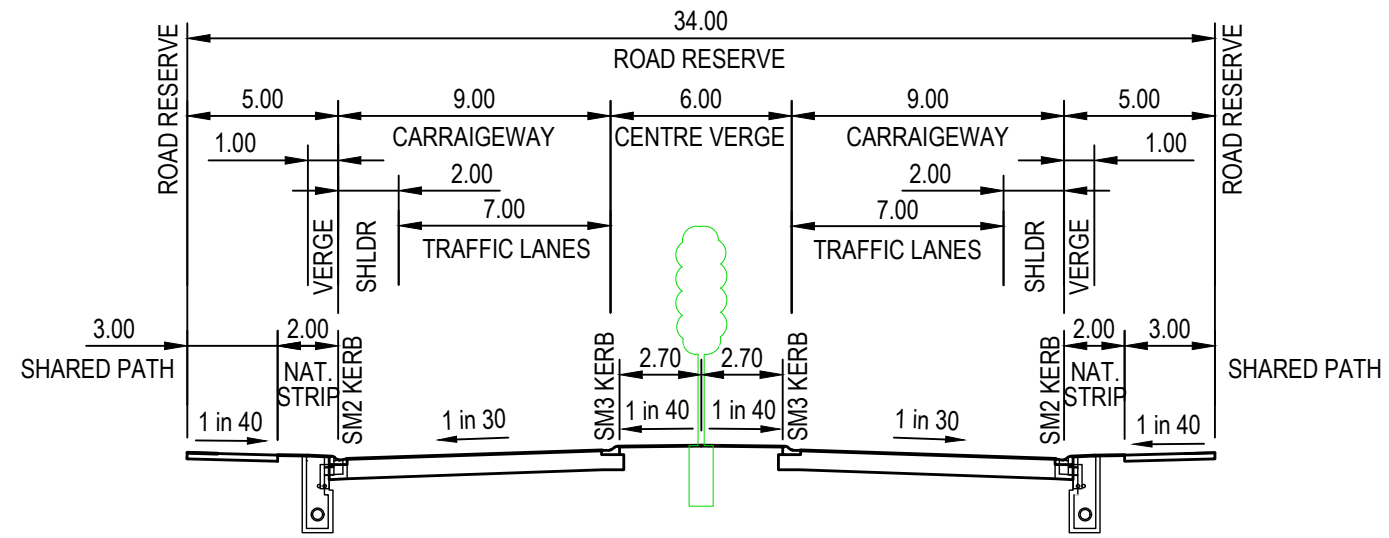


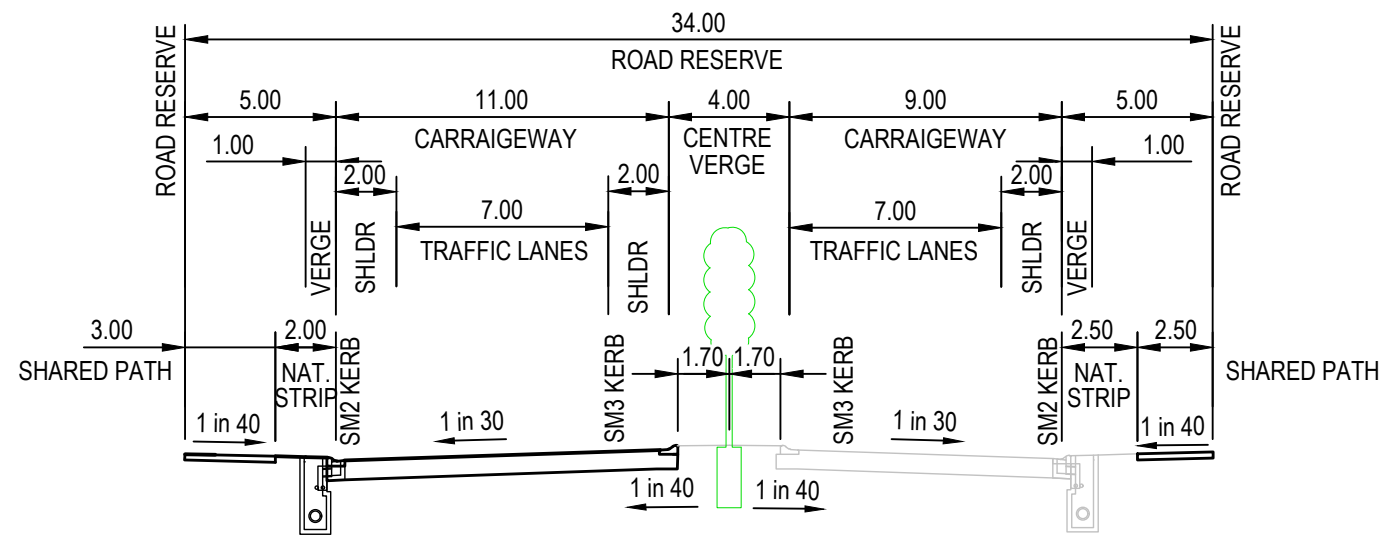
APPENDIX

# E

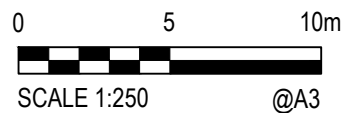
PSP ROAD CROSS SECTIONS



RD-02  
SECONDARY ARTERIAL ROAD



RD-03  
SECONDARY ARTERIAL ROAD



Rev	Date	Description	Des.	Verif.	Appd.
2	21/10/2021	REVISED AS PER COMMENT	SB		
1	30/06/2021	PRELIMINARY ISSUE	SB		

