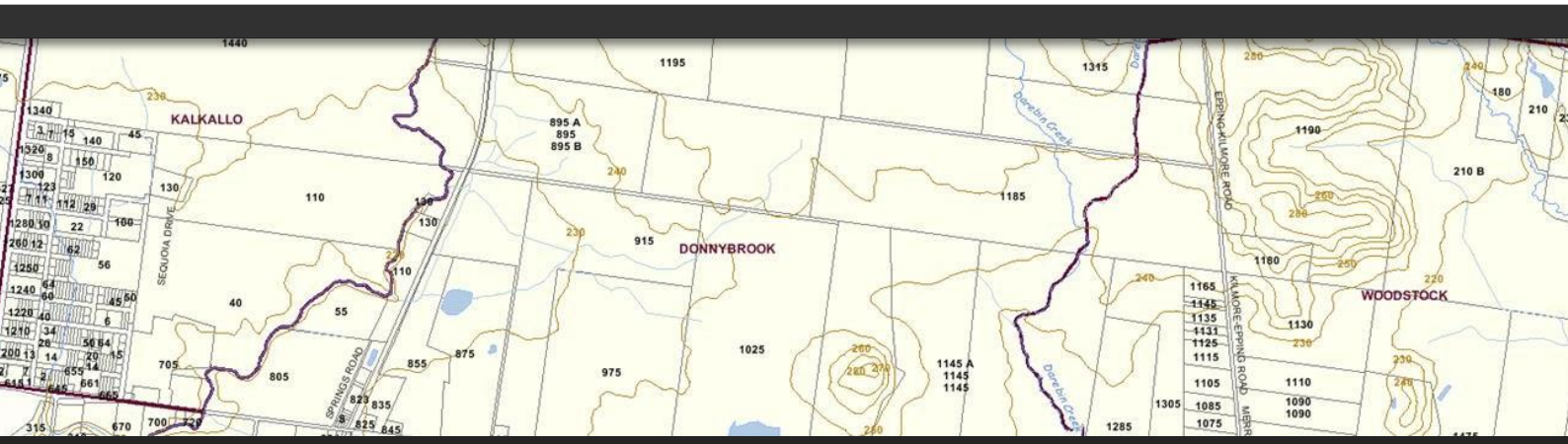
onemilegrid
TRAFFIC ENGINEERING

Donnybrook & Woodstock PSP

Road, Intersection and Culvert/Bridge Design



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26 October 2015

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DOCUMENT INFORMATION

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CONTENTS

APPENDICES

1 INTRODUCTION

onemile**grid** has been requested by MPA to undertake a range of engineering works in relation to the Donnybrook and Woodstock PSP areas, including the following items to inform the Development Contributions Plan:

- Intersection Analysis;
- Intersection Design;
- Bridge/Culvert Design; and
- Road Design.

The following report compiles the analysis and designs for the various road, intersection and bridge/culvert projects shown in Appendix A.

2 INTERSECTION ANALYSIS

Analysis of various intersections within the PSP area has been undertaken to assist in the design of intersections, with the Intersection Analysis report attached in Appendix B.

It should be noted that since the preparation of the traffic modelling (undertaken by others), and the intersection analysis within the attached report, the road network layout and intersection locations have been modified. As a consequence, the traffic modelling and intersection analysis is considered to be inaccurate to the current design.

Regardless, given the modelling undertaken previously, and the spare capacity generally available, it is expected that the intersection designs will accommodate the likely flows.

3 INTERSECTION DESIGN

Working with each of the project consultants, detailed concept design for the intersection located within the Donnybrook/Woodstock PSP area have been prepared. The design of the intersections takes into consideration the vertical geometry of the connecting arterial road network and bridge/culvert design requirements.

Intersections designs for both the ultimate and interim stages of the area have been provided, and can be found in Appendix C and Appendix D respectively.

In preparing the intersections designs, the following assumptions have been made:

- Digital Cadastral information provided by the MPA has been used to determine the existing road reserve and property boundaries;
- The design of the interim and ultimate Arterial Road intersections is based on standard VicRoads intersection treatment templates;
- Turn lane lengths have been based upon deceleration lengths for the anticipated posted speed of each approach roadway;
- Preliminary swept path analysis for suitable design vehicles have been undertaken to ensure that the concept design can be developed into a detailed functional design as required; and
- The design of the horizontal geometry for each of the intersections has been undertaken in accordance with Austroads Guide to Road Design Part 4A, taking into consideration VicRoads Supplement to Austroads Guide to Road Design Part 4A.

4 BRIDGE/CULVERT DESIGN

The ADAMS bridge and culvert details are presented in Appendix E.

Bridge structure elevations and cross sections are based on implementation of conventional precast concrete 'Super T' deck beam construction. Super T's have become a preferred economical and durable long spanning bridge deck solution across Australia. As far as practicably possible, selected beam spans and depths are generally consistent and spans are in the economical range for the selected Super T beam size.

Support structures, i.e.; cross heads, piers, pile caps and bored piles are all conventional for this type of application. Assumptions have been made regarding bridge foundation conditions. The Victorian Geological Survey Map for Sunbury suggest that the bridges will be founded in one of the newer volcanic rocks found predominantly in the area.

Bridge geometry has been determined to comply with the clearance requirements of the Victorian Rail Industry Operators Group Standards: VRIOGS 001 - Structure Gauge Envelopes – Minimum Clearances for Infrastructure Adjacent to the Railway: Revision B, Issue Date: 04/06/12 and V/Line standard NIST-2616, Railway Structures Design Requirements, revision 02 dated 31/10/2014. AS5100: Bridge Design has also been referred to for the setting of geometry to protect bridge structures from rail and flood impact loads. Bridge spans over the rail tracks have been based on an allowance for 4.5 m between adjacent track centrelines for four number sets of rail tracks, with 4.5 m clear zone to one side of the tracks and 6.0 m clear zone to the other to allow for an access track for maintenance vehicles. This includes provision for a forth track for future installation where not currently installed. These allowances are in accordance with information received from MPA via email dated 17th September 2015. Vertical clearances under the bridges over the railway tracks accommodate the clearances specified for double stacked container freight trains.

Approach road fill embankments are shown as being restrained using the Reinforced Earth precast concrete panel system, which again is relatively conventional, economical, durable and well accepted in this application. They are shown as not extending down into either the Q_{100} flood zones or the bridge code specified rail impact zones. The retaining structures shown should perform well and have maximised expected life spans in this application.

Minor local adjustments to existing land contours under bridges in flood zones have been proposed to allow maintaining of equivalent Q_{100} flood conveyance and storage cross sections and yet to also allow for sensible reductions in overall bridge lengths that might otherwise not occur.

Bridge crash barriers have been selected to be robust and durable. Alternative more visually permeable barrier solutions may be achieved within a similar order of price magnitude. Anti-throw and fall prevention screens are also required for the bridges over the railway tracks in accordance with V/Line standard NIST-2616 where pedestrian access is accommodated by the bridge. These may take the form of a non-climbable screen in addition to the vehicle barriers installed to the bridges. It is anticipated these screens would have a significant architectural input to their form for aesthetics given the minimum required heights. Posts are anticipated to be hot dipped galvanised steel, with secondary structure and cladding elements to suit architectural requirements. We assume these are required for the extent of the bridge span over the railway tracks (including maintenance access track and clear zone either side of the railway tracks) only.

Box culvert selections are based on precast inverted 'U' culvert cell segments placed over in situ base slabs, with economical link slabs being utilised wherever possible. Concrete wingwalls at each end of the culverts are shown with a geometry compliant with VicRoads standards. Wingwalls may be cast in situ, or may utilise precast elements where economies suggest.

5 ROAD DESIGN

The civil road design is based on 3D LIDAR data of existing conditions for the purposes of assessing and creating preliminary vertical geometry using 12D design software. Horizontal road geometry and intersection layouts were provided by **one**mile**grid**. The road gradings have been optimised where possible to minimise the extents of typical 1 in 3 cut and 1 in 5 fill batters.

Culverts have been analysed and sized according to flow rates provided by Dennis Price Miller at the required locations. An additional culvert is included at BR-09.

Vertical road geometry and levels also take into account:

- Austroads Standard – Guide to Road Design, Part 3: Geometric Design, taking into consideration VicRoads Supplement to Austroads Guide to Road Design Part 3;
- Clearance requirements of V/Line standard NIST-2616, Revision 02, Issue Date: 31/10/2014;
- Bridge clearance of 8.8m as advised by MPA, to allow for double stacked containers;
- Overall structural depth of bridges (including pavement);
- Q_{100} flood levels provided by Melbourne Water;
- Catchment for drainage network is limited to road reservation, assuming that the road drainage network does not cater for lot drainage; and
- Culvert sizes and pavement depth above.

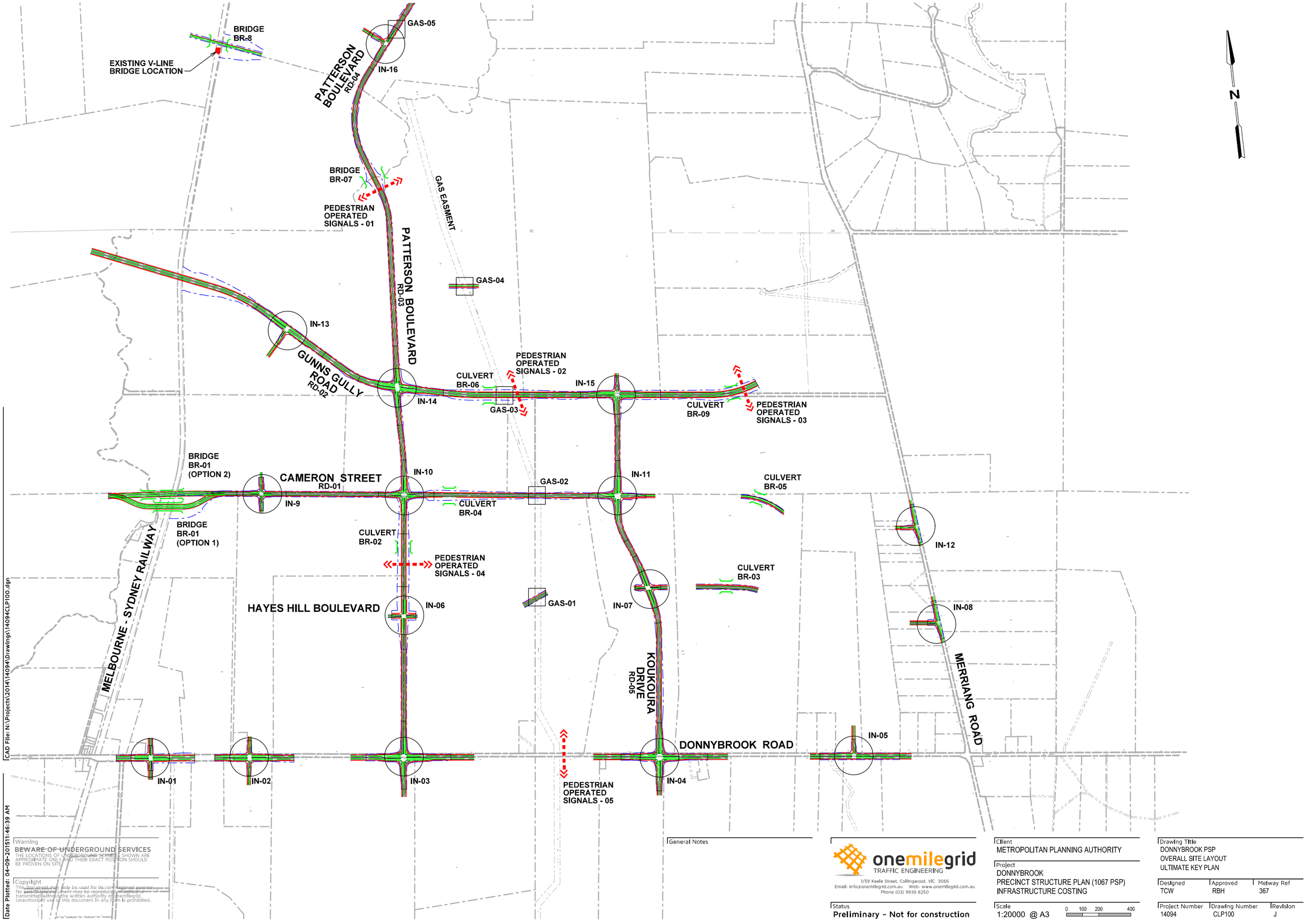
6 LAND TAKE AREAS

The land take area for each road, intersection and bridge projects have been calculated, and are shown on plans attached in Appendix F.

In calculating the land take areas, the following assumptions have been made:

- Intersection land take areas are based on the chainage at the point where the interim design matches back into the standard road cross-section;
- Road Reserve boundaries generally accord with the standard MPA cross-sections;
- Widening for batter slopes has been provided where the expected batter slope width extends more than 5m beyond the standard road reserve boundary, and then the widening roughly matches the expected batter slope extents;
- Land take areas take into account the road reserve boundaries modified by the expected batter slopes; and
- Connector roads have not been included in the land take areas, other than localised flaring for intersections.

Appendix A Road, Intersection and Bridge Projects



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Date Plotted: 04-09-201511:46:39 AM

Warning
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

General Notes

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Status
Preliminary - Not for construction

Client
METROPOLITAN PLANNING AUTHORITY

Project
DONNYBROOK
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

Scale
1:20000 @ A3
0 100 200 400

Drawing Title
DONNYBROOK PSP
OVERALL SITE LAYOUT
ULTIMATE KEY PLAN

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP100	J

Appendix B Intersection Analysis Report

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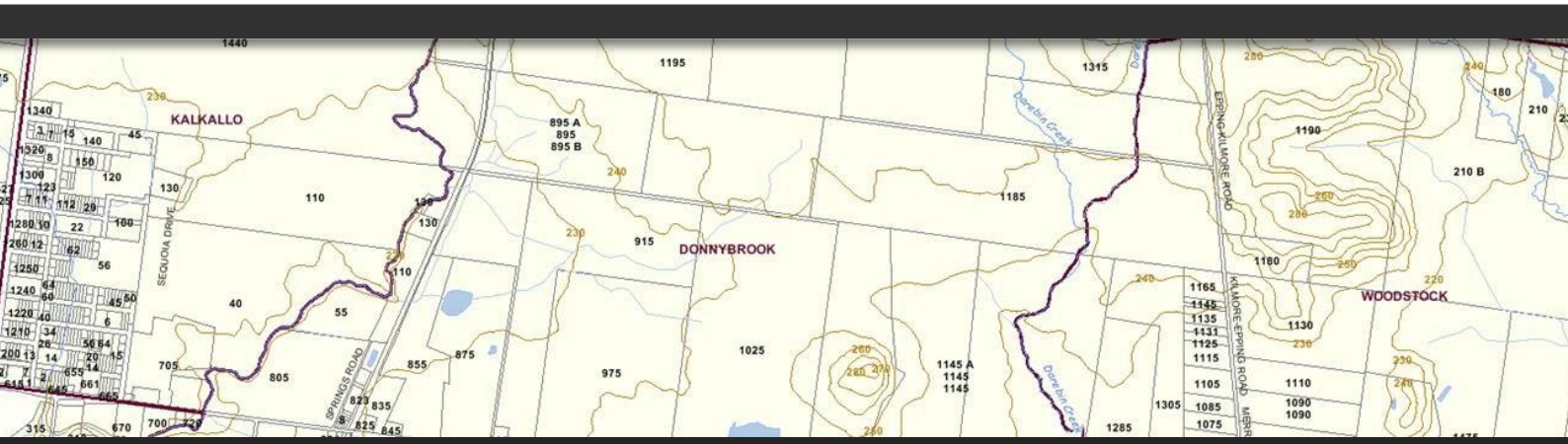
TRAFFIC ENGINEERING

Donnybrook & Woodstock PSP

Intersection Analysis



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4 February 2015

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Prepared By	Ross Hill	**Authorised By**	Trevor Waugh
Signature		**Signature**	

CONTENTS

TABLES

APPENDICES

1 INTRODUCTION

onemile**grid** has been requested by MPA to undertake a range of engineering works in relation to the Donnybrook and Woodstock PSP areas.

The following report outlines the analysis related to intersection design, including a review of the traffic volumes provided, and intersections analysis for selected intersections.

2 TRAFFIC VOLUME REVIEW

A review of the traffic volume data provided by GTA was undertaken, in order to determine which intersections may require specific treatments to accommodate the expected volumes. The review included assessment of:

- Total intersection volumes (>4000vph);
- Right turn volumes by lane (>400vph);
- Through volumes by lane (>800vph); and
- Left turn volumes by lane (>500vph).

As a result of the review, three intersections were nominated for further analysis under Ultimate conditions, as below, and as highlighted in Figure 1:

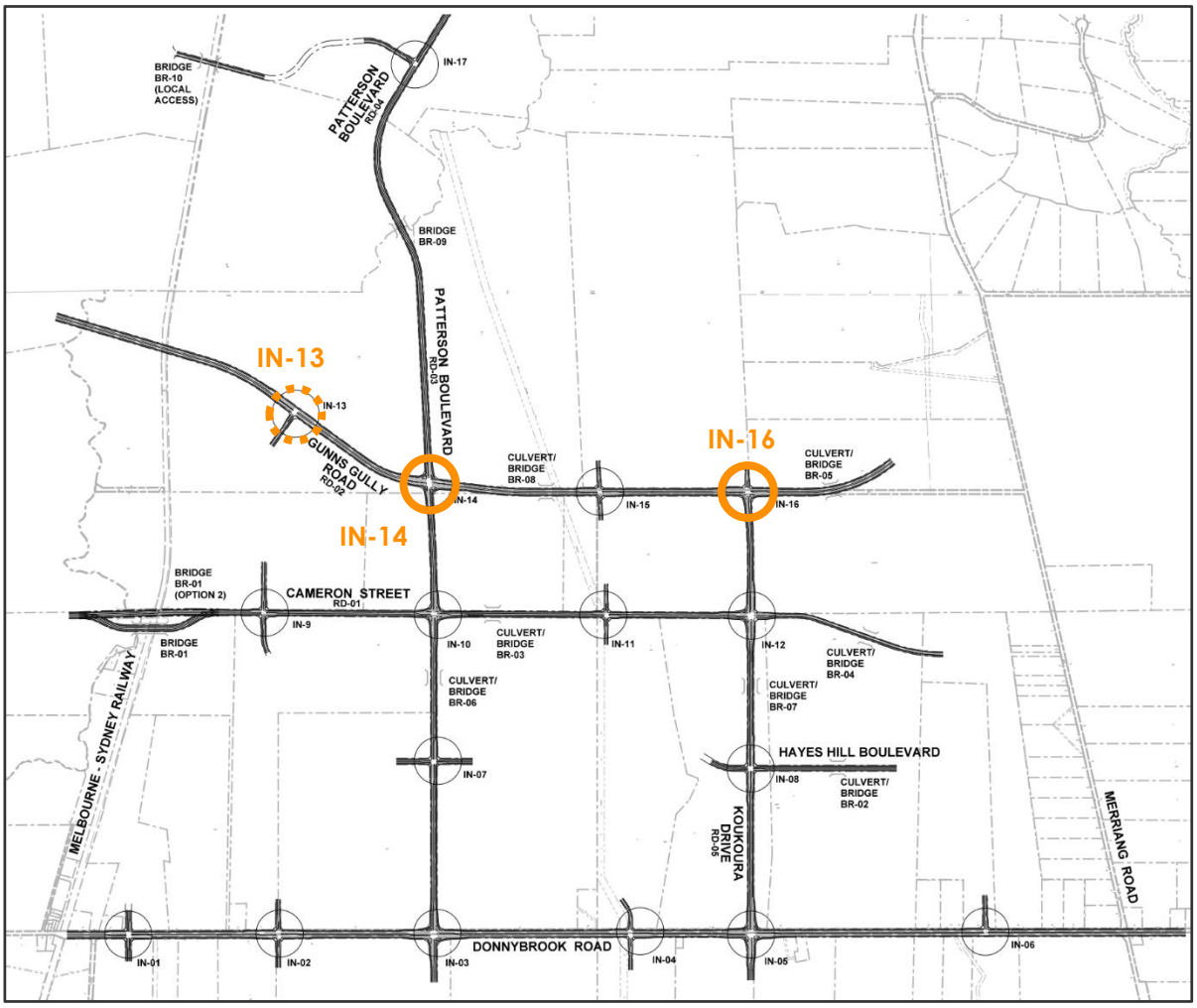
- IN-13 (previously IN-17) – High total intersection and through volumes
- IN-14 (previously IN-18) – High total intersection and right turn volumes
- IN-16 (previously IN-20) – High total intersection and right turn volumes

Under Interim conditions, no intersections were identified as requiring further analysis.

It was also noted that traffic volumes were not provided for intersection IN-01.

Following discussion with MPA, of the above intersections, further analysis was elected to be undertaken on IN-14 and IN-16 under Ultimate conditions only.

Figure 1 Intersection Analysis Locations



3 INTERSECTION ANALYSIS

3.1 Sidra Assumptions and Details

To assess the operation of the intersection the traffic volumes have been input into SIDRA Intersection, a traffic modelling software package.

The SIDRA Intersection software package has been developed to provide information on the capacity of an intersection with regard to a number of parameters. Those parameters considered relevant are, Degree of Saturation (DoS), 95th Percentile Queue, and Average Delay as described below.

Table 1 SIDRA Intersection Parameters

Parameter	*Description*
Degree of Saturation (DoS)	The DoS represents the ratio of the traffic volume making a particular movement compared to the maximum capacity for that particular movement. The value of the DoS has a corresponding rating depending on the ratio as shown below. *Degree of Saturation* / *Rating* Up to 0.60 – Excellent 0.61 – 0.70 – Very Good 0.71 – 0.80 – Good 0.81 – 0.90 – Acceptable 0.91 – 1.00 – Poor Above 1.00 – Very Poor It is noted that whilst the range of 0.91 – 1.00 is rated as 'poor', it is acceptable for critical movements at an intersection to be operating within this range during high peak periods, reflecting actual conditions in a significant number of suburban signalised intersections.
Average Delay (seconds)	Average delay is the time delay that can be expected for all vehicles undertaking a particular movement in seconds.
95th Percentile (95%ile) Queue	95%ile queue represents the maximum queue length in metres that can be expected in 95% of observed queue lengths in the peak hour

The following assumptions and analysis details have been applied to each intersection, unless otherwise noted in the analysis. Where no commentary is provide, SIDRA defaults are retained.

1. SIDRA Version 6.0.24.4877 has been utilised for the analysis;
2. Performance Measure and Level of Service Method have been set to Degree of Saturation, to better represent the operation of SCATS;
3. Where left turn slip lanes have not been provided, separate left turn lanes have been included;
4. Diamond right turn phasing has been adopted for both the main road and side road, with fully controlled turns;
5. Heavy vehicle volumes have been adopted as follows:
   a) 4% of arterial road through traffic volumes; and
   b) 2% of local streets (including turns from the arterial road).
6. Pedestrian volumes have been adopted as 50 pedestrians per hour

7. Cycle times adopted as120 seconds
8. Pedestrian movements will operate every cycle during the peak periods.
9. Intergreen times have been assumed at 6 seconds, comprising 4 seconds of yellow and 2 seconds of all-red. Some variation in these times can be expected, although on average, 6 seconds of intergreen is considered appropriate.
10. Pedestrian walk and clearance times based on SIDRA defaults, which is considered to be conservative;
11. No additional peak flow factor has been used;
12. Bus priority typically only impacts on signal operation where a bus is provided with a 'head start' lantern, which delays through traffic on the main road for a few seconds. This only occurs when a bus does not pass through the intersection on the green phase. Given the expected frequency of buses, and the limited impact on intersection operation, bus operations have not been included in the analysis;
13. Bicycles have not been included in the analysis;
14. The length of a short lane utilised in the SIDRA analysis is taken as the length of the straight section of the turn lane, plus half of the taper length. This is considered to be the effective turn lane length, as the first half of the taper is considered too narrow to accommodate a full vehicle width.
15. The length of deceleration/turn lanes has been adopted as the Minimum required for deceleration (based on the posted speed limit);
    a) 80km/h = 100m deceleration = 85m in SIDRA;
    b) 60km/h = 55m deceleration = 45m in SIDRA;
    c) 50km/h = 40m deceleration = 30m in SIDRA; and
    d) 40km/h = 25m deceleration = 20m in SIDRA.
16. Lane widths of 3.5m have been adopted for all lanes;
17. Median widths of 2.5m have been adopted for all approaches;
18. Arrival Type retained as the SIDRA default, which assumes random arrivals:
19. The following targets have been adopted with regard to intersection operation:
    a) Intersection Degree of Saturation below 0.9; and
    b) Maximum 95th percentile queue lengths of less than 250m.

3.2 Analysis Results

The results of the analysis are provided in Appendix A.

The analysis also identifies the required intersection treatment to accommodate the expected volumes, within the targets above.

4 REVISED ROAD NETWORK

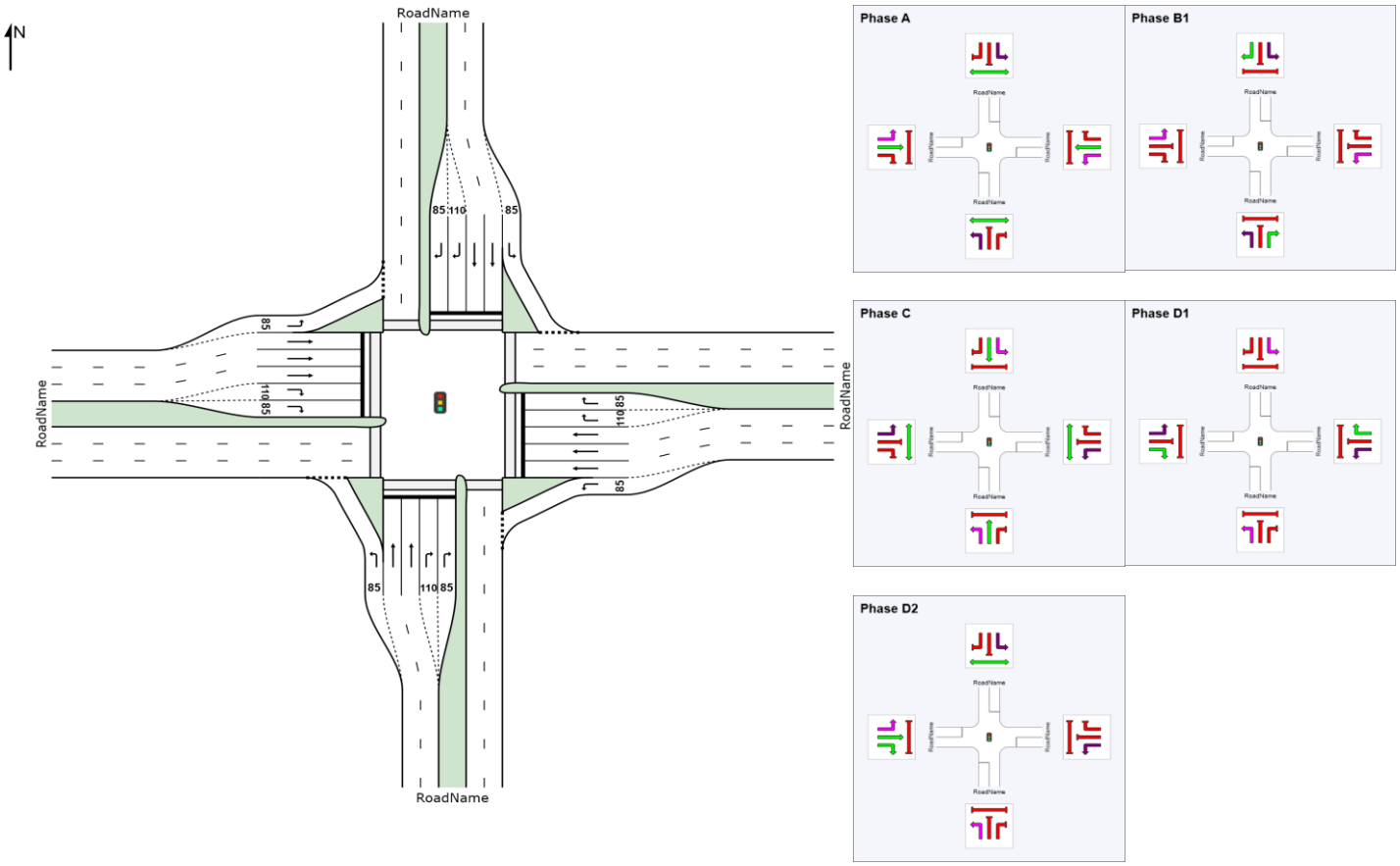
Subsequent to the above analysis, modifications to the road network occurred, resulting in removal and relocation of intersections and roads. A change in traffic volumes can therefore be expected as a result of the road network changes.

The modelling previously undertaken by GTA has not been amended to reflect the road network changes, therefore revised intersection analysis has not been undertaken.

