

Supporting documentation – spreadsheet printouts and summaries

Detailed direct cost estimates – Local roads summary

Berry Bypass detailed cost estimate breakdown - Local roads

	Qty	Unit	Rate	Direct Cost \$ Amount	Direct Cost \$M	Comments
Northern Route						
Local Roads						
11010 Local Roads - Pavement type 1	41,575	m2	80	\$3,326,000	\$3.3	
* Toolijooa Road	4,427	m2	80	\$354,186	\$0.35	minor road modifications
* Austral Park Road	10,724	m2	80	\$857,903	\$0.86	
* Tindalls Lane	8,945	m2	80	\$715,628	\$0.72	
* Schofields Lane	1,064	m2	80	\$85,142	\$0.09	
* Tannery Rd	2,007	m2	80	\$160,548	\$0.16	
* Kangaroo Valley Road	7,415	m2	80	\$593,201	\$0.59	
* Rawlings Lane	3,451	m2	80	\$276,110	\$0.28	
* Victoria St	1,436	m2	80	\$114,873	\$0.11	
* Woodhill Mountain Road	2,100	m2	80	\$168,000	\$0.17	
11020 Local road repairs	24,200	m2	80	\$1,930,500	\$1.9	
* Queen St	18,200	m2	90	\$1,638,000	\$1.64	Heavy repair
* Woodhill Mountain Road	6,000	m2	35	\$210,000	\$0.21	Resheeting
* Princess Highway	300	m2	100	\$30,000	\$0.03	Light repair
* Cost of dilapidation survey	1.5	month	35,000	\$52,500	\$0.05	
Sub-total				\$5,256,500	\$5.3	
Southern Route						
Local Roads						
11010 Local Roads - Pavement type 1	33,220	m2	80	\$2,657,600	\$2.7	
* Toolijooa Road	4,427	m2	80	\$354,186	\$0.35	minor road modifications
* Austral Park Road	12,301	m2	80	\$984,044	\$0.98	
* Tindalls Lane	9,532	m2	80	\$762,538	\$0.76	
* Existing highway connection (south) (1,125m)	6,957	m2	80	\$556,582	\$0.56	
11020 Local road repairs	35,450	m2	67	\$2,380,500	\$2.4	
* Queen St	18,200	m2	90	\$1,638,000	\$1.64	Heavy repair
* Woodhill Mountain Road	6,000	m2	35	\$210,000	\$0.21	Resheeting
* Woodhill Mountain Road	300	m2	100	\$30,000	\$0.03	Light repair
* Princess Highway	11,250	m2	35	\$393,750	\$0.39	Resheeting
* Princess Highway	563	m2	100	\$56,250	\$0.06	Light repair
* Cost of dilapidation survey	1.5	month	35,000	\$52,500	\$0.05	
11030 Existing Princes Hwy Flooding Immunity	507,500	Item	1	\$507,500	\$0.5	Raise pavement 375l.m. & upsize culverts
* Demolish existing RCPs, remove pavement	150,000	Item	1	\$150,000	\$0.15	
* New RCP	67,500	Item	1	\$67,500	\$0.07	
* New RCBC	87,500	Item	1	\$87,500	\$0.09	
* Princess Highway (375m)	2,250.00	m2	90	\$202,500	\$0.20	Heavy repair
Sub-total				\$5,545,600	\$5.5	

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Detailed direct cost estimates – Local roads, northern route extract

NOTE: Refer to file FBB Quantities .xlsx for details of
6 quantities
NOTE: Adopt allowance from Aecom - "Berry Nth
interchange - 190m SB off-ramp & 90m NB on-ramp (approx
7 5m height)"
NOTE: Rate for RSW Components has been increased to
allow for potential architectural finish requirements to panel
8 faces
9

