

Appendix 3

Central Corridor

- Scope
- Estimate
- Program

Central Corridor

Scope

The Central Corridor would be 5.1km long and begin just north of Johnson Road, use the existing Pacific Highway through the Wyong town center and generally follow the existing Pacific Highway to the roundabout at the intersection of Johns Road, Pollock Avenue and Pacific Highway, Wadalba.

- The southern limit is assumed to be just north of the intersection of Johnson Road and the Pacific Highway. The intersection is to remain in the current configuration and operate for the Pacific Highway as two-lane two-way with all current turning movements retained i.e. no intersection improvements.
- A one-way service road between Johnson Road and the Wyong River together with an upgrade to South Tacoma Road up to a position just under the existing Rail Bridge. A new intersection with South Tacoma Road and McPherson Road.
- A new Bridge over the Wyong River for northbound traffic.
- Refurbish the existing road bridge over the Wyong River consistent with the expected life of the upgraded highway, 20 years
- Upgrade River Road intersection with local street adjustments.
- A new dual carriageway Pacific Highway from Johnson Road to Johns Road Wadalba, upgraded intersections at Church Street, Anzac Avenue, North Road, Cutler Drive, Britannia Drive, Army Close and Lucca Road
- New traffic signals at Church Street, Rose Street, Anzac Avenue, North Road, Cutler Drive, Britannia Drive, Army Close and Lucca Road intersections.
- New left in, left out intersections at South Tacoma Road, River Road, Alison Road, Apex Park and the three locations where the redundant Pacific Highway meets the upgraded highway.
- Rose Street Bridge extension over the new bus-way under Rose Street.
- Retaining walls as required.
- Shared path cycle-ways from Johnson Road (south) to Johns Road roundabout (north)
- Urban standard throughout entire length of works, i.e. to include street lighting, kerb and gutter drainage, shared pedestrian cycle-way path, property access, landscaping and parking.
- Removal of the Station Masters Cottage and Warner Shops complex.
- The northern limit is the existing roundabout at the Pacific Highway, Johns Road intersection.

Client: Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Central Corridor
 Detail: Project Summary



No	Item	Estimate (Exc Contingency)	Contingency		Estimate (Inc Contingency)	% of Total Estimate
			%	Amount		
1	Project Development					
1.1	Route / Concept / EIS	\$2,890,000	40%	\$1,156,000	\$4,046,000	
1.2	Project Management Services	\$541,800	30%	\$162,540	\$704,340	
1.3	Client Representation	\$49,536	10%	\$4,954	\$54,490	
	Sub total	\$3,481,336	38%	\$1,323,494	\$4,804,830	1.7%
2	Investigation and Design					
2.1	Investigation and Design	\$6,712,500	50%	\$3,356,250	\$10,068,750	
2.2	Project Management Services	\$802,075	30%	\$240,623	\$1,042,698	
2.3	Client Representation	\$41,568	10%	\$4,157	\$45,725	
	Sub total	\$7,556,143	48%	\$3,601,029	\$11,157,172	4.1%
3	Property Acquisitions					
3.1	Property Acquisitions	\$35,992,500	55%	\$19,795,875	\$55,788,375	
3.2	Professional Services for Property	\$539,888	30%	\$161,966	\$701,854	
3.3	Project Management Services	\$153,400	30%	\$46,020	\$199,420	
3.4	Client Representation	\$36,920	10%	\$3,692	\$40,612	
	Sub total	\$36,722,708	54%	\$20,007,553	\$56,730,261	20.6%
4	Public Utility Adjustments					
4.1	Public Utility Adjustments	\$17,500,000	100%	\$17,500,000	\$35,000,000	
4.2	Project Management Services	\$442,000	30%	\$132,600	\$574,600	
4.3	Client Representation	\$33,280	10%	\$3,328	\$36,608	
	Sub total	\$17,975,280	98%	\$17,635,928	\$35,611,208	12.9%
5	Construction of Works					
5.1	Infrastructure	\$111,500,000	35%	\$39,025,000	\$150,525,000	
5.2	Project Management Services	\$12,072,400	30%	\$3,621,720	\$15,694,120	
5.3	Client Representation	\$158,730	10%	\$15,873	\$174,603	
	Sub total	\$123,731,130	34%	\$42,662,593	\$166,393,723	60.4%
6	Handover					
6.1	Handover	\$360,000	50%	\$180,000	\$540,000	
6.2	Project Management Services	\$92,300	30%	\$27,690	\$119,990	
6.3	Client Representation	\$9,230	10%	\$923	\$10,153	
	Sub total	\$461,530	45%	\$208,613	\$670,143	0.2%
	TOTAL	\$189,928,127	45%	\$85,439,210	\$275,367,337	100%

No	Item	Estimate (Exc Contingency)	Estimate (Contingency)	Estimate Total
Total Project Management Allowances				
i	Project Management	\$14,103,975	\$4,231,193	\$18,335,168
ii	Client Presentation	\$329,264	\$32,926	\$362,190
Reality Checks				
		Cost / km (\$m)	Length of Road (km)	
iii	Project Cost per kilometer	\$53.99	5.1	
iv	Project Cost per lane kilometer	\$13.50	20.4	

Client: Client: Roads & Maritime Services
Project: Through Town & Bypass Options - Pacific Highway Wyong
Option: Central Corridor
Detail: Project Development



ITEM	DESCRIPTION	UNIT	RATE	TOTAL	COMMENTS
1.1	Route / Concept / EIS				Estimated Duration - 18 months
1.1.1	Concept Design				
	Integrated Design Consultant - Concept Road , Bridge, Drainage, Pavement, Lighting, Landscape etc	item	\$ 1,050,000	\$ 1,050,000	
1.1.2	Preliminary Geotech				
	Investigation and reporting, test pits, boreholes, ground model, soil testing etc	item	\$ 300,000	\$ 300,000	
	Ground support model	item	\$ 20,000	\$ 20,000	
1.1.3	Traffic Modelling				
	Traffic model for concept design solutions	item	\$ 75,000	\$ 75,000	
1.1.4	Community Liaison				
	Included within project management services	item	\$ -	\$ -	
1.1.5	Environmental Investigations EIS				Estimated Duration - 12 months
	EIS REF	item	\$ 1,000,000	\$ 1,000,000	
	Water quality testing	item	\$ 10,000	\$ 10,000	
1.1.6	Survey				
	Ground survey model	item	\$ 200,000	\$ 200,000	
1.1.7	Specialist Sub Consultants				
	Urban Design	item	\$ 60,000	\$ 60,000	
	Noise	item	\$ 100,000	\$ 100,000	
	Hydrology	item	\$ 25,000	\$ 25,000	
	Archaeology	item	\$ 50,000	\$ 50,000	
	Total Item 1.1			\$ 2,890,000	

Notes / Assumptions

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
1.2	Project Management Services					Estimated Duration - 18 months
	Project manager	100%	77	\$ 5,100	\$ 394,740	
	Clerical assistant	20%	77	\$ 2,000	\$ 30,960	
	Assisting Engineer	50%	77	\$ 3,000	\$ 116,100	
	Total Item 1.2				\$ 541,800	

Notes / Assumptions

All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
1.3	Client Representation					Estimated Duration - 18 months
	Project manager	10%	77	\$ 5,100	\$ 39,474	
	Clerical assistant	5%	77	\$ 2,000	\$ 7,740	
	Assisting Engineer	1%	77	\$ 3,000	\$ 2,322	
	Total Item 1.3				\$ 49,536	

Notes / Assumptions

All Rates are weekly

TOTAL ITEM	\$ 3,481,336				
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Client: Client: Roads & Maritime Services
Project: Through Town & Bypass Options - Pacific Highway Wyong
Option: Central Corridor
Detail: Investigation and Design



ITEM	DESCRIPTION	UNIT	RATE	TOTAL	COMMENTS
2.1	<u>Investigation and Design</u>				Estimated Duration - 15 months
2.1.1	Investigation & Design				
	Integrated Design Consultant - Road , Bridge, Staging, Drainage, Pavement, Lighting, Landscape, Line Marking, Signage, Traffic Signals, Property Adjustments, Services / Utilities, Roadside Furniture, ITS etc	item	\$ 5,625,000	\$ 5,625,000	
2.1.2	Detailed Geotechnical Design				
	Investigation and reporting, test pits, boreholes, ground model, soil testing etc	item	\$ 375,000	\$ 375,000	
2.1.3	Survey				
	Ground survey model	item	\$ 312,500	\$ 312,500	
2.1.4	Independent Design Verification				
	Independent Design Review	item	\$ -	\$ -	
2.1.5	Specialist Consultants				
	Urban Design	item	\$ 100,000	\$ 100,000	
	Noise	item	\$ 100,000	\$ 100,000	
	Hydrology	item	\$ 100,000	\$ 100,000	
	Miscellaneous Consultants: Allowance	item	\$ 100,000	\$ 100,000	Commerical advice, community consultation, community advice etc
	Total Item 2.1			\$ 6,712,500	

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
2.2	<u>Project Management Services</u>					Estimated Duration - 15 months
	Project manager	100%	65	\$ 5,100	\$ 331,245	
	Clerical assistant	20%	65	\$ 2,000	\$ 25,980	
	Assisting Engineer	100%	65	\$ 3,000	\$ 194,850	
	Tender Documentation	item	1	\$ 250,000	\$ 250,000.00	
	Total Item 2.2				\$ 802,075	

Notes / Assumptions

All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
2.3	<u>Client Representation</u>					Estimated Duration - 15 months
	Project manager	10%	65	\$ 5,100	\$ 33,124.50	
	Clerical assistant	5%	65	\$ 2,000	\$ 6,495	
	Assisting Engineer	1%	65	\$ 3,000	\$ 1,948.50	
	Total Item 2.3				\$ 41,568	

Notes / Assumptions

All rates are weekly

TOTAL ITEM						\$ 7,556,143
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Client: Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Central Corridor
 Detail: Property Acquisitions



ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL	COMMENTS
3.1	Property Acquisition					Estimated Duration - 2 years
	Johnson Rd to Cutler Drive					Refer to property acquisition quantification
	Commerical Property	sq.m	1,850	\$ 2,800	\$ 5,180,000	
	Railcorp Land	sq.m	6,300	\$ 375	\$ 2,362,500	
	Council Land	sq.m	20,100	\$ -	\$ -	
	Culter Drive to Watalba Roundabout					
	Residential Property	ea	10	\$ 415,000	\$ 4,150,000	
	Commerical / Business Property	sq.m	-	\$ 1,000	\$ -	
	Property - Partial Acquisition - Strip - Residential	sq.m	2,100	\$ 500	\$ 1,050,000	
	Property - Partial Acquisition - Strip - Commerical	sq.m	22,000	\$ 600	\$ 13,200,000	
	Land Acquisition - Rural	sq.m	-	\$ 200	\$ -	
	Land Acquisition - Farm	sq.m	-	\$ 50	\$ -	
	Land Acquisition - Residential	sq.m	26,800	\$ 375	\$ 10,050,000	
	Total Item 3.1				\$ 35,992,500	

Notes / Assumptions

ITEM	DESCRIPTION	TOTAL VALUE OF PROPERTY	% FEE	TOTAL	COMMENTS
3.2	Professional Services for Property				Estimated Duration - 2 years
	Property Consultant & Valuation Expert	\$ 35,992,500	1.00%	\$ 359,925	
	Legal Advice	\$ 35,992,500	0.50%	\$ 179,963	
	Total Item 3.2			\$ 539,888	

Notes / Assumptions

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
3.3	Project Management Services					Estimated Duration - 2 years
	Project manager	25%	104	\$ 5,100	\$ 132,600	
	Clerical assistant	10%	104	\$ 2,000	\$ 20,800	
	Total Item 3.3				\$ 153,400	