Appendix A SIDRA Summaries

IN-14: Gunns Gully/Pattersons
AM Peak, Ultimate

Signals *\\auvics01\Company\Projects\2014\14094\Sidra\14094SID001B.sip6[IN-14AM]*



Phase	Grn	Yel	Red	Total	%
A	43	4	2	49	40.83
B1	13	4	2	19	15.83
B2	0	4	2	1	0.833
C	30	4	2	36	30
D1	9	4	2	15	12.5

RoadName **120**

						App	**R**	**T**	**L**					
						43.7	61.4	38.2	7.3					
						48.9	48.9	46.7	4.8					
						0.554	0.554	0.278	0.051					
						586	236	276	74					
						23	9	11	3					
RoadName						563	227	265	71					**RoadName**
L	6.5	6.4	0.091	141	6	135				1325	55	1380	0.571	133.8	32.3	**App**
T	29.7	65.5	0.313	647	26	621				65	3	68	0.248	14.2	64.5	**R**
R	66.5	32.4	0.548	150	6	144				1132	47	1179	0.571	133.8	33.3	**T**
App	32.1	65.5	0.548	938	38	900				128	5	133	0.1	9	7.3	**L**
					3387		336	187	76	599		**LV***				
					141		14	8	3	25		**HV***				
					3528		350	195	79	624		**Total Vol***				
					0.571		0.364	0.203	0.2	0.364		**D.o.S.**				
					133.8		68.4	32.6	15.7	68.4		**95th %ile Back of Queue (m)**				
					33.3		14	38.2	59.6	27.4		**Average Delay (sec)**				
					Intersection		**L**	**T**	**R**	**App**						

*Output Volumes

RoadName

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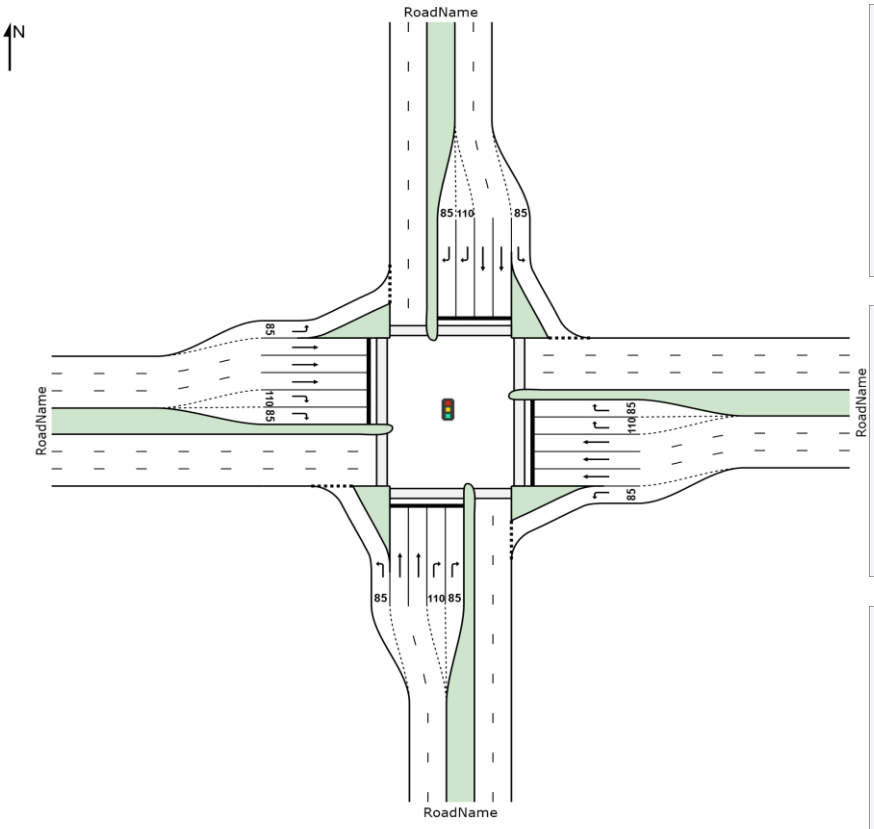

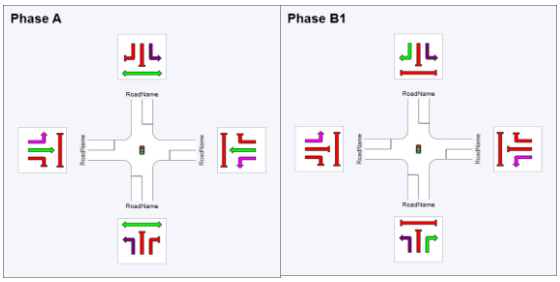

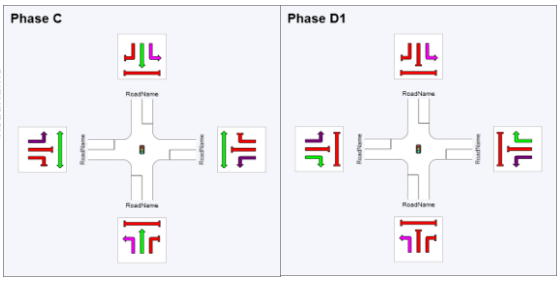

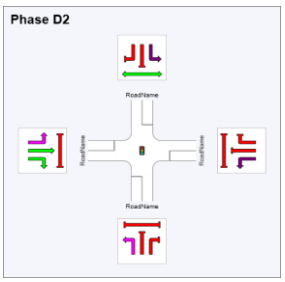

Phase	Grn	Yel	Red	Total	%
A	33	4	2	39	32.5
B1	9	4	2	15	12.5
C	31	4	2	37	30.83
D1	7	4	2	13	10.83
D2	10	4	2	16	13.33

120

RoadName

	App	R	T	L
	45.5	72.6	38.4	16.9
	52.6	52.6	49.3	27.6
	0.826	0.826	0.292	0.162
	659	226	290	143
	26	9	12	6
	633	217	278	137

RoadName **RoadName**

L	8	35	0.288	381	15	366	1367	57	1424	0.85	140	43.2	**App**
T	36.7	257.4	0.826	1767	71	1696	174	7	181	0.85	43.1	75.7	**R**
R	55.2	94.5	0.672	470	19	451	1057	44	1101	0.695	140	42.1	**T**
App	35.8	257.4	0.826	2618	105	2513	136	6	142	0.132	15.9	9.7	**L**

5128	291	252	73	615	**LV***
214	12	10	3	26	**HV***
5342	303	262	76	641	**Total Vol***
0.85	0.273	0.264	0.278	0.278	**D.o.S.**
257.4	50.9	44.2	15.9	50.9	**95th %ile Back of Queue (m)**
38.2	12.9	38.1	64.8	29.3	**Average Delay (sec)**
Intersection	**L**	**T**	**R**	**App**	

*Output Volumes

RoadName

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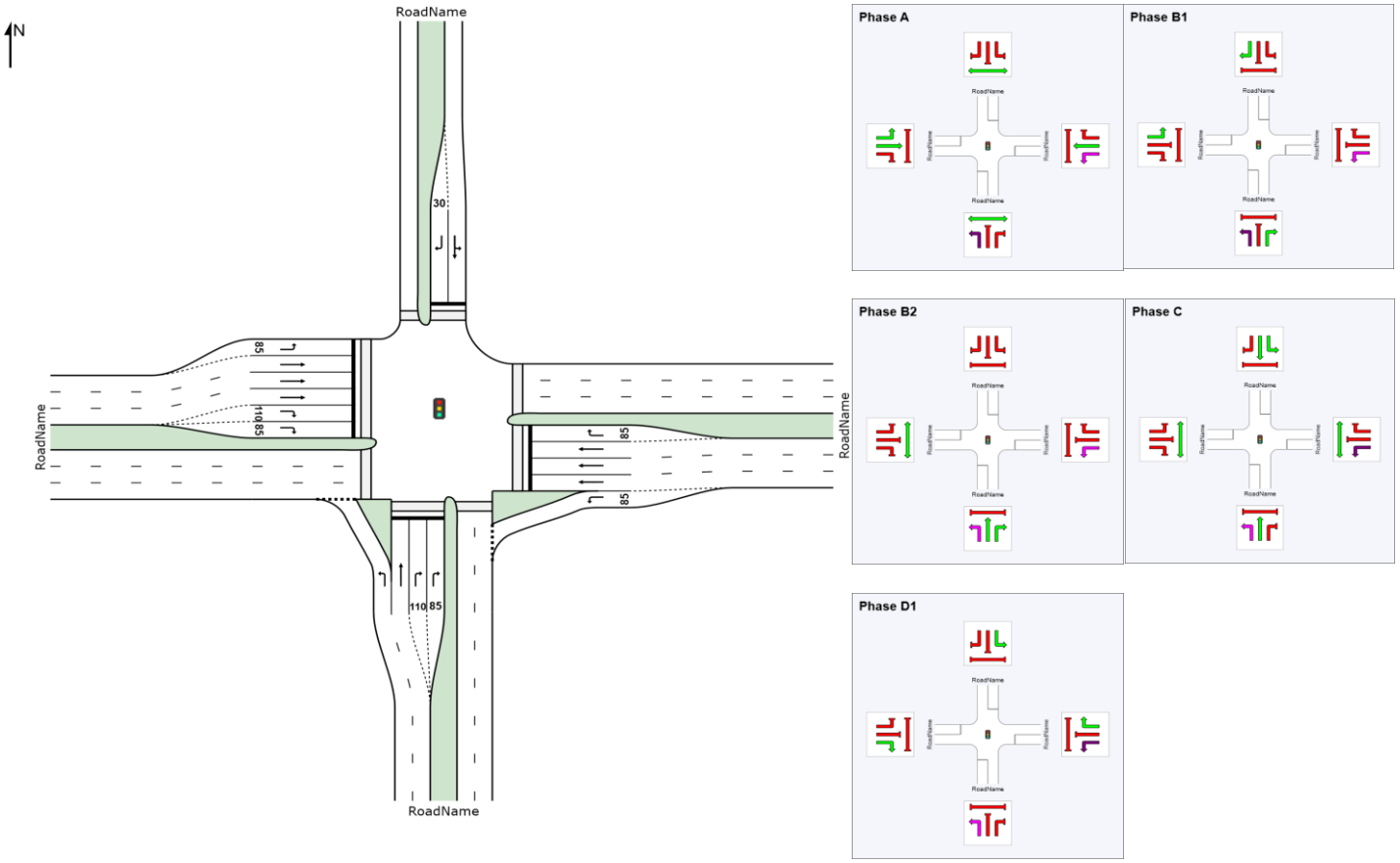


Phase	Grn	Yel	Red	Total	%
A	36	4	2	42	35
B1	7	4	2	13	10.83
B2	0	4	2	5	4.167
C	28	4	2	34	28.33
D1	20	4	2	26	21.67

120

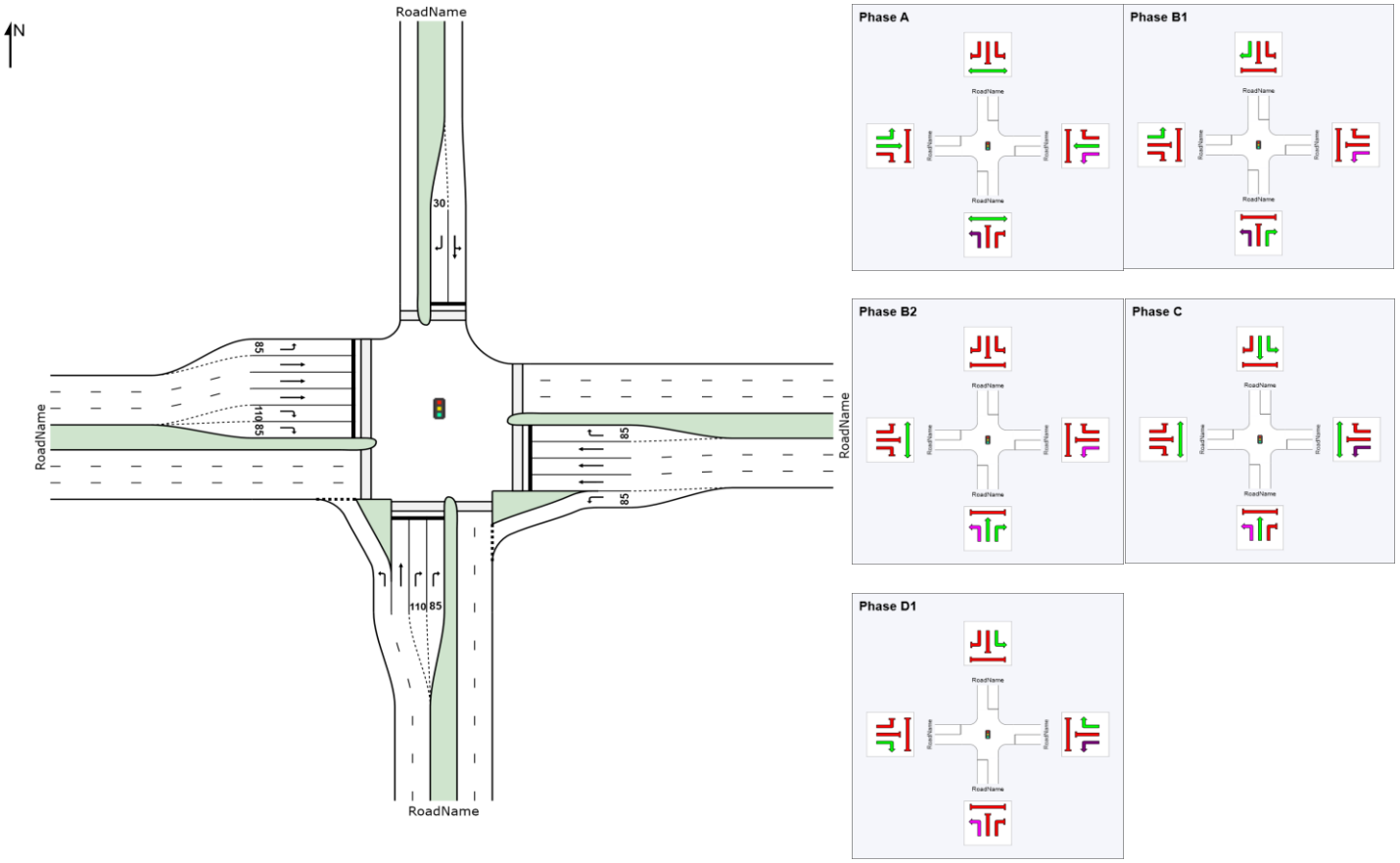
RoadName

						App	**R**	**T**	**L**					
						50.2	68.4	38.3	43.9					
						33	21.5	33	33					
						0.463	0.463	0.212	0.212					
						150	50	50	50					
						3	1	1	1					
RoadName						147	49	49	49					**RoadName**
L	28.4	12.4	0.066	50	1	49				997	40	1037	0.468	92.8	32.4	**App**
T	35.6	72.1	0.376	649	26	623				49	1	50	0.162	18	52.2	**R**
R	55.3	57	0.479	291	12	279				776	32	808	0.468	92.8	36.8	**T**
App	41	72.1	0.479	990	39	951				172	7	179	0.139	12.6	7.3	**L**
					2770		395	98	183	676		**LV***				
					109		16	2	8	26		**HV***				
					2879		411	100	191	702		**Total Vol***				
					0.523		0.341	0.187	0.523	0.523		**D.o.S.**				
					92.8		52.2	31.7	40	52.2		**95th %ile Back of Queue (m)**				
					35.2		9.4	35.6	63.1	27.8		**Average Delay (sec)**				
					Intersection		**L**	**T**	**R**	**App**						

*Output Volumes

RoadName

Signals *\\auvics01\Company\Projects\2014\14094\Sidra\14094SID001B.sip6[IN-16PM]*



Phase	Grn	Yel	Red	Total	%
A	28	4	2	34	28.33
B1	6	4	2	12	10
B2	0	4	2	5	4.167
C	28	4	2	34	28.33
D1	7	4	2	13	10.83
D2	16	4	2	22	18.33
				120	

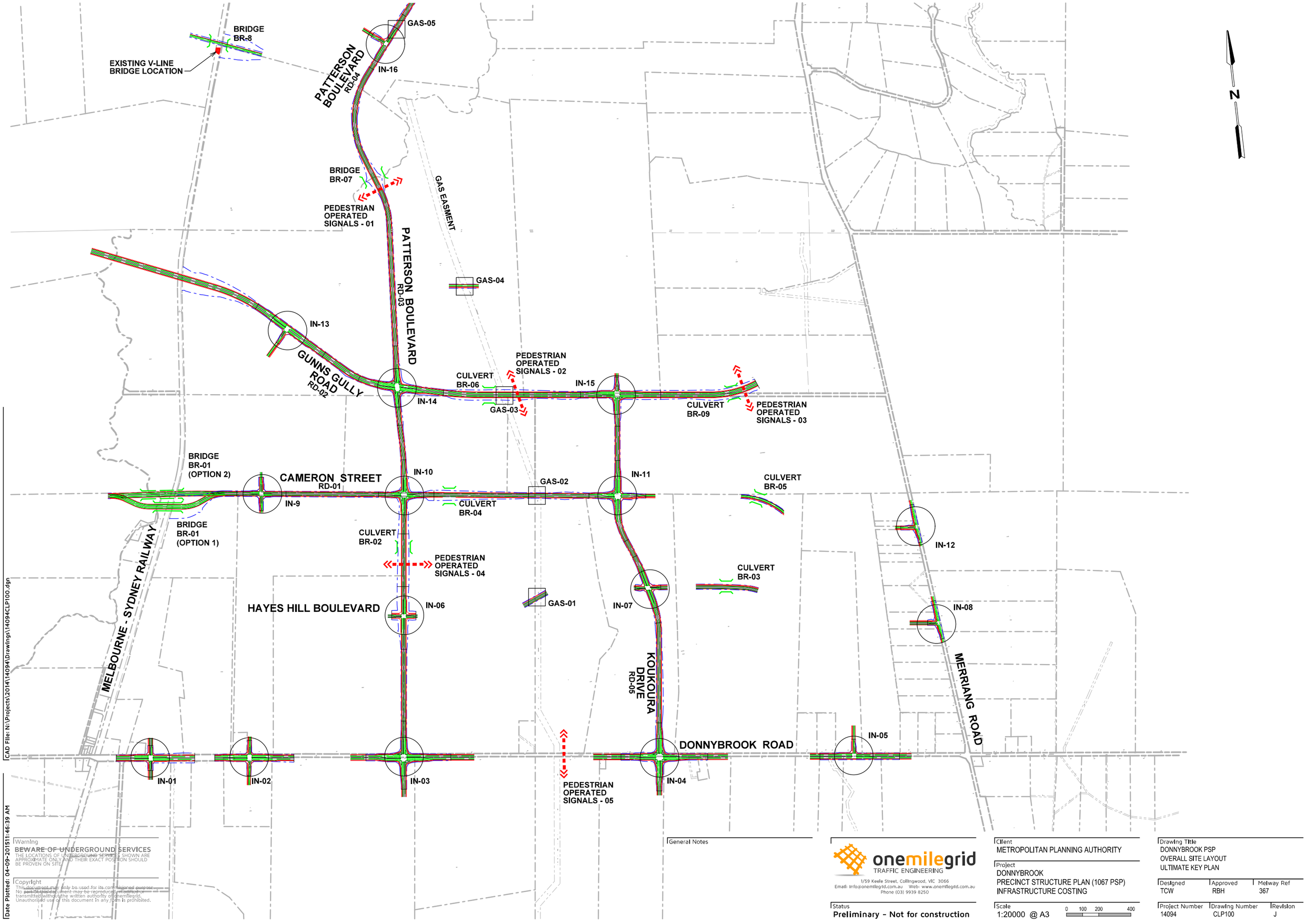
RoadName

						App	**R**	**T**	**L**					
						49.3	70.2	40.4	46					
						51.6	22	51.6	51.6					
						0.541	0.541	0.325	0.325					
						200	50	100	50					
						4	1	2	1					
RoadName						196	49	98	49					**RoadName**
L	34.7	14.1	0.081	50	1	49				1179	48	1227	0.723	129.5	41.7	**App**
T	26.6	105.6	0.44	1057	42	1015				49	1	50	0.463	21.5	68.3	**R**
R	52.4	130.4	0.735	648	26	622				933	39	972	0.723	129.5	46.8	**T**
App	36.4	130.4	0.735	1755	68	1687				197	8	205	0.202	27.9	11	**L**
					3838		412	98	268	777		**LV***				
					152		17	2	11	31		**HV***				
					3990		429	100	279	808		**Total Vol***				
					0.834		0.344	0.187	0.834	0.834		**D.o.S.**				
					130.4		63.2	31.7	64.8	64.8		**95th %ile Back of Queue (m)**				
					38.4		10.9	35.6	71.5	34.9		**Average Delay (sec)**				
					Intersection		**L**	**T**	**R**	**App**						

*Output Volumes

RoadName

Appendix C Ultimate Intersection Designs



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Date Plotted: 04-09-201511:46:39 AM

Warning
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

General Notes

onemilegrid
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Phone (03) 9939 8250

Status
Preliminary - Not for construction

Client
METROPOLITAN PLANNING AUTHORITY

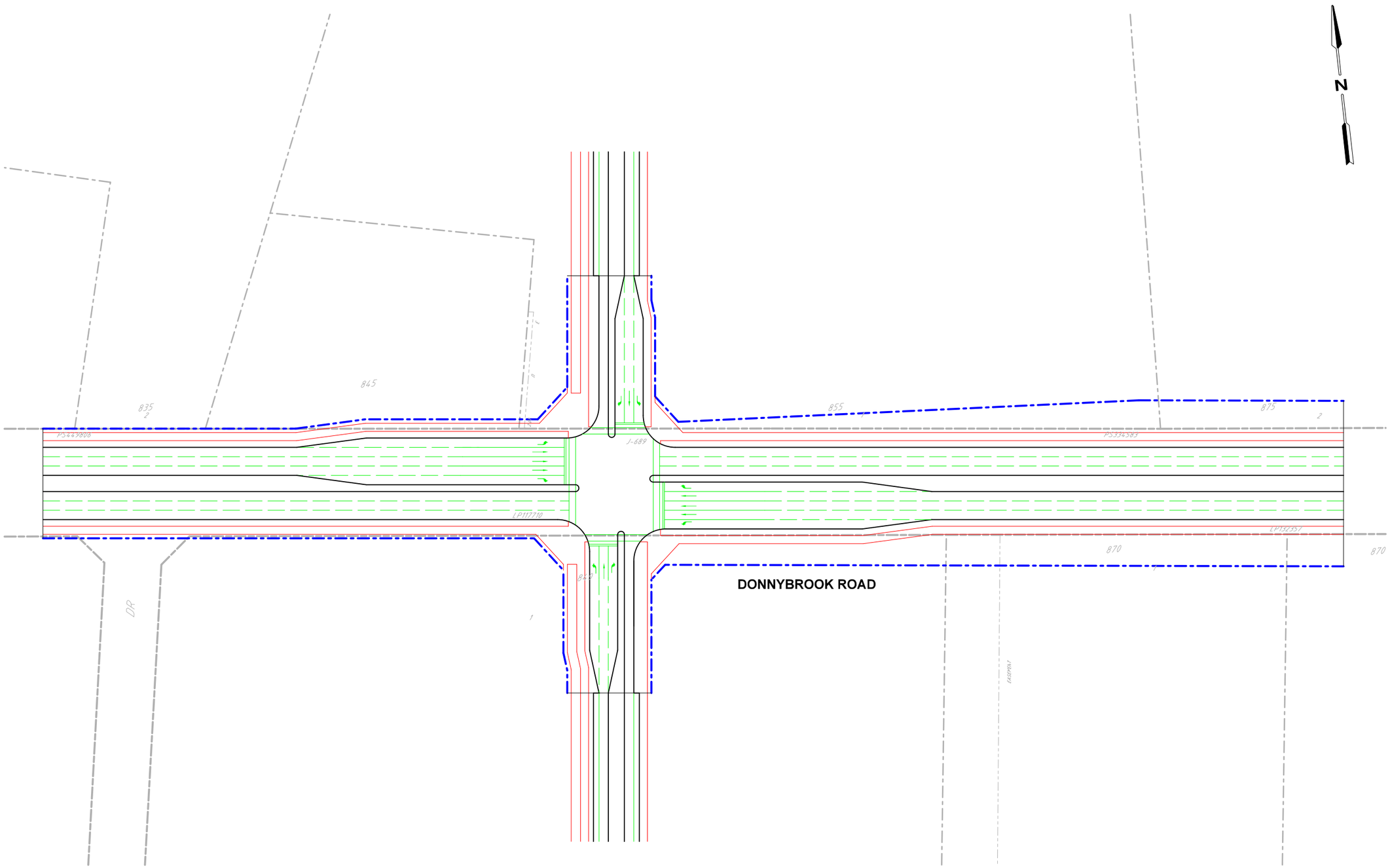
Project
DONNYBROOK
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

Scale
1:20000 @ A3
0 100 200 400

Drawing Title
DONNYBROOK PSP
OVERALL SITE LAYOUT
ULTIMATE KEY PLAN

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP100	J



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Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-01

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP101	E

N

DONNYBROOK ROAD

905

915

LP1294T

CAD File: N:\Projects\2014\14094\Drawings\14094CLP102.dgn

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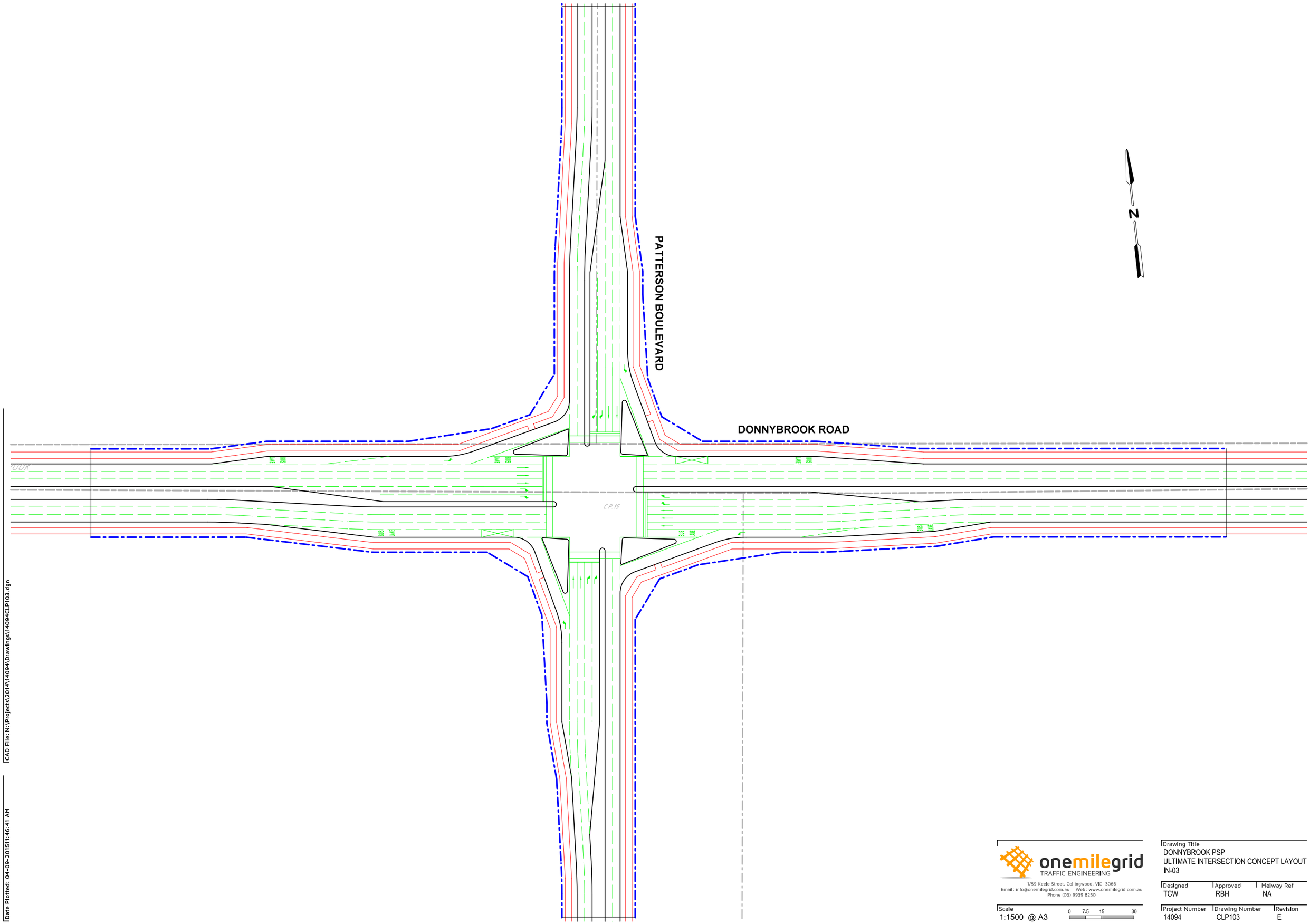
Scale
1:1500 @ A3

0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-02

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP102	E



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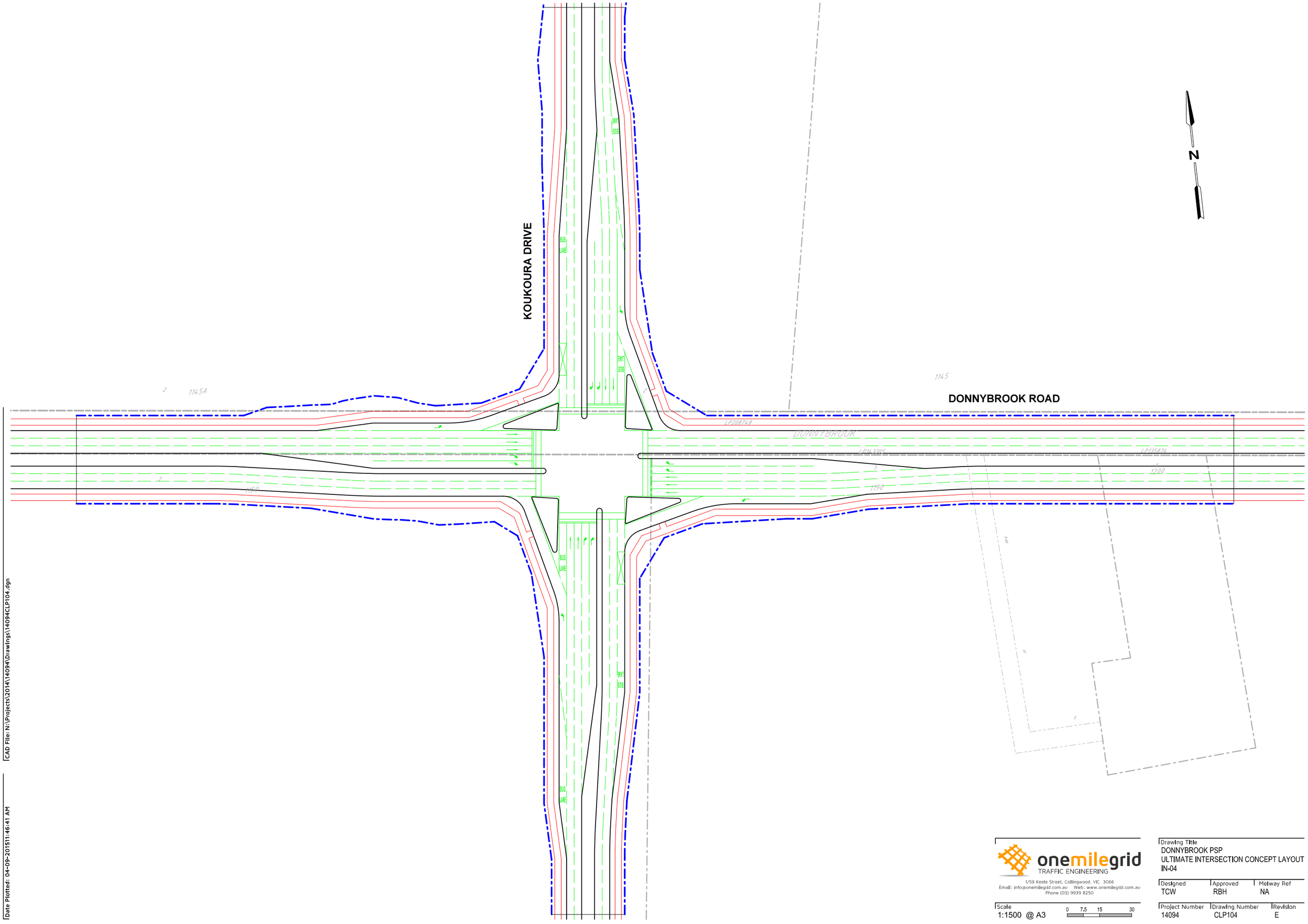
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-03

