SIGNAL ARRANGEMENT WITH SIGNAL CROSSING GENERAL ARRANGEMENT - TRACKING - 16.5m ARTICULATE VEHICLE	PROJECT: DOWNEND ROAD, PORTCHESTER	CLIENT: MILLER HOMES
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DRAWN: MC	CHECKED: TW	APPROVED: TW
SCALE @ A3: 1:500	DATE: 18.08.21	
PROJECT No: ITB12212	DRAWING No: ITB12212-GA-081	REV: -

T:\Projects\12000 Series\Project Numbers\12121218 Downend Road Portchester\Tech\Acad\Transport Drawings\Working Drawings\ITB12212-GA-081.dwg