

Gladstone Harvey Road ULDA Subdivision - North Access
 2011 BG + Sur wDev - AM Priority
 Intersection ID: 0
 Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs)		Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot			1st	2nd				
South: Harvey Road (S)												
1 LT	9	381		390	5				0.207	0.2	0	500
	9	381	0	390	5				0.207	0.2		
North: Harvey Road (N)												
1 T		311		311	5				0.165	0.0	0	500
2 R			27	27	0				0.033	10.2	1	20
	0	311	27	338	5				0.165	0.8	1	
West: Northern Access												
1 LR	106		47	153	0				0.307	17.2	12	500
	106	0	47	153	0				0.307	17.2	12	
ALL VEHICLES												
				Total Flow	% HV				Max X	Aver. Delay	Max Queue	
				881	4				0.307	3.4	12	

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

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 2011 BG + Sur wDev - PM Priority
 Intersection ID: 0
 Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs) 1st 2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot							
South: Harvey Road (S)											
1 LT	27	165		192	4			0.102	1.2	0	500
	27	165	0	192	4			0.102	1.2		
North: Harvey Road (N)											
1 T		484		484	5			0.256	0.0	0	500
2 R			80	80	0			0.091	9.2	2	20
	0	484	80	564	4			0.256	1.3	2	
West: Northern Access											
1 LR	53		24	77	0			0.142	15.2	5	500
	53	0	24	77	0			0.142	15.2	5	
ALL VEHICLES											
				Total Flow	% HV			Max X	Aver. Delay	Max Queue	
				833	4			0.256	2.6	5	

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

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Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs) 1st 2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot							
South: Harvey Road (S)											
1 LT	9	1451		1460	5			0.773	0.1	0	500
	9	1451	0	1460	5			0.773	0.1		
North: Harvey Road (N)											
1 T		578		578	5			0.306	0.0	0	500
2 R			27	27	0			0.447	84.9	11	20
	0	578	27	605	5			0.447	3.8	11	
West: Northern Access											
1 LR	106		47	153	0			2.550	3008.2	872	500
	106	0	47	153	0			2.550	3008.2	872	
=====											
ALL VEHICLES				Total Flow	% HV			Max X	Aver. Delay	Max Queue	
				2218	5			2.611	208.6	872	
=====											

Peak flow period = 60 minutes.

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Gladstone Harvey Road ULDA Subdivision - North Access
 2021 BG + Sur wDev - PM Priority
 Intersection ID: 0
 Stop Sign Controlled Intersection

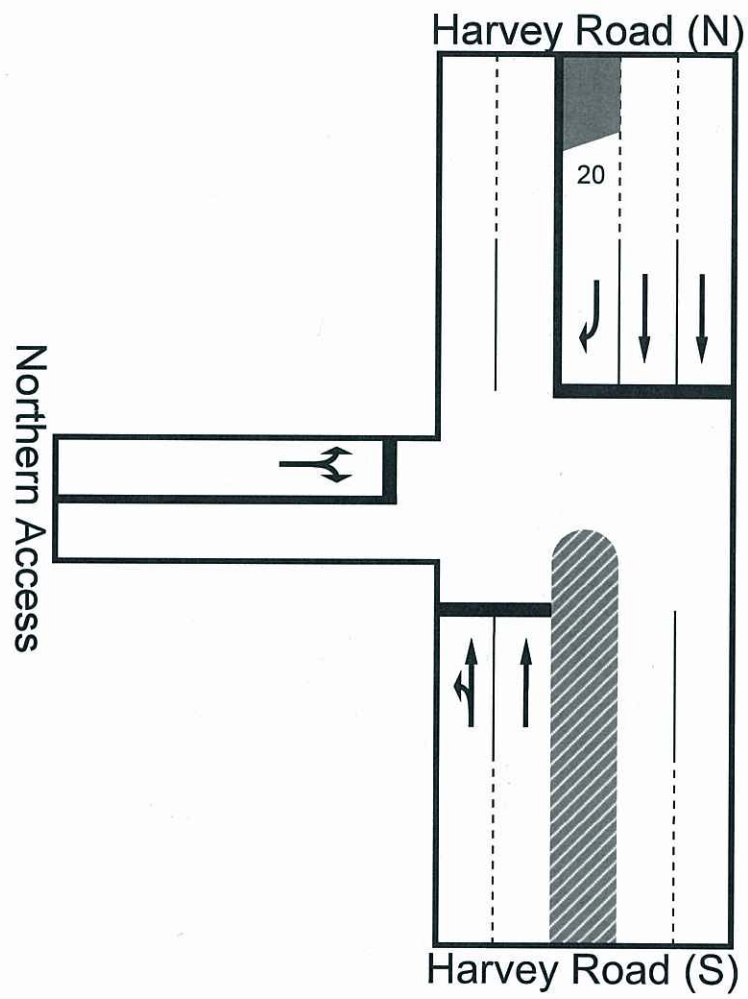
Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs) 1st 2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot							
South: Harvey Road (S)											
1 LT	27	699		726	5			0.385	0.3	0	500
	27	699	0	726	5			0.385	0.3		
North: Harvey Road (N)											
1 T		1285		1285	5			0.680	0.0	0	500
2 R			80	80	0			0.139	13.5	4	20
	0	1285	80	1365	5			0.680	0.8	4	
West: Northern Access											
1 LR	53		24	77	0			1.118	601.4	143	500
	53	0	24	77	0			1.118	601.4	143	
ALL VEHICLES											
				Total Flow	% HV			Max X	Aver. Delay	Max Queue	
				2168	5			1.143	22.0	143	