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP103	E



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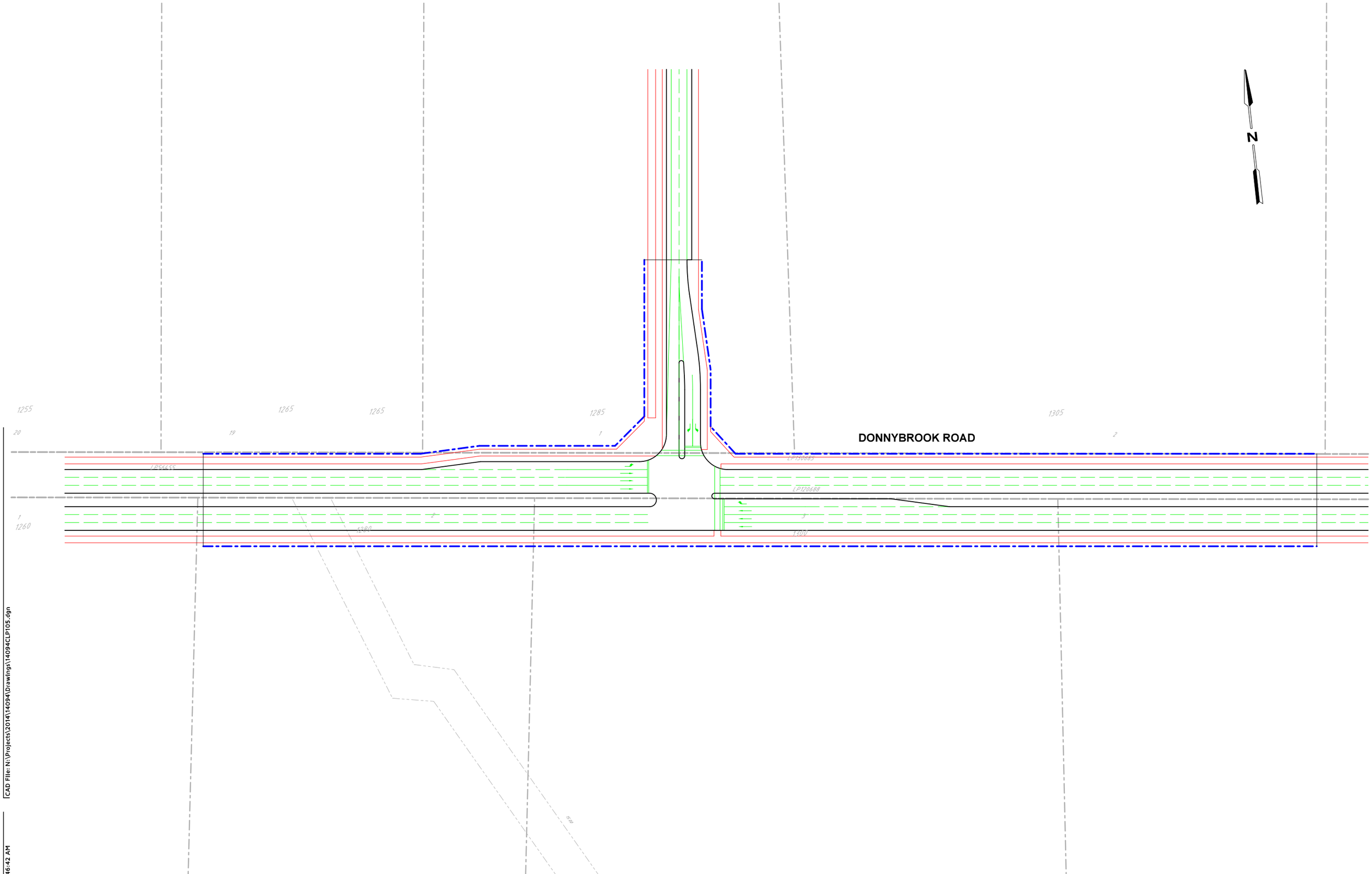
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-04

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP104	E



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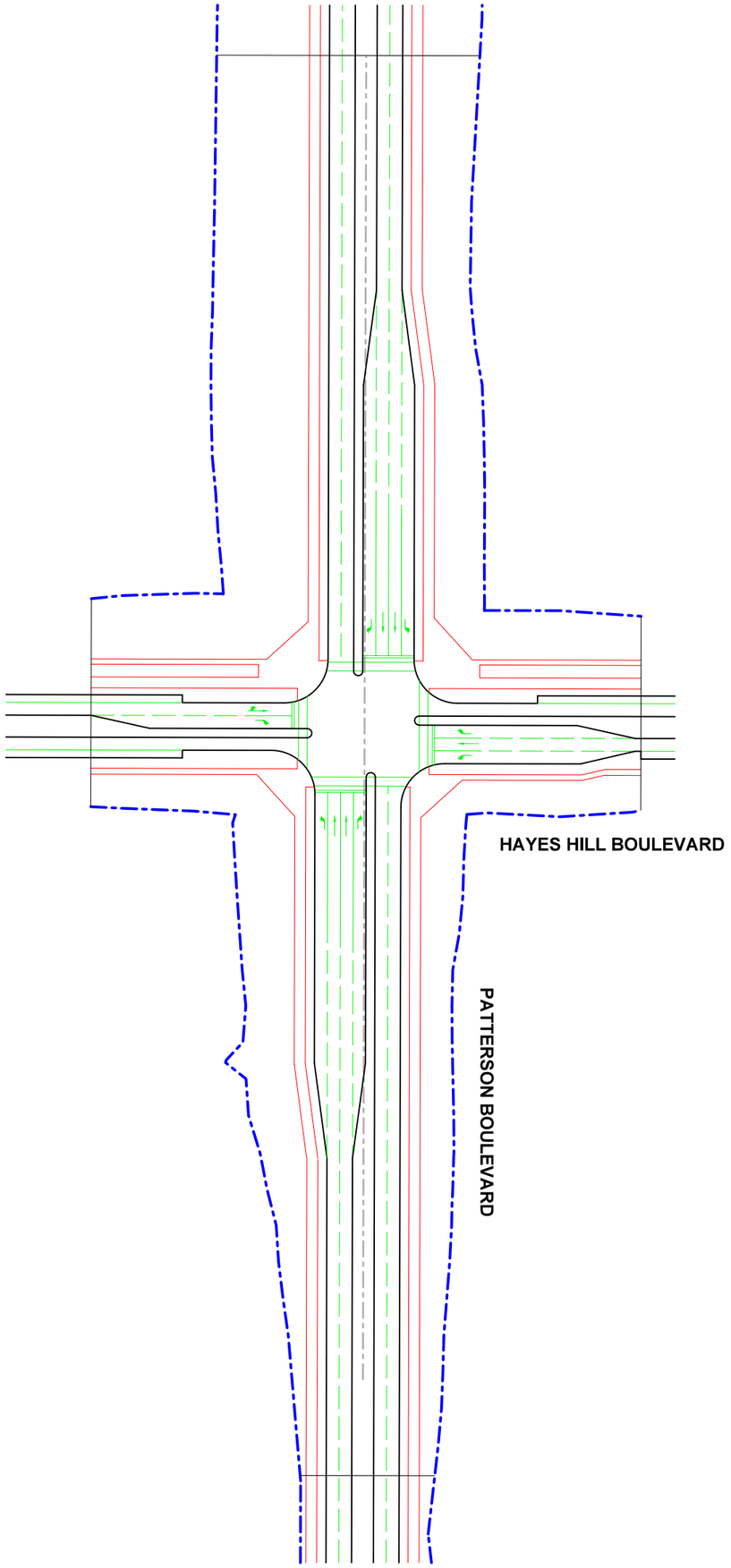
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-05

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP105	E



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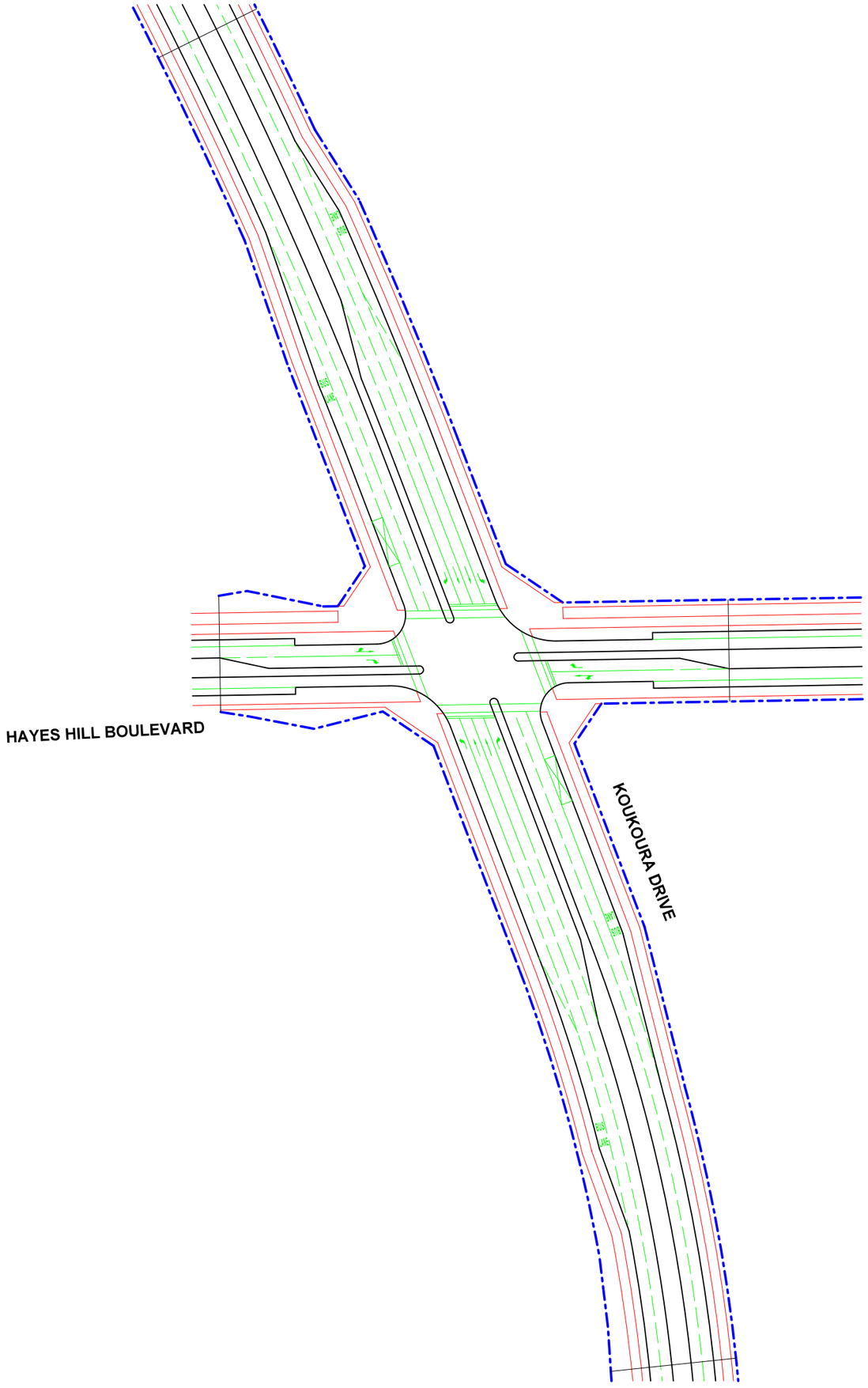
Scale
1:1500 @ A3

0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-06

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP106	E



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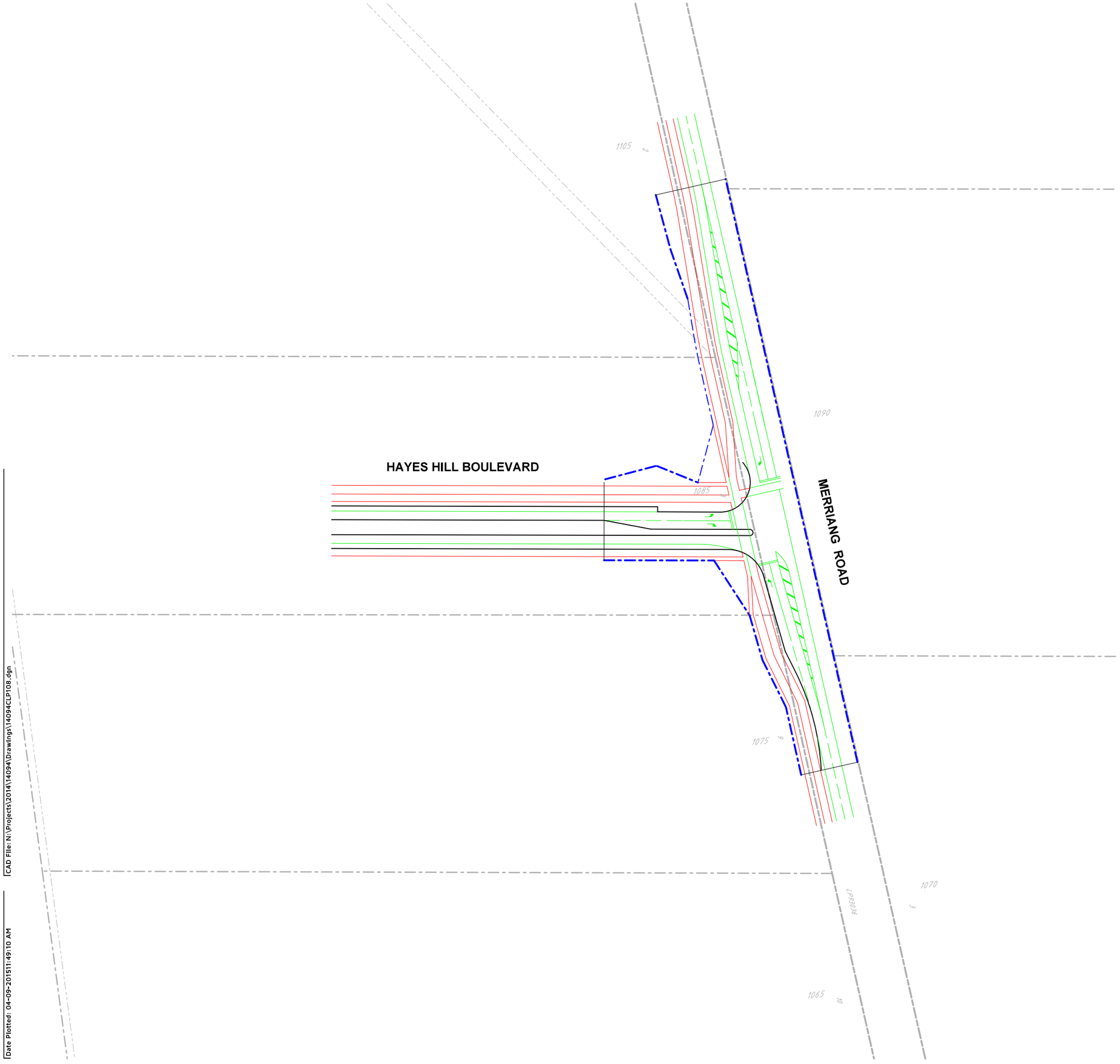
Scale
1:1500 @ A3

0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-07

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP107	E



CAD File: N:\Projects\2014\14094\Drawings\14094CLP108.dgn

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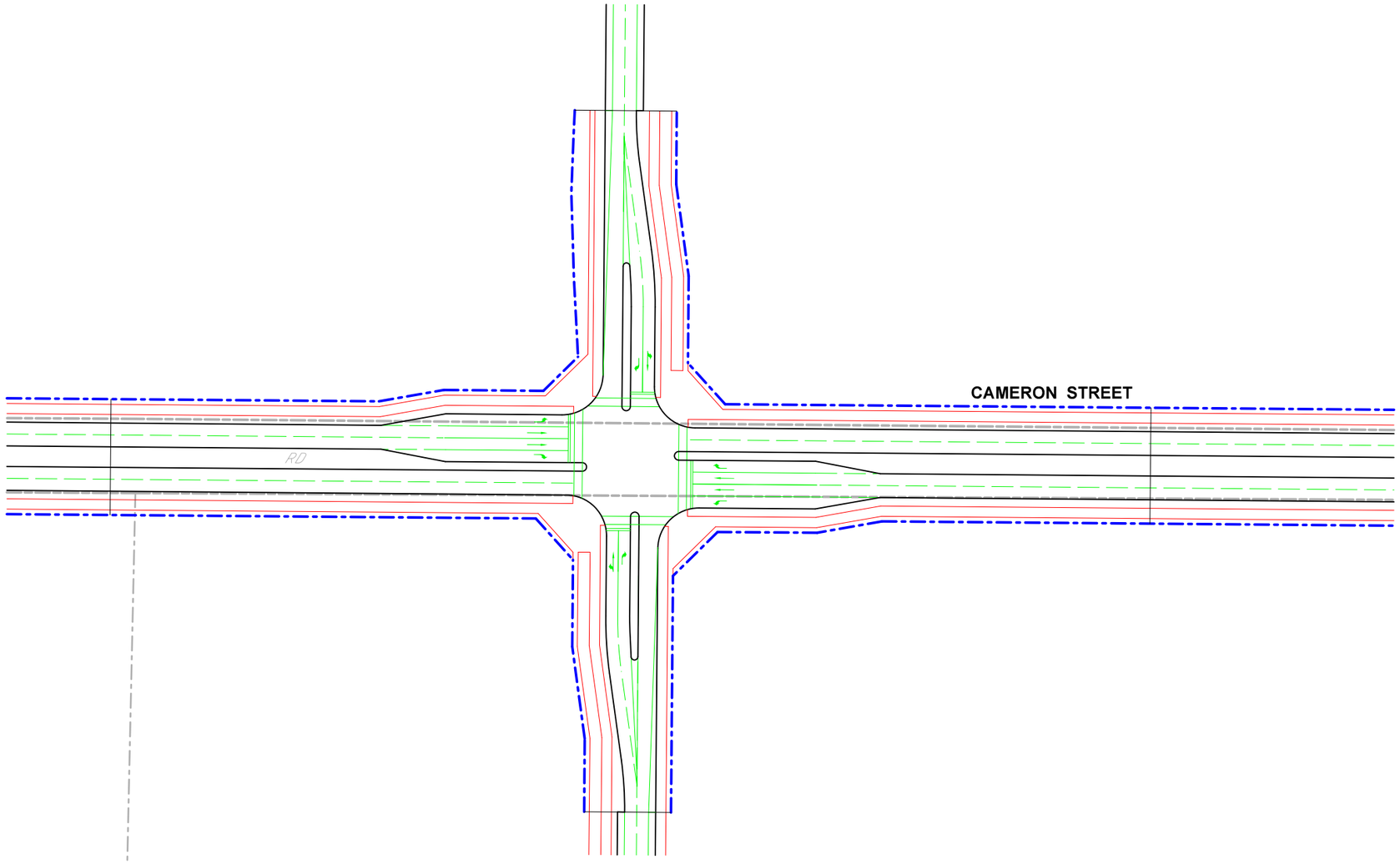
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-08

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP108	E



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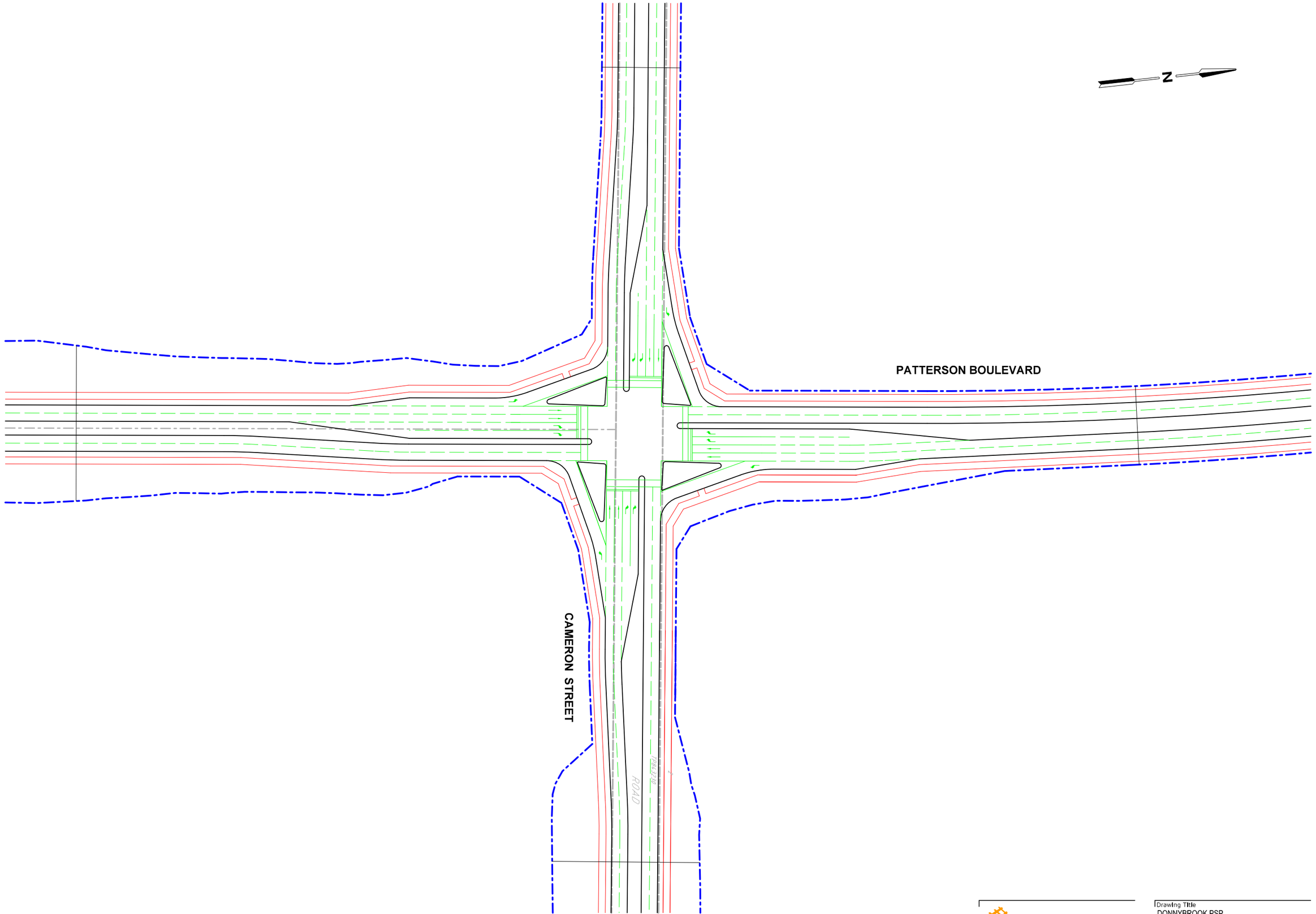
Scale
1:1500 @ A3

0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-09

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP109	E



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Date Plotted: 04-09-201511:46:44 AM

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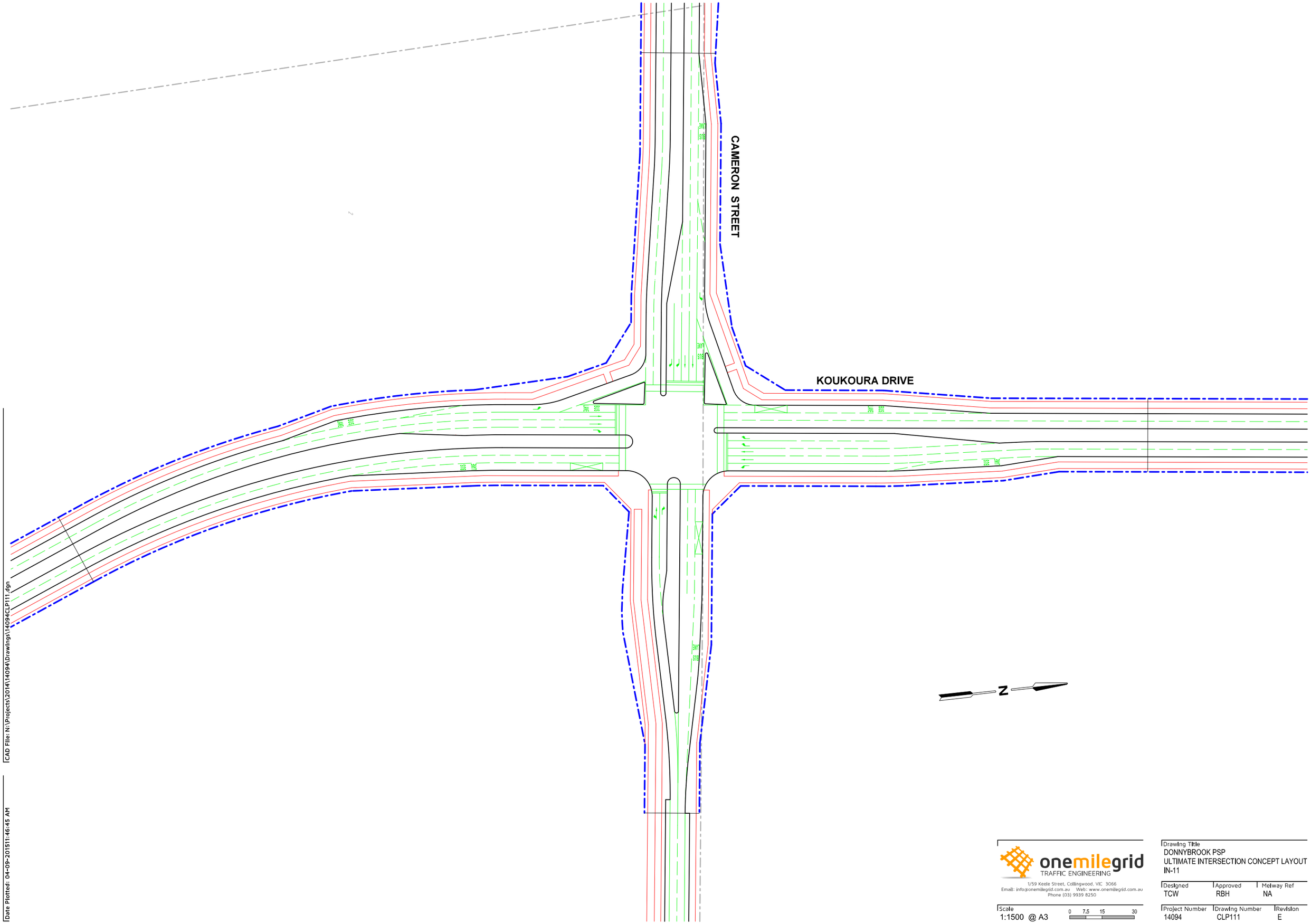
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-10

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP110	E



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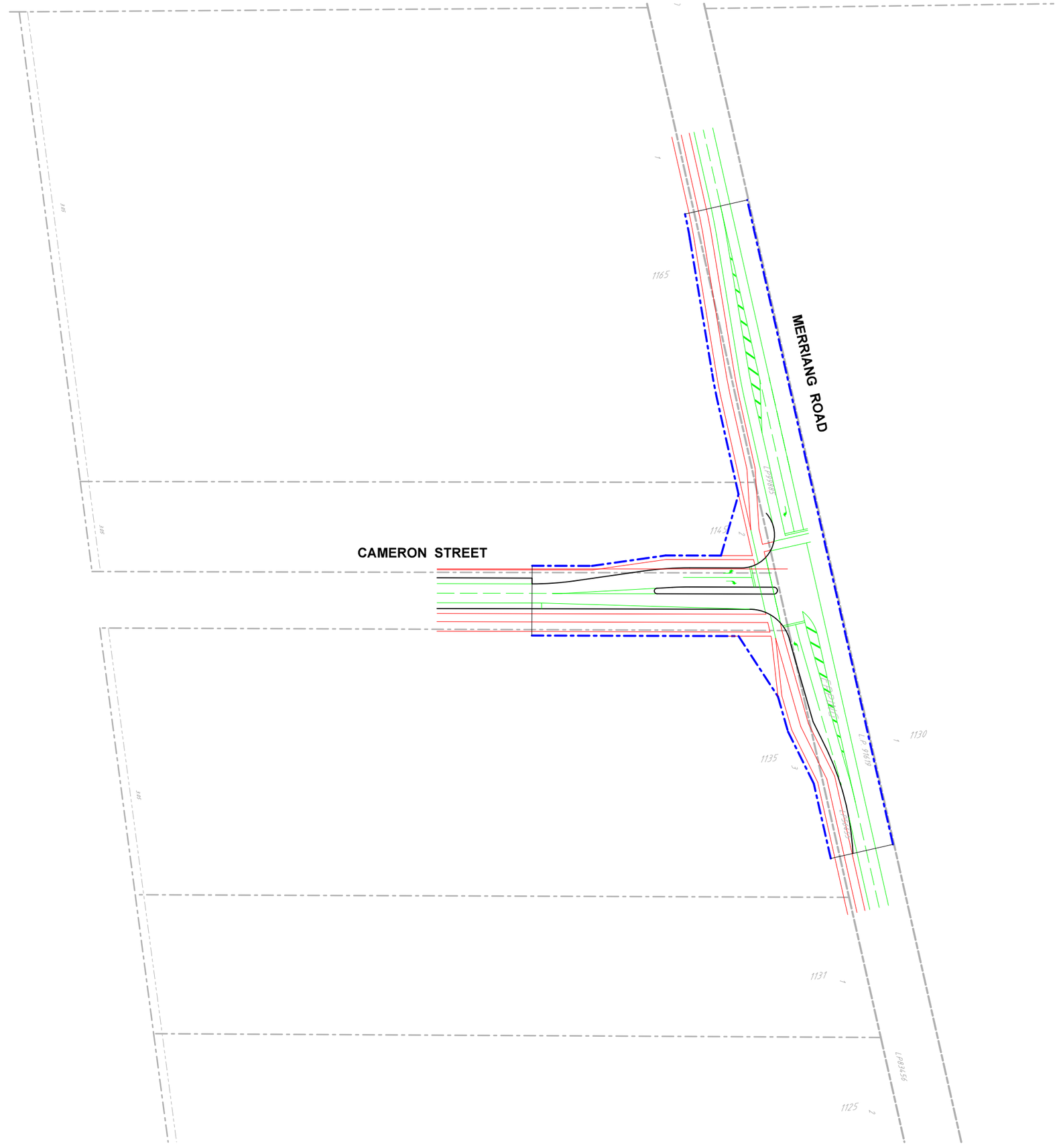
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-11