Notes / Assumptions

All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
3.4	Client Representation					Estimated Duration - 2 years
	Project manager	5%	104	\$ 5,100	\$ 26,520	
	Clerical assistant	5%	104	\$ 2,000	\$ 10,400	
	Total Item 3.4				\$ 36,920	

Notes / Assumptions

All rates are weekly

TOTAL ITEM						\$ 36,722,708
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Client: Client: Roads & Maritime Services
Project: Through Town & Bypass Options - Pacific Highway Wyong
Option: Central Corridor
Detail: Public Utility Adjustments



ITEM	DESCRIPTION	UNIT	TOTAL	COMMENTS
4.1	<u>Adjust Utilities</u>			Estimated Duration - 12 months
	Water Utilities			
	Relocation of services - Water	item	\$ 2,500,000	Refer to public utility quantification spreadsheet
	Relocation of services - Sewer	item	\$ 2,000,000	Refer to public utility quantification spreadsheet
	Telecommunications			
	Relocation of services	item	\$ 2,000,000	Refer to public utility quantification spreadsheet
	Power / Electrical Utilities HV & LV			
	Relocation of services	item	\$ 8,000,000	Refer to public utility quantification spreadsheet
	Gas Utilities HP & LP			
	Relocation of services	item	\$ 3,000,000	Refer to public utility quantification spreadsheet
	Total Item 4 (a)		\$ 17,500,000	

Notes

Please see spreadsheet 'Services' for further breakdown

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
4.2	<u>Project Management Services</u>					Estimated Duration - 12 months
	Project manager	100%	52	\$ 5,100	\$ 265,200	
	Assisting Engineer	100%	52	\$ 3,000	\$ 156,000	
	Clerical assistant	20%	52	\$ 2,000	\$ 20,800	
	Total Item 4.2				\$ 442,000	

Notes / Assumptions

rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
4.3	<u>Client Representation</u>					Estimated Duration - 12 months
	Project manager	10%	52	\$ 5,100	\$ 26,520	
	Clerical assistant	5%	52	\$ 2,000	\$ 5,200	
	Assisting Engineer	1%	52	\$ 3,000	\$ 1,560	
	Total Item 4.3				\$ 33,280	

Notes / Assumptions

All rates are weekly

TOTAL ITEM					\$ 35,475,280	
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Client: Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Central Corridor
 Detail: Construction of Works



ITEM	DESCRIPTION	TOTAL	COMMENTS
5.1	Infrastructure		Estimated Duration - 3 years
	Direct Works Costs	\$ 79,180,000	
	Overhead Costs	\$ 17,780,000	
	Contractors Margin	\$ 14,540,000	
	Total Item 5.1	\$ 111,500,000	

ITEM	DESCRIPTION	UNIT	RATE	TOTAL	COMMENTS
5.2 (a)	Project Management Services - Support Services				Estimated Duration - 3 years
	Design Support	item	\$ 6,712,500	\$ 6,712,500	5% of detailed design figure
	Urban Design	item	\$ 100,000	\$ 100,000	
	Geotechnical Design Support Services	item	\$ 50,000	\$ 50,000	
	Quality & Safety Audit Services	item	\$ 25,000	\$ 25,000	
	Community Consultation	item	\$ 150,000	\$ 150,000	
	Traffic Management Support	item	\$ 25,000	\$ 25,000	
	Legal Services	item	\$ 200,000	\$ 200,000	
	Reports, Conditions of Approval etc	item	\$ 50,000	\$ 50,000	
	Community Liaison Representative	item	\$ 50,000	\$ 50,000	
	Survey	item	\$ 20,000	\$ 20,000	
	Commercial Advisor	item	\$ 100,000	\$ 100,000	
	Insurance - PA	item	\$ 1,115,000	\$ 1,115,000	
	Total Item 5.2 (a)			\$ 8,597,500	

ITEM	DESCRIPTION	UTILISATION	NUMBER	WEEKS	RATE	TOTAL	COMMENTS
5.2 (b)	Project Management Services - Staff						Estimated Duration - 3 years
	PM Staff: Management						
	Project Manager	100%	1	143	\$ 5,100	\$ 729,300	
	Project Engineers	100%	2	143	\$ 3,750	\$ 1,072,500	
	Surveillance Officers	100%	2	143	\$ 3,600	\$ 1,029,600	
	Health & Safety Advisor	50%	1	143	\$ 3,000	\$ 214,500	
	Quality Advisor	50%	1	143	\$ 3,000	\$ 214,500	
	Environmental Advisor	50%	1	143	\$ 3,000	\$ 214,500	
	Total Item 5.2 (b)					\$ 3,474,900	
	Total Item 5.2 (a) & (b)					\$ 12,072,400	

Notes / Assumptions
 All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
5.3	Client Representation					Estimated Duration - 3 years
	Senior Management Review	10%	143	\$ 4,000	\$ 57,200	
	Client Manager	10%	143	\$ 5,100	\$ 72,930	
	Clerical assistant	10%	143	\$ 2,000	\$ 28,600	
	Total Item 5.3				\$ 158,730	

Notes / Assumptions
 All rates are weekly

TOTAL ITEM	\$ 123,731,130					
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Client: Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Central Corridor
 Detail: Handover



ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL	COMMENTS
6.1	Handover					Estimated Duration - 6 Months
	Final Reporting	item	1	\$ 100,000	\$ 100,000	
	Legal	item	1	\$ 100,000	\$ 100,000	
	Claims Response	item	1	\$ 100,000	\$ 100,000	
	Noise Survey	item	1	\$ 20,000	\$ 20,000	
	Traffic Verification	item	1	\$ 20,000	\$ 20,000	
	Environmental Monitors	item	1	\$ 20,000	\$ 20,000	
	Total Item 6.1				\$ 360,000	

Notes / Assumptions

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
6.2	Project Management Services					Estimated Duration - 6 months
	Project manager	50%	26	\$ 5,100	\$ 66,300	
	Clerical assistant	50%	26	\$ 2,000	\$ 26,000	
	Total Item 6.2				\$ 92,300	

Notes / Assumptions

All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
6.3	Client Representation					Estimated Duration - 6 months
	Project manager	5%	26	\$ 5,100	\$ 6,630	
	Clerical assistant	5%	26	\$ 2,000	\$ 2,600	
	Total Item 6.3				\$ 9,230	

Notes / Assumptions

All rates are weekly

TOTAL ITEM					\$ 461,530	
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Client: Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Central Corridor
 Detail: Property Acquisitions



ITEM	DESCRIPTION	NO	FLOOR AREA	PROPERTY AREA	COMMENTS
1	<u>Property Acquisition - Through Town</u>				
1.1	Commerical Property	1	180	800	Station Masters Cottage
		1	670	1050	Railway Sq shops (Corner of Church St)
	Total		850	1850	

ITEM	DESCRIPTION	LAND OWNER	LAND OWNER	COMMENTS
2	<u>Land Acquisition - Through Town</u>			
2.1	Wyong River Bridge to Church St	6,300	Railcorp	Along Railway lane before station masters cottage
2.2	Church St to Rose St	3,250	Council	Section 1 within train station car park
		6,100	Council	Section 2 within train station car park
2.3	Rose St to Anzac St	3,700	Council	Rose St to Anzac St along railway line
2.4	Anzac St to North Road	2,600	Council	Along Railway lane
		650	Council	Anzac St intersection allowances
2.5	North Road to End	3,800	Council	Along railway track
	Total	26,400		
	Council Owned Land	20,100		
	Rail Corp Owned Land	6,300		

ITEM	DESCRIPTION	UNIT	M2 AREA	COMMENTS
3	<u>Land & Property Acquisition - Watnobbie Roundabout to Watalba</u>			
a	Residential	no	1	On Pacific Highway beside shops & layby
	Residential	no	9	Beside Watalba roundabout - 15no
c	Property Adjustments - Residential	sq.m	2,100	Beside Watalba roundabout - 7no
d	Property Adjustments - Commerical	sq.m	15,000	Beside shops & layby
	Property Adjustments - Commerical	sq.m	7,000	2no properties along Pacific Highway, Lot lable DP 372243, 1-2
f	Land acquisition	sq.m	26,800	Along length of road

Client: Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Central Corridor
 Detail: Public Utility Adjustments



ITEM	DESCRIPTION	UNIT	TOTAL	CONTINGENCY %	CONTINGENCY TOTAL	TOTAL VALUE
1	Power					
	Miscellaneous Power Adjustments - lv	item	\$5,000,000	100%	\$5,000,000	\$10,000,000
	Power Adjustments - hv	item	\$3,000,000	100%	\$3,000,000	\$6,000,000
	Notes:					
	Local power supply includes 415kv & 33kv adjustments including temporary power supply including transformers, pits, temporary power, temporary generators etc					
	New infrastructure work allowed for within direct works estimate					
2	Sewer					
	Assumed 2no rising main at 150mm each to be	item	\$2,000,000	100%	\$2,000,000	\$4,000,000
	Gravity pit adjustments have been allowed within the direct works					
3	Water					
	Protection & Relocation of Water Utilities	item	\$2,500,000	100%	\$2,500,000	\$5,000,000
4	Telecommunications					
	Local Adjustments	item	\$2,000,000	100%	\$2,000,000	\$4,000,000
5	Gas					
	Protection & Relocation of Gas Utilities	item	\$3,000,000	100%	\$3,000,000	\$6,000,000
	Total Public Utility Adjustment		\$17,500,000	100%	\$17,500,000	\$35,000,000