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Signal Controlled Geometry



Gladstone Harvey Road ULDA Subdivision - North Access
 2021 BG + Surrounding with Dev - AM Signals
 Intersection ID: 0
 Fixed-Time Signals, Cycle Time = 120 (User-given Cycle Time)

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs)		Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot			1st	2nd				
South: Harvey Road (S)												
1 LT	9	721		730	5	1950	89		0.521	7.0	135	50
2 T		730		730	5	1950	89		0.521	6.9	135	500
	9	1451	0	1460	5				0.521	6.9	135	
North: Harvey Road (N)												
1 T		289		289	5	1949	89		0.206	5.0	48	50
2 T		289		289	5	1949	89		0.206	5.0	48	500
3 R			27	27	0	1949	70		0.240	21.3	8	20
	0	578	27	605	5				0.240	5.7	48	
West: Northern Access												
1 LR	106		47	153	0	1949	19		0.520	59.2	70	50
	106	0	47	153	0				0.520	59.2	70	
=====												
ALL VEHICLES				Total	%	Cycle		Max	Aver.	Max		
				Flow	HV	Time		X	Delay	Queue		
				2218	5	120		0.528	10.2	135		
=====												

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows (in through car units) have been adjusted for grade, lane widths, parking manoeuvres and bus stops.

Phasing Summary

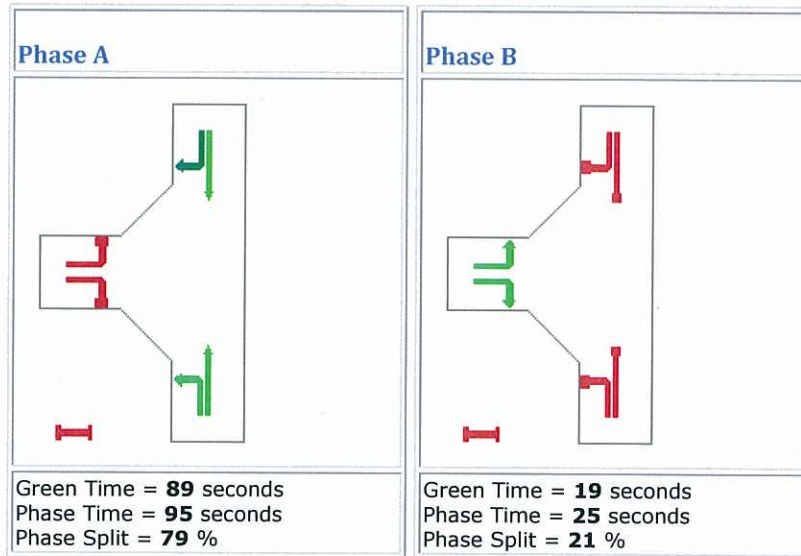
Gladstone Harvey Road ULDA Subdivision - North Access

2021 BG + Surrounding with Dev - AM Signals

C = **120** seconds

Cycle Time Option: **User-specified cycle time**

Phase times determined by the program.



- | | |
|------------------|-------------------|
| Normal Movement | Permitted/Opposed |
| Slip-Lane | Opposed Slip-Lane |
| Stopped Movement | Continuous |
| Turn On Red | |

Gladstone Harvey Road ULDA Subdivision - North Access
 2021 BG + Surrounding with Dev - PM - Signals
 Intersection ID: 0
 Fixed-Time Signals, Cycle Time = 120 (User-given Cycle Time)

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs) 1st 2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot							
South: Harvey Road (S)											
1 LT	27	336		363	5	1950	96	0.240	3.7	49	50
2 T		363		363	5	1950	96	0.240	3.1	49	500
	27	699	0	726	5			0.240	3.4	49	
North: Harvey Road (N)											
1 T		643		643	5	1949	96	0.425	3.8	92	50
2 T		643		643	5	1949	96	0.425	3.8	92	500
3 R			80	80	0	1949	91	0.358	12.6	13	20
	0	1285	80	1365	5			0.425	4.3	92	
West: Northern Access											
1 LR	53		24	77	0	1949	12	0.415	64.9	41	500
	53	0	24	77	0			0.415	64.9	41	
=====											
ALL VEHICLES				Total Flow	% HV	Cycle Time		Max X	Aver. Delay	Max Queue	
				2168	5	120		0.425	6.2	92	
=====											

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows (in through car units) have been adjusted for grade, lane widths, parking manoeuvres and bus stops.