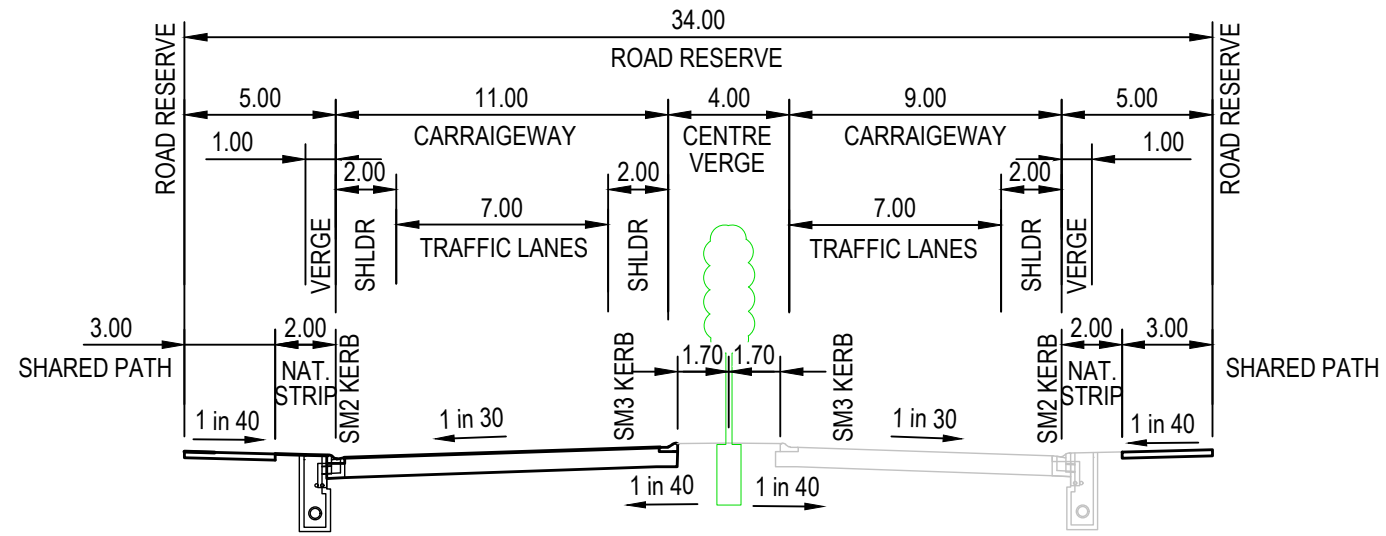
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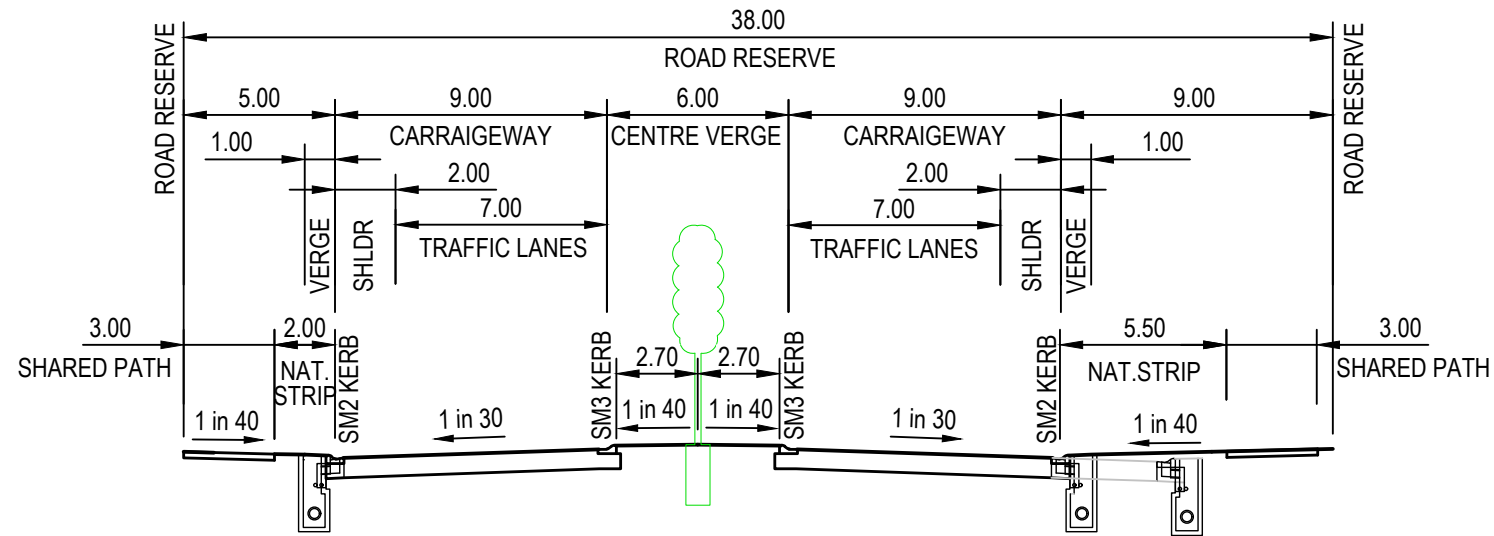
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Checked	AC	Date	30/06/2021
Designed	SB	Date	
Verified		Date	
Approved		Date	

Client	VICTORIAN PLANNING AUTHORITY
Project	BENCH MARK INFRASTRUCTURE COSTING TOOLERN PSP
Title	RD-02 & RD-03 SECONDARY ARTERIAL ROAD INTERIM

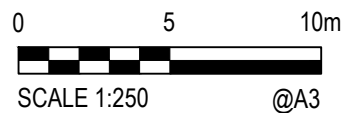
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Drawing Number	V191096-CI-SK-0001		Revision	2



RD-01, RD-04, RD-05, RD-06, RD-07  
SECONDARY ARTERIAL ROAD



RD-16, RD-17  
SECONDARY ARTERIAL ROAD



Rev	Date	Description	Des.	Verif.	Appd.
2	21/10/2021	REVISED AS PER COMMENT	SB		
1	30/06/2021	PRELIMINARY ISSUE	SB		