10	EE formula - =(20400-7600) m Total corridor length			12,800.000					
	EE formula - =(32+122+76+200+600+40+30) m Length bridges & Viaduct			1,100.000					
12	EE formula - =((190+90)*5) m2 Wall face area			1,400.000					
	EE formula - =((190*5)+(90*5)) m2 Foundation preparation area			1,400.000					
14	EE formula - =(190+90) m Length strip footing			280.000					
15	EE formula - =((190*5*5)+(90*5*5)) m3 Volume of select fill			7,000.000					
16	17 A. Supply of components for RSW								
18	EE formula - =(#LQ12) m2	RSW COMPONENTS	m ²	1,400.000	659.402	8,787	911,750	2,625	923,162
19	20 B. Preparation of foundation for RSW								
21	EE formula - =(#LQ13) m2	EWKS S/G250	m ²	1,400.000	0.822	311		840	1,151
22	23 C. Base concrete strip footing								
24	EE formula - =(#LQ14) m	RSW FOOTING	m	280.000	70.911	14,025	5,605	37	189
25	26 D. RSW erection								
27	EE formula - =(#LQ12) m2	RSW ERECT	m ²	1,400.000	118.551	99,441	4,200	62,330	165,971
28	29 E. RSW capping / Barrier								
30	EE formula - =(#LQ14) m	RSW CAPPING	m	280.000	75.000		21,000		21,000
31	32 F. RSW Imported / Select fill								
	EE formula - =(#LQ15*2.2*1.1) tonne Allowed 2.2t/m3,								
33	10% waste	QAR SELECT RSW	tonne	16,940.000	18.500		313,390		313,390
34	EE formula - =(#LQ15) m3	RSW BACKFILL	m ³	7,000.000	31.245	98,027	1,527	115,730	3,430
35	36 G. Other								
	37 1. Dish drain								
38	EE formula - =(40+675) m	DRA DISH375	m	715.000	73.013	4,007	46,948	1,249	52,204
	39 2. Handrail								
40	EE formula - =(40+675) m	MONOWILS HANDRAIL	m	715.000	100.000			71,500	71,500
41	42 Estimated Duration								
43	EE formula - =(#LQ12/50) Days Allowed 50m2 per day			28.000					
				1,276.391	224,598	1,304,420	182,811	75,119	1,786,948

Line No 93	Local Roads - Pavement Type 1								
Item No 11010		m2		41,575.000		Contributing			

- 1 11010 Local roads - Pavement type 1
 2 Spec: Nil
 Dwg: 60021933-DRG-10-02-GE-0001 to 60021933-DRG-10-02-BR-0801
 3 02-BR-0801
 4 Site visit photo: Nil
 NOTE: Refer to file FBB Quantities .xlsx for details of quantities
 5 quantities
 NOTE: Allow to modify / repair existing road once new viaduct structure is constructed above
 6 viaduct structure is constructed above
 NOTE: Adopt allowance from Aecom - "Allow for Toolijooa Road, Austral Park Road, Tindalls Lane, Kangaroo Valley Road, Rawlings Lane & Victoria Street
 7 Road, Rawlings Lane & Victoria Street
 NOTE: Allowed two seal atop 300mm thk DGB20 base layer
 8
 9

10	Mountain Road			2,100.000			
11	EE formula - =(39475) m2 Area of other local roads			39,475.000			
12							
13	EE formula - =(#LQ10+#LQ11) m2	RTA MINOR ROAD MODS	m ²	41,575.000	80.000	3,326,000	3,326,000
14							
15	Estimated Duration						
16	EE formula - =(#LQ13/1000) Days Allowed 1000m2 per day			41.575			
						80.000	3,326,000
						3,326,000	3,326,000

Line No 94	Local Roads - Repairs						
Item No 11020		m2		24,200.000		Contributing	

- 1 11020 Local roads - Repairs
 2 Spec: Nil
 Dwg: 60021933-DRG-10-02-GE-0001 to 60021933-DRG-10-02-BR-0801
 3 02-BR-0801
 4 Site visit photo: Nil
 NOTE: Allow for repair work to local roads, as per discussions at intermediate review 21/3/2012 + emails from R. Lyster 12/4/2012 & 23/4/2012
 5 R. Lyster 12/4/2012 & 23/4/2012
 NOTE: Allow for typical width of 10m at the following locations: Length of Woodhill Mountain Road used by heavy construction equipment
 6 construction equipment
 NOTE: "Through Berry we only maintain the central 7m. The pavement in this area is of lesser quality than south of Berry, so is likely to require a more substantial treatment. I would allow for 150mm asphalt replacement for the full length"
 7
 8

9	EE formula - =(7) m Width township			7.000			
10	EE formula - =(10) m Width Princess Hwy			10.000			
11	EE formula - =(2600) m Length of through Berry township			2,600.000			
12	EE formula - =(0) m Length of Princess Hwy						
13	EE formula - =(600) m Length of Existing Woodhill Mountain Road			600.000			
14	EE formula - =(#LQ11*#LQ9) m2 Area of pavement to repair through Berry township			18,200.000			

15	EE formula - $=(\#LQ12+\#LQ13)*\#LQ10$ m2 Area of pavement to repair Princess Hwy			6,000.000			
16	EE formula - $=(\#LQ14+\#LQ15)$ m2 Total area			24,200.000			
17							
18	A. Dilapidation survey						
19	EE formula - $=(1.5)$ Allow 1.5mth	CONSULTANT	month	1.500	35,000.000	52,500	52,500
20							
21	B. Pavement repair						
22	EE formula - $=(\#LQ14)$ m3 Pavement repair	RTA PAVE REPAIR HEAVY	m ²	18,200.000	90.000	1,638,000	1,638,000
	EE formula - $=(\#LQ15*0.05)$ m2 Patching, Allow 5% of repair area	RTA PAVE REPAIR LIGHT	m ²	300.000	100.000	30,000	30,000
23							
24	EE formula - $=(\#LQ15)$ m2 Resheeting, depth 50mm	RTA RESHEET50	m ²	6,000.000	35.000	210,000	210,000
25							
26	Estimated Duration						
27	EE formula - $=(0)$ Days						
				79.773		1,930,500	1,930,500