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP111	E



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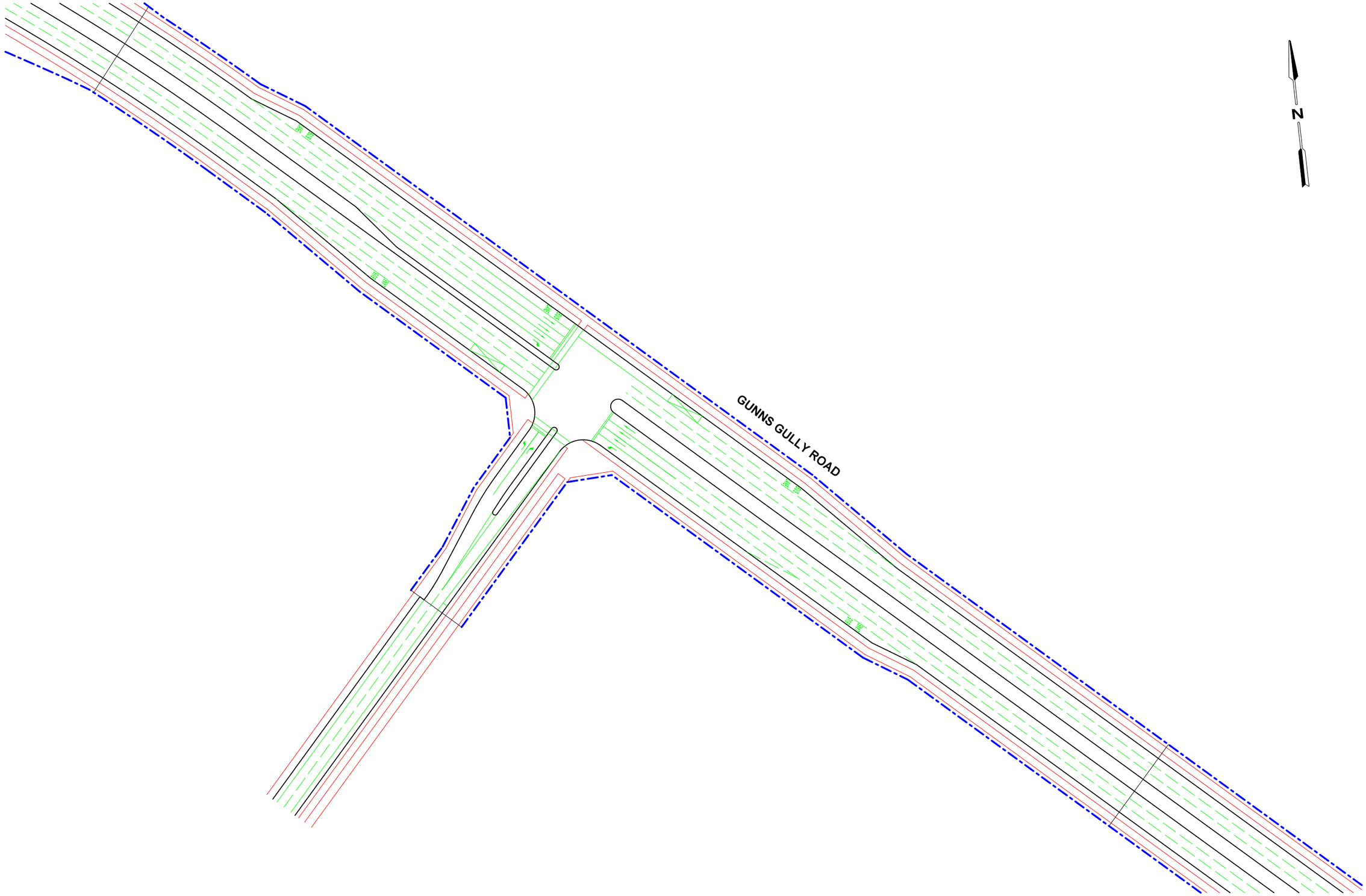
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-12

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP112	E



CAD File: N:\Projects\2014\14094\Drawings\14094CLP113.dgn

Date Plotted: 04-09-201511:46:46 AM

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Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-13

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP113	E

PATTERSON BOULEVARD

GUNNS GULLY ROAD

N

CAD File: N:\Projects\2014\14094\Drawings\14094CLP114.dgn

Date Plotted: 04-09-201511:46:46 AM

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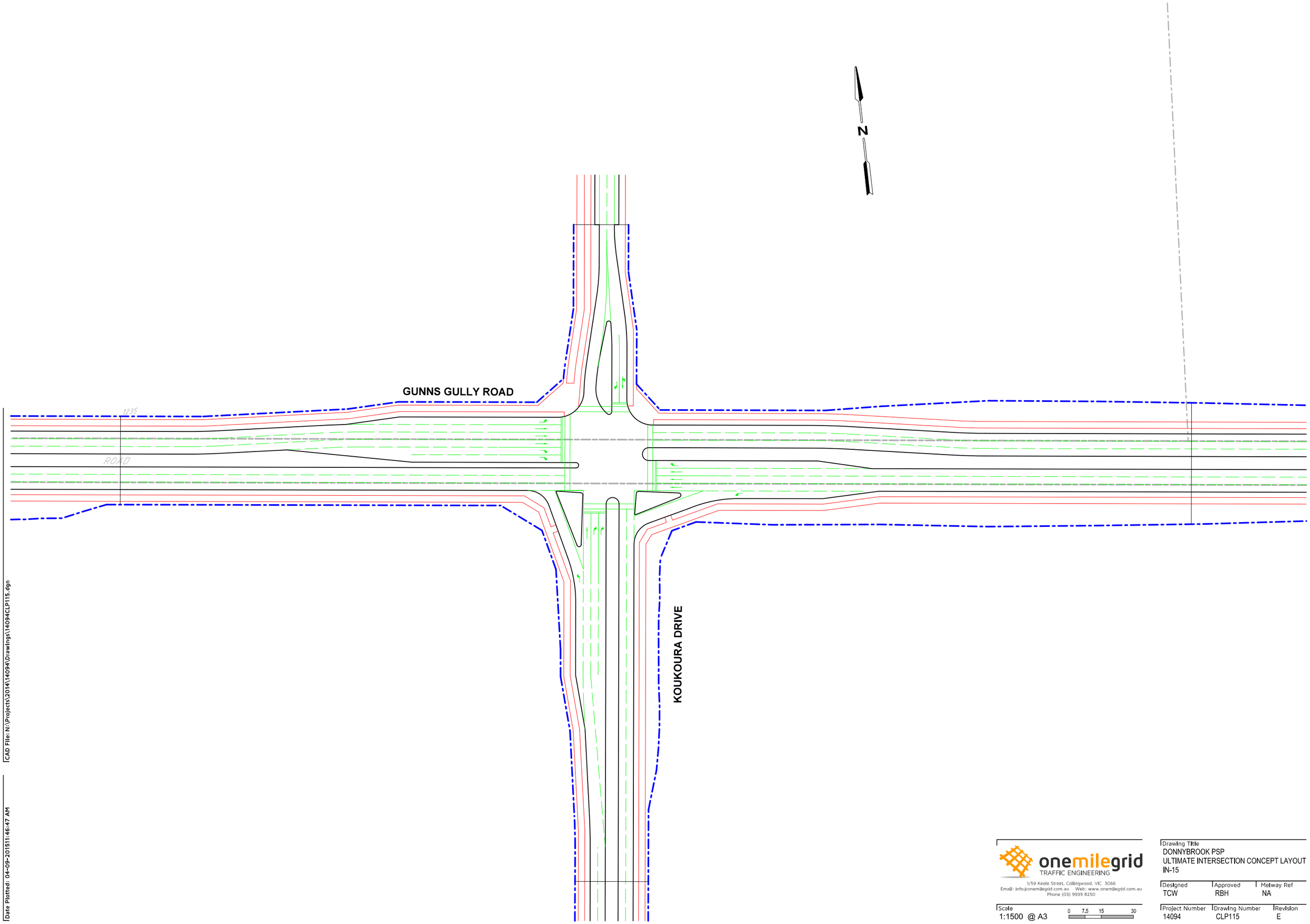
Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-14

Designed	Approved	Melway Ref
TCW	RBH	NA

Scale
1:1500 @ A3
0 7.5 15 30

Project Number	Drawing Number	Revision
14094	CLP114	E



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Date Plotted: 04-09-201511:46:47 AM

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Phone (03) 9939 8250

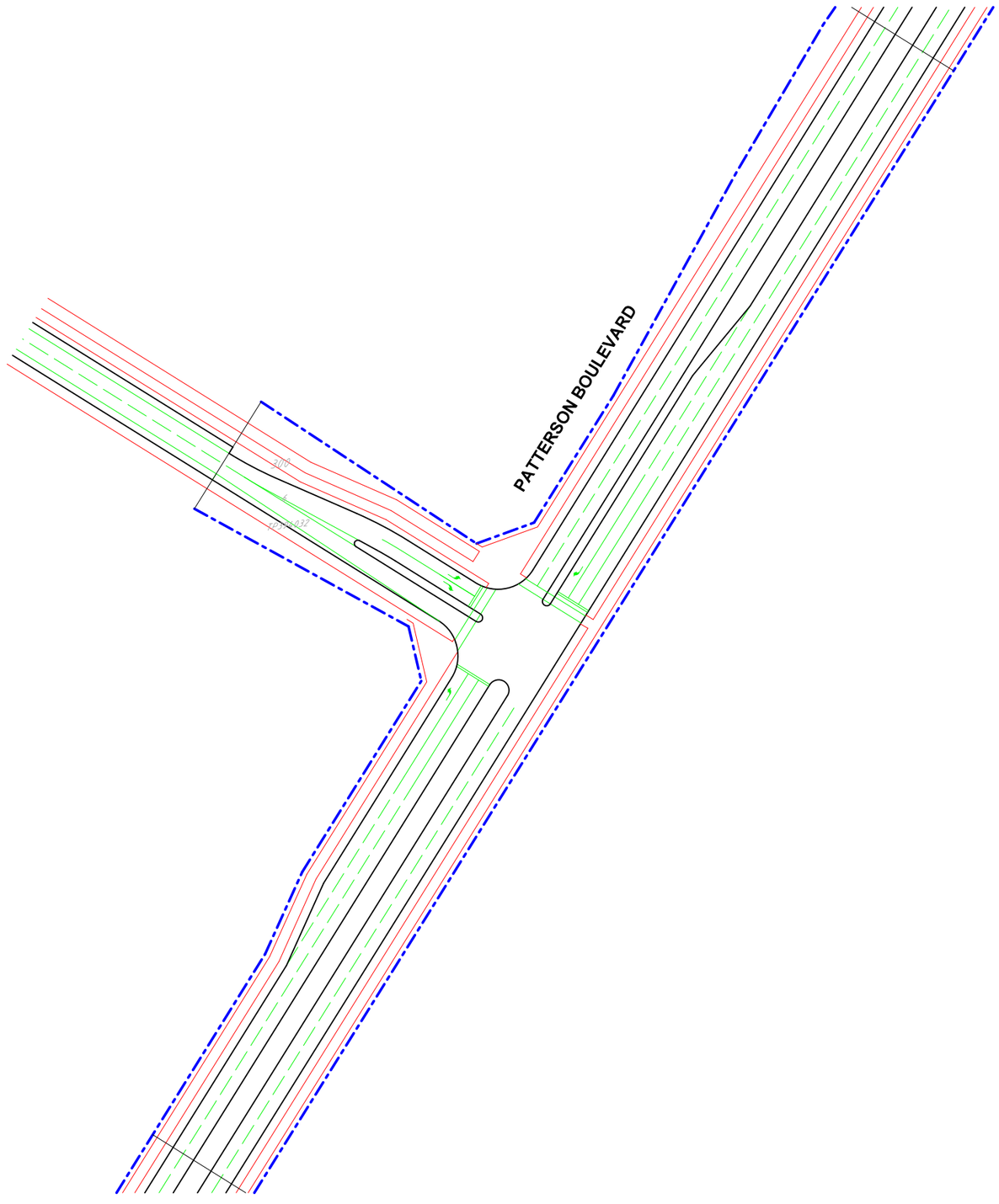
Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-15

Designed	Approved	Melway Ref
TCW	RBH	NA

Scale
1:1500 @ A3

0 7.5 15 30

Project Number	Drawing Number	Revision
14094	CLP115	E



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CAD File: N:\Projects\2014\14094\Drawings\14094CLP116.dgn

Date Plotted: 04-09-2015 11:46:47 AM

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Scale
1:1500 @ A3

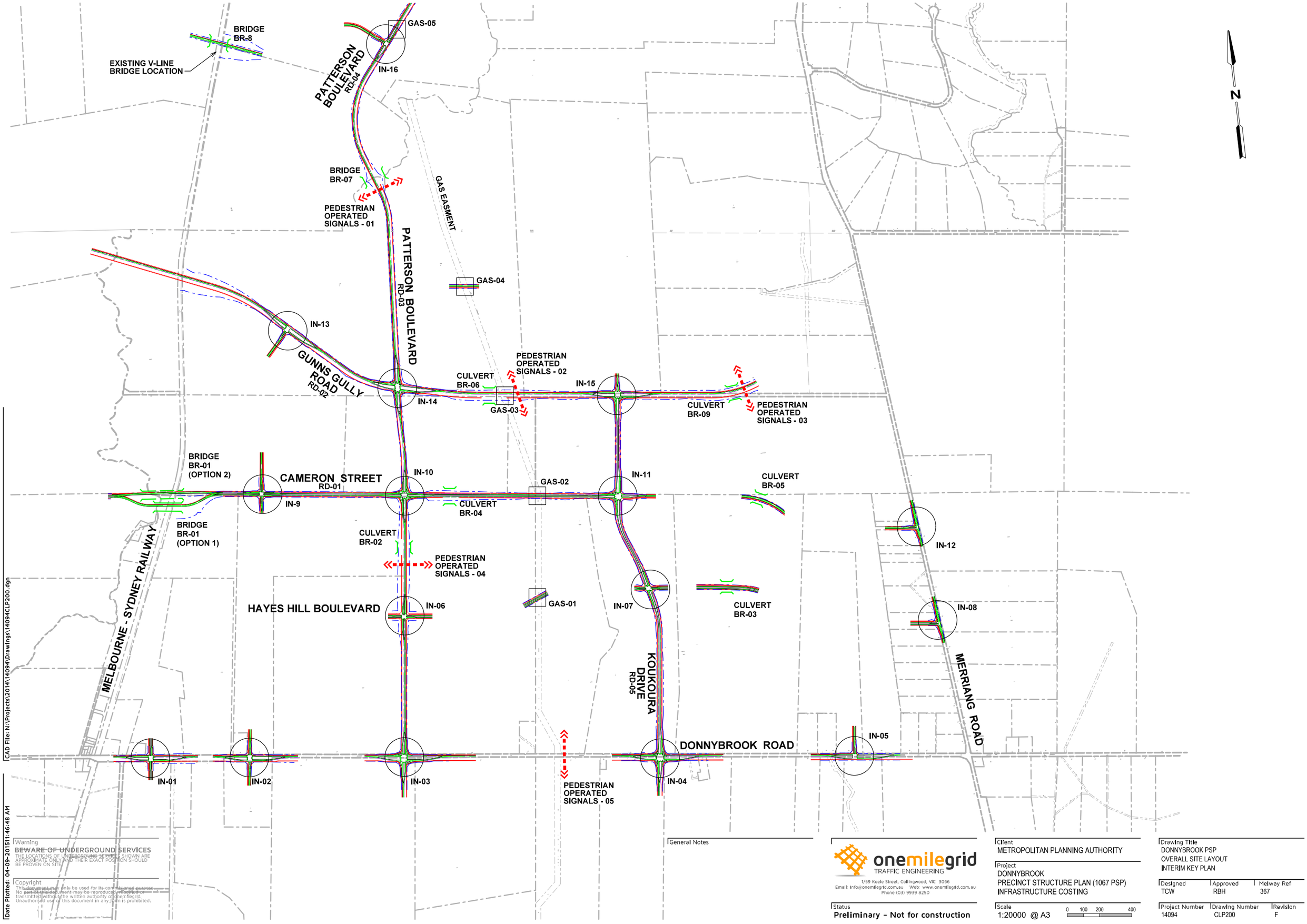
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
ULTIMATE INTERSECTION CONCEPT LAYOUT
IN-16

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP116	E

Appendix D Interim Intersection Designs



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Warning
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

General Notes

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Email: info@onemilegrid.com.au Web: www.onemilegrid.com.au
Phone (03) 9939 8250

Status
Preliminary - Not for construction

Client
METROPOLITAN PLANNING AUTHORITY

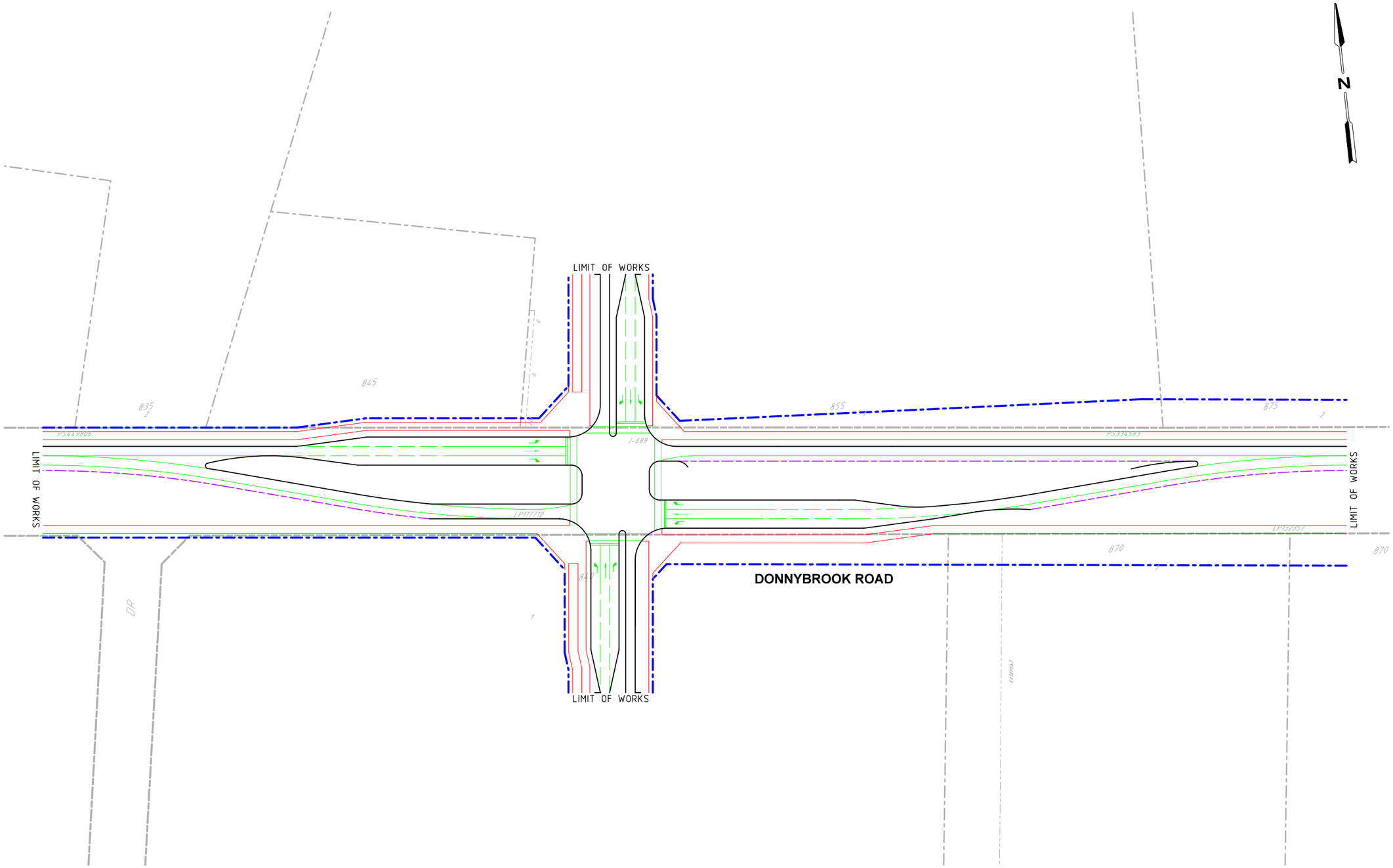
Project
DONNYBROOK
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

Scale
1:20000 @ A3
0 100 200 400

Drawing Title
DONNYBROOK PSP
OVERALL SITE LAYOUT
INTERIM KEY PLAN

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP200	F



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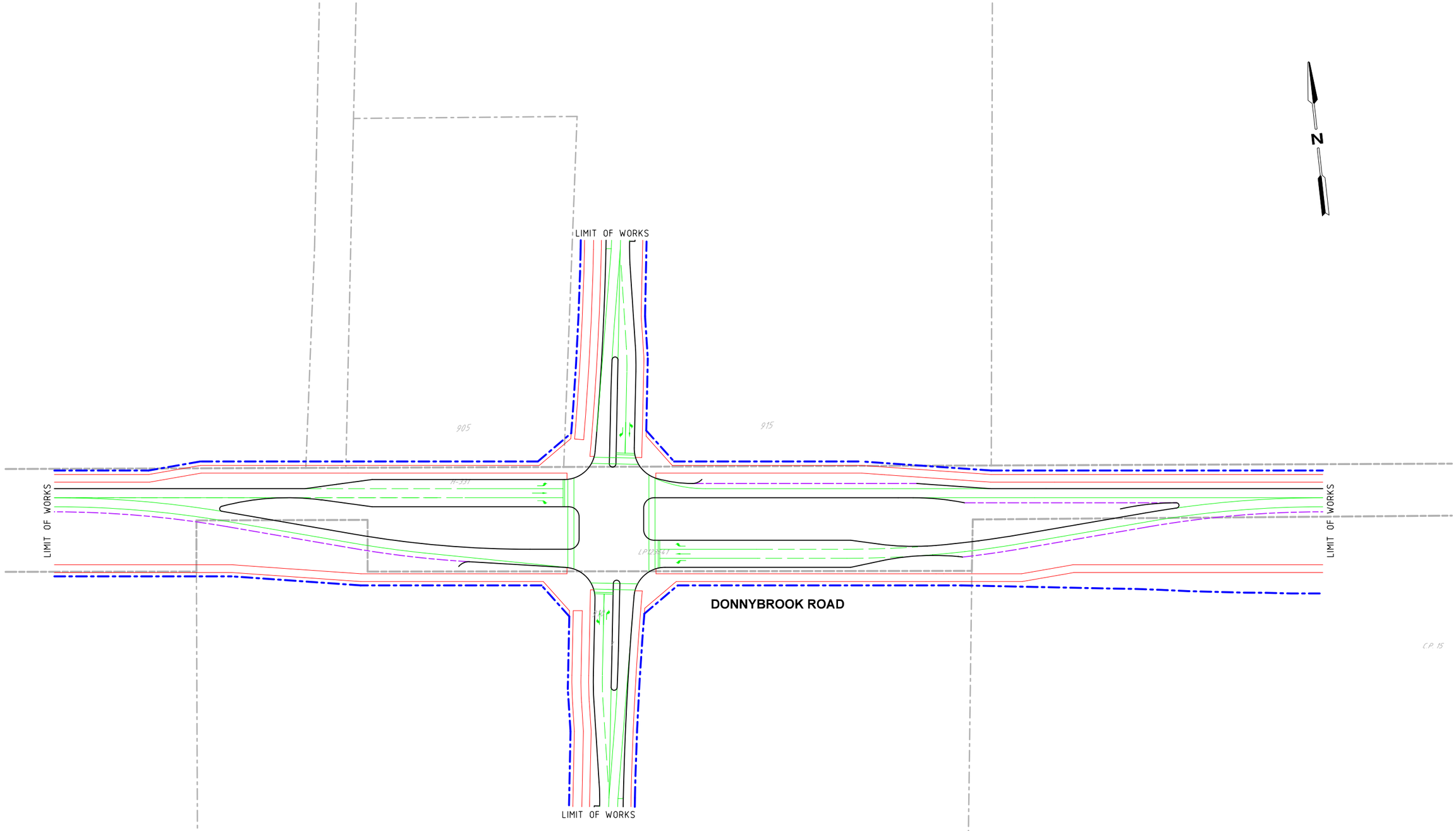
Phone (03) 9939 8250

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-01

Designed	Approved	Melway Ref
TCW	RBH	NA

Scale
1:1500 @ A3
0 7.5 15 30

Project Number	Drawing Number	Revision
14094	CLP201	E



CAD File: N:\Projects\2014\14094\Drawings\14094CLP202.dgn

Date Plotted: 04-09-201511:46:55 AM

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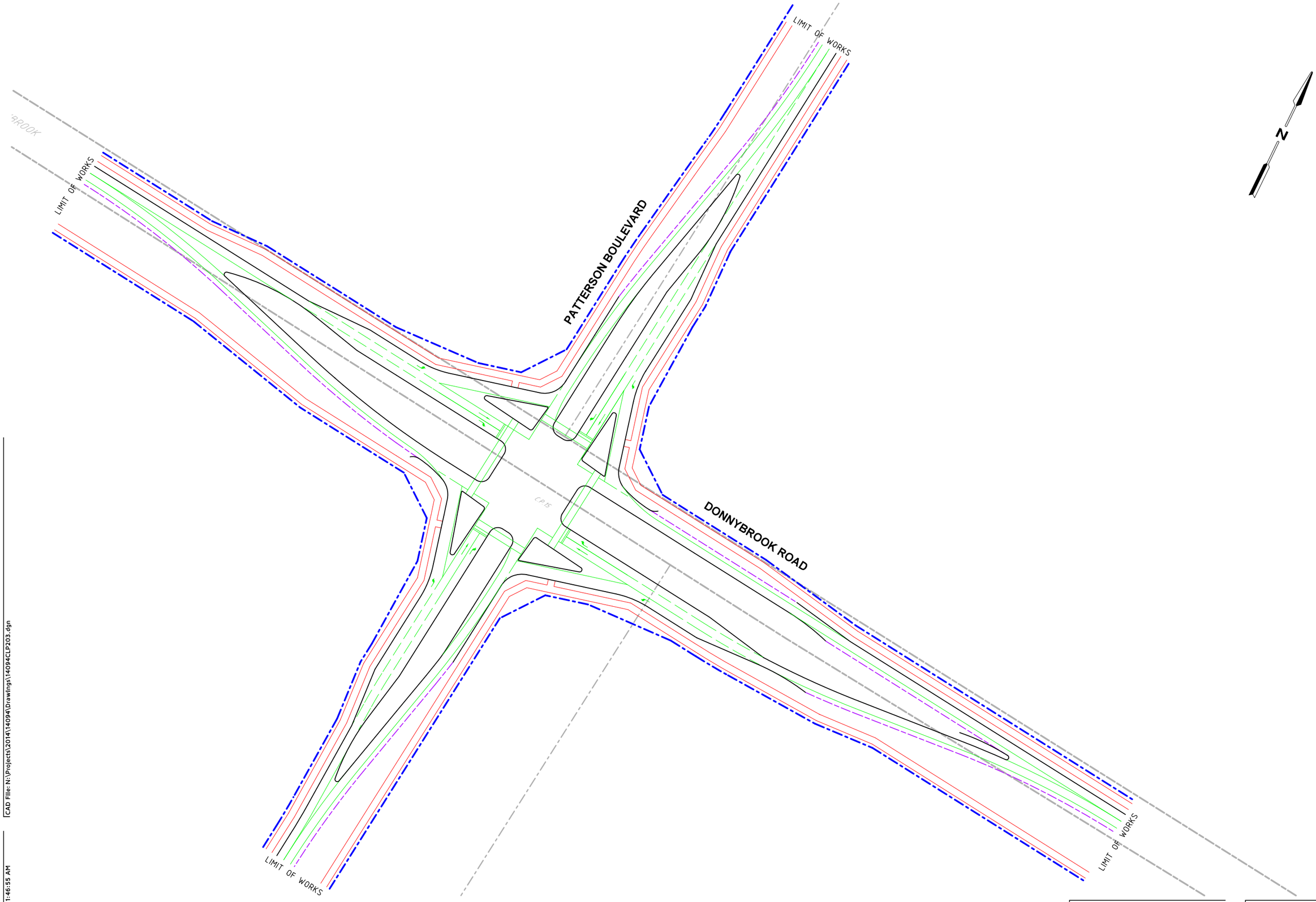
Email: info@onemilegrid.com.au Web: www.onemilegrid.com.au
Phone (03) 9939 8250

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-02

Designed	Approved	Melway Ref
TCW	RBH	NA

Scale
1:1500 @ A3
0 7.5 15 30

Project Number	Drawing Number	Revision
14094	CLP202	E



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Date Plotted: 04-09-201511:46:55 AM

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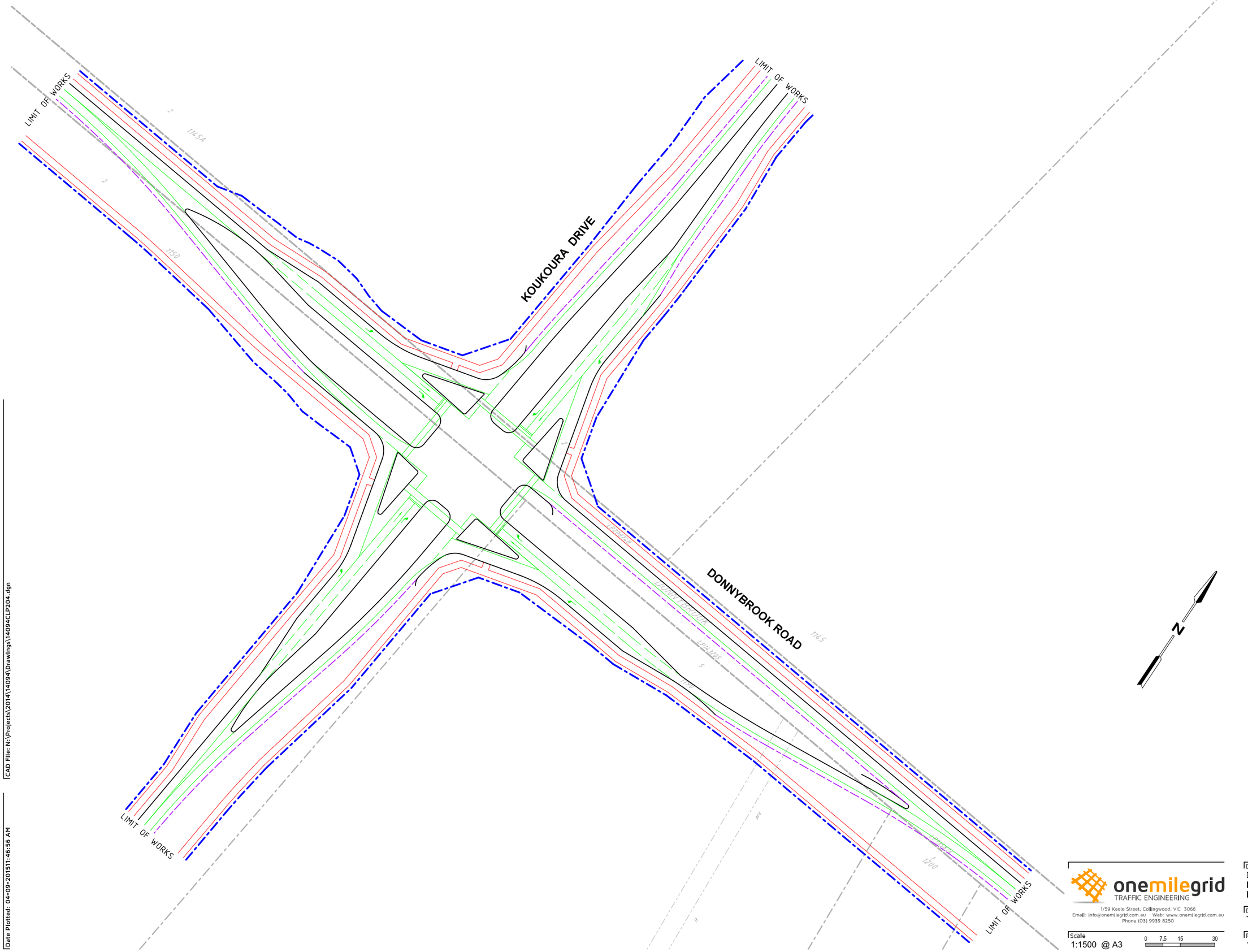
Phone (03) 9939 8250