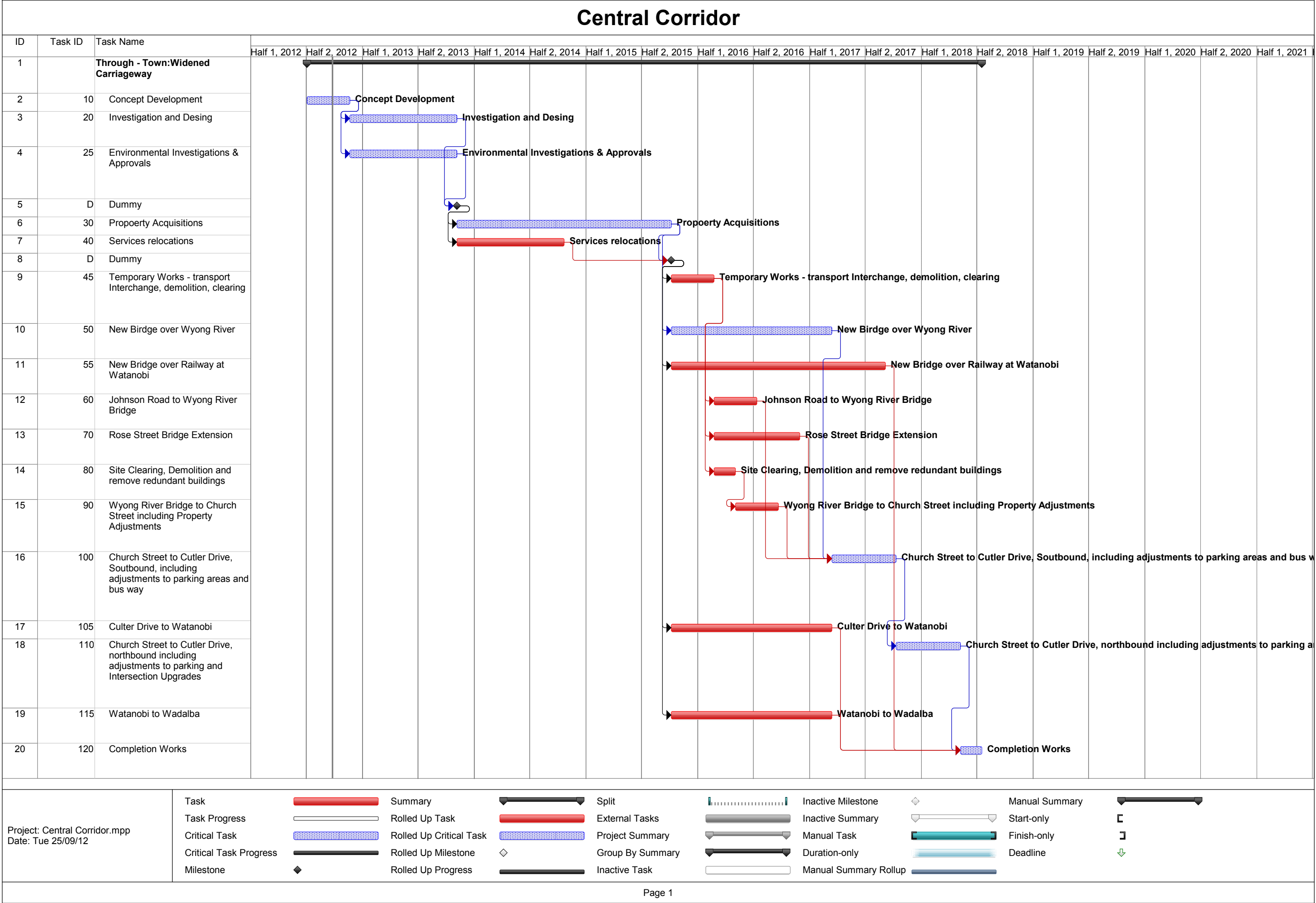
Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Central Corridor - Johnson Rd to Wadalba (John's St)								
3		Estimate - July12 - T Rajeswaran								
4	ITEM									
5		Section 1 - Johnson Road To Cutler Drive								
6										
7		1 GENERAL								
8	1.1	Property Adjustments	15	each				\$ 150,000	\$ 10,000	\$ 150,000
9	1.2	Provision for temp bus interchange and pedestrian access	1	each	\$ 8,547	\$ 354,560	\$ 4,440		\$ 367,547	\$ 367,547
10	1.3	Dilapidation survey & report.	300	each				\$ 172,800	\$ 576	\$ 172,800
11		EE formula - =sum(8:10) General			\$ 8,547	\$ 354,560	\$ 4,440	\$ 322,800		\$ 690,347
12										
13		2 TRAFFIC CONTROL								
14	2.1	Traffic Control	1	Item	\$ 128,079	\$ 47,258	\$ 536,235	\$ 938,579	\$ 1,650,151	\$ 1,650,151
15		EE formula - =sum(13:14) Traffic Control			\$ 128,079	\$ 47,258	\$ 536,235	\$ 938,579		\$ 1,650,151
16										
17		3 ENVIRONMENTAL								
18	3.1	Sedimentation control	1	Item	\$ 54,036	\$ 16,278	\$ 31,251		\$ 101,565	\$ 101,565
19	3.2	Monitoring	1	item				\$ 79,554	\$ 79,554	\$ 79,554
20		EE formula - =sum(18:19) Environmental			\$ 54,036	\$ 16,278	\$ 31,251	\$ 79,554		\$ 181,119
21										
22		4 DEMOLITION								
23	4.1	Demolition - Johnson RD to Cutler Dr	1	Item	\$ 88,000	\$ 800	\$ 287,470	\$ 132,000	\$ 508,270	\$ 508,270
24	4.2	Station Masters building & Warner shops	1	item	\$ 58,000	\$ 3,000	\$ 136,419	\$ 31,800	\$ 229,219	\$ 229,219
25	4.3	Rail Corp maintenace yard	1	item	\$ 47,000	\$ 2,400	\$ 109,135	\$ 31,000	\$ 189,535	\$ 189,535
26		EE formula - =sum(22:25) Demolition			\$ 193,000	\$ 6,200	\$ 533,024	\$ 194,800		\$ 927,024
27										
28		5 Earthworks								
29		Earthworks - Johnson road to Cutler Dr	1,940	Item	\$ 622,825	\$ 1,279,291	\$ 3,066,476	\$ 903,926	\$ 3,027	\$ 5,872,518
30	5.1	From Johnson Rd To Cutler Drive - Clear & grub, strip top soil, excavation, cut/fill, select, drainage blanket, unsuitable etc. Lgth is ch to chainage and excludes brdge deck.	1,940	item	\$ 622,825	\$ 1,279,291	\$ 3,066,476	\$ 903,926	\$ 3,027	\$ 5,872,518
31		EE formula - =sum(30) Earthworks			\$ 622,825	\$ 1,279,291	\$ 3,066,476	\$ 903,926		\$ 5,872,518
32										
33		6 DRAINAGE								
34	6.1	SWD including pipes, pits, open drain, GPT etc.	5,800	m	\$ 380,883	\$ 1,077,351	\$ 491,120	\$ 972,002	\$ 504	\$ 2,921,357
35	6.2	Kerb & Gutter - SA, SF & SO types	11,140	m	\$ 31,244	\$ 282,802	\$ 72,325	\$ 225,400	\$ 55	\$ 611,771
36		EE formula - =sum(33:35) Drainage			\$ 412,127	\$ 1,360,153	\$ 563,445	\$ 1,197,402		\$ 3,533,128
37										
38		7 PAVEMENTS								
39	7.1	Local Roads	1	m						
40	7.2	Pavement - Johnson Rd to Cutler Dr	57,758	m2	\$ 350,322	\$ 1,509,217	\$ 845,456	\$ 4,150,759	\$ 119	\$ 6,855,754
41		EE formula - =sum(39:40) Pavements			\$ 350,322	\$ 1,509,217	\$ 845,456	\$ 4,150,759		\$ 6,855,754
42										
43		8 BRIDGES & STRUCTURES								
44		Structurs								
45	8.1	Retainning Walls - Block infill & Concrete insitu walls.	3,988	m2	\$ 763,023	\$ 1,757,486	\$ 368,592	\$ 1,710,057	\$ 1,153	\$ 4,599,159

Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Central Corridor - Johnson Rd to Wadalba (John's St)								
3		Estimate - July12 - T Rajeswaran								
46										
47		Bridges								
48		Bridge No 1 - Wyong River	1,440	item	\$ 72,469	\$ 186,803	\$ 80,678	\$ 7,266,201	\$ 5,282	\$ 7,606,151
49	8.1/a	Prepare bridge corridor including Earth embankment on approaches.	1		\$ 20,834	\$ 41,636	\$ 53,183	\$ 6,762	\$ 122,415	\$ 122,415
50	8.1/b	Bridge across rail crossing including pedestrian walkway.	1,440	m2	\$ 1,188	\$ 108,000	\$ 8,022	\$ 6,950,484	\$ 4,908	\$ 7,067,694
51	8.1/c	Reinforced Earth wall including parapets	320	m2	\$ 50,447	\$ 37,167	\$ 19,473	\$ 308,955	\$ 1,300	\$ 416,042
52										
53	8.3	Bridge 2 - Extend Rose street bridge over new underpass	360	m2	\$ 18,948	\$ 20,140	\$ 151,954	\$ 2,778,659	\$ 8,249	\$ 2,969,701
54		bridge	360	m2		\$ 11,000		\$ 2,495,678	\$ 6,963	\$ 2,506,678
55		Earthworks under bridge	4,800	m3	\$ 18,700	\$ 1,640	\$ 151,819	\$ 238,464	\$ 86	\$ 410,624
56		F Type barrier & crash cushion etc	30	m	\$ 248	\$ 7,500	\$ 135	\$ 44,518	\$ 1,747	\$ 52,400
57										
58	8.4	Bridge 3 - Refurbish existing brdge over Wyong River.	1,080	m2				\$ 1,944,000	\$ 1,800	\$ 1,944,000
59		EE formula - =sum(45:58) Bridge & structures			\$ 854,440	\$ 1,964,429	\$ 601,224	\$ 13,698,917		\$ 17,119,010
60										
61		9 MISCELLANEOUS								
62	9.1a	Lighting - Johnson Rd To Cutler Dr	120	no				\$ 1,830,400	\$ 15,253	\$ 1,830,400
63	9.2	Traffic Lights	4	no				\$ 1,152,000	\$ 288,000	\$ 1,152,000
64	9.3	Signs	116	no				\$ 147,450	\$ 1,271	\$ 147,450
65	9.4	Topsoil and Turf	7,640	m2	\$ 5,771	\$ 40,755	\$ 14,294	\$ 70,560	\$ 17	\$ 131,380
66	9.5	Concrete Medians	4,200	m2	\$ 88,350	\$ 177,700	\$ 16,338	\$ 161,326	\$ 106	\$ 443,713
67	9.6	Concrete path 9blue grayDriveways	15,160	m2	\$ 232,271	\$ 585,828	\$ 58,972	\$ 452,367	\$ 88	\$ 1,329,439
68	9.8	Hand rails & Ped fencing	1,130	m				\$ 529,000	\$ 468	\$ 529,000
69	9.1	Urban Design big no	1	item						
70	9.11	Guardrail / Wire rope	1,430	m				\$ 150,900	\$ 106	\$ 150,900
71		F Type barrier	600	m	\$ 4,950	\$ 150,000	\$ 2,695	\$ 10,350	\$ 280	\$ 167,995
72	9.12	Landscape - Remove & relocate palm trees, and general landscape	1	Item	\$ 67,692	\$ 31,485	\$ 173,988	\$ 2,053,308	\$ 2,326,472	\$ 2,326,472
73		EE formula - =sum(62:72) Miscellaneous			\$ 399,034	\$ 985,767	\$ 266,286	\$ 6,557,660		\$ 8,208,749
74										
75		EE formula - =sum(4:72)			\$ 3,022,411	\$ 7,523,153	\$ 6,447,837	\$ 28,044,397		\$ 45,037,799
76										
77		10 Section 2 - CUTLER DR TO WADALBA ROUNDABOUT								
78		General								
79	10.1	Property Adjustments	25	each				\$ 250,000	\$ 10,000	\$ 250,000
80	10.2	Dilapidation survey & report.	100	each				\$ 57,600	\$ 576	\$ 57,600
81		EE formula - =sum(79:80) General						\$ 307,600		\$ 307,600
82										
83		11 TRAFFIC CONTROL								
84	11.1	Traffic Control - RR	1	Item	\$ 99,006	\$ 16,687	\$ 316,208	\$ 664,738	\$ 1,096,639	\$ 1,096,639
85		EE formula - =sum(83:84) Traffic Control			\$ 99,006	\$ 16,687	\$ 316,208	\$ 664,738		\$ 1,096,639
86										
87		12 ENVIRONMENTAL								

Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Central Corridor - Johnson Rd to Wadalba (John's St)								
3		Estimate - July12 - T Rajeswaran								
88	12.1	Sedimentataion control - Costed in item 5.2	1	Item						
89	12.2	Monitoring	1	item				\$ 52,828	\$ 52,828	\$ 52,828
90		EE formula - =sum(88:89) Environmental						\$ 52,828		\$ 52,828
91										
92	13	DEmolition								
93	13.1	Demo work	1	Item	\$ 72,600	\$ 3,960	\$ 180,073	\$ 19,800	\$ 276,433	\$ 276,433
94		EE formula - =sum(92:93) Demolition			\$ 72,600	\$ 3,960	\$ 180,073	\$ 19,800		\$ 276,433
95										
96	14	Earthworks								
97	14.1	Cutler Drive To Wadalba Roundabout	2,950	m	\$ 1,109,840	\$ 2,983,791	\$ 4,247,460	\$ 4,389,410	\$ 4,315	\$ 12,730,501
98	14.1.1	Cutler Drive to Watanobi Roundabout - C/w widening / Duplication - 1,000m x 2 sides. All inclusive cost.	2,000	m	\$ 326,058	\$ 908,490	\$ 998,666	\$ 500,419	\$ 1,367	\$ 2,733,633
99	14.1.2	Watanobi to Wadalba Roundabout (John St) -C/w widening / Duplication 1,950m x 2 sides. All inclusive Cost.	3,900	m	\$ 635,813	\$ 1,771,555	\$ 1,947,399	\$ 975,817	\$ 1,367	\$ 5,330,584
100	14.1.3	Cutler Dr to Watanobi - Boxout existing pavement - 1,000m x 1 run. All inclusive cost.	1,000	m	\$ 50,159	\$ 102,965	\$ 441,151	\$ 919,720	\$ 1,514	\$ 1,513,995
101	14.1.4	Watanobi to Wadalba - Boxout existing pavement Carigeway - 1,950m x 1run. All inclusive cost.	1,950	m	\$ 97,810	\$ 200,781	\$ 860,244	\$ 1,993,454	\$ 1,617	\$ 3,152,290
102		EE formula - =sum(98:101) Earthworks			\$ 1,109,840	\$ 2,983,791	\$ 4,247,460	\$ 4,389,410		\$ 12,730,501
103										
104	15	DRAINAGE								
105	15.1	Included in Item 5.2	1	m						
106		EE formula - =sum(104:105) Drainage								
107										
108	16	PAVEMENTS								
109	16.1	Local Roads	250	m	\$ 11,569	\$ 40,837	\$ 50,412	\$ 34,338	\$ 549	\$ 137,155
110	16.2	Pavement - Cutler Dr to Wadalba (John St)	54,300	m2				\$ 6,412,830	\$ 118	\$ 6,412,830
111		EE formula - =sum(109:110) Pavements			\$ 11,569	\$ 40,837	\$ 50,412	\$ 6,447,168		\$ 6,549,985
112										
113	17	BRIDGES & STRUCTURES								
114		Bridge No 4 - Over Rail Track @ Watanobi (inclu Ped walkway) - 2 no	1,734	m2	\$ 148,856	\$ 55,562	\$ 239,982	\$ 6,735,794	\$ 4,141	\$ 7,180,194
115	17.1/a	DEmolish pedestrian Brdg & existing road bridge	2	each	\$ 79,592	\$ 2,400	\$ 213,635	\$ 290,941	\$ 293,284	\$ 586,568
116	17.1/b	Bridge across rail crossing including pedestrian walkway. New and replace old. - 2 no brdg	1,734	m2	\$ 47,796	\$ 36,000	\$ 9,587	\$ 6,314,654	\$ 3,696	\$ 6,408,036
117	17.1/c	Reinforced Earth wall including parapets	160	m2	\$ 21,469	\$ 17,162	\$ 16,760	\$ 130,199	\$ 1,160	\$ 185,590
118		EE formula - =sum(115:117) Bridge & structures			\$ 148,856	\$ 55,562	\$ 239,982	\$ 6,735,794		\$ 7,180,194
119										
120	18	MISCELLANEOUS								
121	18.1	Lighting - Cutler Drive to Wadalba (2,950mtrs)	148	no				\$ 2,314,400	\$ 15,638	\$ 2,314,400
122	18.2	Traffic Lights - Amy st & Lucca St & Watanobi roundabout	3	no				\$ 926,000	\$ 308,667	\$ 926,000
123	18.3	Signs	137	no				\$ 122,400	\$ 893	\$ 122,400
124	18.4	Imported Topsoil and Turf - Excluding batters	8,850	m2	\$ 8,416	\$ 63,056	\$ 15,045		\$ 10	\$ 86,518

Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Central Corridor - Johnson Rd to Wadalba (John's St)								
3		Estimate - July12 - T Rajeswaran								
125	18.5	Concrete Medians (2950m*1.2m)	3,640	m2	\$ 46,670	\$ 154,398	\$ 14,160	\$ 108,616	\$ 89	\$ 323,843
126	18.6	Kerb Type SF (1000m +1950m) x 2 sides	6,100	m	\$ 1,685	\$ 60,052	\$ 3,004	\$ 114,200	\$ 29	\$ 178,942
127	18.7	Shared path - 2.4m (1000m+1950m) x 2sides + 400m2 for side road & roundabout.	14,560	m2	\$ 223,078	\$ 563,788	\$ 56,638	\$ 434,463	\$ 88	\$ 1,277,968
128	18.8	Urban Design big no	1	item						
129	18.9	Guardrail / Wire rope	50	m						
130	18.1	Landscape - Provisional allowance	36,000	m2				\$ 720,000	\$ 20	\$ 720,000
131		EE formula - =sum(120:130) Miscellaneous			\$ 279,850	\$ 841,294	\$ 88,847	\$ 4,740,079		\$ 5,950,070
132										
133		Summary Of Totals								
134		EE formula - =sum(4:72) Johnsons Rd To Cutler Drive			\$ 3,022,411	\$ 7,523,153	\$ 6,447,837	\$ 28,044,397		\$ 45,037,799
135										
136		EE formula - =sum(77:130) Cutler Dr to Wadalba			\$ 1,721,721	\$ 3,942,131	\$ 5,122,982	\$ 23,357,416		\$ 34,144,250
137										
138		EE formula - =sum(4:130) Total for central option			\$ 4,744,132	\$ 11,465,285	\$ 11,570,819	\$ 51,401,813		\$ 79,182,048
139										
		Total for all items			\$ 4,744,132	\$ 11,465,285	\$ 11,570,819	\$ 51,401,813		\$ 79,182,048

Central Corridor

External TasksInactive MilestoneManual Summary

Page 1

Appendix 4

Tunnel

- Scope
- Estimate
- Program
- RMS Drawings

Tunnel

Scope

The tunnel would be deep beneath the town centre, generally under the existing highway alignment, approximately 750m long, accommodate two lanes northbound, two lanes southbound and include a ventilation structure.

- The southern limit is assumed to be just north of the intersection of Johnson Road and the Pacific Highway. The intersection is to remain in the current configuration and operate for the Pacific Highway as two-lane two-way with all current turning movements retained i.e. no intersection improvements.
- A one-way service road between Johnson Road and the Wyong River together with an upgrade to South Tacoma Road up to a position just under the existing Rail Bridge. A new intersection with South Tacoma Road and McPherson Road.
- New Bridge over the Wyong River for northbound traffic.
- Refurbish the existing road bridge over the Wyong River consistent with the expected life of the upgraded highway, 20 years.
- Upgrade River Road intersection with local street adjustments.
- New dual carriageway Pacific Highway from Johnson Road to approximately 100m north of River Road intersection.
- A tunnel starting approximately 275m south of Church and extending to approximately 100 m north of Anzac Avenue, total length 750m.
- Tunnel ventilation.
- A new intersection at North Road.
- Limited shared pedestrian cycle-way path.
- Urban standard throughout entire length of works, i.e. to include street lighting, kerb and gutter drainage, shared pedestrian cycle-way path, property access, landscaping and parking.
- Minor adjustment to Station Master property.
- The northern limit is 100m south of Cutler Drive.

Client: Roads & Maritime Services
Project: Through Town & Bypass Options - Pacific Highway Wyong
Option: Tunnel
Detail: Project Summary



No	Item	Estimate (Exc Contingency)	Contingency		Estimate (Inc Contingency)	% of Total Estimate
			%	Amount		
1	Project Development					
1.1	Route / Concept / EIS	\$2,540,000	40%	\$1,016,000	\$3,556,000	
1.2	Project Management Services	\$364,000	30%	\$109,200	\$473,200	
1.3	Client Representation	\$33,280	10%	\$3,328	\$36,608	
	Sub total	\$2,937,280	38%	\$1,128,528	\$4,065,808	1.1%
2	Investigation and Design					
2.1	Investigation and Design	\$8,450,000	50%	\$4,225,000	\$12,675,000	
2.2	Project Management Services	\$692,000	30%	\$207,600	\$899,600	
2.3	Client Representation	\$33,280	10%	\$3,328	\$36,608	
	Sub total	\$9,175,280	48%	\$4,435,928	\$13,611,208	3.8%
3	Property Acquisitions					
3.1	Property Acquisitions	\$7,730,000	55%	\$4,251,500	\$11,981,500	
3.2	Professional Services for Property	\$115,950	55%	\$63,773	\$179,723	
3.3	Project Management Services	\$153,400	30%	\$46,020	\$199,420	
3.4	Client Representation	\$36,920	10%	\$3,692	\$40,612	
	Sub total	\$8,036,270	54%	\$4,364,985	\$12,401,255	3.4%
4	Public Utility Adjustments					
4.1	Public Utility Adjustments	\$13,000,000	100%	\$13,000,000	\$26,000,000	
4.2	Project Management Services	\$442,000	30%	\$132,600	\$574,600	
4.3	Client Representation	\$33,280	10%	\$3,328	\$36,608	
	Sub total	\$13,475,280	97%	\$13,135,928	\$26,611,208	7.4%
5	Construction of Works					
5.1	Infrastructure	\$182,040,000	60%	\$109,224,000	\$291,264,000	
5.2	Project Management Services	\$8,554,400	30%	\$2,566,320	\$11,120,720	
5.3	Client Representation	\$255,300	10%	\$25,530	\$280,830	
	Sub total	\$190,849,700	59%	\$111,815,850	\$302,665,550	84.1%
6	Handover					
6.1	Handover	\$360,000	50%	\$180,000	\$540,000	
6.2	Project Management Services	\$92,300	30%	\$27,690	\$119,990	
6.3	Client Representation	\$9,230	10%	\$923	\$10,153	
	Sub total	\$461,530	45%	\$208,613	\$670,143	0.2%
	TOTAL	\$224,935,340	60%	\$135,089,832	\$360,025,172	100%

No	Item	Estimate (Exc Contingency)	Estimate (Contingency)	Estimate Total
	Total Project Management Allowances			
i	Project Management	\$10,298,100	\$3,089,430	\$13,387,530
ii	Client Presentation	\$401,290	\$40,129	\$441,419
	Reality Checks	Cost / km (\$m)	Length of Road (km)	
iii	Project Cost per kilometer	\$174.77	2.06	
iv	Project Cost per lane kilometer	\$43.69	8.24	

Client: Roads & Maritime Services
Project: Through Town & Bypass Options - Pacific Highway Wyong
Option: Tunnel
Detail: Project Development



ITEM	DESCRIPTION	UNIT	RATE	TOTAL	COMMENTS
1.1	Route / Concept / EIS				Estimated Duration - 12months
1.1.1	Concept Design				
	Integrated Design Consultant - Concept Road , Bridge, Drainage, Pavement, Lighting, Landscape etc	item	\$ 700,000	\$ 700,000	
1.1.2	Preliminary Geotech				
	Investigation and reporting, test pits, boreholes, ground model, soil testing etc	item	\$ 300,000	\$ 300,000	
	Ground support model	item	\$ 20,000	\$ 20,000	
1.1.3	Traffic Modelling				
	Traffic model for concept design solutions	item	\$ 75,000	\$ 75,000	
1.1.4	Community Liaison				
	Included within project management services	item	\$ -	\$ -	
1.1.5	Environmental Investigations EIS				
	EIS REF	item	\$ 1,000,000	\$ 1,000,000	
	Water quality testing	item	\$ 10,000	\$ 10,000	
1.1.6	Survey				
	Ground survey model	item	\$ 200,000	\$ 200,000	
1.1.7	Specialist Sub Consultants				
	Urban Design	item	\$ 60,000	\$ 60,000	
	Noise	item	\$ 100,000	\$ 100,000	
	Hydrology	item	\$ 25,000	\$ 25,000	
	Archaeology	item	\$ 50,000	\$ 50,000	
	Total Item 1.1			\$ 2,540,000	