Line No 98	Urban Design			1.000	Contributing		
Item No 11110			Item				
1	11110 Urban Design						
2	Spec: Nil						
	Dwg: 60021933-DRG-10-02-GE-0001 to 60021933-DRG-10-02-BR-0801						
3	02-BR-0801						
4	Site visit photo: Nil						
	NOTE: Allow to provide hard landscaping structure at Berry (North) & Kangaroo Valley Road Interchanges						
5							
6							
7	EE formula - $=(50000*2)$ each Hard landscaping structure			100,000.000			
8							
9	EE formula - $=(\#LQ7)$ each	MISC SCON	Item	100,000.000	1.000	100,000	100,000
10							
11	Estimated Duration						
12	EE formula - $=(0)$ Days						
				100,000.000		100,000	100,000

Line No 99	Landscaping			76,800.000	Contributing		
Item No 11120			m2				
1	11120 Landscaping						
2	Spec: Nil						
	Dwg: 60021933-DRG-10-02-GE-0001 to 60021933-DRG-10-02-BR-0801						
3	02-BR-0801						
4	Site visit photo: Nil						
	NOTE: Refer to file FBB Quantities .xlsx for details of quantities						
5							
	NOTE: Adopt allowance from Aecom - "Allow for an average of 3m width each side of the highway to be landscaped"						
6							
7							

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Detailed direct cost estimates – Local roads, southern route extract

25	EE formula - =(#LQ15) m	RSW FOOTING	m	560.000	70.911	28,049	11,210	73	378	39,710	
26											
27	D. RSW erection										
28	EE formula - =(#LQ13) m2	RSW ERECT	m ²	2,800.000	118.551	198,881	8,400	124,661		331,942	
29											
30	E. RSW capping / Barrier										
31	EE formula - =(#LQ15) m	RSW CAPPING	m	560.000	75.000		42,000			42,000	
32											
33	F. RSW Imported / Select fill										
	EE formula - =(#LQ16*2.2*1.1) tonne Allowed 2.2t/m3,										
34	10% waste	QAR SELECT RSW	tonne	33,880.000	18.500		626,780			626,780	
35	EE formula - =(#LQ16) m3	RSW BACKFILL	m ³	14,000.000	31.245	196,054	3,055	231,459	6,860	437,428	
36											
37	G. Other										
38	1. Dish drain										
39	EE formula - =(40+675) m	DRA DISH375	m	715.000	73.013	4,007	46,948	1,249		52,204	
40	2. Handrail										
41	EE formula - =(40+675) m	MONOWILS HANDRAIL	m	715.000	100.000				71,500	71,500	
42											
43	Estimated Duration										
44	EE formula - =(#LQ13/50) Days Allowed 50m2 per day			56.000							
						1,232,211	445,189	2,561,892	364,372	78,738	3,450,191

Line No 96	Local Roads - Pavement Type 1									
Item No 11010			m2	33,220.000					Contributing	
1	11010 Local roads - Pavement type 1									
2	Spec: Nil									
3	Dwg: 60021933-DRG-10-02-GE-0001 to 60021933-DRG-10-02-BR-0801									
4	Site visit photo: Nil									
5	NOTE: Refer to file Quantities .xlsx for details of quantities									
	NOTE: Allow to modify / repair existing road once new									
6	viaduct structure is constructed above									
	NOTE: Adopt allowance from Aecom - "Allow for Toolijooa Road, Austral Park Road, Tindalls Lane & existing highway									
7	connection (south)									
	NOTE: Allowed two seal atop 300mm thk DGB20 base layer									
8										
9										
10	EE formula - =(33220) m2 Area of other local roads			33,220.000						
11										
12	EE formula - =(#LQ10) m2	RTA MINOR ROAD MODS	m ²	33,220.000	80.000				2,657,600	2,657,600
13										
14	Estimated Duration									
15	EE formula - =(#LQ12/1000) Days Allowed 1000m2 per day			33.220						
						80.000			2,657,600	2,657,600