Phasing Summary

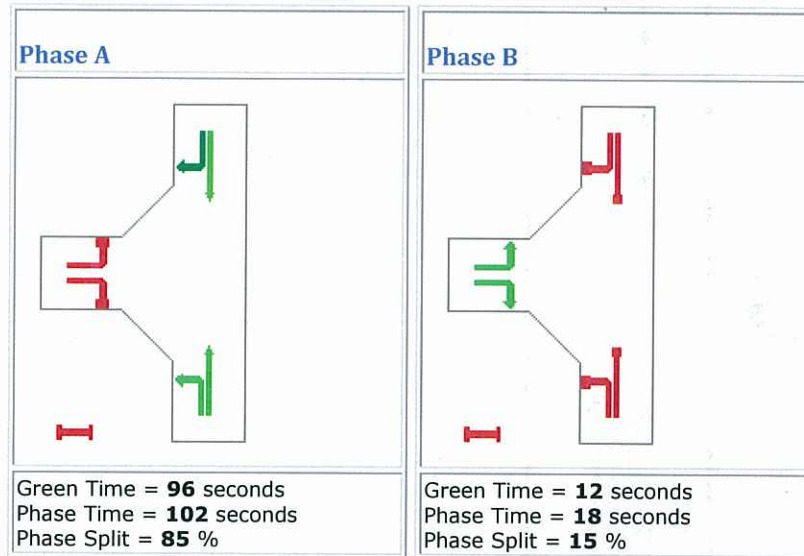
Gladstone Harvey Road ULDA Subdivision - North Access

2021 BG + Surrounding with Dev - PM - Signals

C = **120** seconds

Cycle Time Option: **User-specified cycle time**

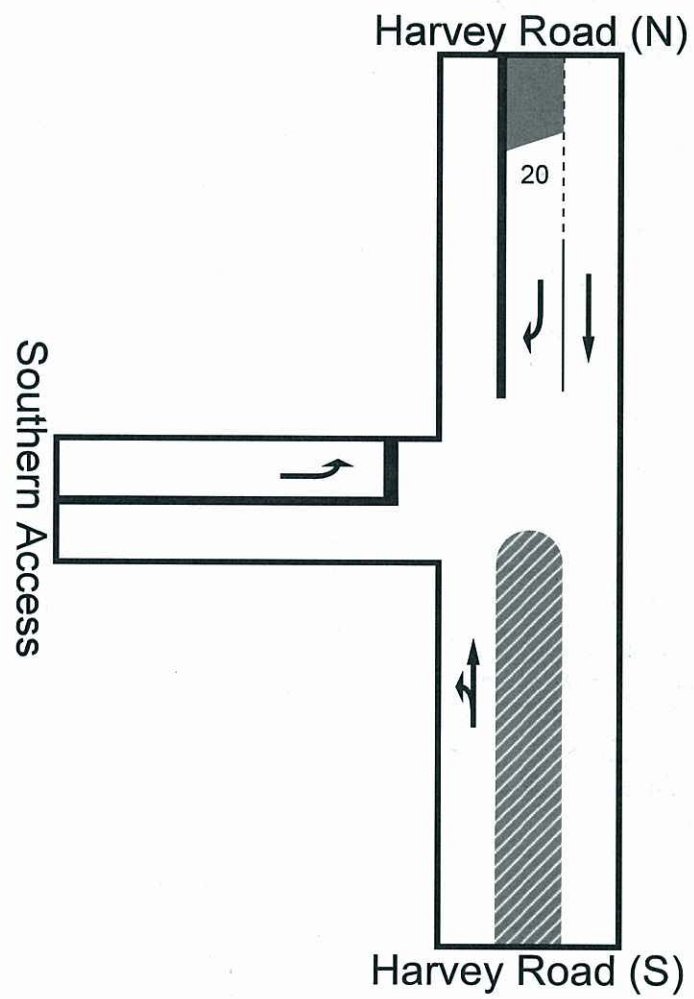
Phase times determined by the program.