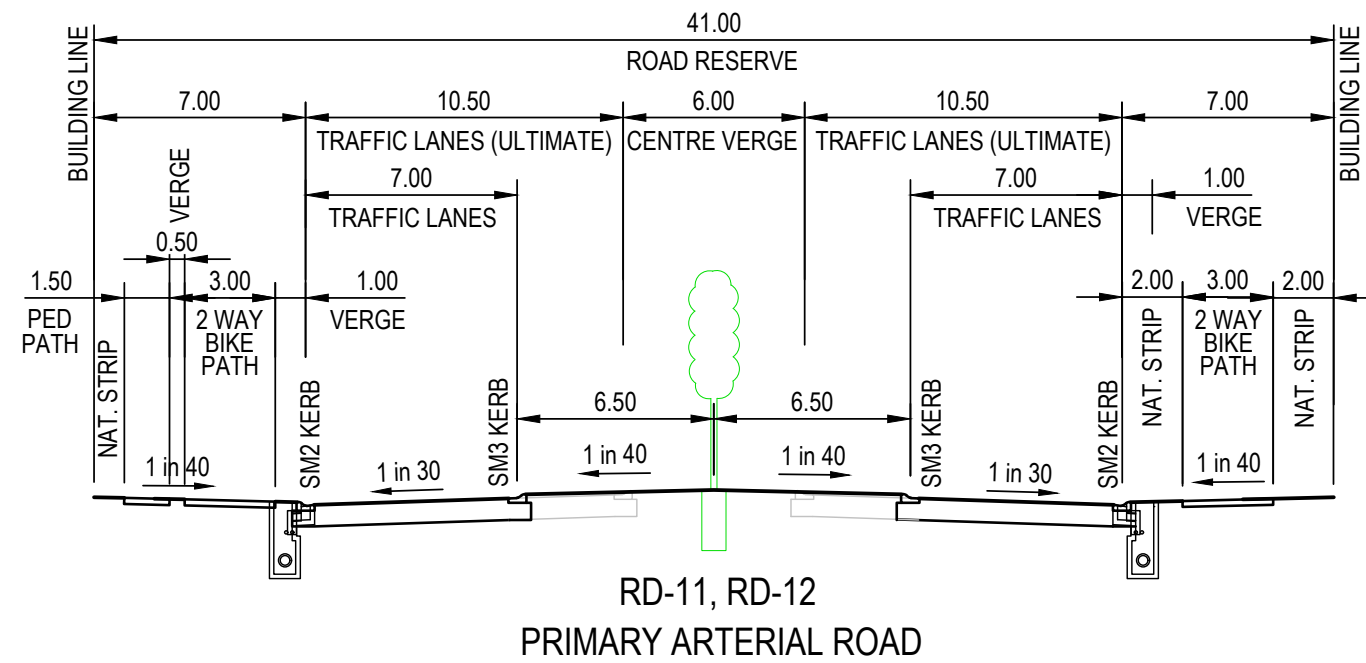
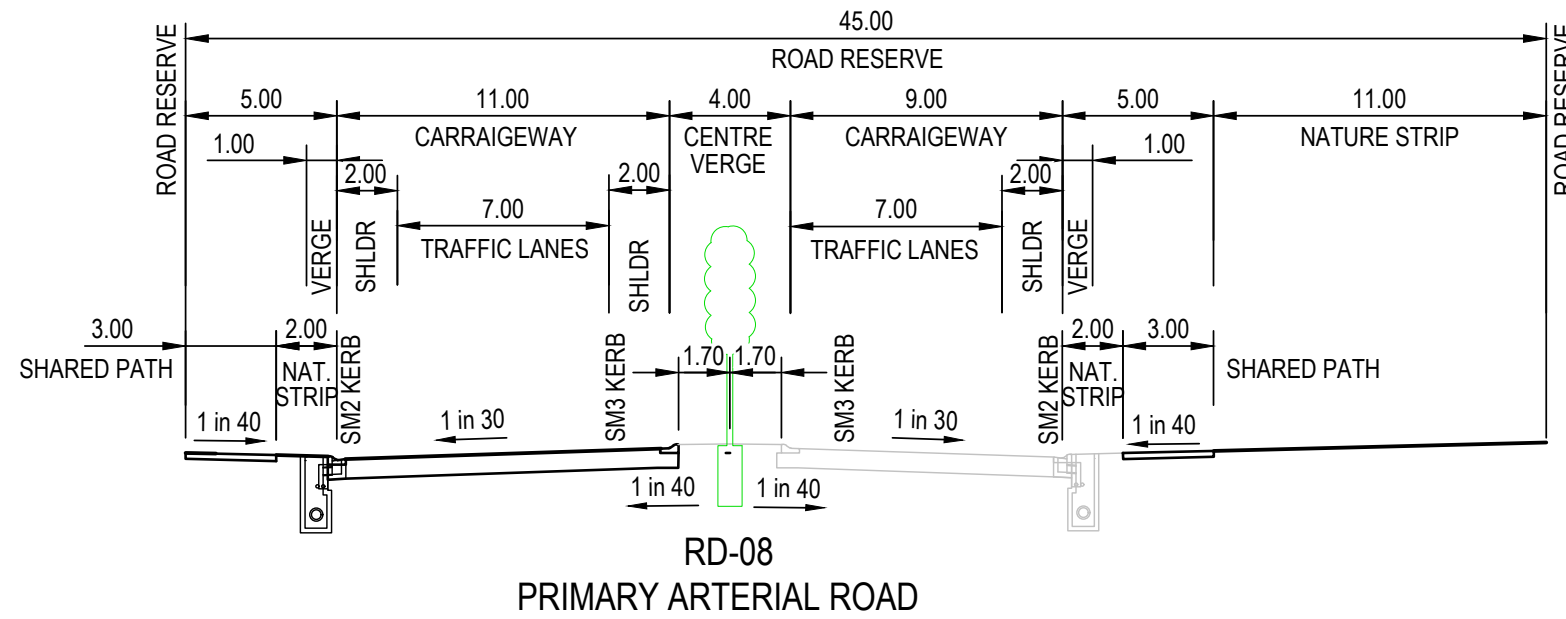
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Checked	AC	Date	30/06/2021
Designed	SB	Date	
Verified		Date	
Approved		Date	

Client	VICTORIAN PLANNING AUTHORITY
Project	BENCH MARK INFRASTRUCTURE COSTING TOOLERN PSP
Title	RD-01, RD-04, RD-05, RD-06, RD-07, RD-16 & RD-17 SECONDARY ARTERIAL ROAD INTERIM

Status	<b>PRELIMINARY</b> NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Scale	1:250	Size	A3	
Drawing Number	V191096-CI-SK-0002		Revision	2



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Rev	Date	Description	Des.	Verif.	Appd.
3	16/11/2021	AMENDED AS PER COMMENT	SB		
2	21/10/2021	REVISED AS PER COMMENT	SB		
1	30/06/2021	PRELIMINARY ISSUE	SB		