Notes / Assumptions

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
1.2	Project Management Services					Estimated Duration - 12 months
	Project manager	100%	52	\$ 5,100	\$ 265,200	
	Clerical assistant	20%	52	\$ 2,000	\$ 20,800	
	Assisting Engineer	50%	52	\$ 3,000	\$ 78,000	
	Total Item 1.2				\$ 364,000	

Notes / Assumptions

All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
1.3	Client Representation					Estimated Duration - 12 months
	Project manager	10%	52	\$ 5,100	\$ 26,520	
	Clerical assistant	5%	52	\$ 2,000	\$ 5,200	
	Assisting Engineer	1%	52	\$ 3,000	\$ 1,560	
	Total Item 1.3				\$ 33,280	

Notes / Assumptions

All Rates are weekly

TOTAL ITEM	\$ 2,937,280
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Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Tunnel
 Detail: Investigation and Design



ITEM	DESCRIPTION	UNIT	RATE	TOTAL	COMMENTS
2.1	<u>Investigation and Design</u>				Estimated Duration - 12 months
2.1.1	Investigation & Design				
	Integrated Design Consultant - Road, Bridge, Staging, Drainage, Pavement, Lighting, Landscape, Line Marking, Signage, Traffic Signals, Property Adjustments, Services / Utilities, Roadside Furniture, ITS etc	item	\$ 7,500,000	\$ 7,500,000	
2.1.2	Detailed Geotechnical Design				
	Investigation and reporting, test pits, boreholes, ground model, soil testing etc	item	\$ 300,000	\$ 300,000	
2.1.3	Survey				
	Ground survey model	item	\$ 250,000	\$ 250,000	
2.1.4	Independent Design Verification				
	Independent Design Review	item	\$ -	\$ -	
2.1.5	Specialists Consultants				
	Urban Design	item	\$ 100,000	\$ 100,000	
	Noise	item	\$ 100,000	\$ 100,000	
	Hydrology	item	\$ 100,000	\$ 100,000	
	Miscellaneous Consultants; Allowance	item	\$ 100,000	\$ 100,000	Commerical advice, community consultation, community advice etc
	Total Item 2.1			\$ 8,450,000	

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
2.2	<u>Project Management Services</u>					Estimated Duration - 12 months
	Project manager	100%	52	\$ 5,100	\$ 265,200	
	Clerical assistant	20%	52	\$ 2,000	\$ 20,800	
	Assisting Engineer	100%	52	\$ 3,000	\$ 156,000	
	Tender Documentation	item	1	\$ 250,000	\$ 250,000.00	
	Total Item 2.2				\$ 692,000	

Notes / Assumptions
 All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
2.3	<u>Client Representation</u>					Estimated Duration - 12 months
	Project manager	10%	52	\$ 5,100	\$ 26,520	
	Clerical assistant	5%	52	\$ 2,000	\$ 5,200	
	Assisting Engineer	1%	52	\$ 3,000	\$ 1,560	
	Total Item 2.3				\$ 33,280	

Notes / Assumptions
 All rates are weekly

TOTAL ITEM	\$ 9,175,280					
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Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Tunnel
 Detail: Property Acquisitions



ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL	COMMENTS
3.1	Acquire Property					Estimated Duration - 2 years
	Commerical Property	sq.m	1,850	\$ 2,800	\$ 5,180,000	Refer to property acquisition quantification
	Railcorp Land	sq.m	6,800	\$ 375	\$ 2,550,000	
	Council Land	sq.m	20,100	\$ -	\$ -	
	Total Item 3.1				\$ 7,730,000	

Notes / Assumptions

ITEM	DESCRIPTION	TOTAL VALUE OF PROPERTY	% FEE	Total	COMMENTS
3.2	Professional Services for Property				Estimated Duration - 2 years
	Property Consultant & Valuation Expert	\$ 7,730,000	1.00%	\$ 77,300	
	Legal Advice	\$ 7,730,000	0.50%	\$ 38,650	
	Total Item 3.2			\$ 115,950	

Notes / Assumptions

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
3.3	Project Management Services					Estimated Duration - 2 years
	Project manager	25%	104	\$ 5,100	\$ 132,600	
	Clerical assistant	10%	104	\$ 2,000	\$ 20,800	
	Total Item 3.3				\$ 153,400	

Notes / Assumptions

All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
3.4	Client Representation					Estimated Duration - 2 years
	Project manager	5%	104	\$ 5,100	\$ 26,520	
	Clerical assistant	5%	104	\$ 2,000	\$ 10,400	
	Total Item 3.4				\$ 36,920	

Notes / Assumptions

All rates are weekly

TOTAL ITEM					\$ 8,036,270	
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Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Tunnel
 Detail: Public Utility Adjustments



ITEM	DESCRIPTION	UNIT	TOTAL	COMMENTS
4.1	Public Utility Adjustments			Estimated Duration - 12 months
	Water Utilities			
	Relocation of services - Water	item	\$ 1,750,000	Refer to public utility quantification spreadsheet
	Relocation of services - Sewer	item	\$ 1,250,000	Refer to public utility quantification spreadsheet
	Telecommunications			
	Relocation of services	item	\$ 3,000,000	Refer to public utility quantification spreadsheet
	Power / Electrical Utilities HV & LV			
	Relocation of services	item	\$ 5,000,000	Refer to public utility quantification spreadsheet
	Gas Utilities HP & LP			
	Relocation of services	item	\$ 2,000,000	Refer to public utility quantification spreadsheet
	Total Item 4 (a)		\$ 13,000,000	

Notes

Please see spreadsheet 'Services' for further breakdown

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
4.2	Project Management Services					Estimated Duration - 12 months
	Project manager	100%	52	\$ 5,100	\$ 265,200	
	Assisting Engineer	100%	52	\$ 3,000	\$ 156,000	
	Clerical assistant	20%	52	\$ 2,000	\$ 20,800	
	Total Item 4.2				\$ 442,000	

Notes / Assumptions

rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
4.3	Client Representation					Estimated Duration - 12 months
	Project manager	10%	52	\$ 5,100	\$ 26,520	
	Clerical assistant	5%	52	\$ 2,000	\$ 5,200	
	Assisting Engineer	1%	52	\$ 3,000	\$ 1,560	
	Total Item 4.3				\$ 33,280	

Notes / Assumptions

All rates are weekly

TOTAL ITEM	\$ 13,475,280
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Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Tunnel
 Detail: Construction of Works



ITEM	DESCRIPTION	TOTAL	COMMENTS
5.1	Infrastructure		Estimated Duration - 4.5 years
	Direct Works Costs	\$ 125,900,000	
	Overhead Costs	\$ 32,400,000	
	Contractors Margin	\$ 23,740,000	
	Total Item 5.1	\$ 182,040,000	

ITEM	DESCRIPTION	UNIT	RATE	TOTAL	COMMENTS
5.2 (a)	Project Management Services - Support Services				Estimated Duration - 4.5 years
	Design Support	item	\$ 375,000	\$ 375,000	
	Urban Design	item	\$ 100,000	\$ 100,000	
	Geotechnical Design Support Services	item	\$ 50,000	\$ 50,000	
	Quality & Safety Audit Services	item	\$ 25,000	\$ 25,000	
	Community Consultation	item	\$ 150,000	\$ 150,000	
	Traffic Management Support	item	\$ 25,000	\$ 25,000	
	Legal Services	item	\$ 200,000	\$ 200,000	
	Reports, Conditions of Approval etc	item	\$ 50,000	\$ 50,000	
	Community Liaison Representative	item	\$ 50,000	\$ 50,000	
	Survey	item	\$ 20,000	\$ 20,000	
	Commercial Advisor	item	\$ 100,000	\$ 100,000	
	Insurance - PA	Item	\$ 1,820,400	\$ 1,820,400	
	Total Item 5.2 (a)			\$ 2,965,400	

ITEM	DESCRIPTION	UTILISATION	NO	WEEKS	RATE	TOTAL	COMMENTS
5.2 (b)	Project Management Services - Staff						Estimated Duration - 4.5 years
	PM Staff: Management						
	Project Manager	100%	1	230	\$ 5,100	\$ 1,173,000	
	Project Engineers	100%	2	230	\$ 3,750	\$ 1,725,000	
	Surveillance Officers	100%	2	230	\$ 3,600	\$ 1,656,000	
	Health & Safety Advisor	50%	1	230	\$ 3,000	\$ 345,000	
	Quality Advisor	50%	1	230	\$ 3,000	\$ 345,000	
	Environmental Advisor	50%	1	230	\$ 3,000	\$ 345,000	
	Total Item 5.2 (b)					\$ 5,589,000	
	Total Item 5.2 (a) & (b)					\$ 8,554,400	

Notes / Assumptions
 All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
5.3	Client Representation					Estimated Duration - 4.5 years
	Senior Management Review	10%	230	\$ 4,000	\$ 92,000	
	Client Manager	10%	230	\$ 5,100	\$ 117,300	
	Clerical assistant	10%	230	\$ 2,000	\$ 46,000	
	Total Item 5.3				\$ 255,300	

Notes / Assumptions
 All rates are weekly

TOTAL ITEM	\$ 190,849,700					
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Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Tunnel
 Detail: Handover



ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL	COMMENTS
6.1	Handover					Estimated Duration - 6 Months
	Final Reporting	item	1	\$ 100,000	\$ 100,000	
	Legal	item	1	\$ 100,000	\$ 100,000	
	Claims Response	item	1	\$ 100,000	\$ 100,000	
	Noise Survey	item	1	\$ 20,000	\$ 20,000	
	Traffic Verification	item	1	\$ 20,000	\$ 20,000	
	Environmental Monitors	item	1	\$ 20,000	\$ 20,000	
	Total Item 6.1				\$ 360,000	

Notes / Assumptions

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
6.2	Project Management Services					Estimated Duration - 6 months
	Project manager	50%	26	\$ 5,100	\$ 66,300	
	Clerical assistant	50%	26	\$ 2,000	\$ 26,000	
	Total Item 6.2				\$ 92,300	

Notes / Assumptions

All rates are weekly

ITEM	DESCRIPTION	UTILISATION	WEEKS	RATE	TOTAL	COMMENTS
6.3	Client Representation					Estimated Duration - 6 months
	Project manager	5%	26	\$ 5,100	\$ 6,630	
	Clerical assistant	5%	26	\$ 2,000	\$ 2,600	
	Total Item 6.3				\$ 9,230	

Notes / Assumptions

All rates are weekly

TOTAL ITEM					\$ 461,530	
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Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Tunnel
 Detail: Property Acquisitions Quantification



ITEM	DESCRIPTION	NO	FLOOR AREA	PROPERTY AREA	COMMENTS
1	<u>Property Acquisition</u>				
1.1	Commerical Property	1	180	800	Station Masters Cottage
		1	670	1050	Railway Sq shops (Corner of Church St)
	Total	2	850	1850	Property Area brought forward to summary

ITEM	DESCRIPTION	LAND AREA	LAND OWNER	COMMENTS
2	<u>Land Acquisition</u>			
2.1	Wyong River Bridge to Church St	6,300	Railcorp	Along Railway lane before station masters cottage
		500	Railcorp	Section behind Station Masters Cottage
2.2	Church St to Rose St	3,250	Council	Section 1 within train station car park
		6,100	Council	Section 2 within train station car park
2.3	Rose St to Anzac St	3,700	Council	Rose St to Anzac St along railway line
2.4	Anzac St to North Road	2,600	Council	Along Railway lane
		650	Council	Anzac St intersection allowances
2.5	North Road to End	3,800	Council	Along railway track
	Total	26,900		
	Council Owned Land	20,100		
	Rail Corp Owned Land	6,800		