- | | |
|------------------|-------------------|
| Normal Movement | Permitted/Opposed |
| Slip-Lane | Opposed Slip-Lane |
| Stopped Movement | Continuous |
| Turn On Red | |

Harvey Road / Southern Access

Priority Control Geometry



Gladstone Harvey Road ULDA Subdivision - South Access
 2011 BG with Dev - AM Priority
 Intersection ID: 0
 Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs)		Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot			1st	2nd				
South: Harvey Road (S)												
1 LT	3	355		358	5				0.190	0.1	0	500
	3	355	0	358	5				0.190	0.1		
North: Harvey Road (N)												
1 T		349		349	5				0.185	0.0	0	500
2 R			9	9	0				0.011	9.9	0	20
	0	349	9	358	5				0.185	0.3	0	
West: Southern Access												
1 L	35			35	0				0.044	12.7	1	500
	35	0	0	35	0				0.044	12.7	1	
=====												
ALL VEHICLES				Total Flow	% HV				Max X	Aver. Delay	Max Queue	
				751	5				0.190	0.7	1	
=====												

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Gladstone Harvey Road ULDA Subdivision - South Access
 2011 BG with Dev - PM Priority
 Intersection ID: 0
 Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs)		Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot			1st	2nd				
South: Harvey Road (S)												
1 LT	9	174		183	5				0.097	0.4	0	500
	9	174	0	183	5				0.097	0.4		
North: Harvey Road (N)												
1 T		481		481	5				0.255	0.0	0	500
2 R			27	27	0				0.031	9.1	1	20
	0	481	27	508	5				0.255	0.5	1	
West: Southern Access												
1 L	18			18	0				0.018	11.5	1	500
	18	0	0	18	0				0.018	11.5	1	
ALL VEHICLES												
				Total Flow	% HV				Max X	Aver. Delay	Max Queue	
				709	5				0.255	0.7	1	

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Gladstone Harvey Road ULDA Subdivision - South Access
 2021 BG with Dev - AM Priority
 Intersection ID: 0
 Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs)	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot			1st 2nd				
South: Harvey Road (S)											
1 LT	3	1423		1426	5			0.755	0.0	0	500
	3	1423	0	1426	5			0.755	0.0		
North: Harvey Road (N)											
1 T		616		616	5			0.326	0.0	0	500
2 R			9	9	0			0.125	54.5	3	20
	0	616	9	625	5			0.326	0.8	3	
West: Southern Access											
1 L	35			35	0			0.831	206.0	24	500
	35	0	0	35	0			0.831	206.0	24	
ALL VEHICLES											
				Total Flow	% HV			Max X	Aver. Delay	Max Queue	
				2086	5			0.833	3.7	24	

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

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Gladstone Harvey Road ULDA Subdivision - South Access
 2021 BG with Dev - PM Priority
 Intersection ID: 0
 Stop Sign Controlled Intersection

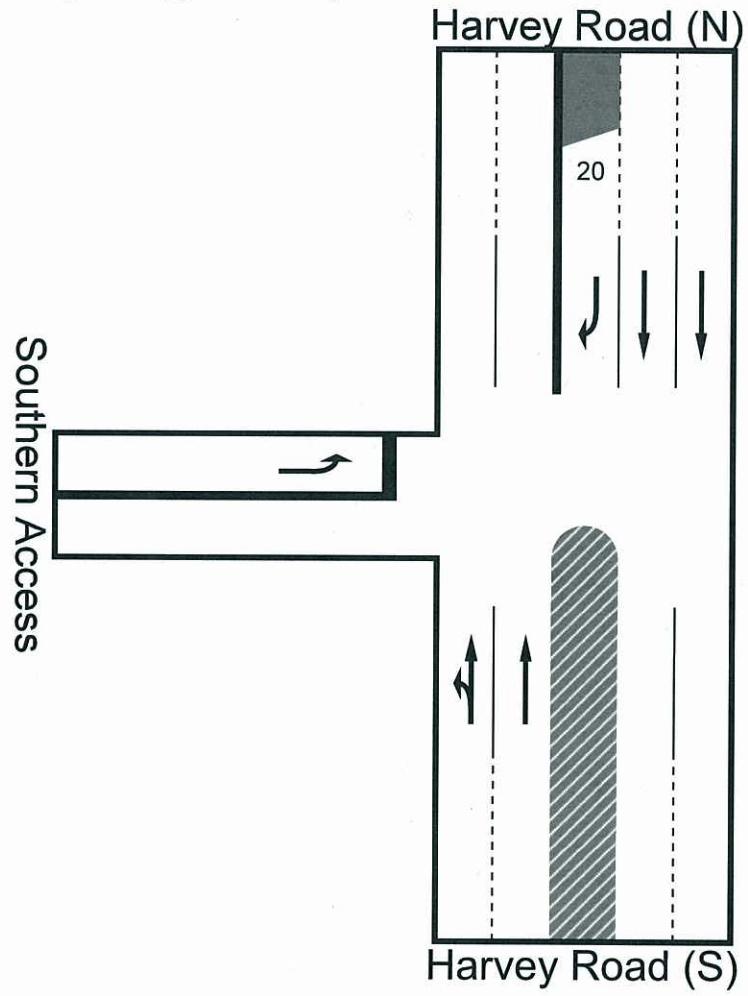
Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs)		Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot			1st	2nd				
South: Harvey Road (S)												
1 LT	9	708		717	5				0.380	0.1	0	500
	9	708	0	717	5				0.380	0.1		
North: Harvey Road (N)												
1 T		1282		1282	5				0.679	0.0	0	500
2 R			27	27	0				0.046	13.1	1	20
	0	1282	27	1309	5				0.679	0.3	1	
West: Southern Access												
1 L	18			18	0				0.040	16.6	1	500
	18	0	0	18	0				0.040	16.6	1	
=====												
ALL VEHICLES				Total Flow	% HV				Max X	Aver. Delay	Max Queue	
				2044	5				0.679	0.4	1	
=====												