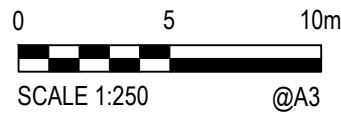
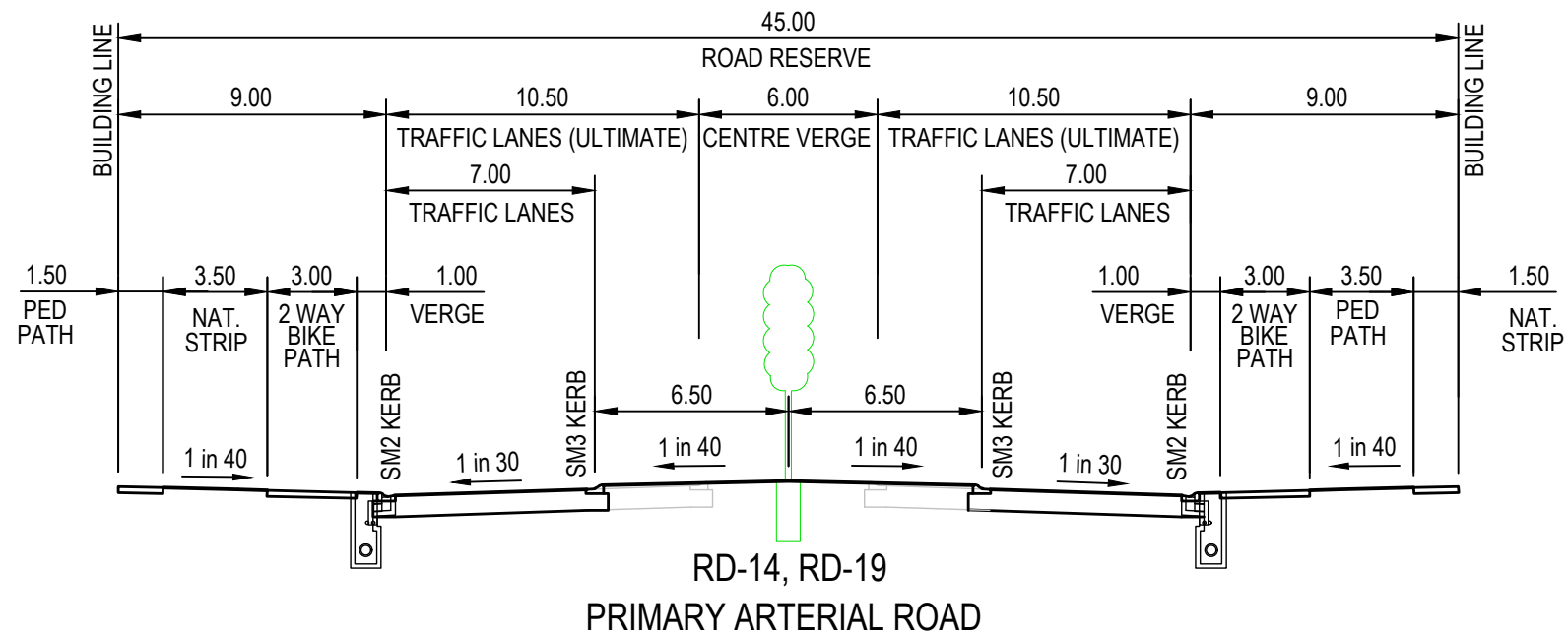
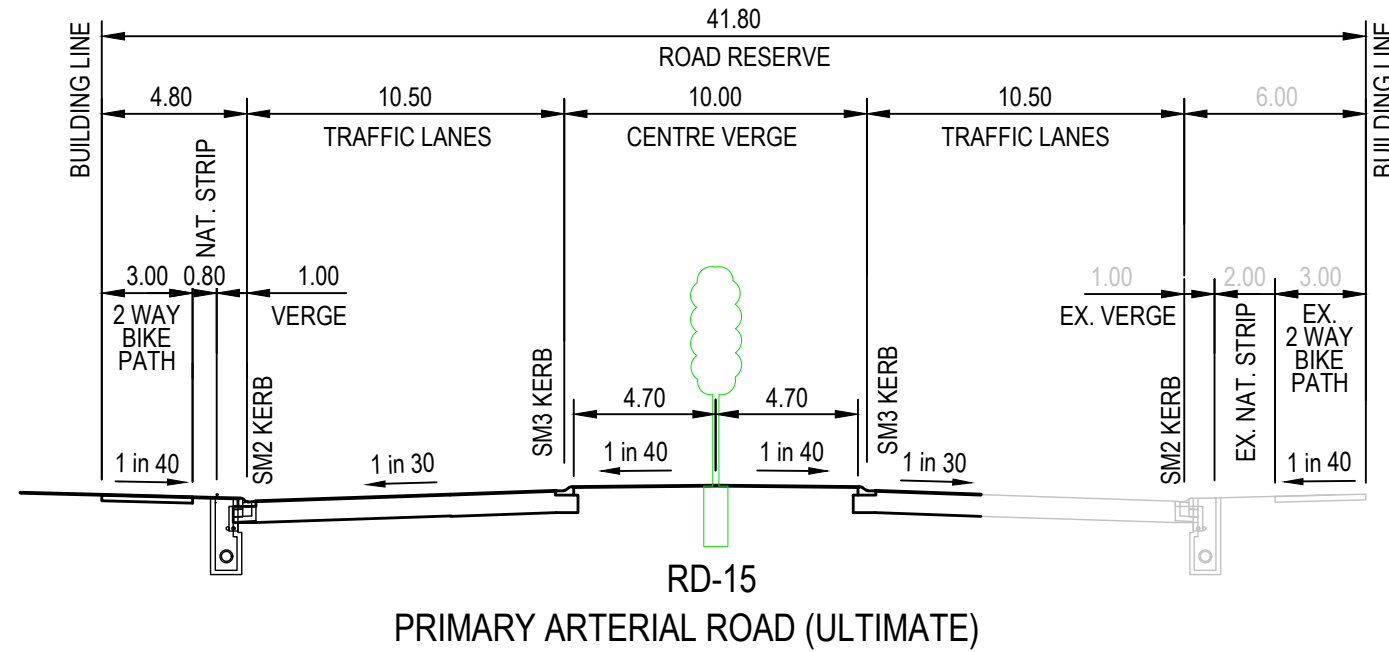
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Checked	AC	Date	30/06/2021
Designed	SB	Date	
Verified		Date	
Approved		Date	

Client	VICTORIAN PLANNING AUTHORITY
Project	BENCH MARK INFRASTRUCTURE COSTING TOOLERN PSP
Title	RD-08 & RD-11 PRIMARY ARTERIAL ROAD INTERIM

Status	<b>PRELIMINARY</b>	
NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Scale	1:250	Size A3
Drawing Number	V191096-CI-SK-0003	
Revision	2	



Rev	Date	Description	Des.	Verif.	Appd.
2	22/10/2021	REVISED AS PER COMMENT	SB		
1	30/06/2021	PRELIMINARY ISSUE	SB		

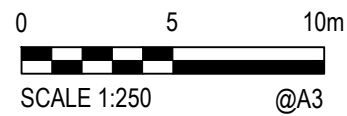
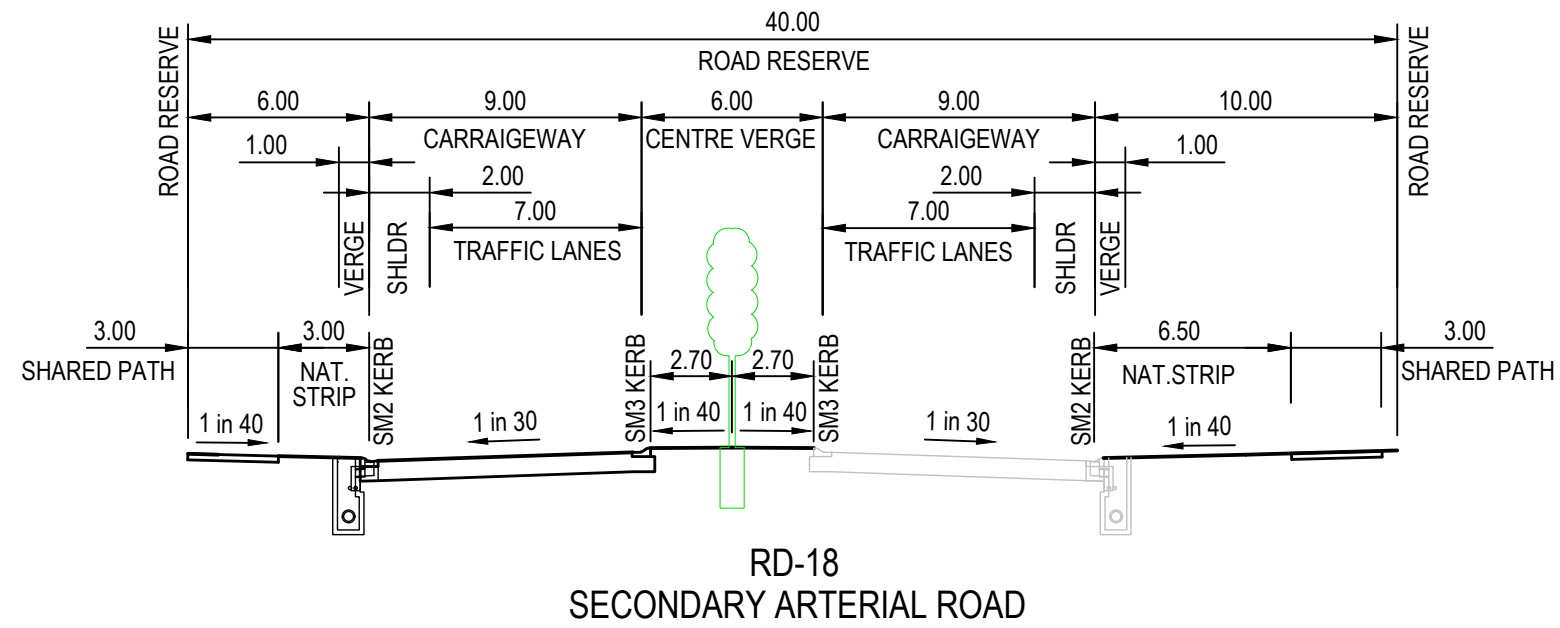
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Checked	AC	Date	30/06/2021
Designed	SB	Date	
Verified		Date	
Approved		Date	