Line No 97	Local Roads - Repairs							
Item No 11020			m2	35,450.000		Contributing		
1	11020 Local roads - Repairs							
2	Spec: Nil							
3	Dwg: 60021933-DRG-10-02-GE-0001 to 60021933-DRG-10-02-BR-0801							
4	Site visit photo: Nil							
	NOTE: Allow for repair work to local roads, as per discussions at intermediate review 21/3/2012 + emails from R. Lyster 12/4/2012 & 23/4/2012							
5	NOTE: Allow for typical width of 10m at the following locations: Section of existing Princess Hwy Victoria Street to Andersons Lane & Length of Woodhill Mountain Road used by heavy construction equipment							
6	NOTE: "Through Berry we only maintain the central 7m. The pavement in this area is of lesser quality than south of Berry, so is likely to require a more substantial treatment. I would allow for 150mm asphalt replacement for the full length"							
7	NOTE: Refer to email on file G. Smith (Aecom) 8/5/2012 length of existing Princess Hwy required to be upgraded for flood immunity 375m + enlarged cross drainage RCP's							
9								
10	EE formula - =(7) m Width township			7.000				
11	EE formula - =(10) m Width Princess Hwy			10.000				
12	EE formula - =(2600) m Length of through Berry township			2,600.000				
	EE formula - =(1500-375) m Length of Princess Hwy less length of upgrade required for flood immunity			1,125.000				
13	EE formula - =(600) m Length of Existing Woodhill Mountain Road			600.000				
14	EE formula - =(LQ12*LQ10) m2 Area of pavement to repair through Berry township			18,200.000				
15	EE formula - =(LQ13+LQ14)*LQ11) m2 Area of pavement to repair Princess Hwy			17,250.000				
16	EE formula - =(4500) m2 Area of flood immunity works to existing Princess Hwy			4,500.000				
17	EE formula - =(LQ15+LQ16) m2 Total area			35,450.000				
18								
19								
20	A. Dilapidation survey							
21	EE formula - =(1.5) Allow 1.5mth	CONSULTANT	month	1.500	35,000.000		52,500	52,500
22								
23	B. Pavement repair							
24	EE formula - =(LQ15) m3 Pavement repair	RTA PAVE REPAIR HEAVY	m ³	18,200.000	90.000		1,638,000	1,638,000
	EE formula - =(LQ16*0.05) m2 Patching, Allow 5% of repair area	RTA PAVE REPAIR LIGHT	m ²	862.500	100.000		86,250	86,250
25	EE formula - =(LQ16) m2 Resheeting, depth 50mm	RTA RESHEET50	m ²	17,250.000	35.000		603,750	603,750
26								
27								
28	Estimated Duration							
29	EE formula - =(0) Days							
				67.151	2,380,500		2,380,500	2,380,500

Line No 98 Item No 11030	Existing Princess Hwy Flooding immunity			1.000	Contributing		
		Item					
1	11030 Existing Princess Hwy - Flooding immunity						
2	Spec: Nil						
3	Dwg: 60021933-DRG-10-02-GE-0001 to 60021933-DRG-10-02-BR-0801						
4	Site visit photo: Nil						
5	NOTE: Refer to email on file G. Smith (Aecom) 8/5/2012 length of existing Princess Hwy required to be upgraded for flood immunity 375m (lift road level by 70mm)+ enlarged						
6	cross drainage RCP						
7	EE formula - =(375) m Length of existing Princess Hwy to be raised						375,000
8	EE formula - =(4500) m2 Area of flood immunity works to existing Princess Hwy						4,500,000
9	A. Flood Immunity works						
11	EE formula - =(150000) Allowance to demolish existing RCP's 2No and remove pavement						
	MISC SCON	Item	150,000.000	1.000	150,000	150,000	
12	EE formula - =(15*2500)+(2*15000) Allowance new 4No 1800mm dia RCP, length 15m						
	MISC SCON	Item	67,500.000	1.000	67,500	67,500	
13	EE formula - =(15*2500)+(2*25000) Allowance new 4No 2100x1500 RCB, length 15m						
	MISC SCON	Item	87,500.000	1.000	87,500	87,500	
14	EE formula - =(LQ8*0.5) m2 Repair pavement, allow depth 500mm						
	RTA PAVE REPAIR HEAVY	m ²	2,250.000	90.000	202,500	202,500	
15	Estimated Duration						
17	EE formula - =(0) Days						
				507,500.000	507,500	507,500	

Line No 102 Item No 11110	Urban Design			1.000	Contributing		
		Item					
1	11110 Urban Design						
2	Spec: Nil						
3	Dwg: 60021933-DRG-10-02-GE-0001 to 60021933-DRG-10-02-BR-0801						
4	Site visit photo: Nil						
5	NOTE: Allow to provide hard landscaping structure at Berry (North & South) Interchanges						
6	EE formula - =(50000*2) each Hard landscaping structure						100,000.000
9	EE formula - =(LQ7) each						
	MISC SCON	Item	100,000.000	1.000	100,000	100,000	
11	Estimated Duration						
12	EE formula - =(0) Days						
				100,000.000	100,000	100,000	