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Harvey Road Upgrade Geometry



Gladstone Harvey Road ULDA Subdivision - South Access
 2021 BG + Surrounding with Dev - AM Priority 2
 Intersection ID: 0
 Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs)		Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot			1st	2nd				
South: Harvey Road (S)												
1 LT	3	710		713	5				0.378	0.0	0	500
2 T		713		713	5				0.378	0.0	0	500
	3	1423	0	1426	5				0.378	0.0		
North: Harvey Road (N)												
1 T		308		308	5				0.163	0.0	0	500
2 T		308		308	5				0.163	0.0	0	500
3 R			9	9	0				0.043	24.5	1	20
	0	616	9	625	5				0.163	0.4	1	
West: Southern Access												
1 L	35			35	0				0.242	37.1	7	500
	35	0	0	35	0				0.242	37.1	7	
ALL VEHICLES												
				Total Flow	% HV				Max X	Aver. Delay	Max Queue	
				2086	5				0.378	0.7	7	

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Gladstone Harvey Road ULDA Subdivision - South Access
 2021 BG + Surrounding with Dev - PM Priority 2
 Intersection ID: 0
 Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn (secs) 1st 2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
	L	T	R	Tot							
South: Harvey Road (S)											
1 LT	9	349		358	5			0.190	0.2	0	500
2 T		359		359	5			0.190	0.0	0	500
	9	708	0	717	5			0.190	0.1		
North: Harvey Road (N)											
1 T		641		641	5			0.339	0.0	0	500
2 T		641		641	5			0.339	0.0	0	500
3 R			27	27	0			0.041	12.2	1	20
	0	1282	27	1309	5			0.339	0.3	1	
West: Southern Access											
1 L	18			18	0			0.035	15.6	1	500
	18	0	0	18	0			0.035	15.6	1	
ALL VEHICLES											
	Total Flow				% HV			Max X	Aver. Delay	Max Queue	
	2044				5			0.339	0.3	1	

Peak flow period = 60 minutes.

Queue values in this table are 95% back of queue (metres).

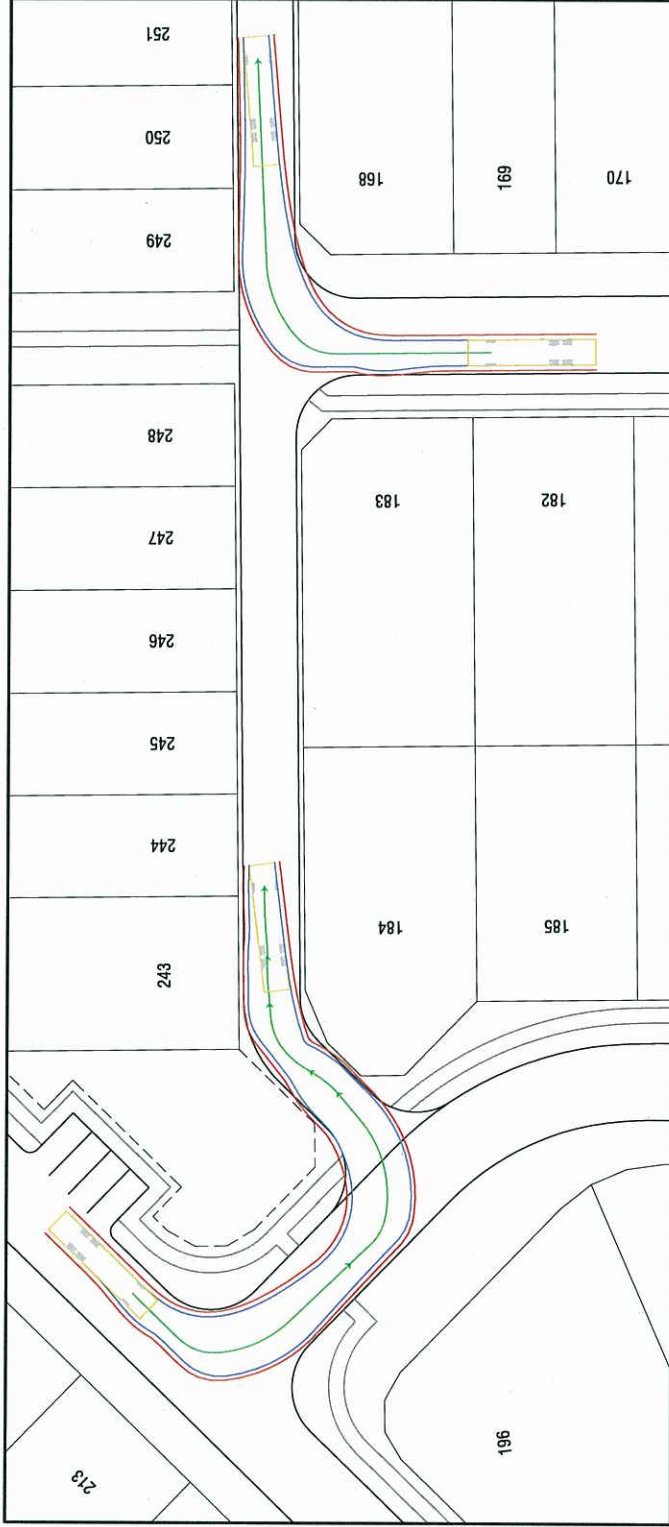
Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Appendix D