Client	VICTORIAN PLANNING AUTHORITY
Project	BENCH MARK INFRASTRUCTURE COSTING TOOLERN PSP
Title	RD-14, RD-15 & RD-19 PRIMARY ARTERIAL ROAD INTERIM & ULTIMATE

Status	<b>PRELIMINARY</b> NOT TO BE USED FOR CONSTRUCTION PURPOSES	
Scale	1:250	Size A3
Drawing Number	V191096-CI-SK-0004	
Revision	2	



Rev	Date	Description	Des.	Verif.	Appd.
1	21/10/2021	PRELIMINARY ISSUE		SB	

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Drawn	SB	Date	21/10/2021
Checked	AC	Date	21/10/2021
Designed		Date	
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Approved		Date	

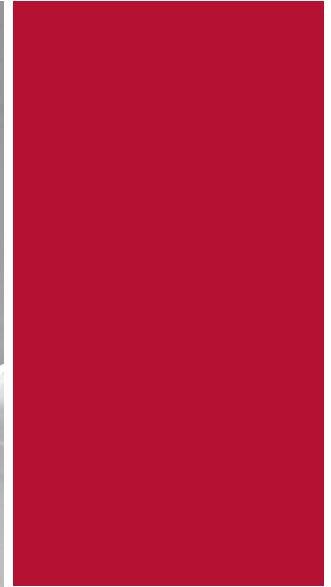
Client	VICTORIAN PLANNING AUTHORITY
Project	BENCH MARK INFRASTRUCTURE COSTING TOOLERN PSP
Title	RD-18 SECONDARY ARTERIAL ROAD INTERIM

Status	<b>PRELIMINARY</b> NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Scale	1:250	Size	A3	
Drawing Number	V191096-CI-SK-0005		Revision	1

APPENDIX

F

TOOLERN PRECINCT BRIDGES  
COSTINGS REPORT



Cardno / Melton City Council

117959 - Toolern Precinct Bridges

Benchmark Infrastructure Costing –  
Revised report for VPA Template issue

**Infrastructure Cost Report**

23 November 2021

 **Currie & Brown**



## Document History and Status

Client	Cardno / Melton City Council
Project Name	Toolern Precinct Bridges – Infrastructure Costing
Property Address	
Date	23/11/2021
Client Representative	John Rouvalis (Cardno)

Consultant	Currie & Brown
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Revision	Date issued	Author/s	Reviewed by	Approved by
Revision 00	05/07/2021	SB / BV	TR	MC
Revision 01	26/10/2021	BV	SB	MC
FINAL	23/11/2021	BV	SB	MC

## Distribution of copies

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Revision 01	26/10/2021	1 PDF copy	John Rouvalis
FINAL	23/11/2021	1 PDF copy	John Rouvalis

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## 1. Executive Summary

This report has been revised by Currie & Brown following the receipt of comments by VPA and Melton City Council (MCC) based on their review of the initial report and costings issued in July 2021.

The costings are for the proposed Toolern Precinct Bridges Benchmark Infrastructure Costing Works, as per the design documents prepared by Cardno. (Refer to Section 5 for the full particulars).

The cost sheets also include the indexation of cost as requested by Melton City Council.

The cost sheets have now been updated to use the template established in the VPA's Benchmark Infrastructure Report and not the template supplied by MCC in the 2020 RFT document. The quantities and rates are generally as per the July 2021 issue of the cost estimates.

The Currie & Brown estimates include a number of assumptions which may have cost impacts to the estimates. These assumptions are as listed in section 3 of this report.

All the amounts in this report are quoted in Australian dollars and are exclusive of GST.

## 2. Scope of Project

Cardno have been engaged by Melton City Council (MCC) to undertake an infrastructure costing study for bridges (pedestrian and road) options in the Toolern Precinct of Melton.

As such, Currie & Brown has been engaged to provide high level cost estimates for the proposed Bridge options.

## 3. Cost Estimate Summary

The Total Construction Cost excl. GST for each option is summarised below. Refer to Appendix A for a full breakdown of the cost estimates in the VPA template.

Bridge Type			\$ P50 excluding delivery	\$ P50 including delivery	\$ P90 excluding delivery	\$ P90 including delivery
BD-03	Road bridge	91.5m long super T	\$ 7,625,642	\$11,152,501	\$ 9,530,687	\$13,938,630
BD-04 & BD-05	Pedestrian bridge	30m long super T	\$ 728,187	\$ 1,064,973	\$ 871,618	\$ 1,274,741
BD-06 & BD-14	Pedestrian bridge	30m long super T	\$ 947,137	\$ 1,385,188	\$ 1,107,083	\$ 1,619,109
BD-07, 08, 09 & 10	Pedestrian underpass	50m long box culvert	\$ 2,033,162	\$ 2,973,499	\$ 2,360,197	\$ 3,451,789
BD-11, BD-12 & BD-13			not priced	not priced	not priced	not priced
BD-15	Road bridge	5.9m clearance, 76.6m long	\$ 7,584,707	\$11,092,634	\$ 9,456,901	\$13,830,718
BD-16	Road bridge	5.9m clearance, 44.8m long	\$ 6,956,234	\$10,173,492	\$ 8,677,767	\$12,691,234

## 4. Risk

Our estimates include the MCC nominated allowance of 20% to cover construction contingencies.

The construction contingency is an allowance for construction costs in excess of the initial contract sum arising during construction as a result of variation to the contract or site abnormalities. This has been allowed at 20% of the net construction cost.

## 5. Assumptions

The following assumptions have been taken into consideration within each high-level cost estimate:

- The project will be competitively tendered and use a generally recognised standard form of construction contract.
- All works to be undertaken during standard working hours where possible (unless otherwise noted).
- Based on the location of the bridges, it is assumed that there is a possibility to encounter rock during excavation works. We have applied an extra over allowance rate for rock excavation to 40% of the excavated area.
- Allowances have been made for road pavement works only to the extent indicated or noted in the drawings.
- The rates used in the cost estimates are based on recent project data and benchmarked rates for concept cost estimates for projects of a similar nature in the Melbourne region.
- The cost estimates are based on the information provided to Currie & Brown and our knowledge of similar projects.
- All other assumptions have been noted in the cost estimates for each option.