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-03

Designed	Approved	Melway Ref
TCW	RBH	NA

Scale
1:1500 @ A3
0 7.5 15 30

Project Number	Drawing Number	Revision
14094	CLP203	E



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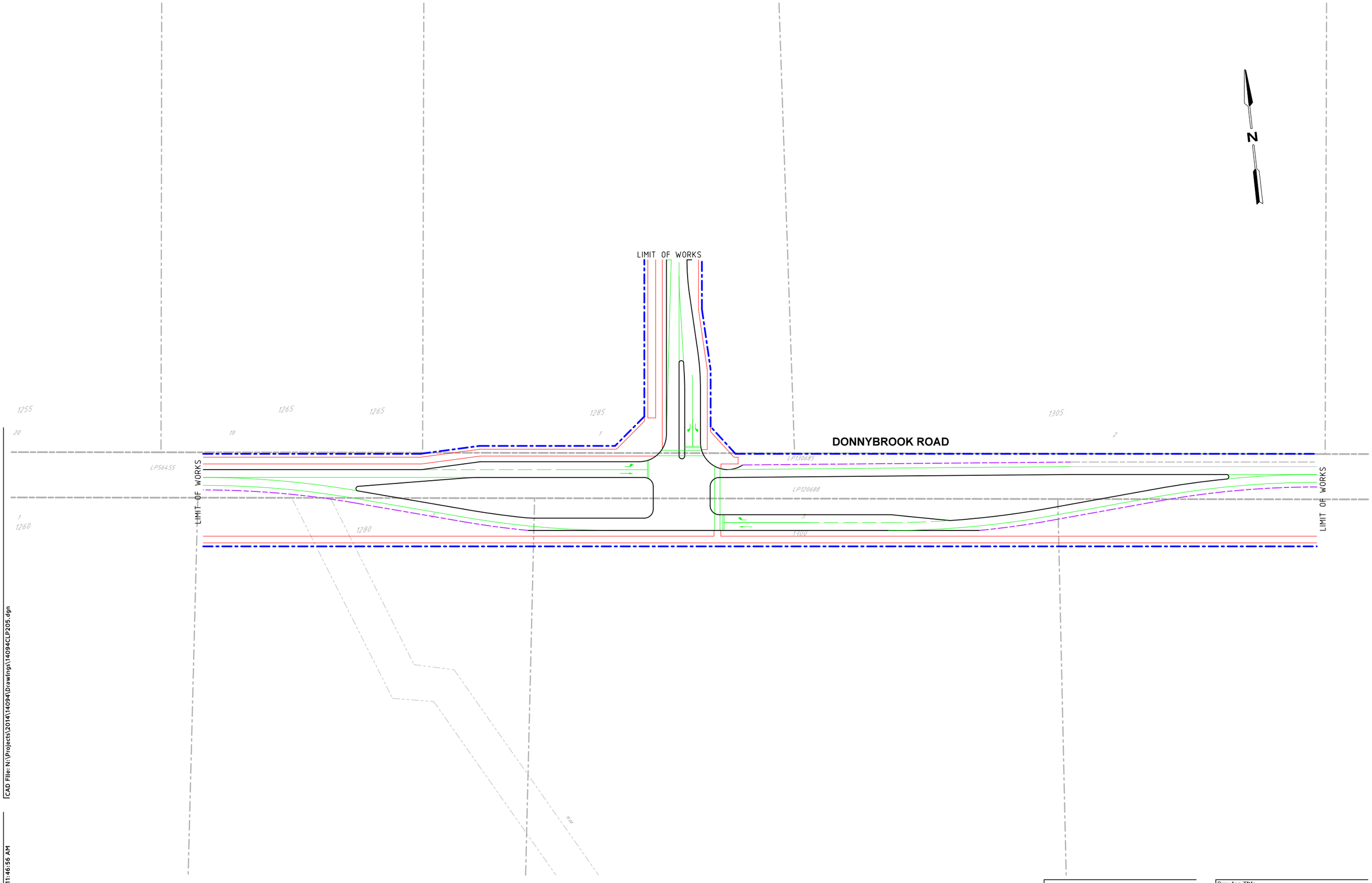
Phone (03) 9939 8250

Scale	
1:1500 @ A3	0 7.5 15 30

Drawing Title
DONNYBROOK PSP INTERIM INTERSECTION CONCEPT LAYOUT IN-04

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP204	E



CAD File: N:\Projects\2014\14094\Drawings\14094CLP205.dgn

Date Plotted: 04-09-20151 1:46:56 AM

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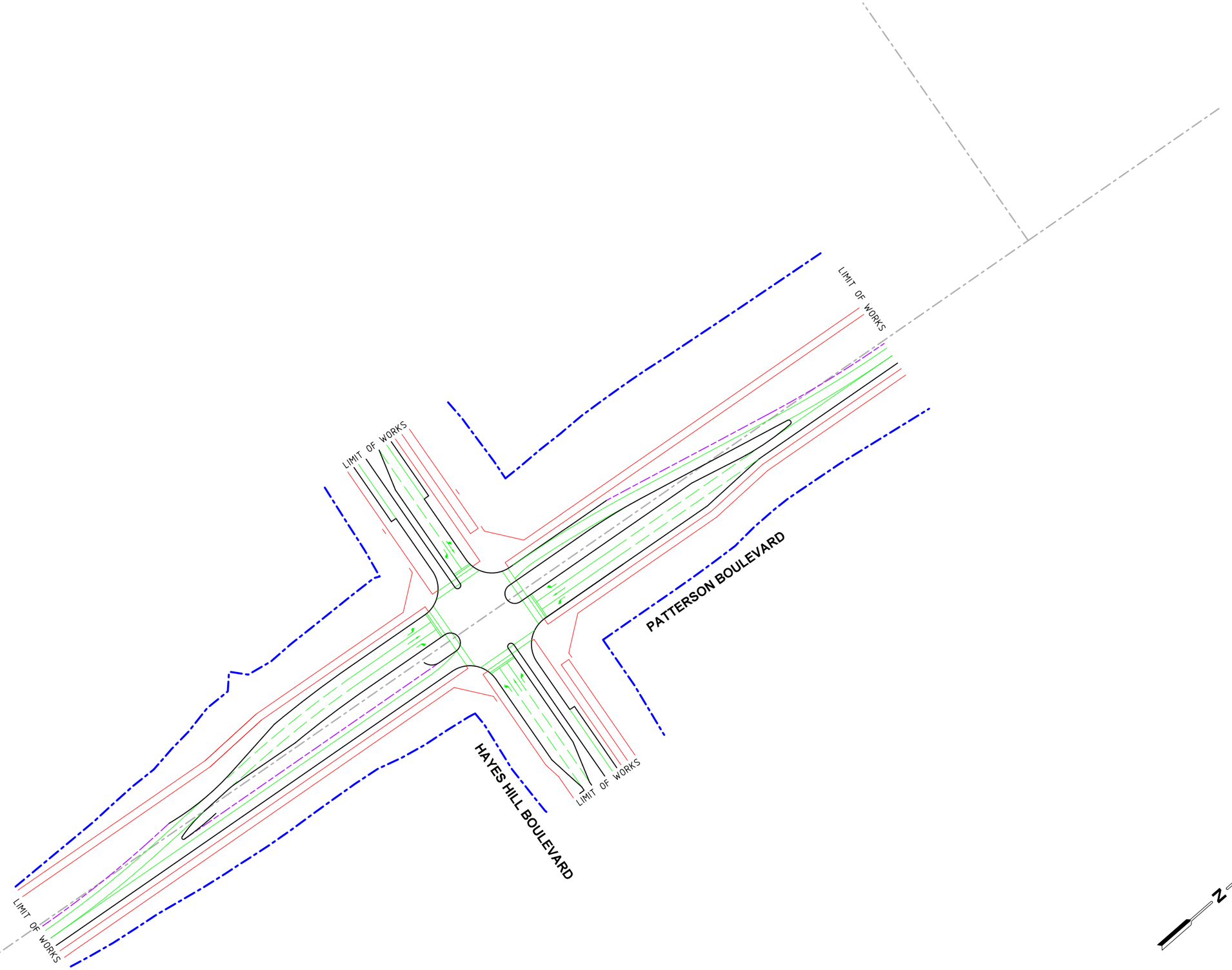
Phone (03) 9939 8250

Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-05

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP205	E



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CAD File: N:\Projects\2014\14094\Drawings\14094CLP206.dgn

Date Plotted: 04-09-201511:46:56 AM

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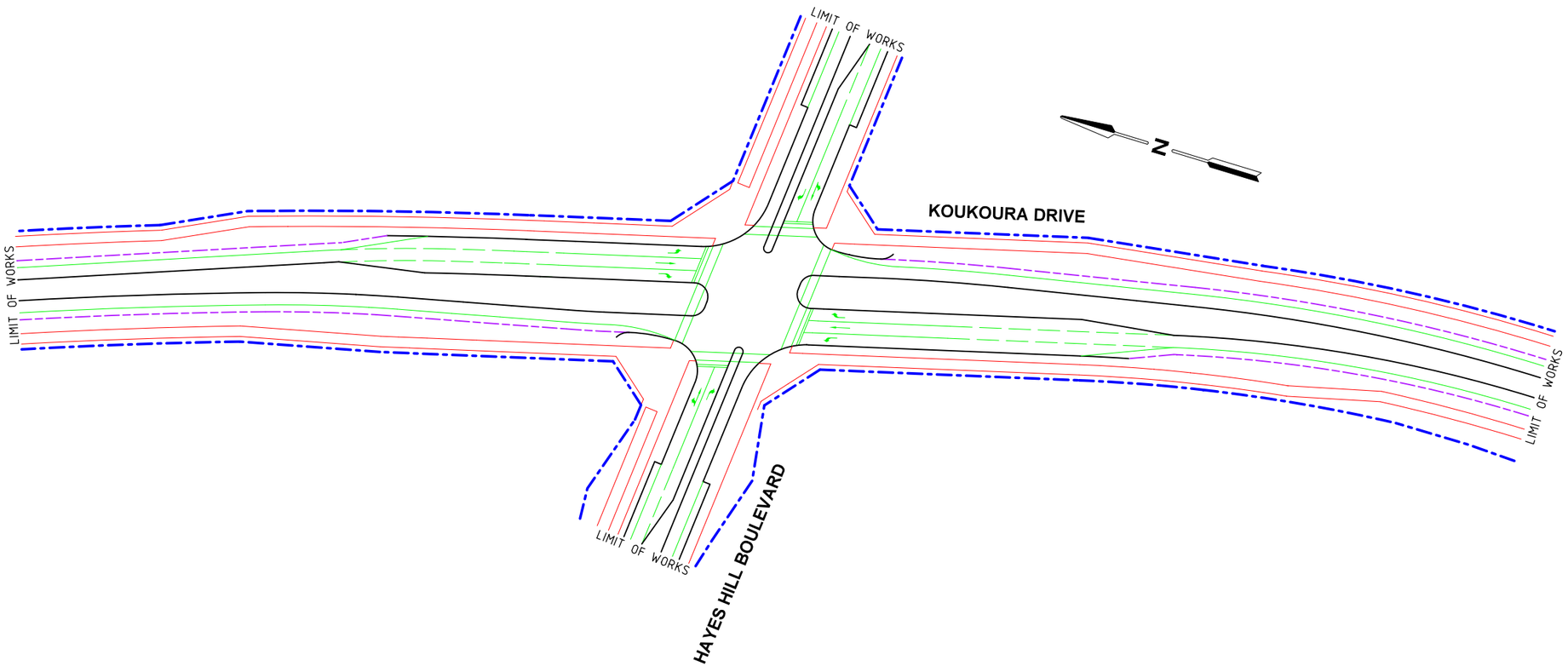
Phone (03) 9939 8250

Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-06

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP206	E



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Date Plotted: 04-09-201511:46:57 AM

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TRAFFIC ENGINEERING
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Email: info@onemilegrid.com.au Web: www.onemilegrid.com.au
Phone (03) 9939 8250

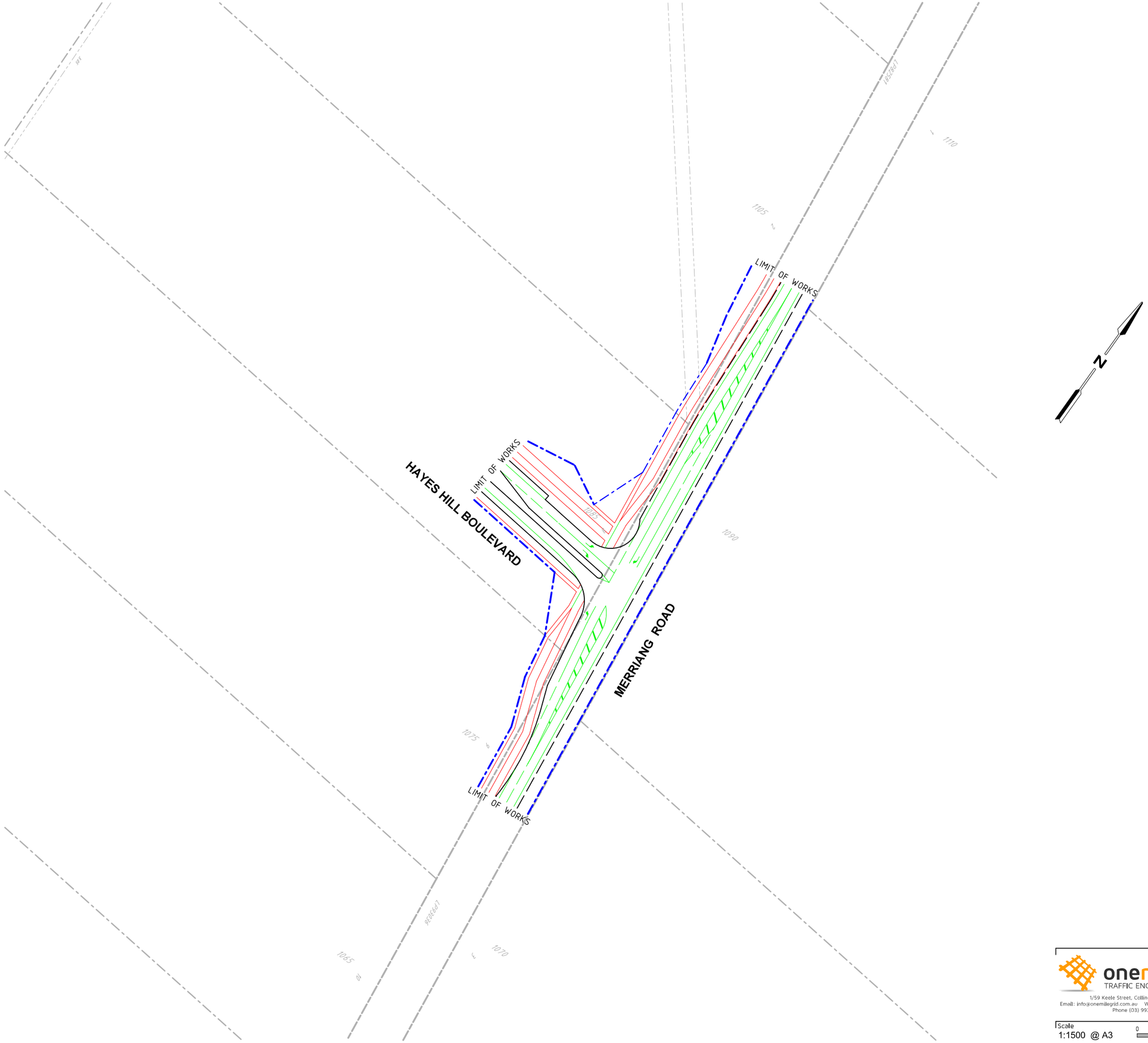
Scale
1:1500 @ A3

0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-07

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP207	E



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Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-08

Designed	Approved	Melway Ref
TCW	RBH	NA

Scale
1:1500 @ A3
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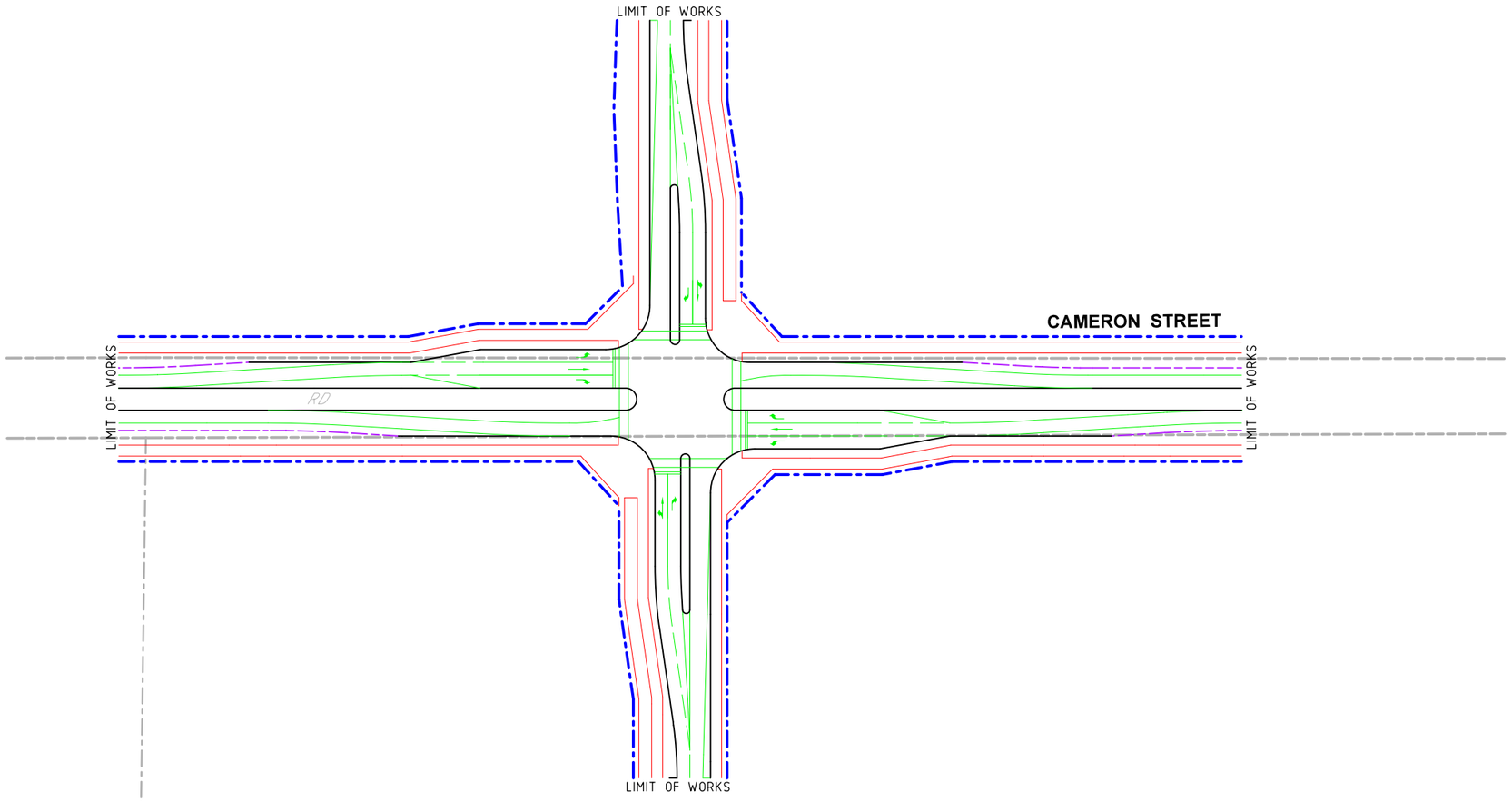
Project Number	Drawing Number	Revision
14094	CLP208	E



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1/59 Keele Street, Collingwood, VIC 3066
Email: Info@onemilegrid.com.au Web: www.onemilegrid.com.au
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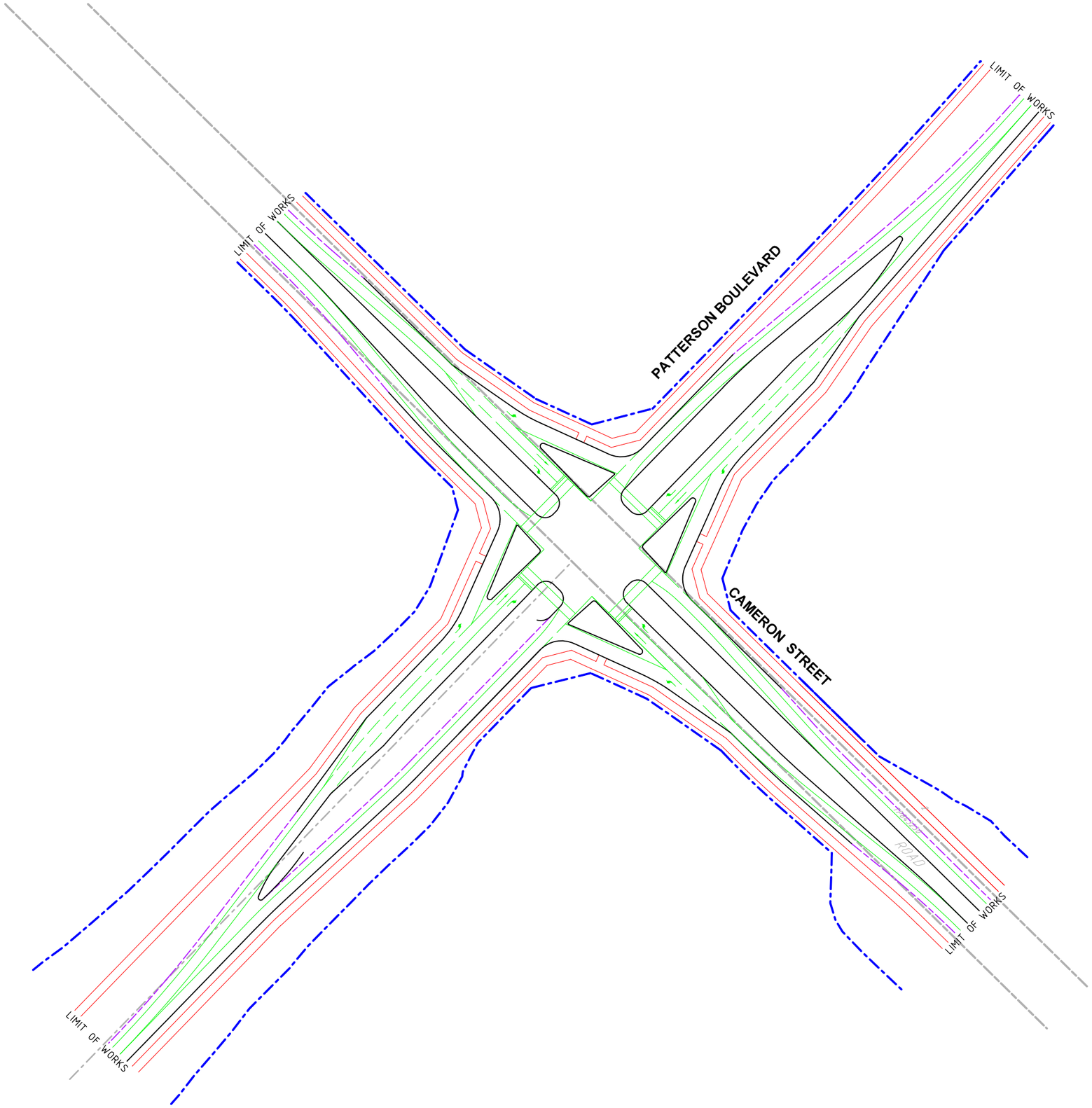
Scale
1:1500 @ A3

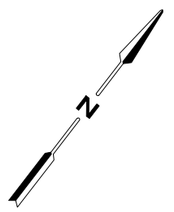
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-09

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP209	E





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Date Plotted: 04-09-201511:46:58 AM

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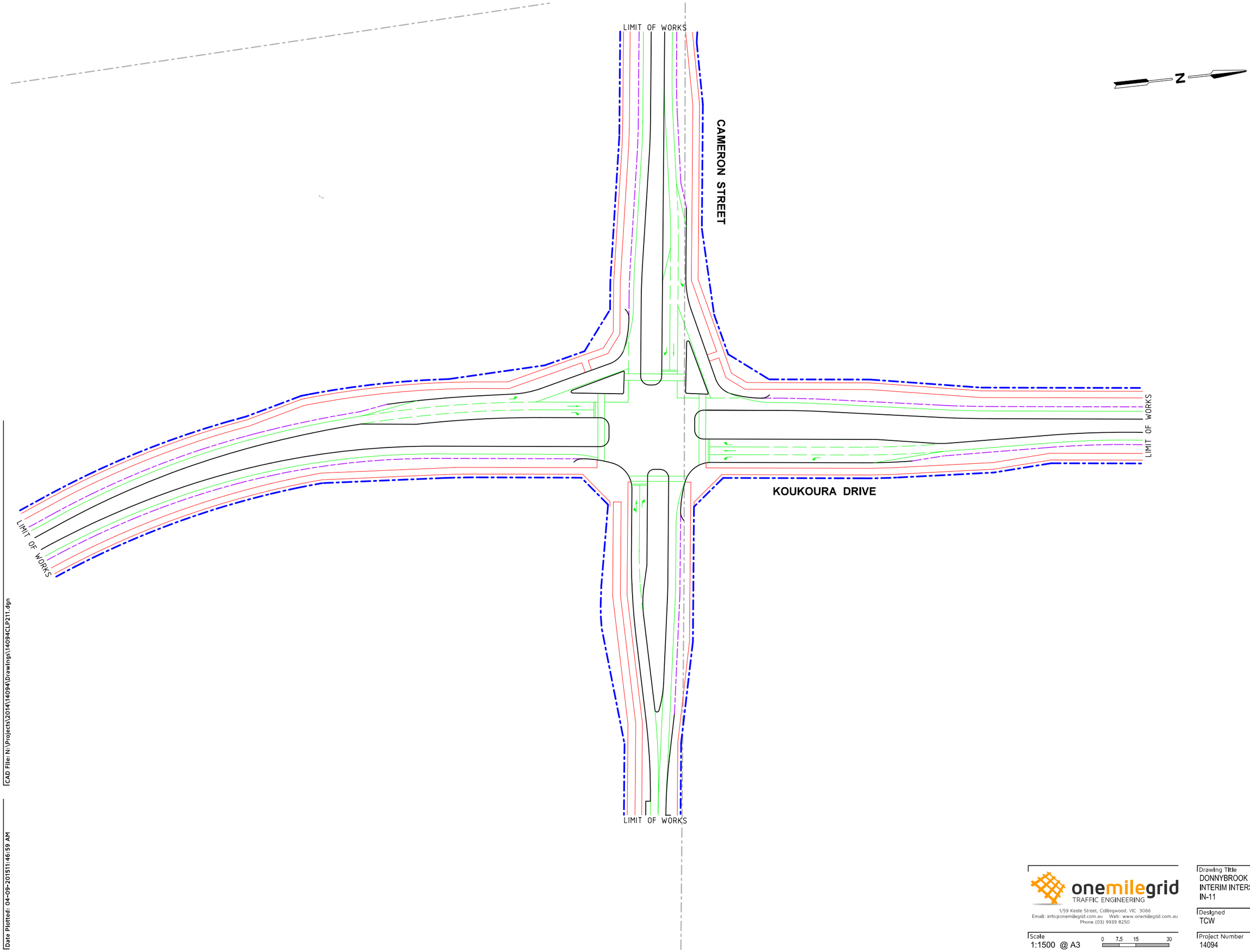
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-10

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP210	E



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Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-11

Designed	Approved	Melway Ref
TCW	RBH	NA

Scale
1:1500 @ A3
0 7.5 15 30

Project Number	Drawing Number	Revision
14094	CLP211	E

CAD File: N:\Projects\2014\14094\Drawings\14094CLP212.dgn

Date Plotted: 04-09-201511:46:59 AM

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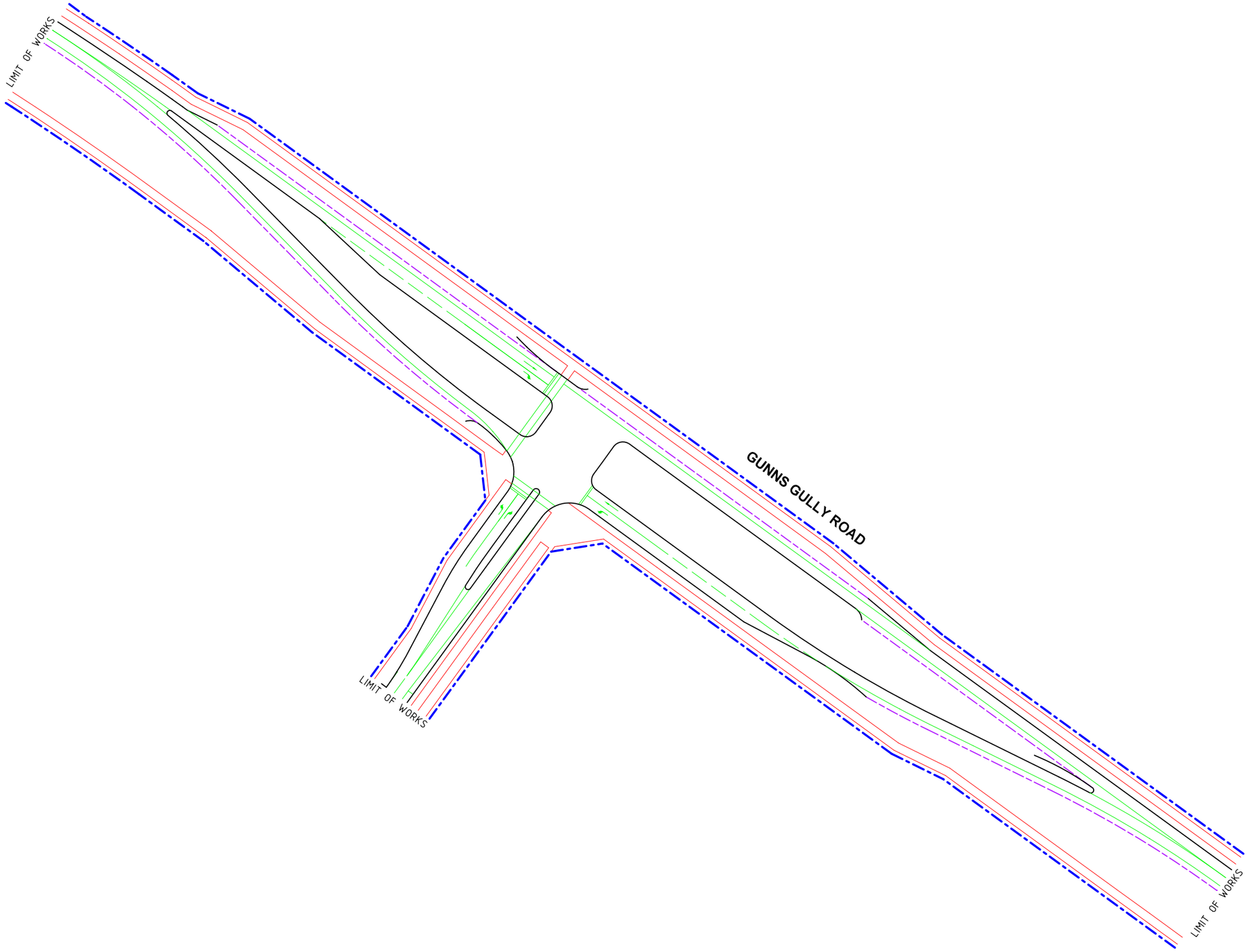
Scale
1:1500 @ A3