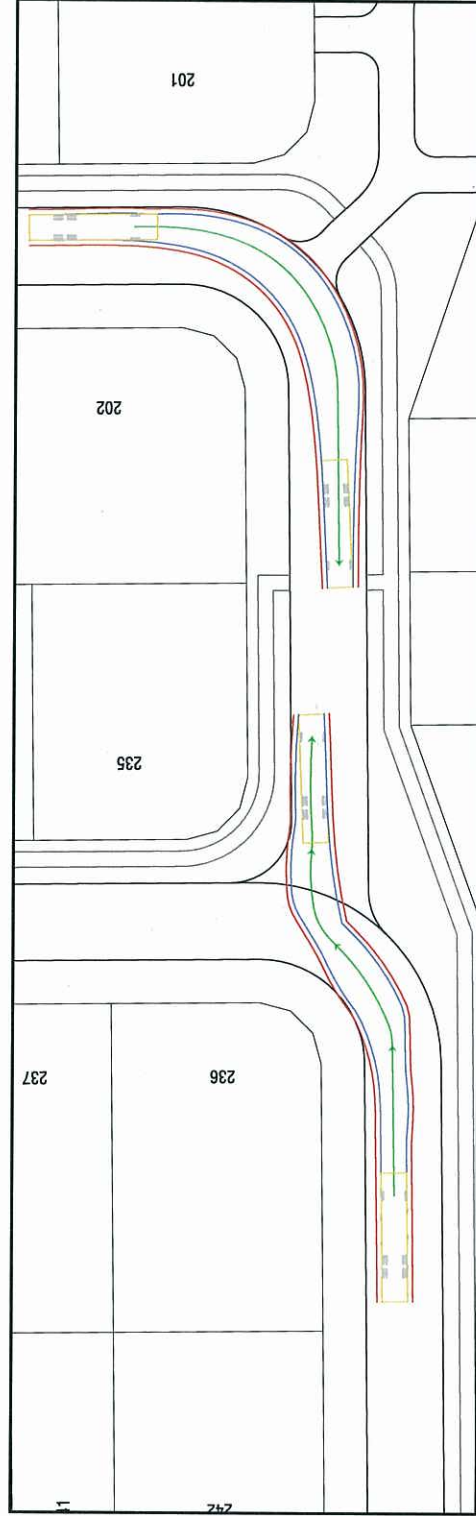
Refuse Vehicle Swept Path Analysis



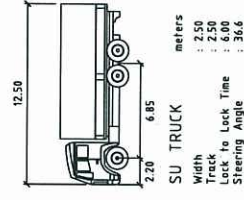
CONCEPT ONLY



Detail A



Detail B



LEGEND
VEHICLE BODY
VEHICLE PATH
VEHICLE CLEARANCE (500mm)
VEHICLE

AUSTROADS 12.5M SERVICE VEHICLE
(FOR COUNCIL RCV DESIGN PURPOSES)