## 6. Inclusions

The cost estimates include delivery allowances (as per VPA costing template) for the following:

- Council Fees
- VicRoads Fees
- Traffic Management
- Environmental Management
- Survey & Design
- Supervision & Project Management
- Site Establishment (Preliminaries)
- Contingency (project) – 20% as nominated for bridges

## 7. Exclusions

Below is a list of exclusions that apply to the Cost Estimates for the Options:

- Goods and Services Tax
- Land purchase, Legal and Borrowing Costs, where applicable
- Clients Contingency
- Client Management Costs
- Demolition work
- Contaminated materials removal
- Other Authority Costs and Fees
- Adverse ground conditions
- Any other electrical and lighting costs other than the included in the cost estimate
- Services relocations
- Rail management / Occupations / Safe working
- Escalation
- Other Authority Costs and Fees not noted in the Melton City Council cost template

## 8. Documentation

These high level Cost Estimates has been prepared on the basis of the following documentation:

### **Drawings by Cardno**

Dated 26/03/2020

- V191096-CI-DG-2001 – Bridge Type BD03 – Secondary Arterial 91.5m Long Super T Bridge Interim
- V191096-CI-DG-2002 – Bridge Type BD04 and BD05 – Pedestrian 30m Long Super T Bridge Interim
- V191096-CI-DG-2003 – Bridge Type BD06, BD12, BD13, BD14 – Pedestrian 30m Long Super T Bridge Interim
- V191096-CI-DG-2004 – Bridge Type BD07, BD08, BD09, BD10 and BD11 – 50m Long Box Culvert Interim
- V191096-CI-DG-2007 – Bridge Type BD15 – East Road – 5.9m Clearance 76.6m Long Box Girder Interim
- V191096-CI-DG-2008 – Bridge Type BD16 – Ferris Road – 5.9m Clearance 44.8m Long Box Girder Interim

### **RFT response 2019 to MCC**

- Attachment E – Example of Costing sheet as per RFT document Melton City Council, 2019

Additional information has been provided following VPA and MCC review:

### **VPA and MCC Review Comments**

Dated 20/09/2021

- Submission response – Bridge Cost Sheets.docx

### **VPA Cost Template**

Dated 14/10/2021

- V181544 Appendix C – Bridges .xlsx

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## Appendix A – VPA Costing Templates

- ❖ BD-03
  
- ❖ BD-04 & BD-05
  
- ❖ BD-06 & BD-14
  
- ❖ BD-07, 08, 09 & 10
  
- ❖ BD-15
  
- ❖ BD-16

<b>Type:</b>	BD03
<b>Description:</b>	Secondary Arterial 91.5m Long Super T Bridge Interim Drwg no. V191096-CI-DG-2001 rev.2
<b>Civil Component Number:</b>	



Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preparation	1	m2	132,968.20	132,968.20	239,342.76	239,342.76
	Earthworks	1	m3	3,034,648.65	3,034,648.65	3,307,767.03	3,307,767.03
On-Structure Works	Retaining Walls, abutments, footings	1	No	1,115,200.00	1,115,200.00	1,255,534.91	1,255,534.91
	Bridge Deck	1	No	1,676,607.73	1,676,607.73	2,749,637.68	2,749,637.68
	Guard Rails/ Balustrade	183	m	350.00	64,050.00	450.64	82,467.83
	Transition Slab	2	No	76,932.05	153,864.10	88,471.86	176,943.72
	Overall Super T Cost	1493	m2	789.24	1,178,333.46	931.30	1,390,433.44
Off Structure	Guard Rails/ Balustrade	256	m	350.00	89,600.00	420.04	107,529.58
	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	0.00	0.00	0.00	0.00
Other	Kerb and Channel	151	m	100.00	15,100.00	112.58	17,000.16
	Bridge Lighting	4	No	20,000.00	80,000.00	23,000.00	92,000.01
	Regulatory Signage	1	Item	10,000.00	10,000.00	11,500.00	11,500.00
	Drainage Pits	4	No	3,500.00	14,000.00	3,940.43	15,761.74
	Drainage - Sub-soil Drainage	50	m	350.00	17,500.00	395.50	19,775.00
	Landscaping	145	m2	60.00	8,700.00	65.45	9,490.59
Delivery	Council Fees	1	%	3.25	247,833.36	3.25	309,747.33
	VicRoads Fees	1	%	1.00	76,256.42	1.00	95,306.87
	Traffic Management	1	%	5.00	381,282.09	5.00	476,534.35
	Environmental Management	1	%	0.50	38,128.21	0.50	47,653.44
	Surveying and Design	1	%	5.00	381,282.09	5.00	476,534.35
	Supervision and Project management	1	%	9.00	686,307.76	9.00	857,761.84
	Site Establishment	1	%	2.50	190,641.05	2.50	238,267.18
	Contingency	1	%	20.00	1,525,128.36	20.00	1,906,137.42
Total	Excluding Delivery				<b>7,625,642</b>		<b>9,530,687</b>
	Including Delivery				<b>11,152,501</b>		<b>13,938,630</b>

Indexation Factor - to 1 July 2021 dollars P50 and P90 values incl delivery

Bridges and Culverts 1.09 factor as per the Benchmark Infrastructure Cost Guide

Project	2018 P50	\$ 1 July 2021 P50	2018 P90	\$ 1 July 2021 P90
BD-03	11,152,501	\$12,156,226	13,938,630	\$15,193,107



<b>Type:</b>	BD04 and BD05
<b>Description:</b>	Pedestrian 30m Long Super T Bridge Interim Drwg No. V191096-CI-DG-2002 rev.2
<b>Civil Component Number:</b>	



Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preparation	1	m2	18,564.00	18,564.00	33,415.20	33,415.20
	Earthworks	1	m3	243,150.00	243,150.00	265,033.50	265,033.50
On-Structure Works	Retaining Walls, abutments, footings	1	No	206,600.00	206,600.00	232,598.20	232,598.20
	Bridge Deck	1	No	79,628.00	79,628.00	130,351.56	130,351.56
	Guard Rails/ Balustrade	60	m	350.00	21,000.00	450.64	27,038.63
	Transition Slab	2	No	11,000.00	22,000.00	12,650.00	25,300.00
	Overall Super T Cost	169	m2	345.00	58,305.00	407.10	68,799.90
Off Structure	Pedestrian Guard Rails/ Balustrade	0	m	0.00	0.00	0.00	0.00
	GREAT Terminal	0	No	0.00	0.00	0.00	0.00
	Off structure barrier	0	Item	0.00	0.00	0.00	0.00
Other	Edge / Kerbs	90	m	100.00	9,000.00	112.58	10,132.54
	Bridge Lighting	2	No	10,000.00	20,000.00	11,500.00	23,000.00
	Regulatory Signage	1	Item	5,000.00	5,000.00	5,750.00	5,750.00
	Drainage Pits	4	No	3,500.00	14,000.00	3,940.43	15,761.74
	Drainage - Sub-soil Drainage	50	m	350.00	17,500.00	395.50	19,775.00
	Landscaping	224	m2	60.00	13,440.00	65.45	14,661.33
Delivery	Council Fees	1	%	3.25	23,666.08	3.25	28,327.57
	VicRoads Fees	1	%	1.00	7,281.87	1.00	8,716.18
	Traffic Management	1	%	5.00	36,409.35	5.00	43,580.88
	Environmental Management	1	%	0.50	3,640.94	0.50	4,358.09
	Surveying and Design	1	%	5.00	36,409.35	5.00	43,580.88
	Supervision and Project management	1	%	9.00	65,536.83	9.00	78,445.58
	Site Establishment	1	%	2.50	18,204.68	2.50	21,790.44
	Contingency	1	%	20.00	145,637.40	20.00	174,323.52
Total	Excluding Delivery				<b>728,187</b>		<b>871,618</b>
	Including Delivery				<b>1,064,973</b>		<b>1,274,741</b>