0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-12

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP212	E



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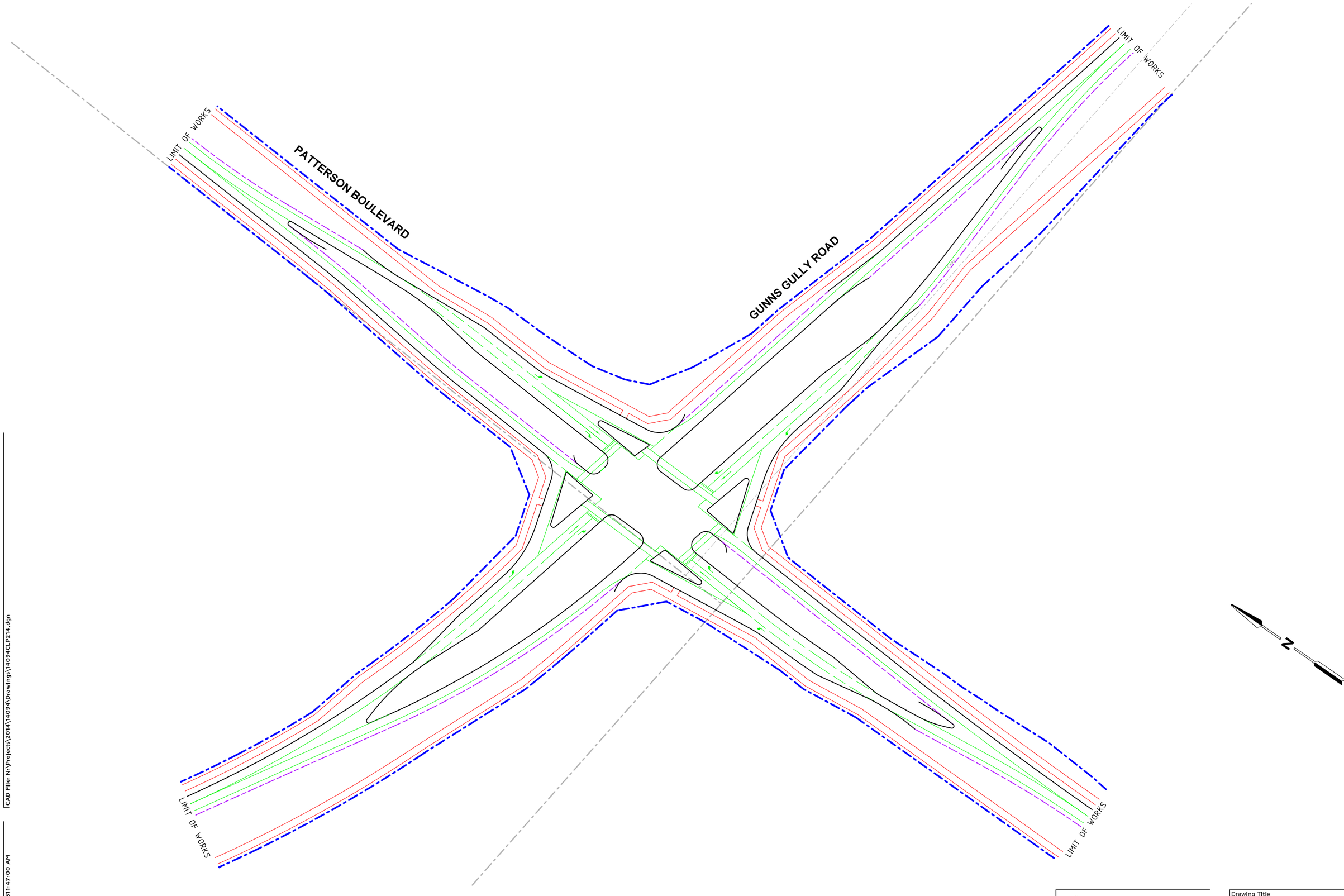
Scale
1:1500 @ A3

0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-13

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP213	E



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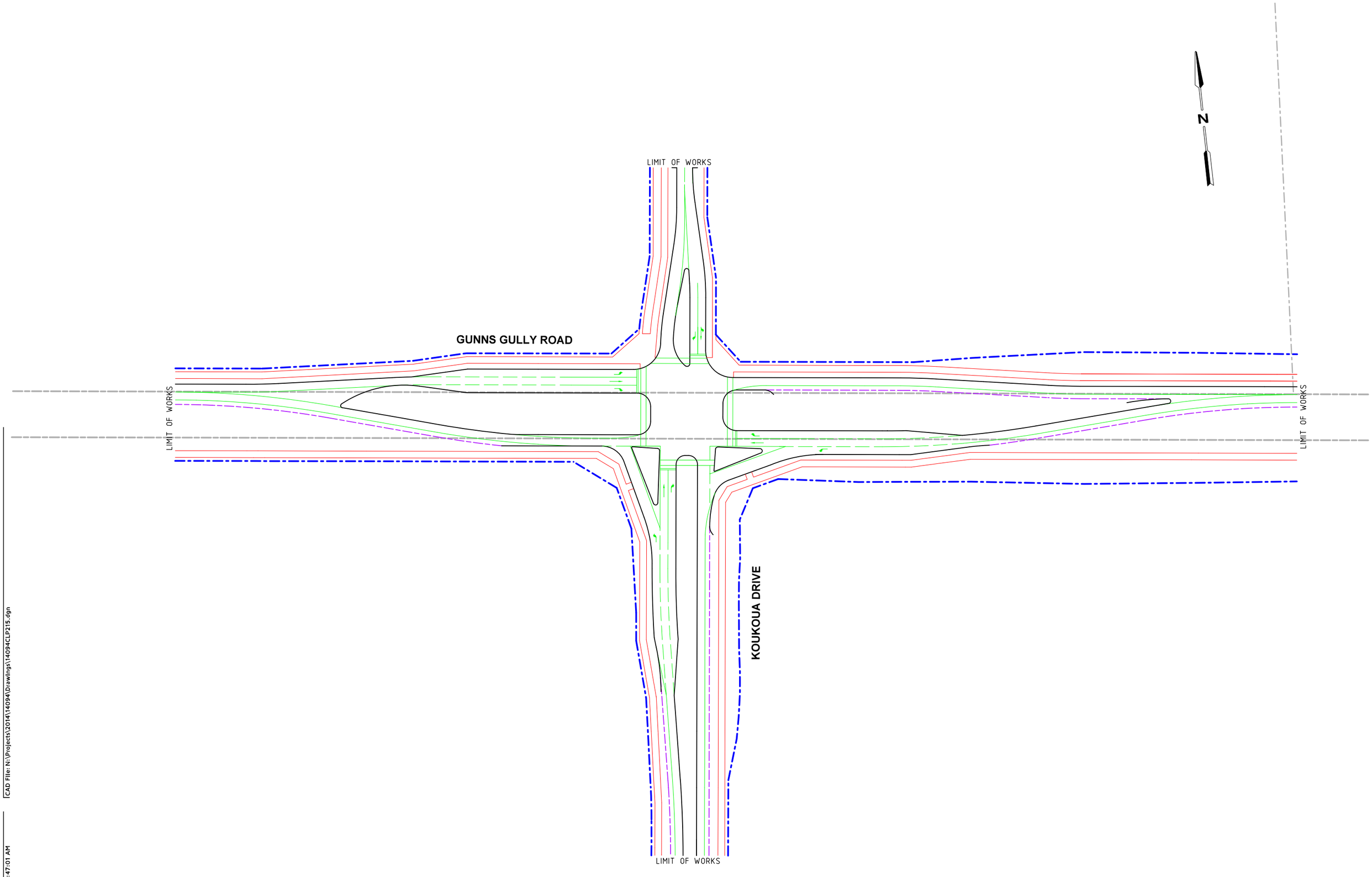
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-14

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP214	E



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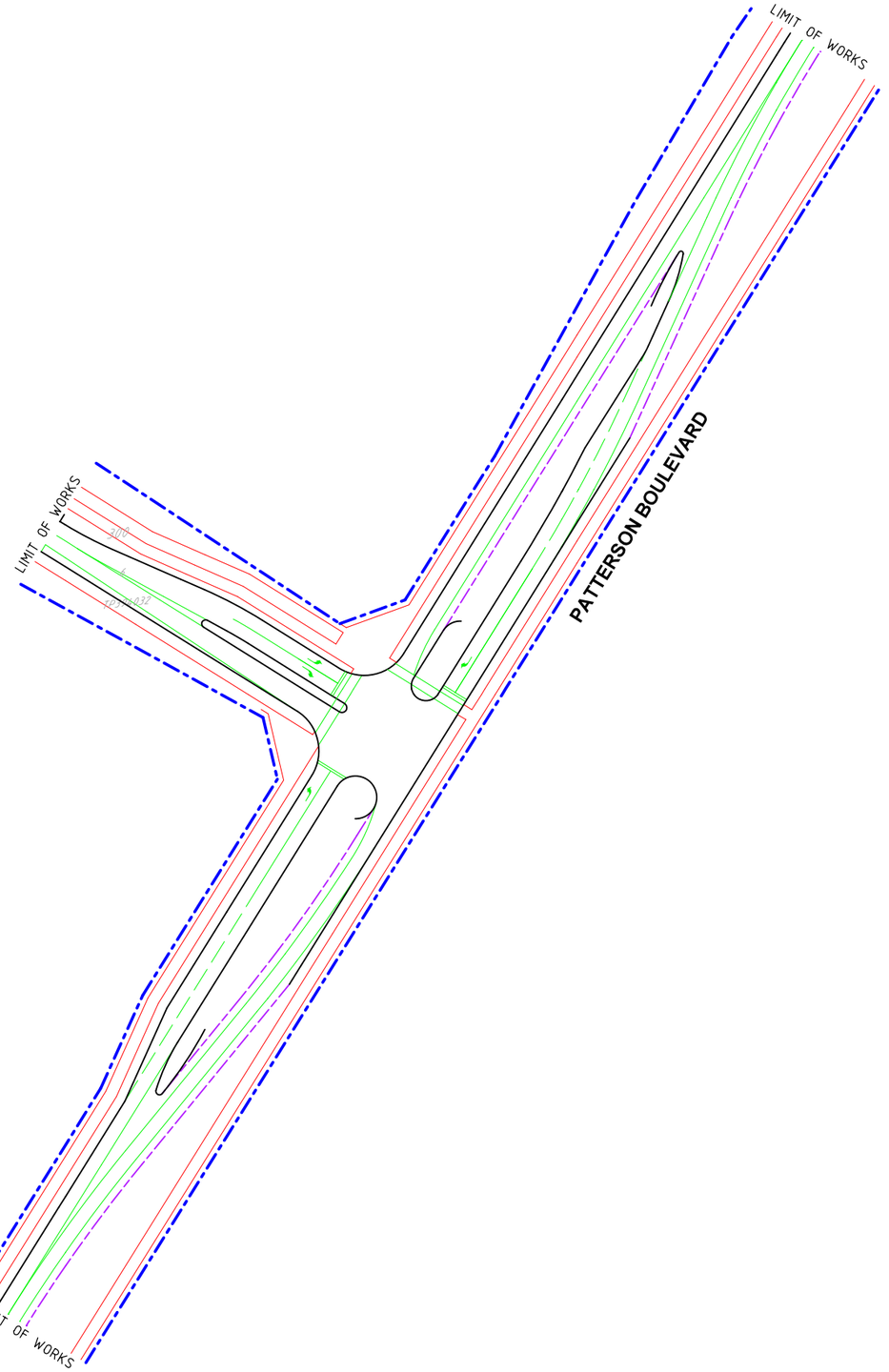
Scale
1:1500 @ A3
0 7.5 15 30

Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-15

Designed	Approved	Melway Ref
TCW	RBH	NA

Project Number	Drawing Number	Revision
14094	CLP215	E



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Date Plotted: 04-09-2015 11:47:01 AM

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Drawing Title
DONNYBROOK PSP
INTERIM INTERSECTION CONCEPT LAYOUT
IN-16

Designed	Approved	Melway Ref
TCW	RBH	NA

Scale
1:1500 @ A3
0 7.5 15 30

Project Number	Drawing Number	Revision
14094	CLP216	E

Appendix E Bridge/Culvert Designs

140638

DONNYBROOK AND WOODSTOCK PSP
CONCEPT BRIDGE ARRANGEMENTS

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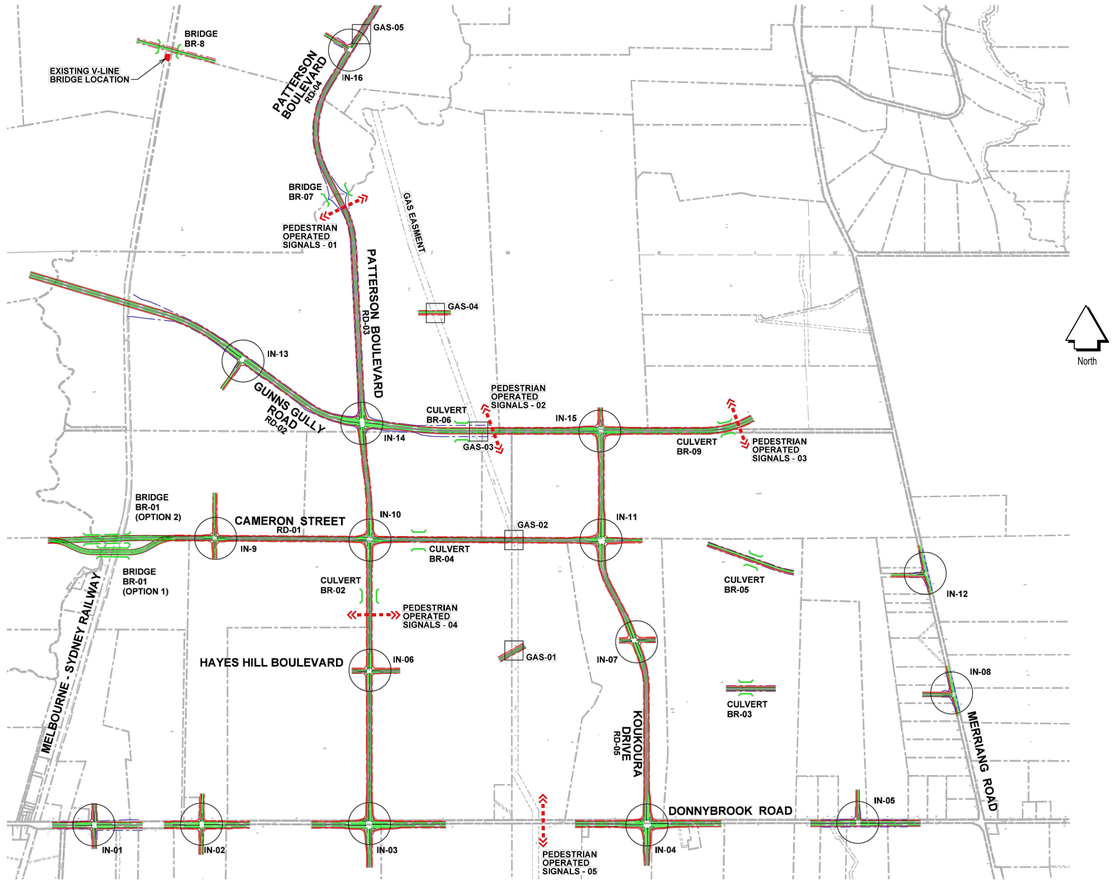
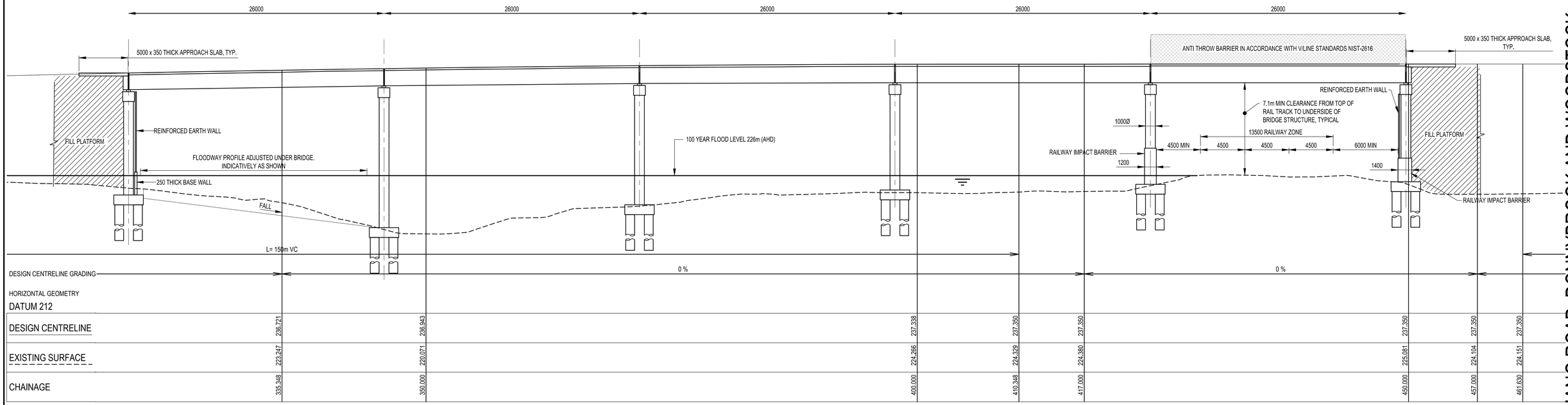
DRAWING LIST - CIVIL





BRIDGE 1 (OPTION 1) LONGITUDINAL SECTION

HOR 1 : 200

VER 1 : 200

Issue	Description	Date
2	PRELIMINARY ISSUE	23/09/15
1	PRELIMINARY ISSUE	19/03/15

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Client
ONE MILE GRID

Architect
JCA LAND CONSULTANTS

Title
BRIDGE 1 (OPTION 1)
LONGITUDINAL SECTION

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

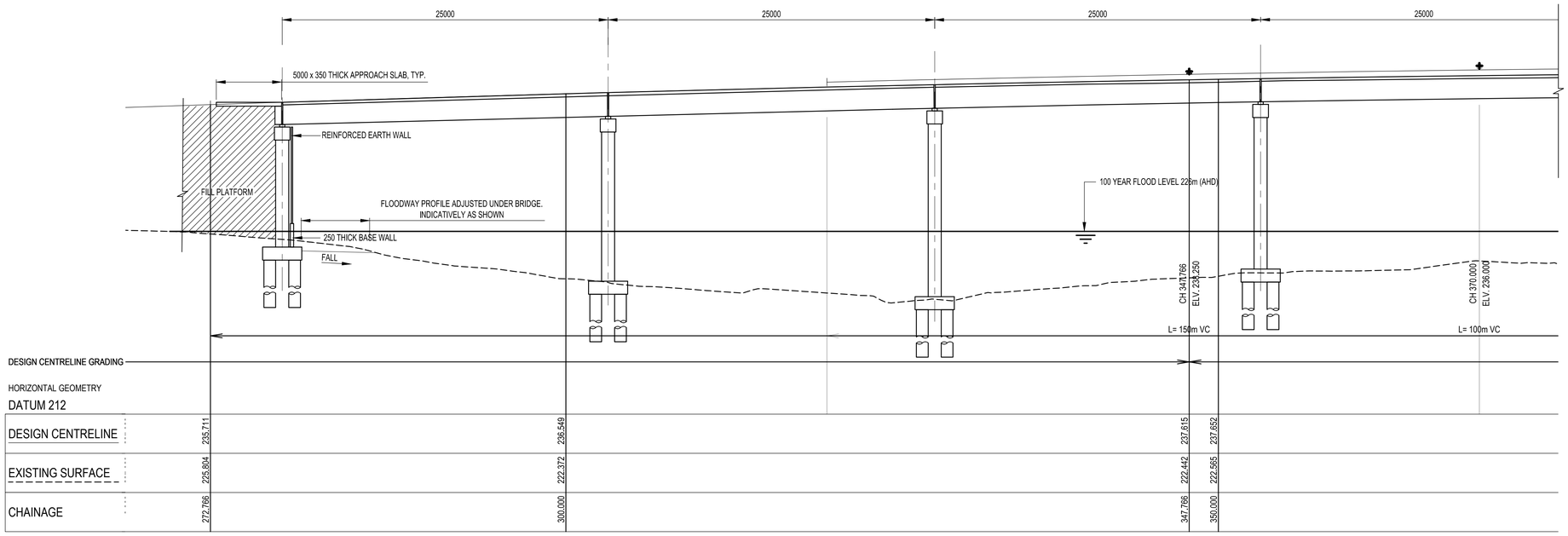
Plotted 9/23/2015 4:06 PM by Jeremy Luttrell

North

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

Project	Drawing	Revision
140638	- C002 -	2

BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD, DONNYBROOK AND WOODSTOCK



BRIDGE 1 (OPTION 2) LONGITUDINAL SECTION

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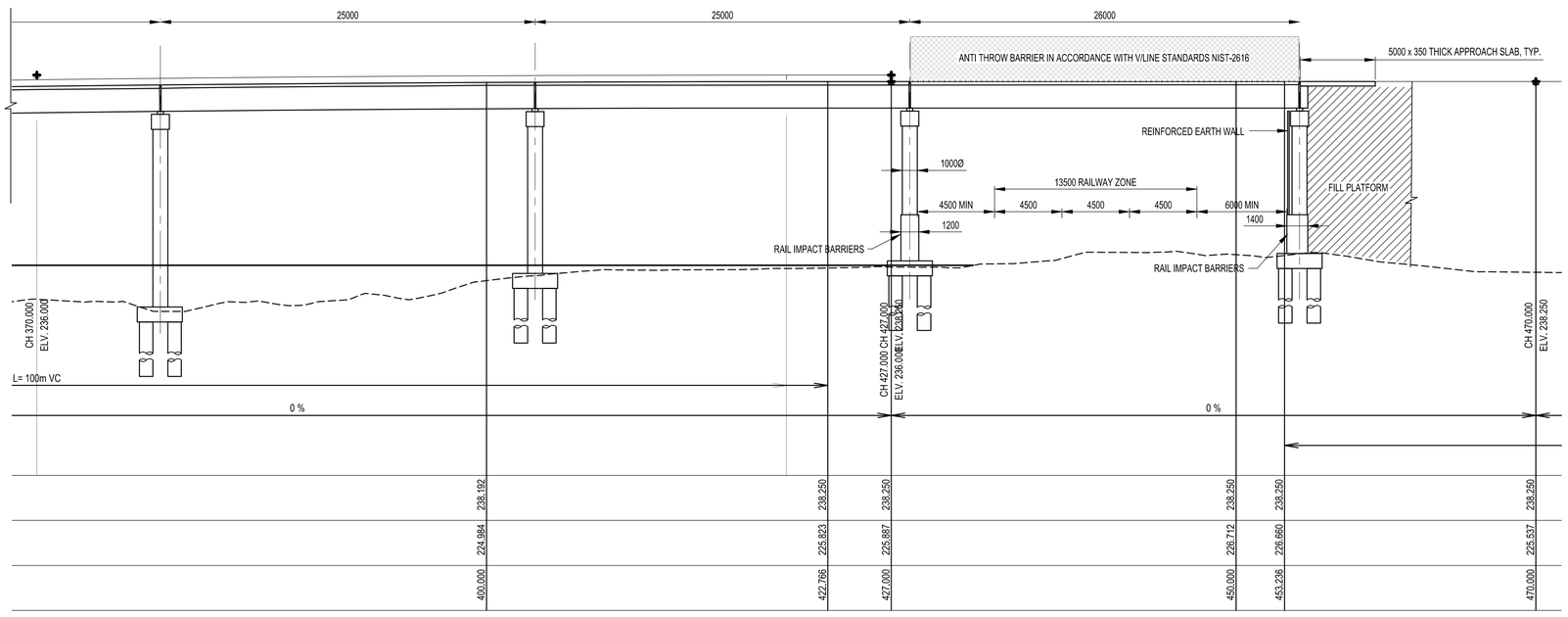
VER 1 : 200



BRIDGE 1 (OPTION 2) LONGITUDINAL SECTION - CONTINUATION

HOR 1 : 200
VER 1 : 200

Issue	Description	Date
2	PRELIMINARY ISSUE	23/09/15
1	PRELIMINARY ISSUE	19/03/15

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Architect
JCA LAND CONSULTANTS

Title
BRIDGE 1 (OPTION 2)
LONGITUDINAL SECTION

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

Plotted 9/23/2015 4:06 PM by Jeremy Luttrell

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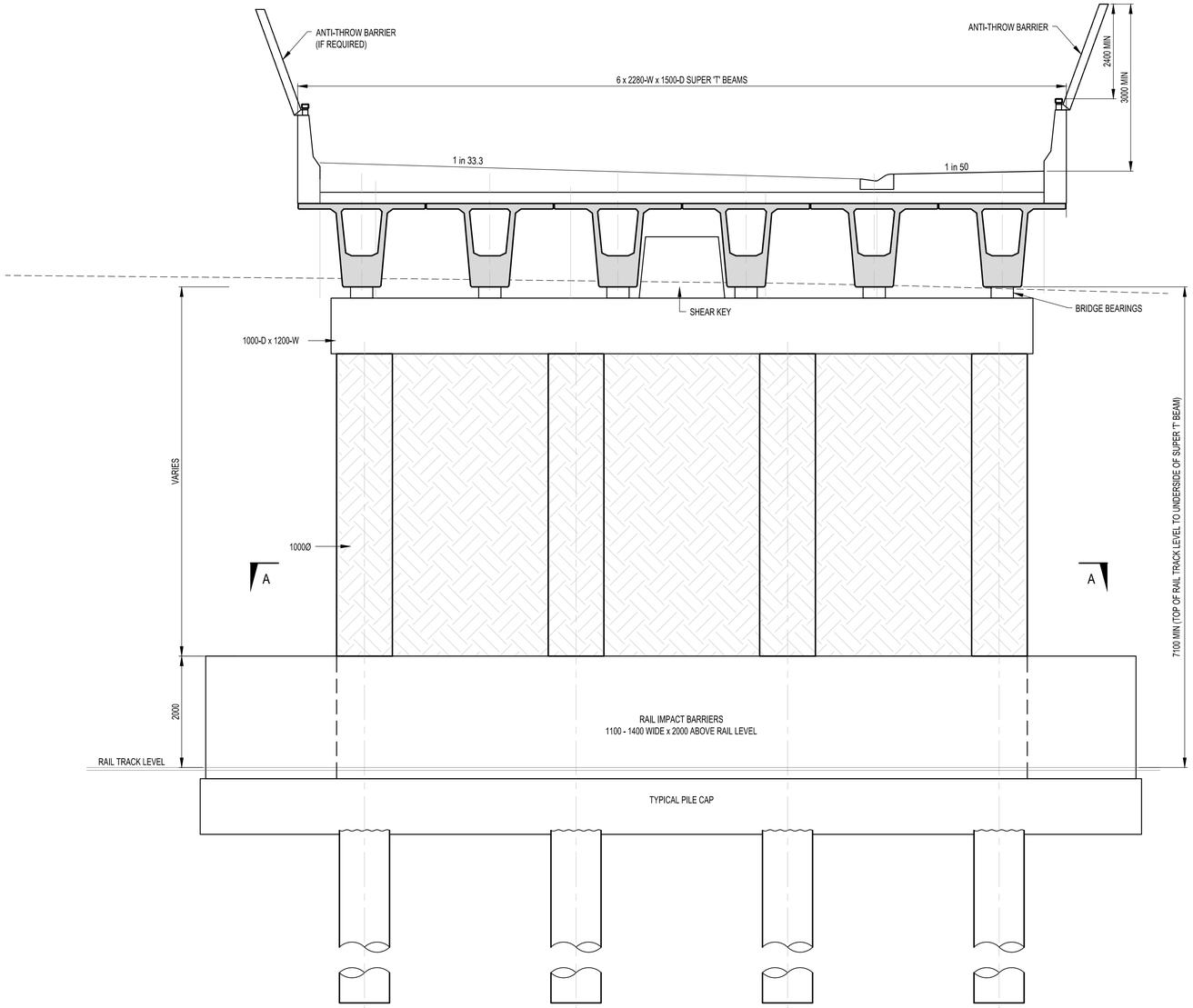
PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

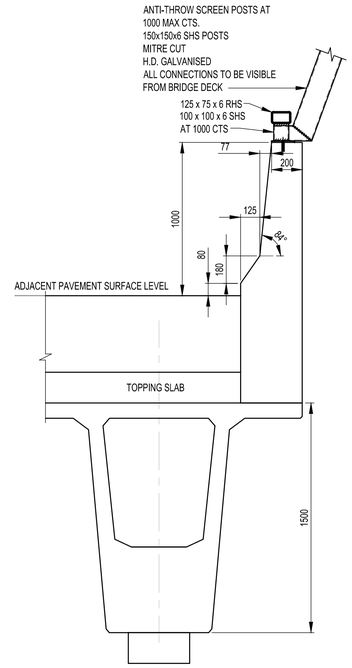
Project	Drawing	Revision
140638	C003	2

BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD, DONNYBROOK AND WOODSTOCK



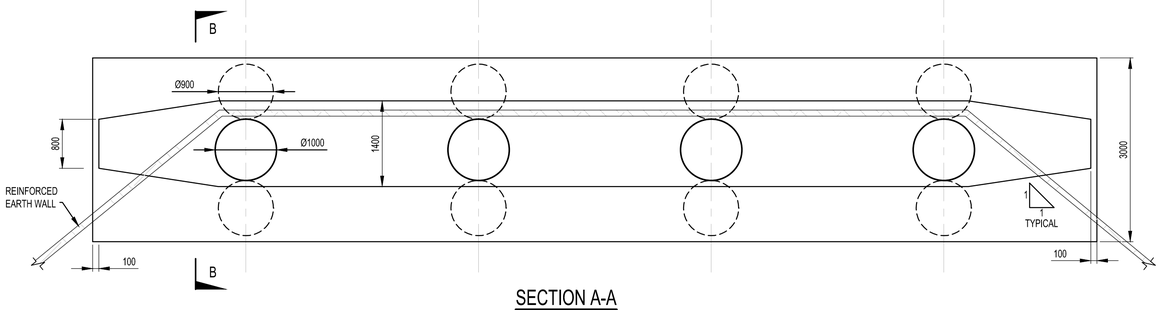
BRIDGE 1 (INTERIM) TYPICAL CROSS SECTION ADJACENT TO RAILWAY ZONE

SCALE 1:50



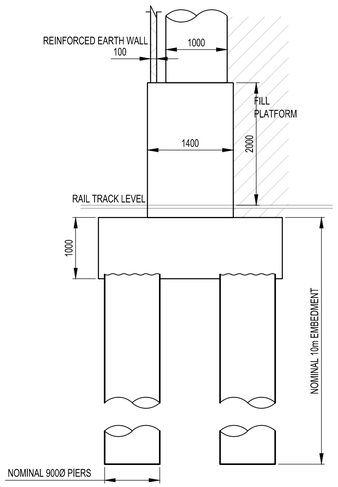
1500-D 'T' BEAM BARRIER DETAIL

SCALE 1:20



SECTION A-A

SCALE 1:50



SECTION B-B

SCALE 1:50

Issue	Description	Date
2	PRELIMINARY ISSUE	23/09/15
1	PRELIMINARY ISSUE	19/03/15

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Client
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Architect
JCA LAND CONSULTANTS