Client: Roads & Maritime Services
 Project: Through Town & Bypass Options - Pacific Highway Wyong
 Option: Tunnel
 Detail: Public Utility Adjustments Quantification



ITEM	DESCRIPTION	UNIT	TOTAL	CONTINGENCY %	CONTINGENCY TOTAL	TOTAL VALUE
1	Power					
	Miscellaneous Power Adjustments - lv	item	\$5,000,000	100%	\$5,000,000	\$10,000,000
	Power Adjustments - hv	item	\$0	100%	\$0	\$0
	Notes:					
	Local power supply includes 415kv & 33kv adjustments including temporary power supply including transformers, pits, temporary power, temporary generators etc					
	New infrastructure work allowed for within direct works estimate					
2	Sewer					
	Assumed 2no rising main at 150mm each to be adjusted	item	\$1,250,000	100%	\$1,250,000	\$2,500,000
	Gravity pit adjustments have been allowed within the direct works					
3	Water					
	Protection & Relocation of Water Utilities	item	\$1,750,000	100%	\$1,750,000	\$3,500,000
4	Telecommunications					
	Local Adjustments	item	\$3,000,000	100%	\$3,000,000	\$6,000,000
5	Gas					
	Protection & Relocation of Gas Utilities	item	\$2,000,000	100%	\$2,000,000	\$4,000,000
	Total Public Utility Adjustment		\$13,000,000	100%	\$13,000,000	\$26,000,000

Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Tunnel option - From Nth of Johnson Road to 100m South Of Cutler Drive.								
3		Estimate - July12 - T Rajeswaran								
4	ITEM	DESCRIPTION								
5										
6	1	GENERAL								
7	1.1	Property Adjustments	10	each				\$ 100,000	\$ 10,000	\$ 100,000
8	1.2	Provision for temp bus interchange and pedestrian access	1	each	\$ 8,547	\$ 354,560	\$ 4,440		\$ 367,547	\$ 367,547
9	1.3	Dilapidation survey & report.	30	each				\$ 21,060	\$ 702	\$ 21,060
10										
11		EE formula - =sum(7:10) General			\$ 8,547	\$ 354,560	\$ 4,440	\$ 121,060		\$ 488,607
12										
13	2	TRAFFIC CONTROL								
14	2.1	Traffic Control	1	Item	\$ 204,234	\$ 130,458	\$ 866,407	\$ 2,785,222	\$ 3,986,321	\$ 3,986,321
15		EE formula - =sum(13:14) Traffic Control			\$ 204,234	\$ 130,458	\$ 866,407	\$ 2,785,222		\$ 3,986,321
16										
17	3	ENVIRONMENTAL								
18	3.1	Sedimentataion control	1	Item	\$ 54,036	\$ 16,278	\$ 31,251		\$ 101,565	\$ 101,565
19	3.2	Monitoring	1	item				\$ 127,285	\$ 127,285	\$ 127,285
20		EE formula - =sum(18:19) Environmental			\$ 54,036	\$ 16,278	\$ 31,251	\$ 127,285		\$ 228,850
21										
22		DEmolition								
23	4.1	Demolition - Johnson RD to Cutler Dr	1	Item	\$ 66,000	\$ 600	\$ 215,603	\$ 127,500	\$ 409,703	\$ 409,703
24	4.2	Station Masters building & Warner shops	1	item	\$ 33,000	\$ 1,800	\$ 81,851	\$ 22,800	\$ 139,451	\$ 139,451
25	4.2	Rail Corp maintenace yard	1	item	\$ 47,000	\$ 2,400	\$ 109,135	\$ 31,000	\$ 189,535	\$ 189,535
26		EE formula - =sum(23:25) Demolition			\$ 146,000	\$ 4,800	\$ 406,589	\$ 181,300		\$ 738,689
27										
28	5	Earthworks								
29		Earthworks - Johnson road to Cutler Dr.	1,940	Item	\$ 504,360	\$ 1,125,151	\$ 2,654,963	\$ 952,730	\$ 2,700	\$ 5,237,204
30	5.1	From Johnson Rd To Cutler Drive - Clear & grub, strip top soil, excavation, cut/fill, select, drainage blanket, unsuitable etc. Lgth is ch to chainage and excludes brdge deck.	1,940	item	\$ 504,360	\$ 1,125,151	\$ 2,654,963	\$ 952,730	\$ 2,700	\$ 5,237,204
31										
32		EE formula - =sum(30) Earthworks			\$ 504,360	\$ 1,125,151	\$ 2,654,963	\$ 952,730		\$ 5,237,204
33										
34	6	DRAINAGE								
35	6.1	SWD including pipes, pits, open drain, GPT etc.	5,200	m	\$ 344,894	\$ 986,749	\$ 445,422	\$ 873,125	\$ 510	\$ 2,650,189
36	6.2	Kerb & Gutter - SA, SF & SO types	9,740	m	\$ 28,260	\$ 254,066	\$ 65,547	\$ 199,000	\$ 56	\$ 546,872
37		EE formula - =sum(34:36) Drainage			\$ 373,154	\$ 1,240,815	\$ 510,968	\$ 1,072,125		\$ 3,197,062
38										
39	7	PAVEMENTS								
40	7.1	Local Roads	1	m2						
41	7.2	Pavement - Johnson Rd to Cutler Dr	42,470	m2	\$ 239,983	\$ 1,109,715	\$ 586,883	\$ 3,083,113	\$ 118	\$ 5,019,693
42		EE formula - =sum(40:41) Pavements			\$ 239,983	\$ 1,109,715	\$ 586,883	\$ 3,083,113		\$ 5,019,693
43										
44	8	BRIDGES & STRUCTURES								
45		Structures								
46	8.1	Retaining Walls - Block infill & Concrete Retaining wall.	1	m2						

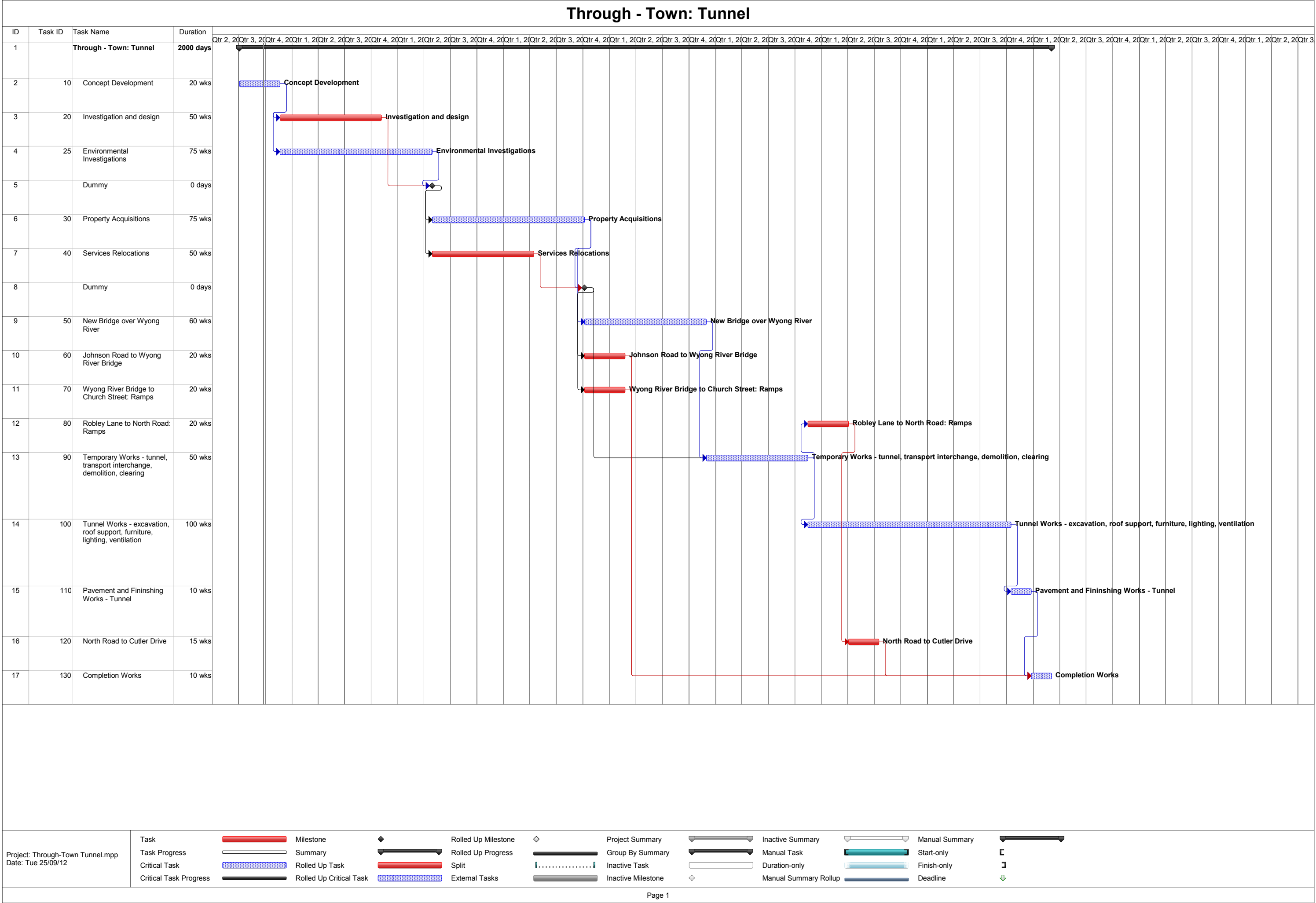
Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Tunnel option - From Nth of Johnson Road to 100m South Of Cutler Drive.								
3		Estimate - July12 - T Rajeswaran								
47										
48		Bridge Structures								
49		Bridge No 1 - Wyong River	1,440	item	\$ 72,469	\$ 186,803	\$ 80,678	\$ 7,267,489	\$ 5,283	\$ 7,607,439
50	8.1/a	Prepare bridge corridor including Earth embankment on approaches.	1		\$ 20,834	\$ 41,636	\$ 53,183	\$ 8,050	\$ 123,703	\$ 123,703
51	8.1/b	Bridge across rail crossing including pedestrian walkway.	1,440	m2	\$ 1,188	\$ 108,000	\$ 8,022	\$ 6,950,484	\$ 4,908	\$ 7,067,694
52	8.1/c	Reinforced Earth wall including parapets	320	m2	\$ 50,447	\$ 37,167	\$ 19,473	\$ 308,955	\$ 1,300	\$ 416,042
53										
54	8.2	Bridge 2 - Extend Rose street bridge over new underpass	360	m2	\$ 17,848	\$ 20,140	\$ 140,991	\$ 2,795,745	\$ 8,263	\$ 2,974,723
55	8.2/a	bridge	360	m2		\$ 11,000		\$ 2,508,668	\$ 6,999	\$ 2,519,668
56	8.2/b	Earthworks under bridge	4,800	m3	\$ 17,600	\$ 1,640	\$ 140,856	\$ 242,560	\$ 84	\$ 402,656
57	8.2/c	F Type barrier & crash coudhion etc	30	m	\$ 248	\$ 7,500	\$ 135	\$ 44,518	\$ 1,747	\$ 52,400
58										
59	8.3	Bridge No 3 - Over Bridge @ Northern Portal @ ch 940	630	m2	\$ 14,245	\$ 15,000	\$ 34,669	\$ 1,700,415	\$ 2,801	\$ 1,764,329
60	8.3/a	Prepare bridge corridor including Earth embankment on approaches.	1		\$ 13,750		\$ 34,400		\$ 48,150	\$ 48,150
61	8.3/b	Bridge across rail crossing including pedestrian walkway.	630	m2	\$ 495	\$ 15,000	\$ 269	\$ 1,700,415	\$ 2,724	\$ 1,716,179
62	8.3/c	Reinforced Earth wall including parapets	1	m2						
63										
64	8.4	Bridge No 4 - Over Bridge @ Southern Portal @ ch 500	630	m2	\$ 14,245	\$ 15,000	\$ 34,669	\$ 1,700,415	\$ 2,801	\$ 1,764,329
65	8.4/a	Prepare bridge corridor including Earth embankment on approaches.	1		\$ 13,750		\$ 34,400		\$ 48,150	\$ 48,150
66	8.4/b	Bridge across rail crossing including pedestrian walkway.	630	m2	\$ 495	\$ 15,000	\$ 269	\$ 1,700,415	\$ 2,724	\$ 1,716,179
67	8.4/c	Reinforced Earth wall including parapets	1	m2						
68										
69	8.5	Refurbish existing brdge over Wyong River.	1,080	m2				\$ 1,944,000	\$ 1,800	\$ 1,944,000
70		EE formula - =sum(46:69) Bridge & structures			\$ 118,807	\$ 236,943	\$ 291,007	\$ 15,408,064		\$ 16,054,821
71										
72	9	MISCELLANEOUS								
73	9.1a	Lighting - Johnson Rd To Cutler Dr	83	no				\$ 1,305,220	\$ 15,726	\$ 1,305,220
74	9.2	Traffic Lights - Church st, Roase st, Anzac Ave & Nth Rd	4	no				\$ 1,152,000	\$ 288,000	\$ 1,152,000
75	9.3	Signs including VMS in tunnel - plug	125	no				\$ 842,070	\$ 6,737	\$ 842,070
76	9.4	Topsoil and Turf	7,640	m2	\$ 5,771	\$ 40,755	\$ 14,294	\$ 70,560	\$ 17	\$ 131,380
77	9.5	Concrete Medians	3,000	m2	\$ 72,964	\$ 127,254	\$ 11,670	\$ 125,519	\$ 112	\$ 337,406
78	9.6	Concrete path	11,910	m2	\$ 182,477	\$ 461,242	\$ 46,330	\$ 355,388	\$ 88	\$ 1,045,437
79	9.8	Hand rails & Ped fencing	330	m				\$ 89,000	\$ 270	\$ 89,000
80	9.9	Noise Attenuation	1	m2						
81	9.1	Urban Design big no	1	item						
82	9.11	Guardrail / Wire rope	1,130	m				\$ 111,900	\$ 99	\$ 111,900
83		F Type barrier	600	m	\$ 4,950	\$ 150,000	\$ 2,695	\$ 10,350	\$ 280	\$ 167,995
84	9.12	Landscape - Palm tress will not require Temp relocating. Allowance for general landscape	1	Item		\$ 12,100		\$ 2,000,000	\$ 2,012,100	\$ 2,012,100
85		EE formula - =sum(73:84) Miscellaneous			\$ 266,162	\$ 791,351	\$ 74,988	\$ 6,062,007		\$ 7,194,508
86										
87		EE formula - =sum(4:84)			\$ 1,915,283	\$ 5,010,069	\$ 5,427,496	\$ 29,792,906		\$ 42,145,754