Indexation Factor - to 1 July 2021 dollars P50 and P90 values incl delivery

Bridges and Culverts 1.09 factor as per the Benchmark Infrastructure Cost Guide

Project	2018 P50	\$ 1 July 2021 P50	2018 P90	\$ 1 July 2021 P90
BD-04 & BD-05	1,064,973	\$1,160,821	1,274,741	\$1,389,467

<b>Type:</b>	BD06 and BD14
<b>Description:</b>	Pedestrian 30m Long Super T Bridge Interim Drwg no. V191096-CI-DG-2003 rev.2
<b>Civil Component Number:</b>	



Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preparation	1	m2	18,564.00	18,564.00	33,395.02	33,395.02
	Earthworks	1	m3	535,200.00	535,200.00	583,835.11	583,835.11
On-Structure Works	Retaining Walls, abutments, footings	1	No	106,500.00	106,500.00	119,901.78	119,901.78
	Bridge Deck	1	No	79,628.00	79,628.00	130,351.56	130,351.56
	Guard Rails/ Balustrade	60	m	350.00	21,000.00	450.64	27,038.63
	Transition Slab	2	No	11,000.00	22,000.00	12,650.00	25,300.00
	Overall Super T Cost	169	m2	345.00	58,305.00	407.10	68,799.90
Off Structure	Pedestrian Guard Rails/ Balustrade	0	m	0.00	0.00	0.00	0.00
	GREAT Terminal	0	No	0.00	0.00	0.00	0.00
	Off structure barrier	0	Item	0.00	0.00	0.00	0.00
Other	Edge / Kerbs	90	m	100.00	9,000.00	112.58	10,132.54
	Bridge Lighting	2	No	10,000.00	20,000.00	11,500.00	23,000.00
	Regulatory Signage	1	Item	5,000.00	5,000.00	5,750.00	5,750.00
	Drainage Pits	4	No	3,500.00	14,000.00	3,940.43	15,761.74
	Drainage - Sub-soil Drainage	50	m	350.00	17,500.00	394.04	19,702.17
	Landscaping	674	m2	60.00	40,440.00	65.45	44,114.90
Delivery	Council Fees	1	%	3.25	30,781.95	3.25	35,980.21
	VicRoads Fees	1	%	1.00	9,471.37	1.00	11,070.83
	Traffic Management	1	%	5.00	47,356.85	5.00	55,354.17
	Environmental Management	1	%	0.50	4,735.69	0.50	5,535.42
	Surveying and Design	1	%	5.00	47,356.85	5.00	55,354.17
	Supervision and Project management	1	%	9.00	85,242.33	9.00	99,637.50
	Site Establishment	1	%	2.50	23,678.43	2.50	27,677.08
	Contingency	1	%	20.00	189,427.40	20.00	221,416.67
Total	Excluding Delivery				947,137		1,107,083
	Including Delivery				1,385,188		1,619,109

Indexation Factor - to 1 July 2021 dollars P50 and P90 values incl delivery

Bridges and Culverts 1.09 factor as per the Benchmark Infrastructure Cost Guide

Project	2018 P50	\$ 1 July 2021 P50	2018 P90	\$ 1 July 2021 P90
BD-06 & BD-14	1,385,188	\$1,509,855	1,619,109	\$1,764,829

<b>Type:</b>	BD-07, BD-08, BD-09, BD-10
<b>Description:</b>	Pedestrian Underpass [Typical] Drwg No. V191096-CI-DG-2004 rev.2
<b>Civil Component Number:</b>	



Group	Sub Item	Unit	Rate (P50)	Quantity	Amount P(50)	Rate (P90)	Amount P(90)
Site works & Earthworks	Site Preparation	%	2.00%		39,865.92	3.60%	81,966.77
	Earthworks - cut	M3	50.00	2,185	109,250.00	54.54	119,177.85
	Earthworks - cut assumed e/o in rock say 40%	M3	100.00	874	87,400.00	109.09	95,342.28
	Structural fill	M3	120.00	818	98,160.00	130.90	107,080.07
Concrete Works	Geocomposite drainage material to crown units	M2	75.00	484	36,300.00	86.25	41,745.00
	300mm thick RC slab	M2	350.00	202	70,700.00	402.50	81,305.01
	150mm min compacted granular bedding	M2	25.00	323	8,075.00	28.75	9,286.25
	Pedestrian culvert - 3.6 x 3.0 x 2.4m RC crown units (21 no.)	M2	1,200.00	816	979,776.00	1,380.00	1,126,742.50
	200mm thick RC endwall	M2	350.00	75	26,250.00	394.04	29,553.26
	380mm thick RC slab to endwall area (inlet and outlet)	M2	500.00	24	12,000.00	575.00	13,800.00
	750mm deep x 300mm wide edge beam to endwall area	M2	500.00	13	6,375.00	562.92	7,177.22
	150mm thick RC shared path ramps and landing slab	M2	200.00	369	73,800.00	230.00	84,870.01
	250mm thick x 1.2m high retaining wall including foundation	M2	350.00	77	26,950.00	394.04	30,341.34
	250mm thick x 2.6m high retaining wall including foundation	M2	400.00	71	28,400.00	450.34	31,973.81
	250mm thick x 2.8m high retaining wall including foundation	M2	400.00	77	30,800.00	450.34	34,675.82
	300mm thick x 3m high retaining wall including foundation	M2	550.00	171	94,050.00	619.21	105,885.10
	Concrete stairs including landing	M/rise	9,000.00	6	54,000.00	10,350.00	62,100.01
Drainage	Drainage – Pits	No.	3,500.00	4	14,000.00	3,940.43	15,761.74
	Drainage – Sub-soil Drainage	M	350.00	129	45,010.00	394.04	50,673.98
	Drainage – underpass	M	75.00	100	7,500.00	84.44	8,443.79
Street Lighting	Culvert Lighting	M	1,250.00	50	62,500.00	1,437.50	71,875.01
	Ramp/stair Lighting	No.	10,000.00	2	20,000.00	11,500.00	23,000.00
Other	Regulatory Signage	Item	500.00	1	500.00	575.00	575.00
	Safety fence (1.2m high) on top of retaining wall	M	300.00	65	19,500.00	337.75	21,953.85
	Pedestrian handrails	M	250.00	308	77,000.00	321.89	99,141.66
	Tactile Pavers (Hazard Only)	Item	5,000.00	1	5,000.00	5,750.00	5,750.00
<b>Subtotal Construction Cost</b>					<b>2,033,161.92</b>		<b>2,360,197.32</b>
Delivery	Council Fees		3.25%		66,077.76		76,706.41
	VicRoads Fees		1.00%		20,331.62		23,601.97
	Traffic Management		5.00%		101,658.10		118,009.87
	Environmental Management		0.50%		10,165.81		11,800.99
	Surveying and Design		5.00%		101,658.10		118,009.87
	Supervision and Project Management		9.00%		182,984.57		212,417.76
	Site Establishment		2.50%		50,829.05		59,004.93
	Contingency (bridge projects)		20.00%		406,632.38		472,039.46
<b>Total Project Cost</b>					<b>2,973,499.31</b>		<b>3,451,788.58</b>
<b>Total</b>	Excluding Delivery				<b>2,033,161.92</b>		<b>2,360,197.32</b>
	Including Delivery				<b>2,973,499.31</b>		<b>3,451,788.58</b>