Figure No: SK-03 | Project No: CE006104 | Date: 9.07.10

SCALE 1 : 500 @ A3
0 10 20 METRES



LEGEND
VEHICLE BODY
VEHICLE PATH
VEHICLE CLEARANCE (500mm)
VEHICLE

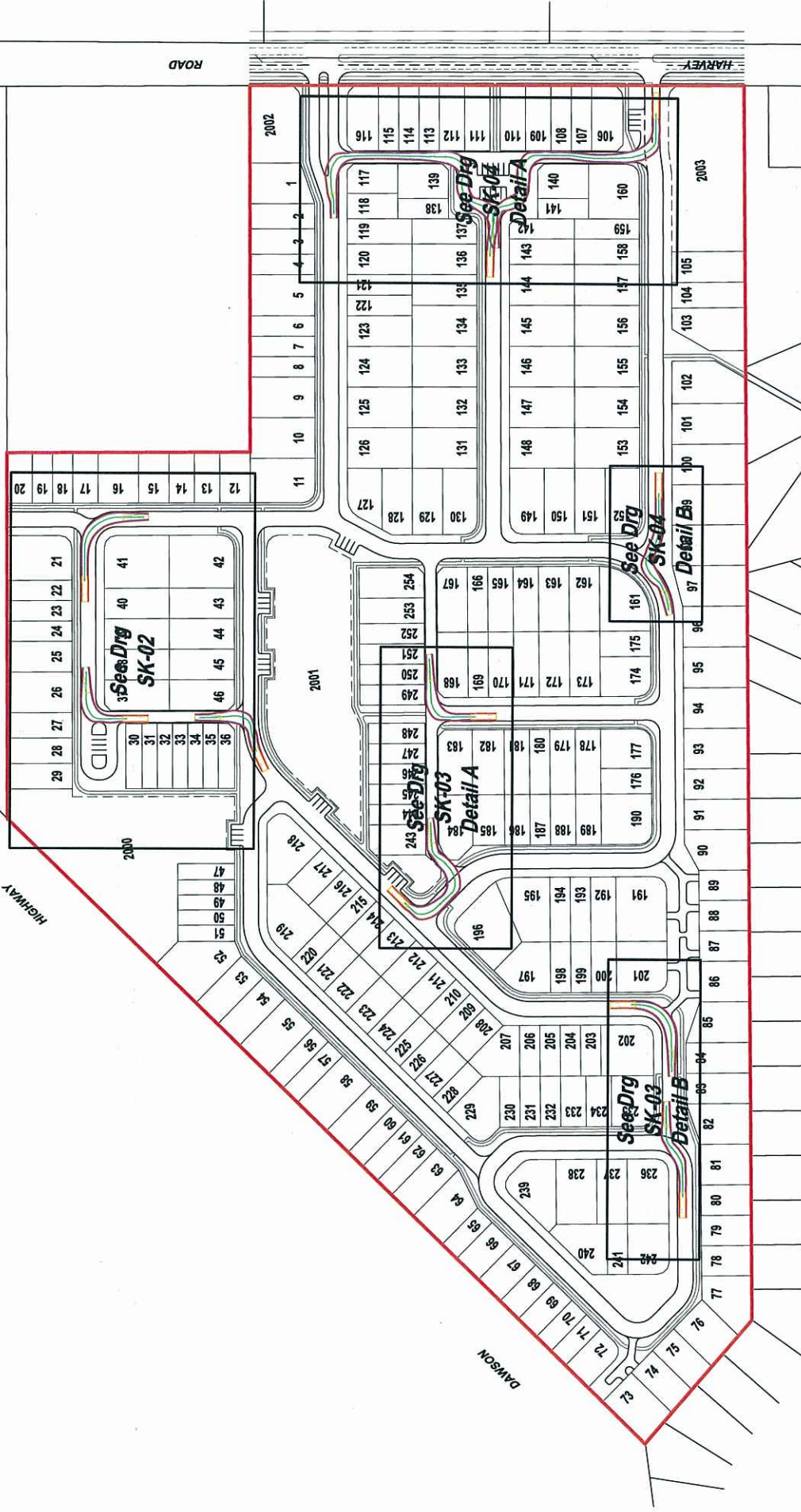
metres
SU TRUCK
Width : 2.50
Track : 2.50
Lock to Lock Time : 6.00
Steering Angle : 36.6