Title
BRIDGE 1 (INTERIM) TYPICAL CROSS-SECTION ADJACENT TO RAILWAY ZONE

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

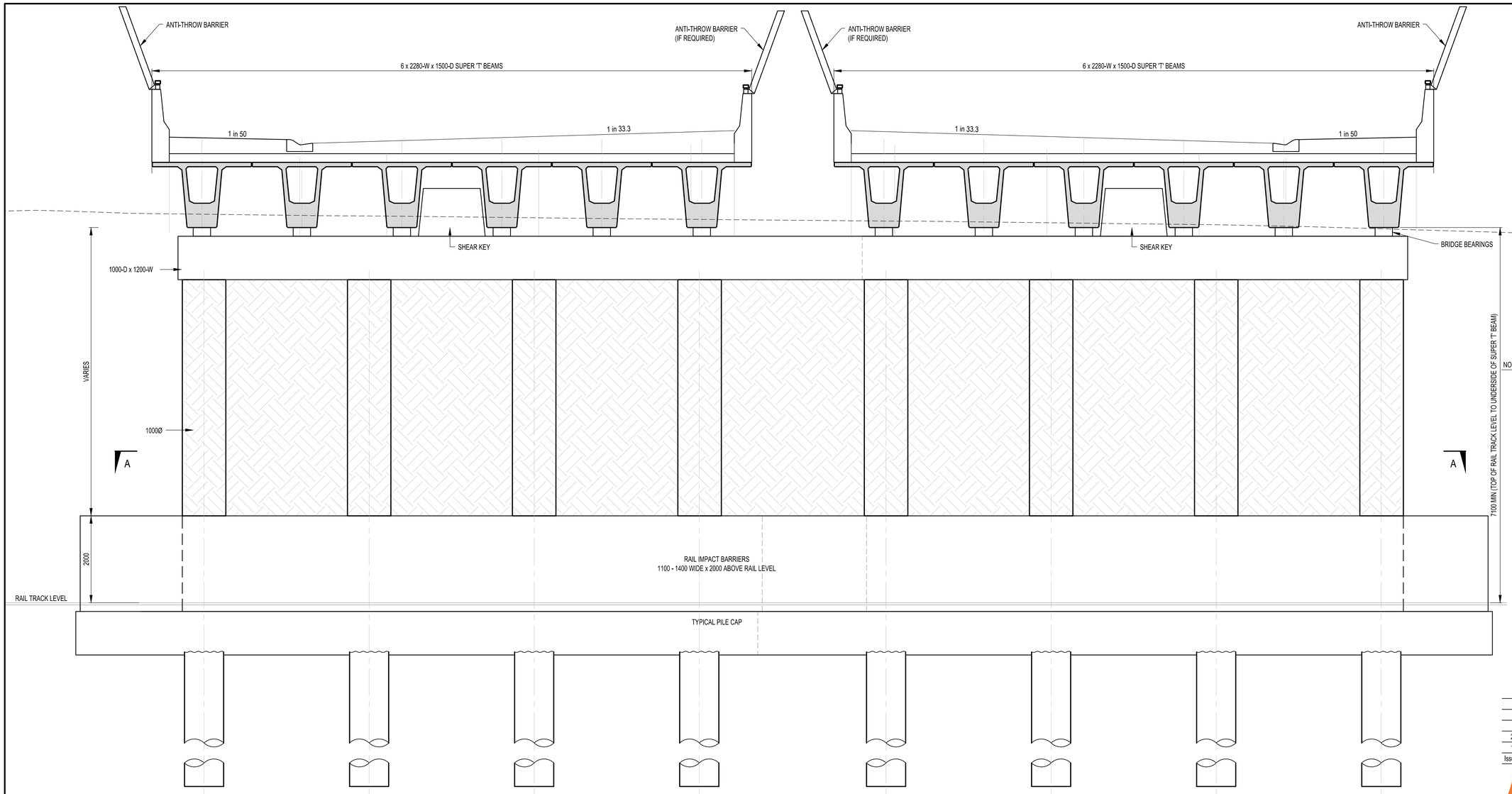
North

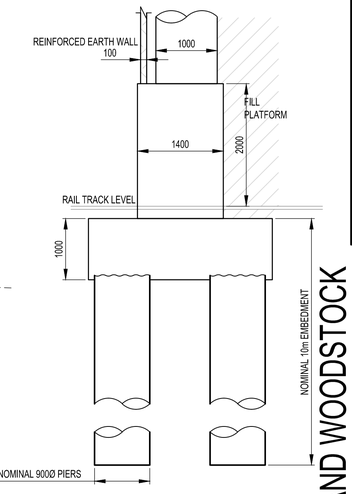
Plotted: 9/23/2015 4:07 PM by Jeremy Luttrell

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

Project	Drawing	Revision
140638	C004	2

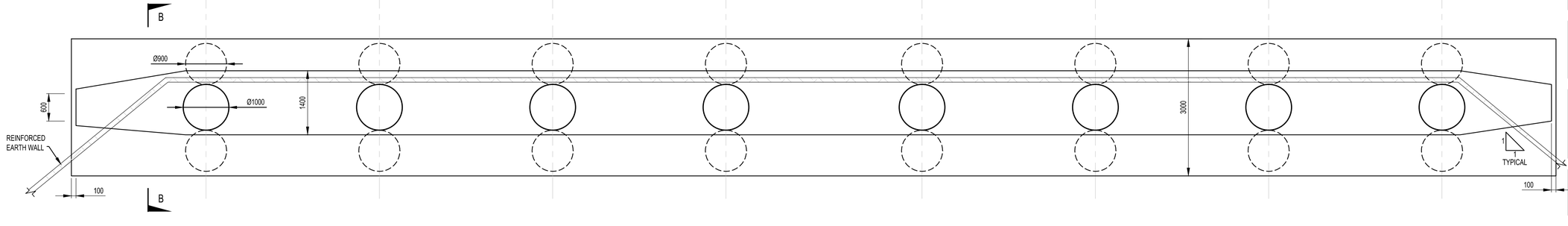
BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD





SECTION B-B
SCALE 1:50

BRIDGE 1 (FINAL) TYPICAL CROSS SECTION ADJACENT TO RAILWAY ZONE
SCALE 1:50



Issue	Description	Date
2	PRELIMINARY ISSUE	23/09/15
1	PRELIMINARY ISSUE	19/03/15

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Client
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Architect
JCA LAND CONSULTANTS

Title
BRIDGE 1 (FINAL) TYPICAL CROSS-SECTION ADJACENT TO RAILWAY ZONE

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

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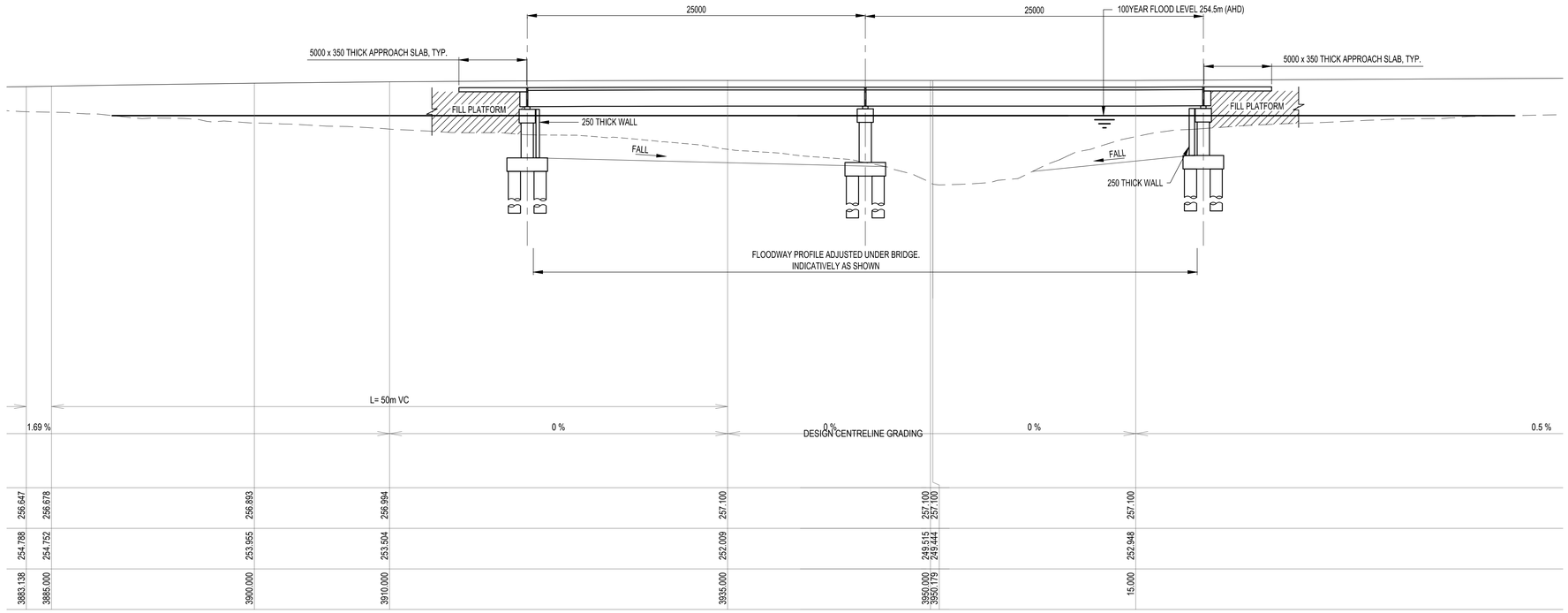
PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

Project	Drawing	Revision
140638	C005	2

BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD



1	PRELIMINARY ISSUE	19/03/15
Issue	Description	Date

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Client
JCA LAND CONSULTANTS

Architect
JCA LAND CONSULTANTS

Title
BRIDGE 7 LONGITUDINAL SECTION

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

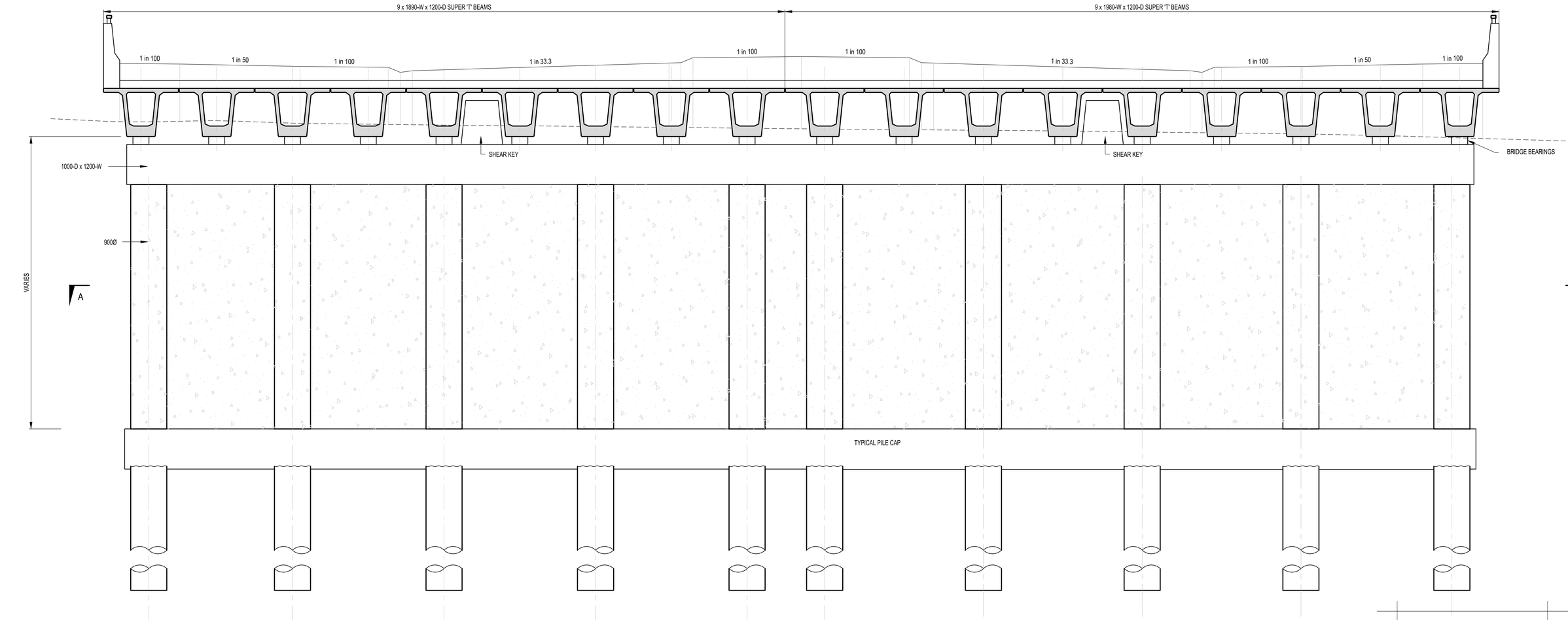
Plotted 3/19/2015 9:03 AM by Jeremy Luttrell

North

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

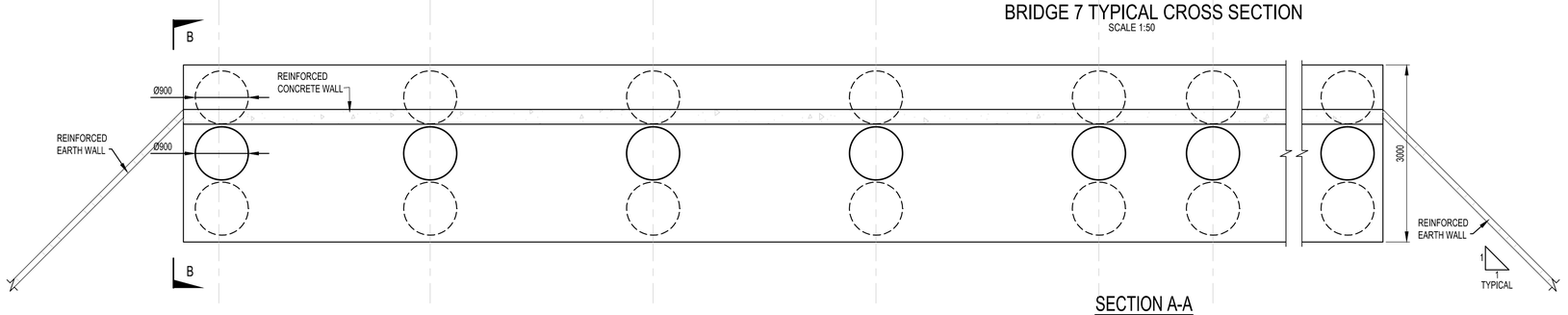
Project	Drawing	Revision
140638	C006	1

BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD, DONNYBROOK AND WOODSTOCK



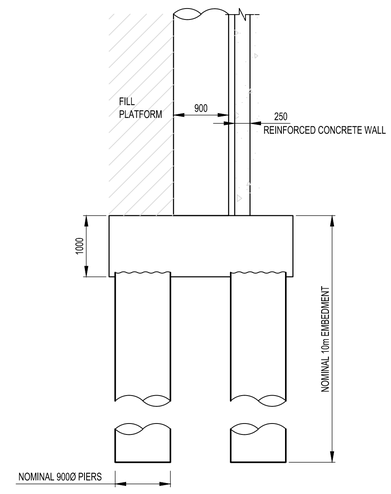
BRIDGE 7 TYPICAL CROSS SECTION

SCALE 1:50



SECTION A-A

SCALE 1:50



SECTION B-B

SCALE 1:50

Issue	Description	Date
1	PRELIMINARY ISSUE	19/03/15

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Architect
JCA LAND CONSULTANTS

Title
BRIDGE 7 TYPICAL CROSS-SECTION

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

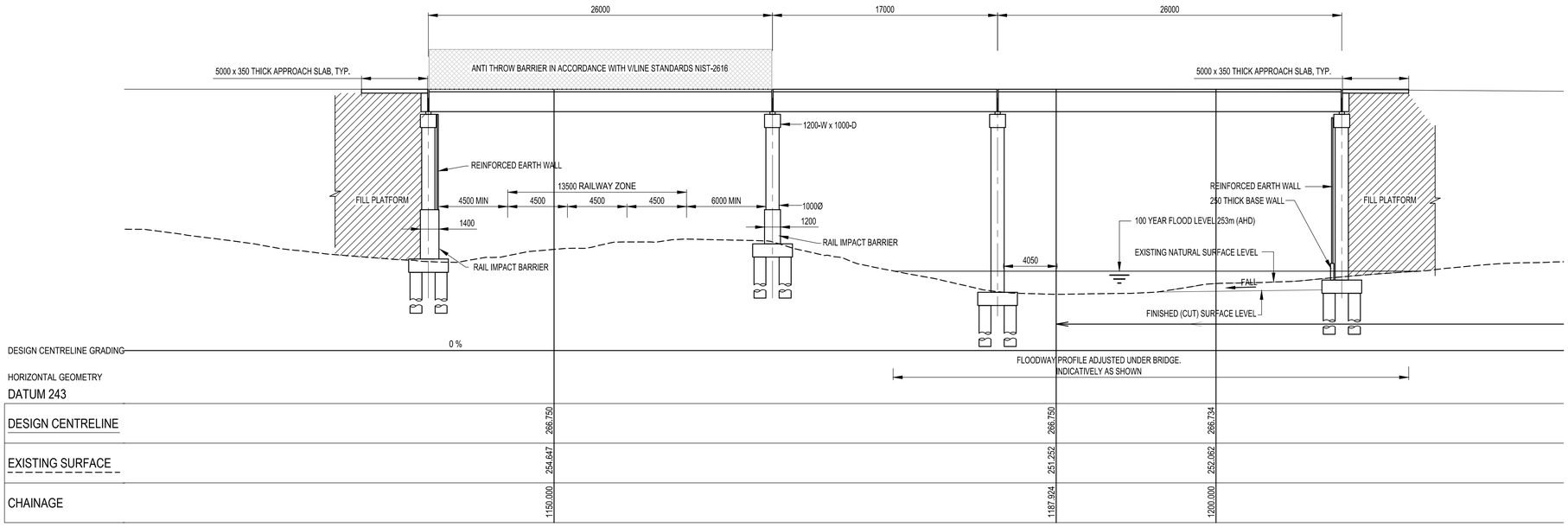
Plotted 3/19/2015 9:29 AM by Jeremy Luttrell

North

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

Project	Drawing	Revision
140638	C007	1

BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD, DONNYBROOK AND WOODSTOCK



IN-16 LONGITUDINAL SECTION

HOR 1 : 200

VER 1 : 200

BRIDGE 8 LONGITUDINAL SECTION

HOR 1 : 200

VER 1 : 200

Issue	Description	Date
2	PRELIMINARY ISSUE	23/09/15
1	PRELIMINARY ISSUE	19/03/15

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Client
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Architect
JCA LAND CONSULTANTS

Title
BRIDGE 8
LONGITUDINAL SECTION

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

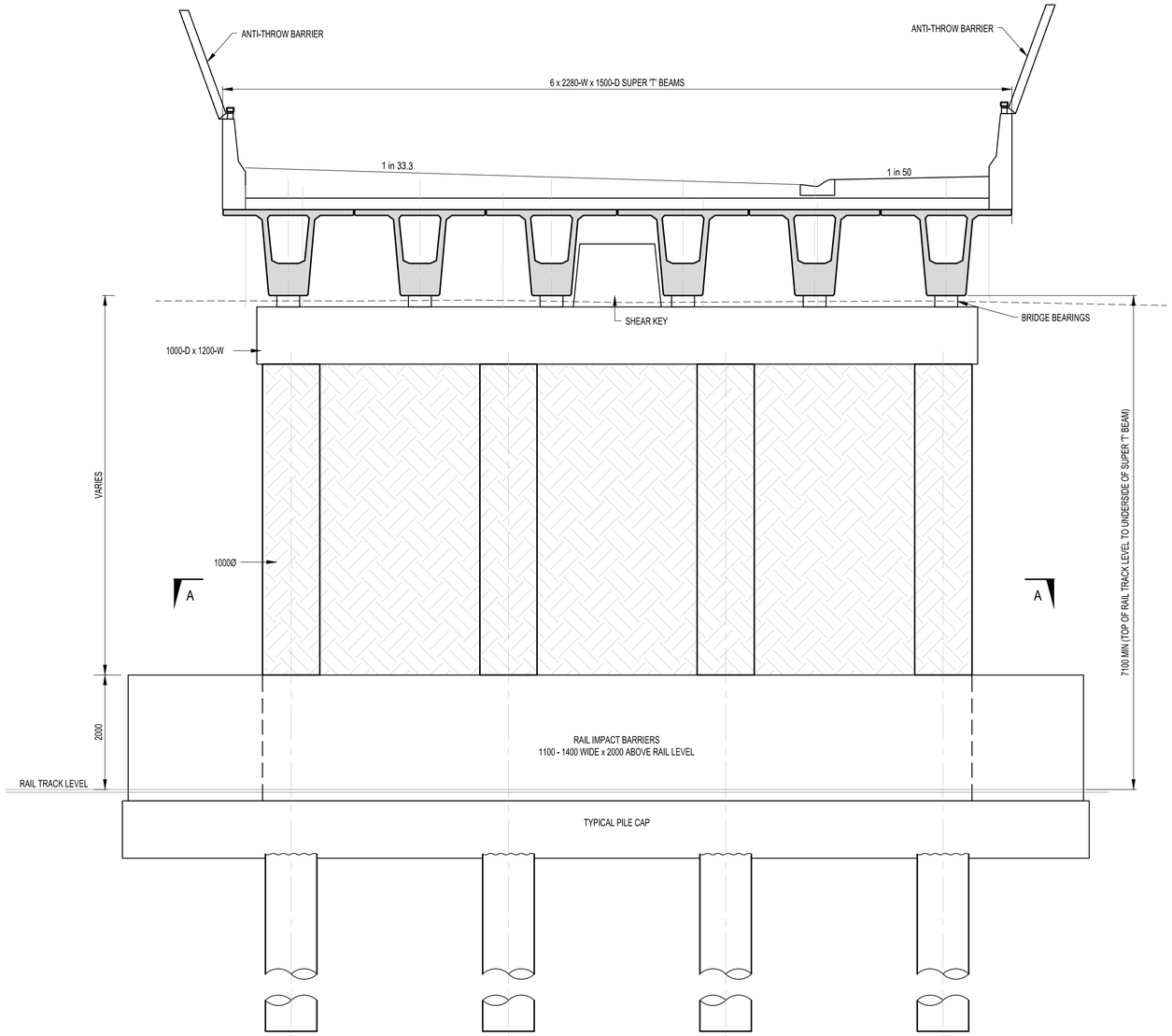
Plotted 9/23/2015 4:09 PM by Jeremy Luttrell

North

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

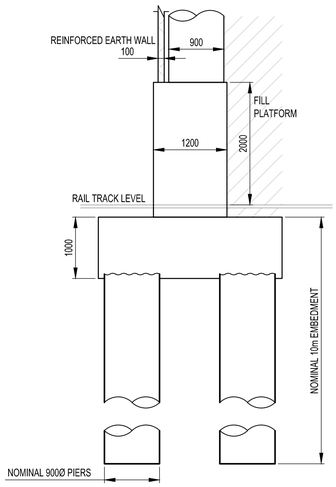
Project	Drawing	Revision
140638	- C008 -	2

BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD, DONNYBROOK AND WOODSTOCK



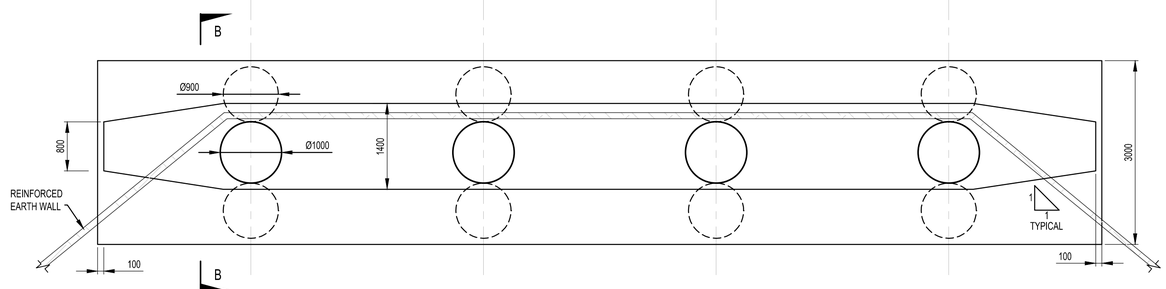
BRIDGE 8 TYPICAL CROSS SECTION ADJACENT TO RAILWAY ZONE

SCALE 1:50



SECTION B-B

SCALE 1:50



SECTION A-A

SCALE 1:50

Issue	Description	Date
2	PRELIMINARY ISSUE	23/09/15
1	PRELIMINARY ISSUE	19/03/15

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Client
ONE MILE GRID

Architect
JCA LAND CONSULTANTS

Title
BRIDGE 8 TYPICAL
CROSS-SECTION ADJACENT
TO RAILWAY ZONE

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

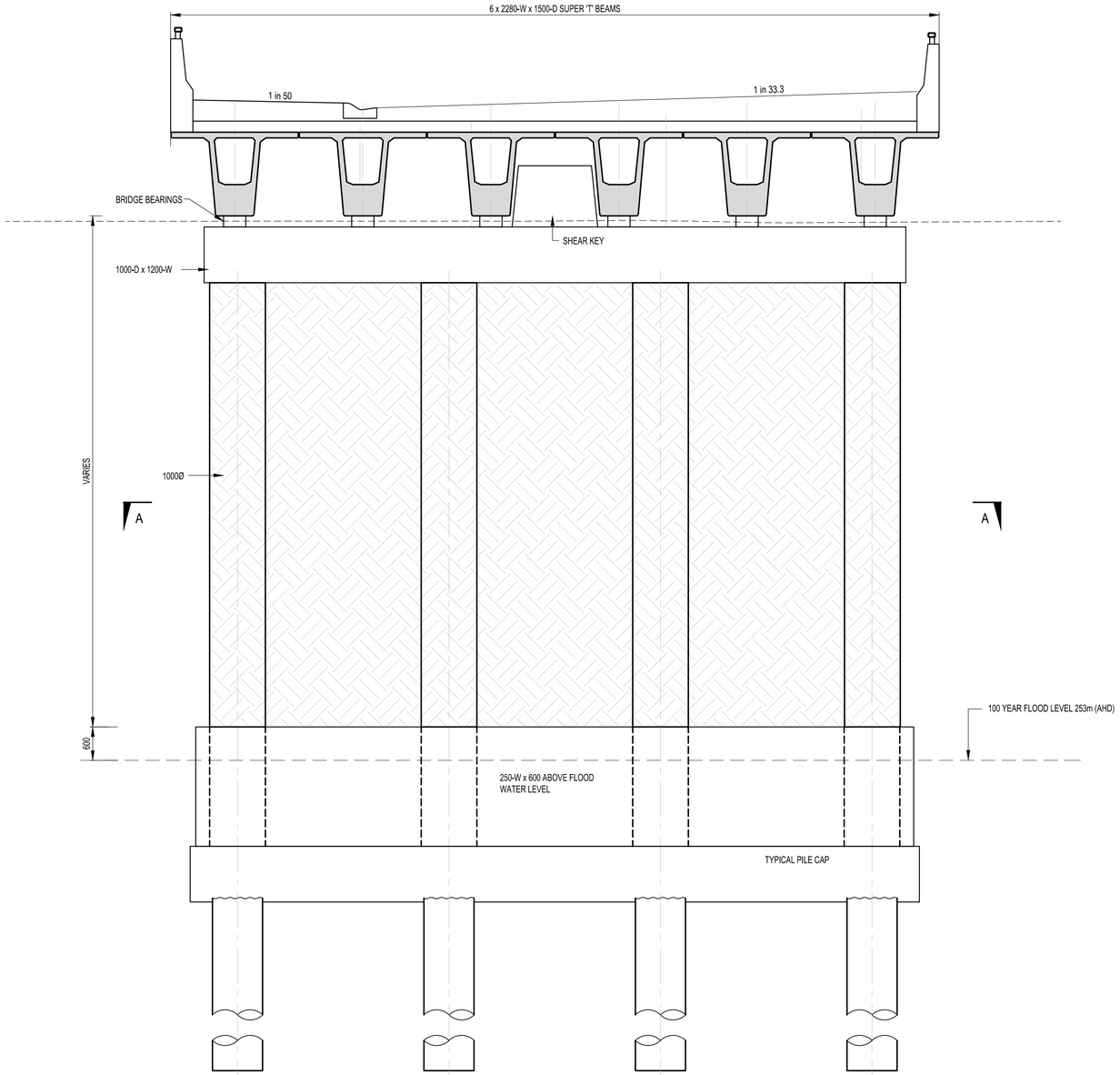
Plotted 9/23/2015 2:42 PM by Jeremy Luttrell

North

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

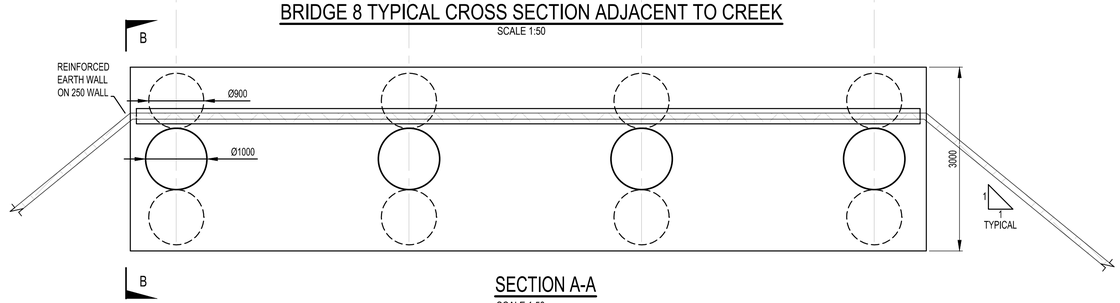
Project	Drawing	Revision
140638	C009	2

BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD, DONNYBROOK AND WOODSTOCK



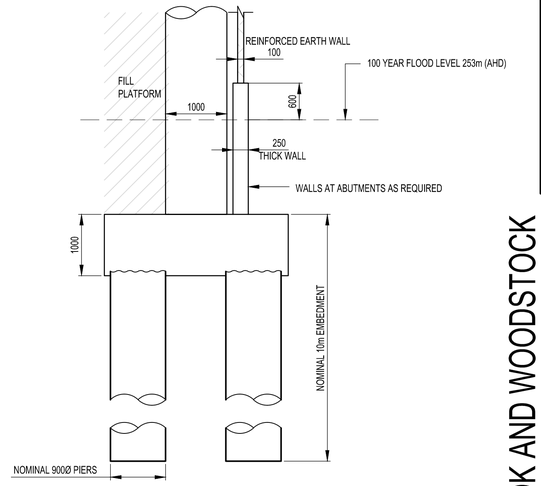
BRIDGE 8 TYPICAL CROSS SECTION ADJACENT TO CREEK