Indexation Factor - to 1 July 2021 dollars P50 and P90 values incl delivery

Bridges and Culverts 1.09 factor as per the Benchmark Infrastructure Cost Guide

Project	2018 P50	\$ 1 July 2021 P50	2018 P90	\$ 1 July 2021 P90
BD-07, 08, 09 & 10	2,973,499	\$3,241,114	3,451,789	\$3,762,450

<b>Type:</b>	BD15 - Ferris Road
<b>Description:</b>	Ferris Road - 5.9m Clearance 44.8m Long Box Girder Bridge Interim (approx. 25.4m wide) Drwg no. V191096-CI-DG-2008 rev.2
<b>Civil Component Number:</b>	



Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preparation	1	m2	148,032.00	148,032.00	266,296.70	266,296.70
	Earthworks	1	m3	3,378,440.00	3,378,440.00	3,685,448.23	3,685,448.23
On-Structure Works	Retaining Walls, abutments, footings	1	No	1,177,925.00	1,177,925.00	1,326,153.12	1,326,153.12
	Bridge Deck	1	No	1,697,765.00	1,697,765.00	2,779,252.42	2,779,252.42
	Guard Rails/ Balustrade	90	m	350.00	31,500.00	450.64	40,557.95
	Transition Slab	2	No	102,307.50	204,615.00	117,653.64	235,307.27
	Overall Super T Cost	1174	m2	430.82	505,780.00	508.78	597,303.53
Off Structure	Guard Rails/ Balustrade	544	m	350.00	190,400.00	420.04	228,500.35
	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	0.00	0.00	0.00	0.00
Other	Kerb and Channel	325	m	100.00	32,500.00	112.58	36,589.75
	Bridge Lighting	3	No	20,000.00	60,000.00	23,000.00	69,000.01
	Regulatory Signage	1	Item	10,000.00	10,000.00	11,500.00	11,500.00
	Drainage Pits	6	No	3,500.00	21,000.00	3,940.43	23,642.60
	Drainage - Sub-soil Drainage	150	m	350.00	52,500.00	394.04	59,106.51
	Landscaping	653	m2	60.00	39,180.00	65.45	42,740.40
Delivery	Council Fees	1	%	3.25	246,502.97	3.25	307,349.30
	VicRoads Fees	1	%	1.00	75,847.07	1.00	94,569.01
	Traffic Management	1	%	5.00	379,235.33	5.00	472,845.07
	Environmental Management	1	%	0.50	37,923.53	0.50	47,284.51
	Surveying and Design	1	%	5.00	379,235.33	5.00	472,845.07
	Supervision and Project management	1	%	9.00	682,623.60	9.00	851,121.13
	Site Establishment	1	%	2.50	189,617.67	2.50	236,422.54
	Contingency	1	%	20.00	1,516,941.34	20.00	1,891,380.29
Total	Excluding Delivery				<b>7,584,707</b>		<b>9,456,901</b>
	Including Delivery				<b>11,092,634</b>		<b>13,830,718</b>

Indexation Factor - to 1 July 2021 dollars P50 and P90 values incl delivery  
Bridges and Culverts 1.09 factor as per the Benchmark Infrastructure Cost Guide

Project	2018 P50	\$ 1 July 2021 P50	2018 P90	\$ 1 July 2021 P90
BD-15	11,092,634	\$12,090,971	13,830,718	\$15,075,483

<b>Type:</b>	Type BD16 - East Road
<b>Description:</b>	East Road - 5.9m Clearance 76.6m Long Box Girder Bridge Interim (approx. 16.5m wide) Drwg no. V191096-CI-DG-2008 rev.2
<b>Civil Component Number:</b>	



Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preparation	1	m2	122,447.00	122,447.00	220,271.51	220,271.51
	Earthworks	1	m3	2,794,530.00	2,794,530.00	3,046,037.70	3,046,037.70
On-Structure Works	Retaining Walls, abutments, footings	1	No	1,257,425.00	1,257,425.00	1,415,657.26	1,415,657.26
	Bridge Deck	1	No	1,543,945.00	1,543,945.00	2,527,448.07	2,527,448.07
	Guard Rails/ Balustrade	154	m	350.00	53,900.00	450.64	69,399.16
	Transition Slab	2	No	84,625.26	169,250.52	97,319.05	194,638.10
	Overall Super T Cost	1325	m2	430.82	570,836.50	508.37	673,590.25
	Guard Rails/ Balustrade	544	m	350.00	190,400.00	420.04	228,500.35
Off Structure	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	0.00	0.00	0.00	0.00
Other	Kerb and Channel	357	m	100.00	35,700.00	112.58	40,192.43
	Bridge Lighting	4	No	20,000.00	80,000.00	23,000.00	92,000.01
	Regulatory Signage	1	Item	10,000.00	10,000.00	11,500.00	11,500.00
	Drainage Pits	4	No	3,500.00	14,000.00	3,940.43	15,761.74
	Drainage - Sub-soil Drainage	113	m	350.00	39,550.00	394.04	44,526.91
	Landscaping	653	m2	60.00	39,180.00	65.45	42,740.40
Delivery	Council Fees	1	%	3.25	226,077.60	3.25	282,027.41
	VicRoads Fees	1	%	1.00	69,562.34	1.00	86,777.67
	Traffic Management	1	%	5.00	347,811.69	5.00	433,888.33
	Environmental Management	1	%	0.50	34,781.17	0.50	43,388.83
	Surveying and Design	1	%	5.00	347,811.69	5.00	433,888.33
	Supervision and Project management	1	%	9.00	626,061.03	9.00	780,998.99
	Site Establishment	1	%	2.50	173,905.84	2.50	216,944.16
	Contingency	1	%	20.00	1,391,246.74	20.00	1,735,553.30
Total	Excluding Delivery				<b>6,956,234</b>		<b>8,677,767</b>
	Including Delivery				<b>10,173,492</b>		<b>12,691,234</b>

Indexation Factor - to 1 July 2021 dollars P50 and P90 values incl delivery

Bridges and Culverts 1.09 factor as per the Benchmark Infrastructure Cost Guide

Project	2018 P50	\$ 1 July 2021 P50	2018 P90	\$ 1 July 2021 P90
BD-16	10,173,492	\$11,089,106	12,691,234	\$13,833,445