CONCEPT ONLY

HIGHWAY

ROAD



50 0 50 100 METRES

SCALE 1:2000 @ A3

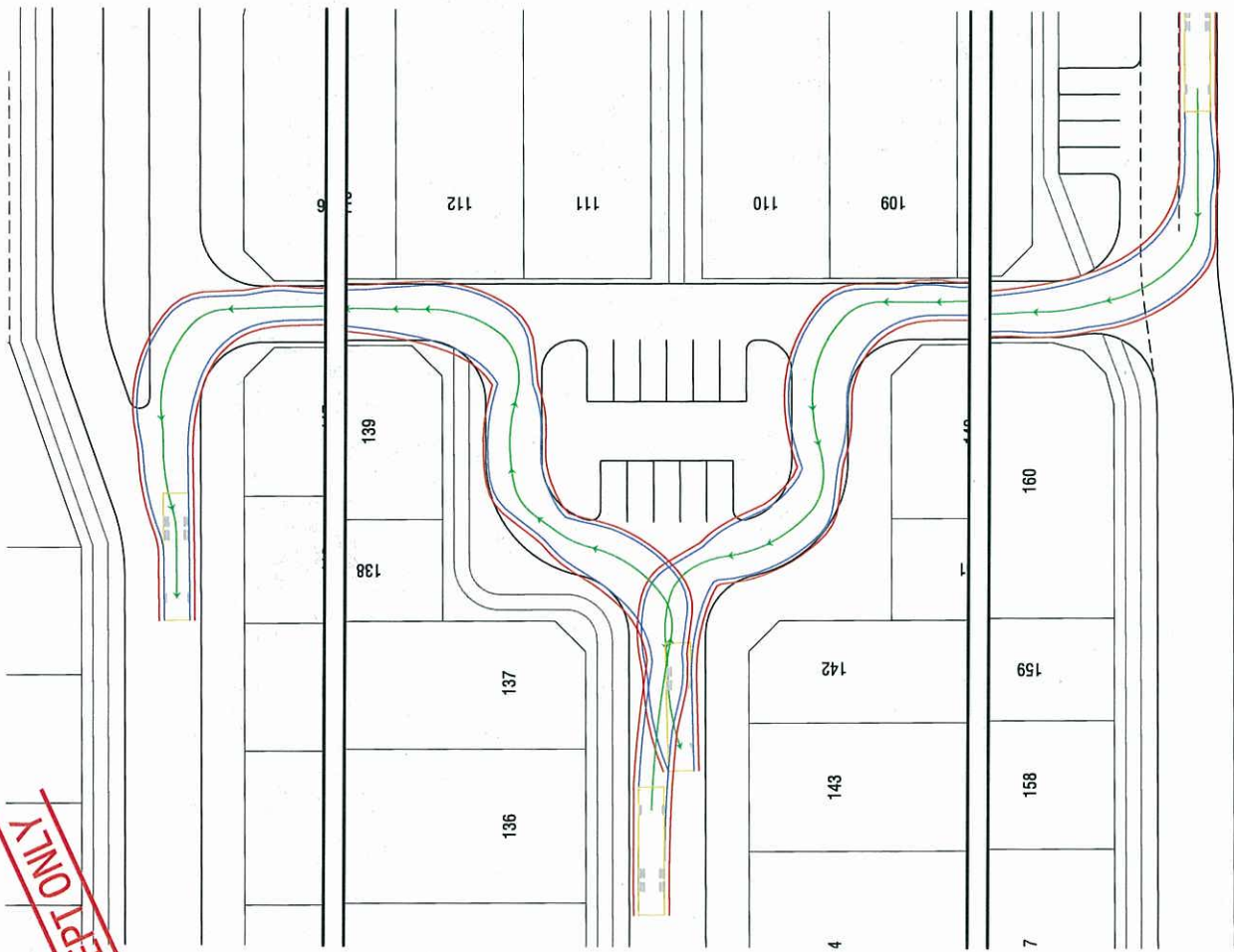
FILE NAME: X7 6104_SP.dwg

SITE MAP

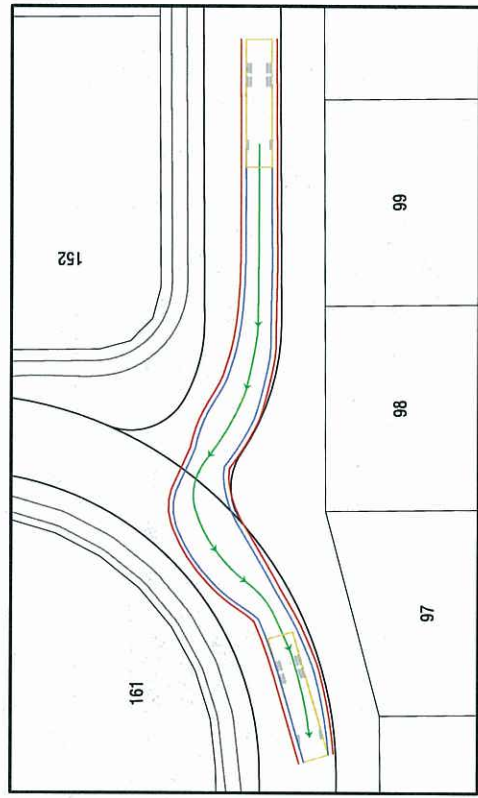


Figure No: SK-01 | Project No: CEB06104 | Date: 9.07.10

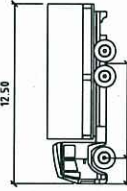
CONCEPT ONLY



Detail A



Detail B



SU TRUCK	metres
Width	: 2.50
Track	: 2.20
Lock to Lock Time	: 6.00
Steering Angle	: 36.6

- LEGEND
- VEHICLE BODY
 - VEHICLE PATH
 - VEHICLE CLEARANCE (500mm)
 - VEHICLE