SCALE 1:50



SECTION A-A

SCALE 1:50



SECTION B-B

SCALE 1:50

BRIDGE DESIGN, DONNYBROOK AND WOODSTOCK PSP - MERRIANG ROAD, DONNYBROOK AND WOODSTOCK

Issue	Description	Date
2	PRELIMINARY ISSUE	23/09/15
1	PRELIMINARY ISSUE	19/03/15

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Client
ONE MILE GRID

Architect
JCA LAND CONSULTANTS

Title
BRIDGE 8 TYPICAL
CROSS-SECTION ADJACENT
TO CREEK

Designed	AS	Drawn	JL
Project Leader	AS	Certified	
Project Director		Sheet Size	A1

Plotted 9/23/2015 2:36 PM by Jeremy Luttrell

North

PRELIMINARY ISSUE
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Project	Drawing	Revision
140638	C010	2

DIMENSIONS

NOM WIDTH (w)	NOM HEIGHT (h)	A_{xx}	H	B	C	D	F
~~750~~	~~600~~						
~~900~~	~~600~~						
~~900~~	~~750~~						
~~1200~~	~~600~~						
1200	900	1380	1250	1750	A+2B	2500	3050
1800	900	1980	1250	1750	A+2B	2500	3050
1800	1200	1980	1550	2400	A+2B	3450	4200

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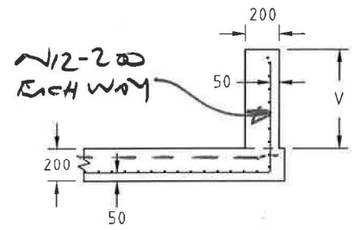
140638
DONNYBROOK PSP
SK 01 A 13/3/15
TYPICAL CULVERT END WALL DETAILS



SECTION B-B

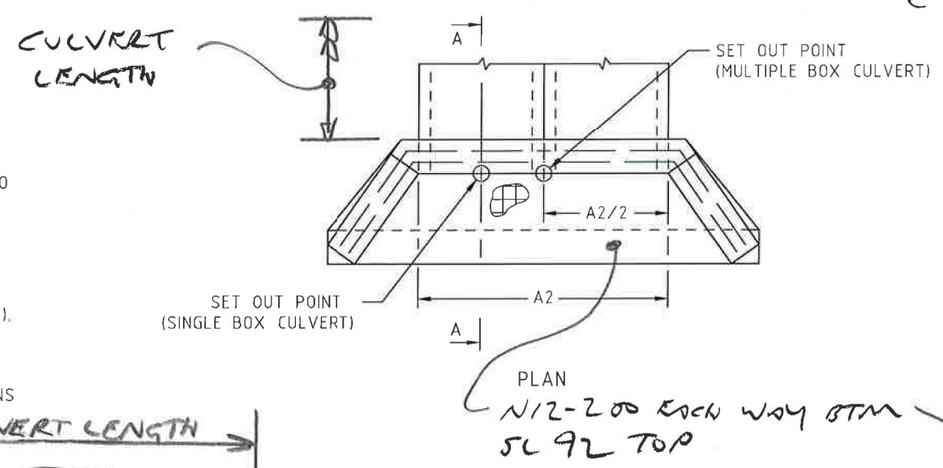
V = VARIABLE HEIGHT OF THE WINGWALL

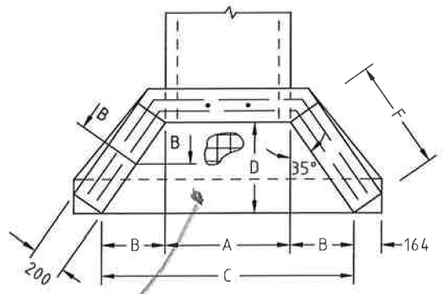
NOTES:

1. BECAUSE THE RELATION OF THE BATTER TO THE TOP OF THE ENDWALL IS ESSENTIAL FOR THE SAFETY OF THE MOTORIST, THE DETAILS AS SHOWN IN SECTION A-A MUST BE ADHERED TO DURING CONSTRUCTION.
2. REINFORCEMENT FABRIC SHALL COMPLY WITH AS/NZS 4671, UNLESS OTHERWISE SPECIFIED, REINFORCEMENT FABRIC SHALL BE F81 AND CONTINUOUS AROUND CORNERS AND LOCATED AS SHOWN ON SECTIONS A-A AND B-B. CLEAR COVER 50 MIN., LAPS 300 MIN.
3. REINFORCEMENT BARS SHALL COMPLY WITH AS/NZS 4671, GRADE 400Y. CLEAR COVER 50 MIN., LAPS 25 x BAR DIAMETER MIN.
4. CONCRETE SHALL BE NORMAL-CLASS N32 STANDARD STRENGTH GRADE OR HIGHER COMPLYING WITH THE REQUIREMENTS OF AS 1379. EXPOSURE CLASSIFICATIONS UP TO AND INCLUDING B1.
5. EXPOSED EDGES SHALL HAVE 20 x 20 CHAMFERS.
6. COMPACTION PRESSURE BEHIND WALLS NOT TO EXCEED 15 kPa.
7. REFER TO SD 1982 FOR QUANTITIES (1.5 TONNE VIBRATORY ROLLER OR 300 kg VIBRATING PLATE WITHIN 0.5m OF WALL).
8. CONCRETE AGGREGATES SHALL COMPLY WITH TABLE 701.021 OF VICROADS STANDARD SPECIFICATION 701.
9. ENDWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF AS 3600.

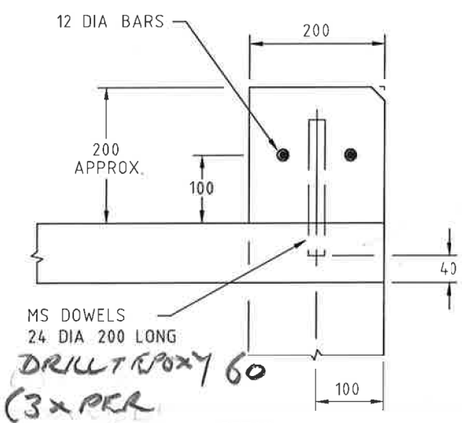
x SLOPE OF WINGWALL PERPENDICULAR TO ROADWAY (1:3)

xx A2 = A + A ETC

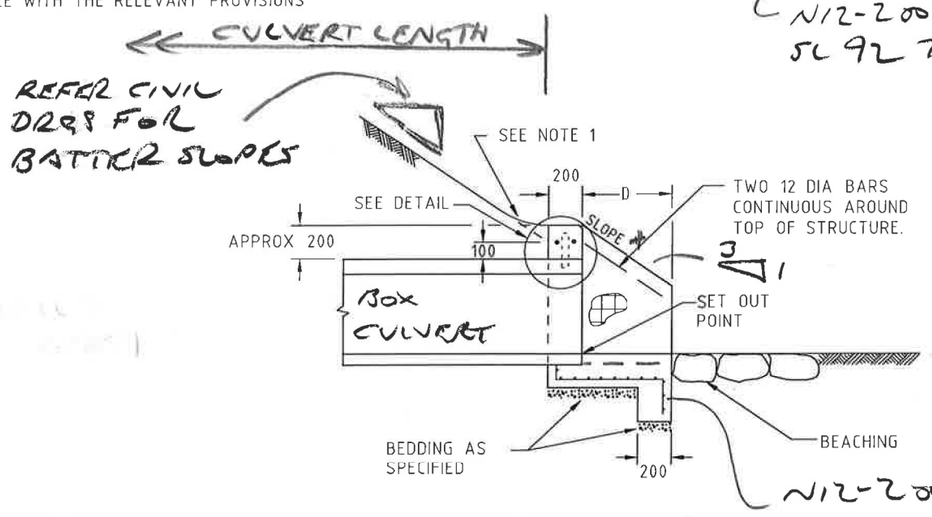




PLAN

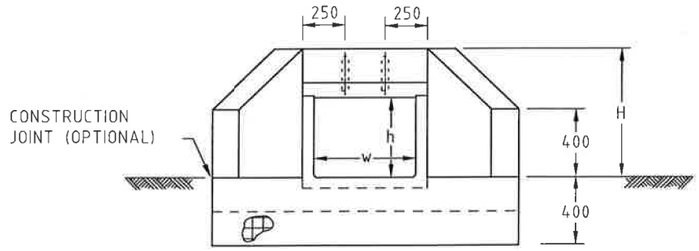


DETAIL



SECTION A-A

x SLOPE 1:3 PERPENDICULAR TO ROAD ALIGNMENT



END ELEVATION

REFER SK02 FOR TYPICAL CULVERT DETAILS

E			
D			
C	J.K.	1/7/05	NOTES 2 & 3 AMENDED
B	J.C.	1/2/98	AMENDMENT TO NOTE 4, NOTES 8 & 9 ADDED, CONCRETE STRENGTH GRADES.
A	J.C.	1/2/95	NOTES 2, 3, 4 & 7, GENERAL NOTES 1 & 2
ISSUE	APP'D	DATE	AMENDMENT

GENERAL NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CULVERT INLET AND OUTLET STRUCTURES - SELECTION GUIDE SD 1700

DESIGNED ~~PRINCIPAL ROAD DESIGN ENGINEER~~
APPROVED ~~1.2.95~~

vicroads design
ENGINEERING & TECHNOLOGY CONSULTANTS
3 PROSPECT HILL ROAD, CAMBERWELL, VICTORIA, 3124
PHONE NO. (03) 9881 8355
FAX NO. (03) 9881 8319

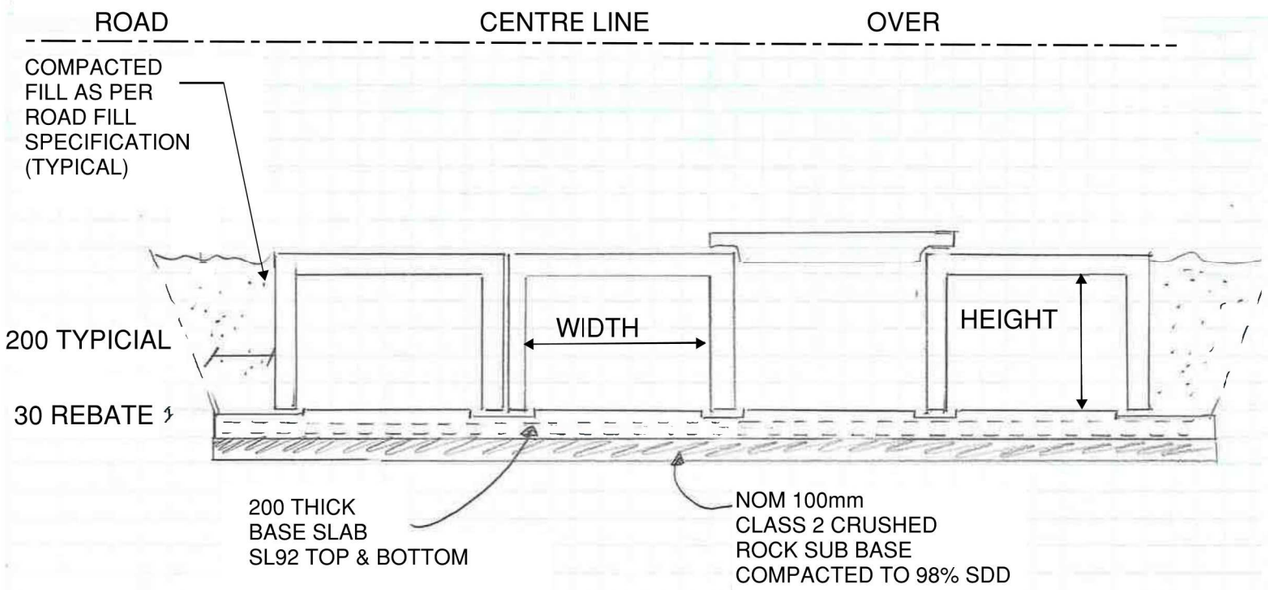
CATALOG PRED
PROJECT sddgnnew
FILENAME sd-1981c.dgn

SCALE HOR NOT TO SCALE
OF
METRES VER

STANDARD DRAWING
REINFORCED CONCRETE WINGWALL TYPES 1, 2 & 3 BOX CULVERTS 600 TO 900 HIGH

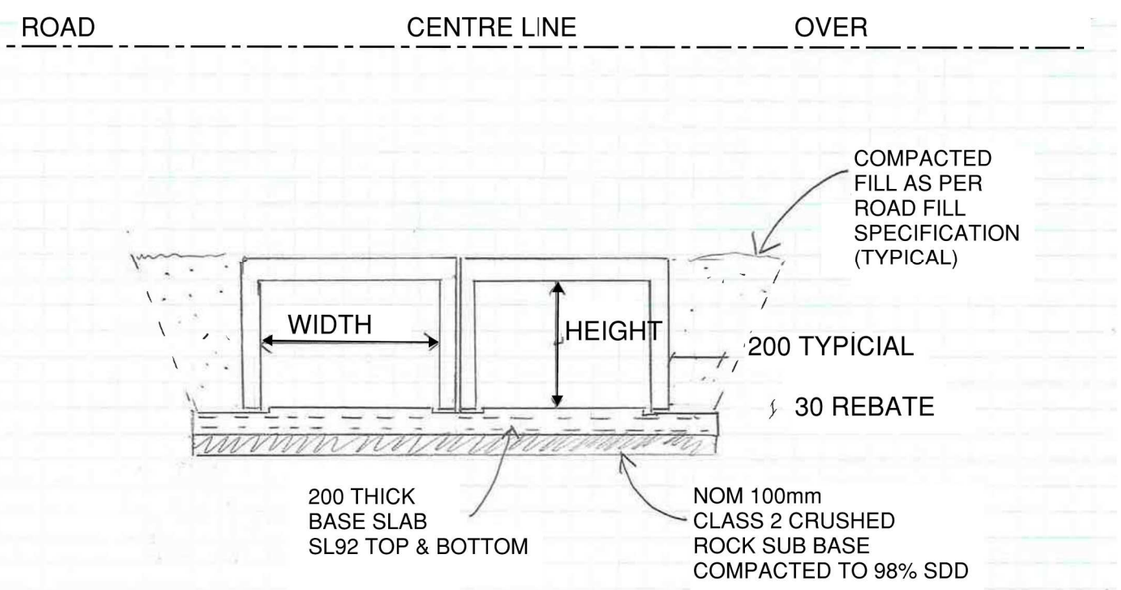
FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
			SD 1981	C

sd-1981c.dgn 30/03/2006 4:47:53 PM



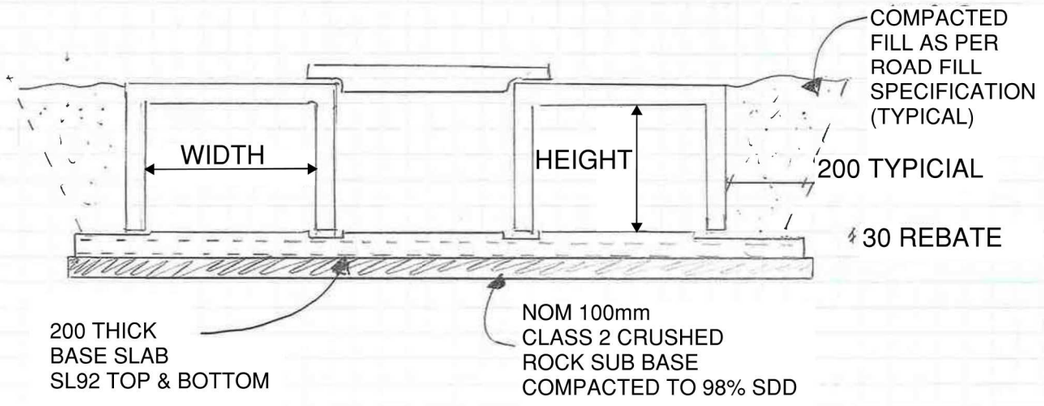
4 BAY CULVERT SECTION- BR-04

N.T.S.



2 BAY CULVERT SECTION- BR-02, BR-09

N.T.S.



3 BAY CULVERT SECTION - BR-03, BR-05, BR-06

N.T.S.

CULVERT LOCATION	SIZE (mm) No. x W x H	CULVERT LENGTH (m)	ROAD CENTRELINE LEVEL	EXISTING SURFACE LEVEL
BR-02	2 x 1800 x 900mm	58.1	239.8	237.3
BR-03	3 x 1800 x 1200mm	44.9	233.3	231.3
BR-04	4 x 1800 x 1200mm	61	248.3	245.4
BR-05	3 x 1800 x 900mm	52.8	239.6	237.1
BR-06	3 x 1800 x 1200mm	53.9	255.9	253.5
BR-09	2 x 1800 x 900mm	66	252.8	250.4

Issue	Description	Date
1	PRELIMINARY ISSUE	9/09/15

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Client: onemilegrid TRAFFIC ENGINEERING

Architect:

Title: CULVERT SECTIONS

Designed	B.B	Drawn	A.R	North
Project Leader		Certified		
Project Director		Sheet Size	A3	

Plotted: 7/18/2014 11:05 AM by: Paul Osmond

PRELIMINARY ISSUE
NOT TO BE USED FOR CONSTRUCTION

Project	Drawing	Revision
140638	SK03	1

Appendix F Land Take Areas

MELBOURNE - SYDNEY RAILWAY

N

INSET A

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP303

HAYES HILL BOULEVARD

IN-06

AREA 12121sqm

AREA 9991sqm

PATTERSON BOULEVARD

RD-03

AREA 7505sqm

445.7

AREA 8005sqm

31A

41

40

35

34

36

38

AREA 250sqm

AREA 1541sqm

AREA 715sqm

AREA 38sqm

AREA 237sqm

AREA 125sqm

IN-02

AREA 474sqm

DONNYBROOK ROAD

AREA 4398sqm

AREA 4400sqm

FOR CONTINUATION REFER INSET A

AREA 10sqm

AREA 253sqm

IN-01

AREA 1278sqm

AREA 1488sqm

AREA 255sqm

AREA 100sqm

AREA 3107sqm

AREA 3774sqm

IN-03

AREA 15185sqm

AREA 5328sqm

CAD File: N:\Projects\2014\14094\Drawings\14094CLP300.dgn

Date Plotted: 04-09-2015 11:47:02 AM

Warning
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

General Notes

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Phone (03) 9939 8250

Status
Preliminary - Not for construction

Client
METROPOLITAN PLANNING AUTHORITY

Project
DONNYBROOK
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

Scale
1:5000 @ A3
0 25 50 100

Drawing Title
DONNYBROOK PSP
CONCEPT ULTIMATE INTERSECTION
LAND TAKE AREAS - SHEET 1 OF 7

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP300	C

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP303

HAYES HILL BOULEVARD

IN-07

AREA 17418sqm

AREA 24258sqm

22B

22A

19

KOUKOURA DRIVE
RD-05

622.2

AREA 9326sqm

IN-04

DONNYBROOK ROAD

AREA 364sqm

AREA 260sqm

AREA 15406sqm

AREA 1139sqm

AREA 248sqm

AREA 5700sqm

AREA 3143sqm

IN-05

AREA 4916sqm

AREA 2394sqm

N

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Status
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Client
METROPOLITAN PLANNING AUTHORITY

Project
DONNYBROOK
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

Scale
1:5000 @ A3
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Drawing Title
DONNYBROOK PSP
CONCEPT ULTIMATE INTERSECTION
LAND TAKE AREAS - SHEET 2 OF 7

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP301	C

MERRIANG ROAD

IN-12
AREA 229sqm
AREA 417sqm
AREA 355sqm

IN-08
AREA 72sqm
AREA 314sqm
AREA 242sqm
AREA 153sqm

17 16 15 11 10 9

AREA 18145sqm

AREA 8108sqm

612.6

RD-02

23

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP303

N

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Date Plotted: 04-09-201511:47:03 AM

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INFRASTRUCTURE COSTING

Scale
1:5000 @ A3
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Drawing Title
DONNYBROOK PSP
CONCEPT ULTIMATE INTERSECTION
LAND TAKE AREAS - SHEET 3 OF 7

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP302	C

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP305

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP305

31D

RD-02

38.6

AREA 11849sqm

AREA 25758sqm

31C

848.6

AREA 19767sqm

GUNNS GULLY ROAD
RD-02

AREA 4928sqm

24C

AREA 7968sqm

RD-02

AREA 36sqm

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP302

IN-14

AREA 7303sqm

CULVERT
BR-06

AREA 8282sqm

AREA 3438sqm

AREA 4232sqm

IN-15

AREA 14949sqm

PATTERSON BOULEVARD
RD-03

AREA 7390sqm

214.6

31B

31B

AREA 7234sqm

212.8

KOUKOURA DRIVE
RD-05

23

AREA 11685sqm

183.7

AREA 1362sqm

AREA 6361sqm

CAMERON STREET
RD-01

AREA 1291sqm

AREA 2733sqm

AREA 10528sqm

IN-11

RD-01

IN-10

AREA 4348sqm

AREA 8902sqm

AREA 10221sqm

CULVERT
BR-04

AREA 9640sqm

AREA 578sqm

AREA 18660sqm

AREA 8430sqm

961.9

22B

22C

N

AREA 3805sqm

RD-05

111.3

40

CULVERT
BR-02

31A

AREA 9696sqm

AREA 10489sqm

326.8

RD-03

AREA 2713sqm

41

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP300

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP304

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP303.dgn

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP301

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General Notes

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Phone (03) 9939 8250

Status
Preliminary - Not for construction

Client
METROPOLITAN PLANNING AUTHORITY

Project
DONNYBROOK
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

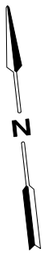
Scale
1:5000 @ A3

0 25 50 100

Drawing Title
DONNYBROOK PSP
CONCEPT ULTIMATE INTERSECTION
LAND TAKE AREAS - SHEET 4 OF 7

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP303	C



32

BRIDGE
BR-01
(OPTION 2)

BRIDGE BR-01
OPTION 1
AREA 705sqm

AREA 2256sqm

CAMERON STREET
RD-01

AREA 2130sqm

RD-01

AREA 48sqm

AREA 2599sqm

IN-9

BRIDGE BR-01
OPTION 1
AREA 28377sqm

390.6

BRIDGE
BR-01
(OPTION 1)

40

33

440.2

MELBOURNE - SYDNEY
RAILWAY

FOR CONTINUATION REFER ONE MILE GRID DRG No. 1409CLP303

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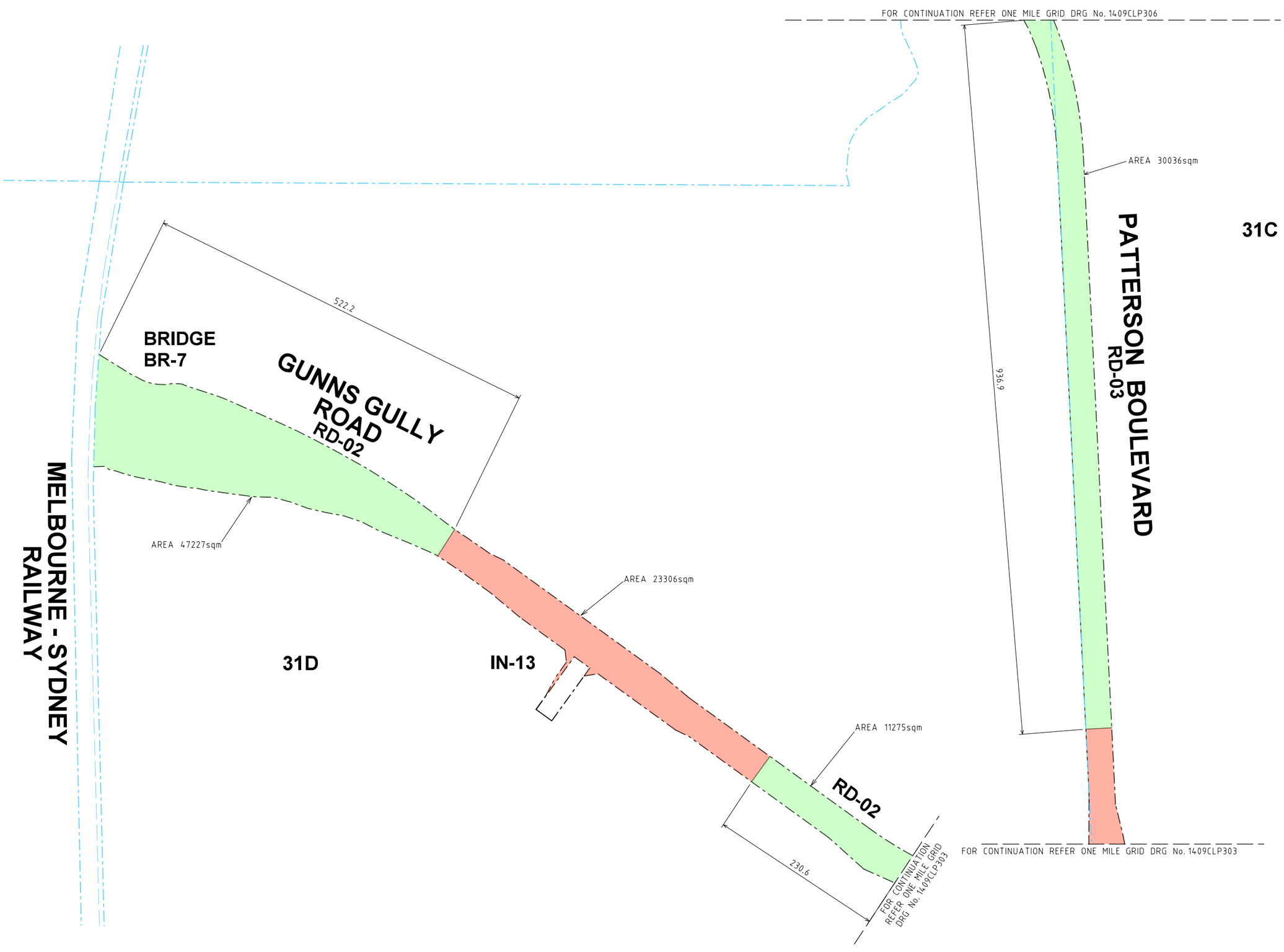
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

Scale
1:5000 @ A3
0 25 50 100

Drawing Title
DONNYBROOK PSP
CONCEPT ULTIMATE INTERSECTION
LAND TAKE AREAS - SHEET 5 OF 7

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP304	C



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Client
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Project
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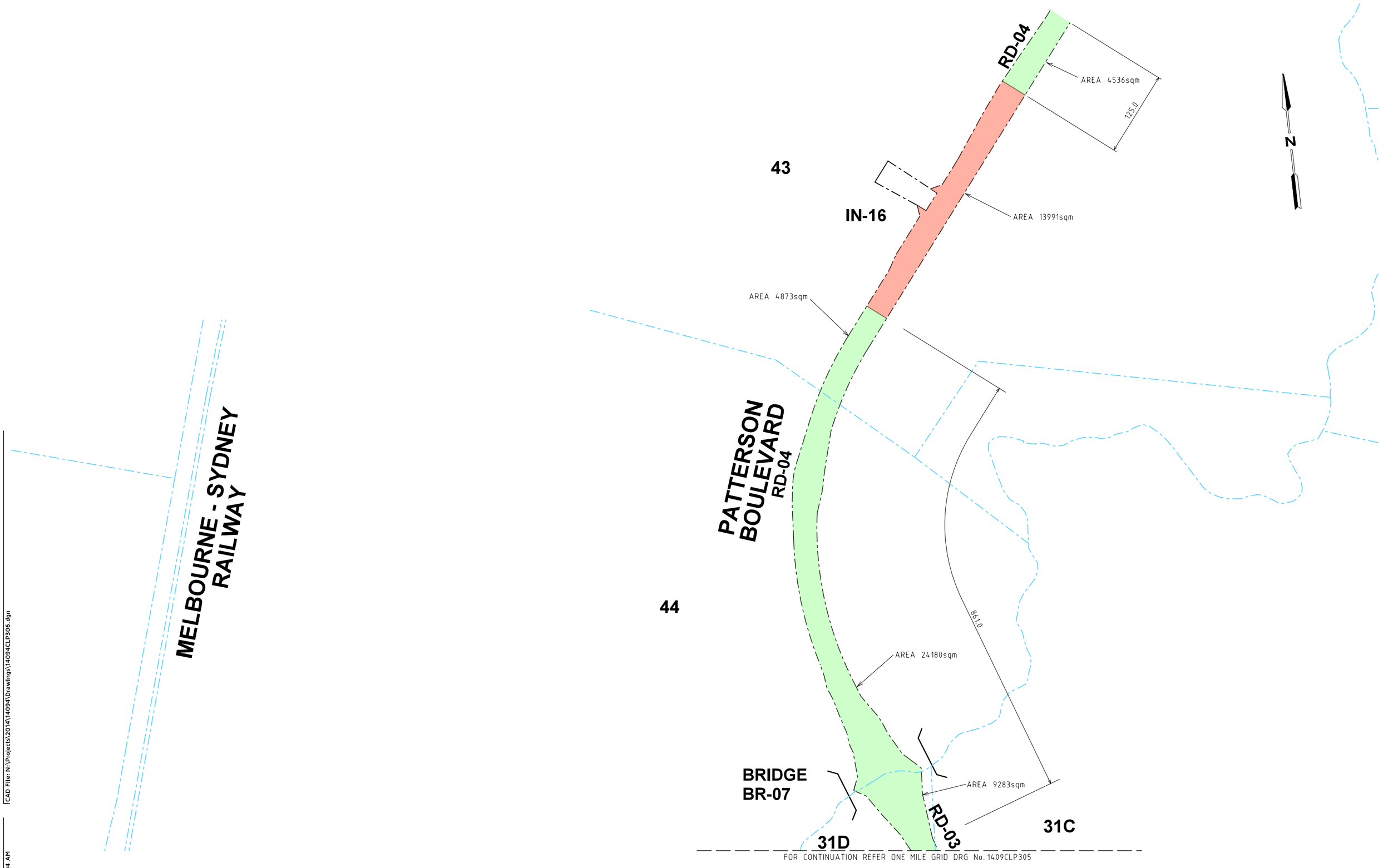
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

Scale
1:5000 @ A3
0 25 50 100

Drawing Title
DONNYBROOK PSP
CONCEPT ULTIMATE INTERSECTION
LAND TAKE AREAS - SHEET 6 OF 7

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP305	C



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Client
METROPOLITAN PLANNING AUTHORITY

Project
DONNYBROOK
PRECINCT STRUCTURE PLAN (1067 PSP)
INFRASTRUCTURE COSTING

Scale
1:5000 @ A3
0 25 50 100

Drawing Title
DONNYBROOK PSP
CONCEPT ULTIMATE INTERSECTION
LAND TAKE AREAS - SHEET 7 OF 7

Designed	Approved	Melway Ref
TCW	RBH	367

Project Number	Drawing Number	Revision
14094	CLP306	C