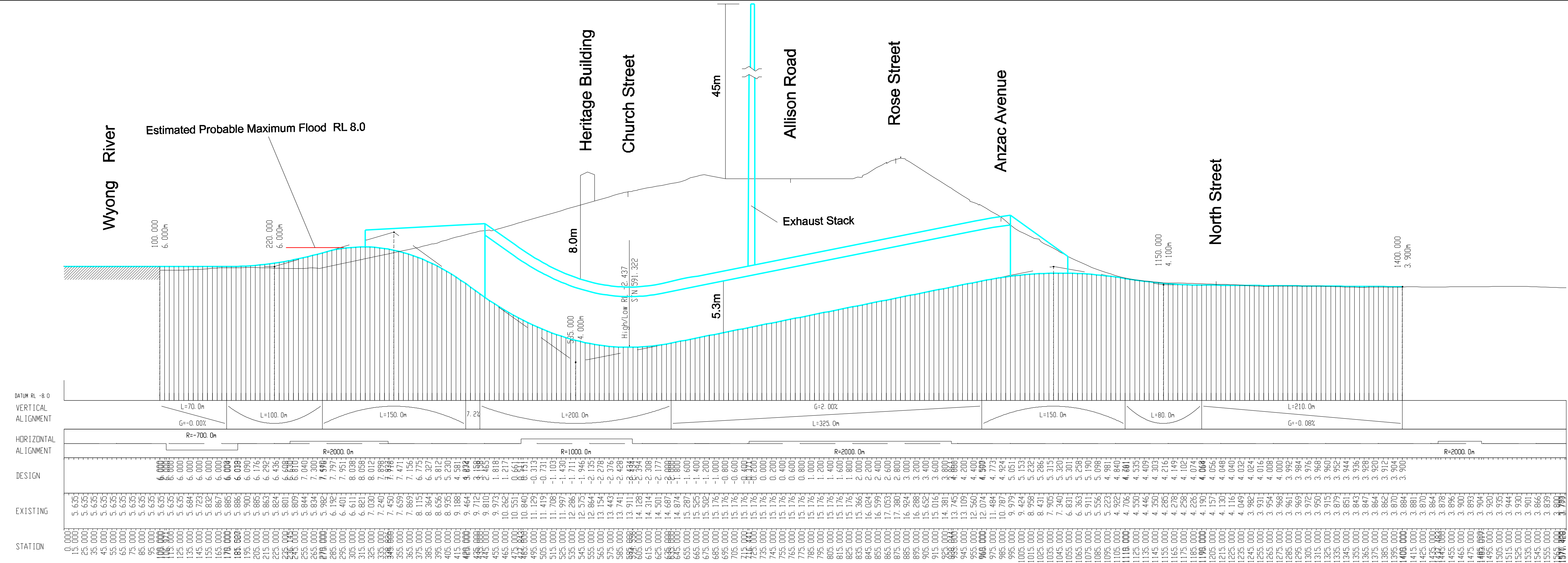
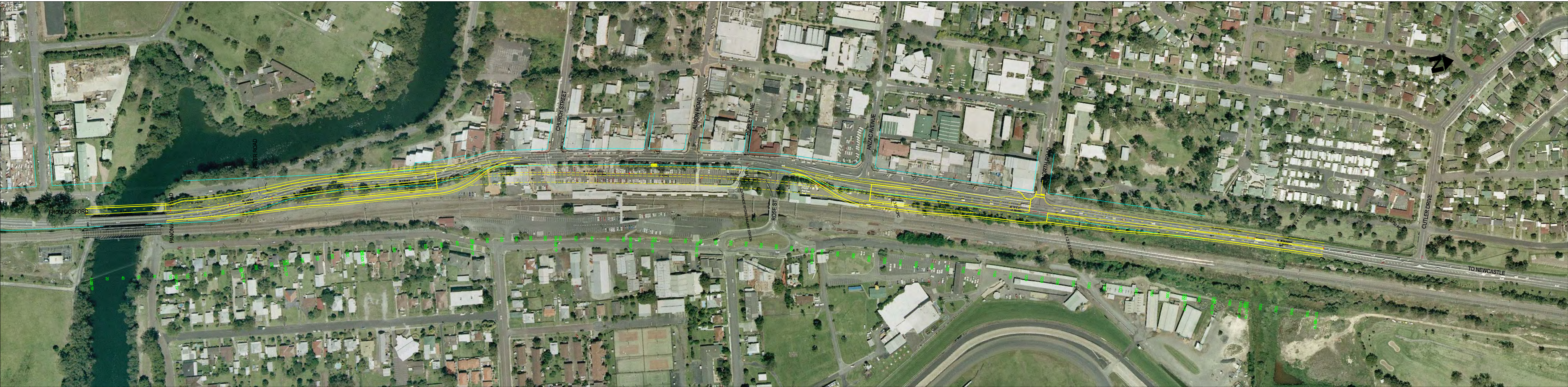
Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Tunnel option - From Nth of Johnson Road to 100m South Of Cutler Drive.								
3		Estimate - July12 - T Rajeswaran								
88										
89	10	Tunnel Model - S Geraghty								
90										
91	10.1	Tunnel Dive - South								
92										
93		Critical Information								
94		Total section length	1	m						
95		Dive width (internal)	1	m						
96		Dive depth (average)	1	m						
97		Interlocking secant piling depth (average)	1	m						
98		Interlocking secant piling C/C	1	m						
99		Piling diameter	1	m						
100										
101		Service Diversions	1	Item						
102		Adjustment to Existing Structures	1	Item						
103		Site Setup	1	Item						
104										
105		Piling	3,967	m				\$ 4,185,185	\$ 1,055	\$ 4,185,185
106		Excavation	8,118	m3				\$ 487,080	\$ 60	\$ 487,080
107		Retaining Works	340	m3				\$ 153,000	\$ 450	\$ 153,000
108		Invert Slab	812	m3				\$ 568,400	\$ 700	\$ 568,400
109		Pavement	3,247	m3				\$ 487,050	\$ 150	\$ 487,050
110		Cladding	476	m2				\$ 166,600	\$ 350	\$ 166,600
111		Drain (750mm dia drain)	170	m				\$ 102,000	\$ 600	\$ 102,000
112		Cable trench	170	m				\$ 119,000	\$ 700	\$ 119,000
113		EE formula - =sum(105:112) Tunnel Dive - South						\$ 6,268,315		\$ 6,268,315
114										
115	10.2	Tunnel Dive - North								
116										
117		Critical Information								
118		Total section length	1	m						
119		Dive width (internal)	1	m						
120		Dive depth (average)	1	m						
121		Interlocking secant piling depth (average)	1	m						
122		Interlocking secant piling C/C	1	m						
123		Number of rows interlocking secant piles	1	no						
124		Cladding height	1	m						
125		Piling diameter	1	m						
126										
127		Service Diversions	1	Item						
128		Adjustment to Existing Structures	1	Item						
129		Site Setup	1	Item						
130										
131		Piling	2,000	m				\$ 2,248,000	\$ 1,124	\$ 2,248,000
132		Excavation	3,820	m3				\$ 229,200	\$ 60	\$ 229,200

Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Tunnel option - From Nth of Johnson Road to 100m South Of Cutler Drive.								
3		Estimate - July12 - T Rajeswaran								
133		Retaining Works	160	m3				\$ 72,000	\$ 450	\$ 72,000
134		Invert Slab	478	m3				\$ 334,600	\$ 700	\$ 334,600
135		Pavement	1,910	m3				\$ 286,500	\$ 150	\$ 286,500
136		Cladding	180	m2				\$ 63,000	\$ 350	\$ 63,000
137		Drain (750mm dia drain)	100	m				\$ 60,000	\$ 600	\$ 60,000
138		Cable Trenches	100	m				\$ 70,000	\$ 700	\$ 70,000
139		EE formula - =sum(131:138) Tunnel Dive Nth						\$ 3,363,300		\$ 3,363,300
140										
141	10.3	Cut & Cover - South Section								
142										
143		Critical Information								
144		Total section length	60	m						
145		Dive width (internal)	22	m						
146		Dive depth (average)	13	m						
147		Piling depth (average)	14	m						
148		Interlocking secant piling C/C	1	m						
149		Number of rows interlocking secant piles	2	no						
150		Cladding height	12	m						
151		Piling diameter	1	m						
152										
153										
154		Service Diversions	1	Item						
155		Adjustment to Existing Structures	1	Item						
156		Site Setup	1	Item						
157										
158		Piling	1,867	m				\$ 3,285,920	\$ 1,760	\$ 3,285,920
159		Excavation	8,385	m3				\$ 695,955	\$ 83	\$ 695,955
160		Retaining Works	312	m3				\$ 374,712	\$ 1,201	\$ 374,712
161		Invert Slab	323	m3				\$ 226,100	\$ 700	\$ 226,100
162		Pavement	1,290	m2				\$ 193,500	\$ 150	\$ 193,500
163		Cladding	648	m2				\$ 226,800	\$ 350	\$ 226,800
164		Roof Slab	968	m3				\$ 1,556,544	\$ 1,608	\$ 1,556,544
165		Noise Insulation	1	m2						
166		Drain (750mm dia drain)	60	m				\$ 36,000	\$ 600	\$ 36,000
167		Cable trench	60	m				\$ 12,000	\$ 200	\$ 12,000
168		FI Barrier & Permanent Lighting	120	m				\$ 60,000	\$ 500	\$ 60,000
169		EE formula - =sum(158:168)						\$ 6,667,531		\$ 6,667,531
170										
171	10.4	Cut & Cover - North Section								
172										
173		Critical Information								
174		Total section length	165	m						
175		Dive width (internal)	22	m						
176		Dive depth (average)	13	m						
177		Piling depth (average)	14	m						

Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Tunnel option - From Nth of Johnson Road to 100m South Of Cutler Drive.								
3		Estimate - July12 - T Rajeswaran								
178		Interlocking secant piling C/C	1	m						
179		Number of rows interlocking secant piles	2	no						
180		Cladding height	12	m						
181		Piling diameter	1	m						
182										
183		Service Diversions	1	Item						
184		Adjustment to Existing Structures	1	Item						
185		Site Setup	1	Item						
186										
187		Piling	5,133	m				\$ 8,592,642	\$ 1,674	\$ 8,592,642
188		Excavation	23,059	m3				\$ 1,913,897	\$ 83	\$ 1,913,897
189		Retaining Works	858	m3				\$ 620,334	\$ 723	\$ 620,334
190		Invert Slab	887	m3				\$ 620,900	\$ 700	\$ 620,900
191		Pavement	3,548	m2				\$ 532,200	\$ 150	\$ 532,200
192		Cladding	1,782	m2				\$ 623,700	\$ 350	\$ 623,700
193		Roof Slab	2,661	m3				\$ 4,278,888	\$ 1,608	\$ 4,278,888
194		Noise Insulation	1	m2						
195		Drain (750mm dia drain)	165	m				\$ 99,000	\$ 600	\$ 99,000
196		Cable trench	165	m				\$ 33,000	\$ 200	\$ 33,000
197		FI Barrier & Permanent Lighting	330	m				\$ 165,000	\$ 500	\$ 165,000
198		EE formula - =sum(187:197) Cut /Cover Nth Section						\$ 17,479,561		\$ 17,479,561
199										
200	10.5	Tunnel								
201										
202		Key Information								
203		Running tunnel length	690	m						
204		Proportion of "poor" ground condition	0	%						
205		Cross sectional area of excavation (average)	65	m2						
206		Volume (insitu - excl cross passages) - Total	44,574	m3						
207		Volume (cross passages)	375	m3						
208										
209		Mainline Tunnel								
210		Mobilisation, Plant Support & Temp Services	1	Sum				\$ 1,557,820	\$ 1,557,820	\$ 1,557,820
211		Establishment of Portal & Tunnelling Support Facilities	1	Sum				\$ 100,000	\$ 100,000	\$ 100,000
212		Tunnelling Equipment Assemble, Test & Commission	1	Sum				\$ 100,000	\$ 100,000	\$ 100,000
213		Excavation and Permanent Support of Tunnel:								
214		Type 1 - Excavation (inclusive of Primary Lining)	40,117	m3				\$ 12,877,557	\$ 321	\$ 12,877,557
215		Type 2 - Excavation (inclusive of Primary Lining)	4,457	m3				\$ 4,292,091	\$ 963	\$ 4,292,091
216		Spoil Disposal	44,574	m3						
217		Secondary Lining	14,345	m2				\$ 10,816,130	\$ 754	\$ 10,816,130
218		Invert Slab	6,555	m2				\$ 1,645,305	\$ 251	\$ 1,645,305
219		Architectural Finishing to Tunnel	2,070	m2				\$ 621,000	\$ 300	\$ 621,000
220		Tunnel Drainage - Civil Works	690	m				\$ 621,000	\$ 900	\$ 621,000
221		Pavement	6,555	m2				\$ 983,250	\$ 150	\$ 983,250
222		Road Furniture Including Lighting	1,380	m				\$ 690,000	\$ 500	\$ 690,000

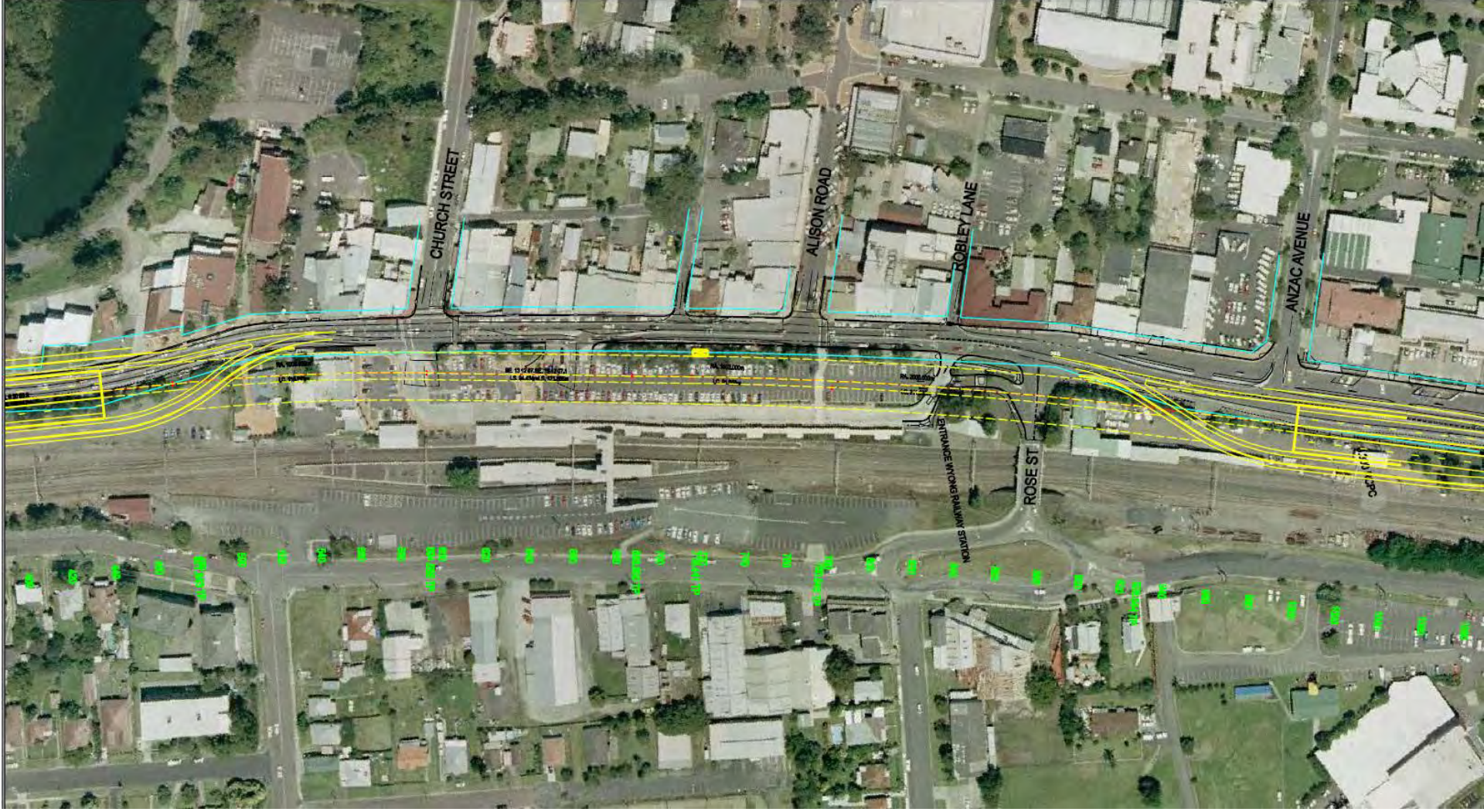
Line	Item	Description	Quantity	Unit	Labour	Material	Plant	Subcontract	Rate	Total
1										
2		WYONG BYPASS - Tunnel option - From Nth of Johnson Road to 100m South Of Cutler Drive.								
3		Estimate - July12 - T Rajeswaran								
223		Demobilise	1	Sum				\$ 361,173	\$ 361,173	\$ 361,173
224		Adjustment Item	1	Sum				-\$ 14,542	-\$ 14,542	-\$ 14,542
225		EE formula - =sum(210:224) Main Tunnel						\$ 34,650,784		\$ 34,650,784
226										
227	10.6	Cross Passages								
228		Mobilisation, Plant Support & Temp Services	1	Sum						
229		Establishment of Portal & Tunnelling Support Facilities	1	Sum						
230		Tunnelling Equipment Assemble, Test & Commission	1	Sum						
231		Excavation and Permanent Support of Tunnel:								
232		Type 1 - Excavation (inclusive of Primary Lining)	375	m3				\$ 155,250	\$ 414	\$ 155,250
233		Type 2 - Excavation (inclusive of Primary Lining)	1	m3						
234		Spoil Disposal	375	m3						
235		Secondary Lining	300	m2				\$ 161,400	\$ 538	\$ 161,400
236		Invert Slab	75	m2				\$ 13,125	\$ 175	\$ 13,125
237		Architectural Finishing to Tunnel	1	Sum						
238		Tunnel Drainage - Civil Works	1	m						
239		Pavement	1	m2						
240		Road Furniture	1	m						
241		Demobilise	1	Sum						
242		EE formula - =sum(232:241) Cross passages						\$ 329,775		\$ 329,775
243										
244	10.7	Removal of spoil off site								
245		Allow for excavation stockpile spoil	94,000	m3	\$ 26,936		\$ 1,324,726	\$ 37,600	\$ 15	\$ 1,389,262
246										
247	10.8	Ventilation Stack								
248		Construction of Ventilation Stack	1	sum				\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
249										
250		EE formula - =sum(25) vent stack			\$ 47,000	\$ 2,400	\$ 109,135	\$ 31,000		\$ 189,535
251										
252	10.9	Mechanical & Electrical								
253		Mechanical & Electrical - 10% of Civils Value	1	Sum				\$ 8,600,000	\$ 8,600,000	\$ 8,600,000
254		EE formula - =sum(253) M & E						\$ 8,600,000		\$ 8,600,000
255										
256		EE formula - =sum(91:253) Total cost for tunnel			\$ 26,936		\$ 1,324,726	\$ 82,396,866		\$ 83,748,528
257										
258										
259		EE formula - =sum(4:253)			\$ 1,942,219	\$ 5,010,069	\$ 6,752,222	\$ 112,189,772		\$ 125,894,283
260										
261										
262										
263										
264										
		Total for all items			\$ 1,942,219	\$ 5,010,069	\$ 6,752,222	\$ 112,189,772		\$ 125,894,283

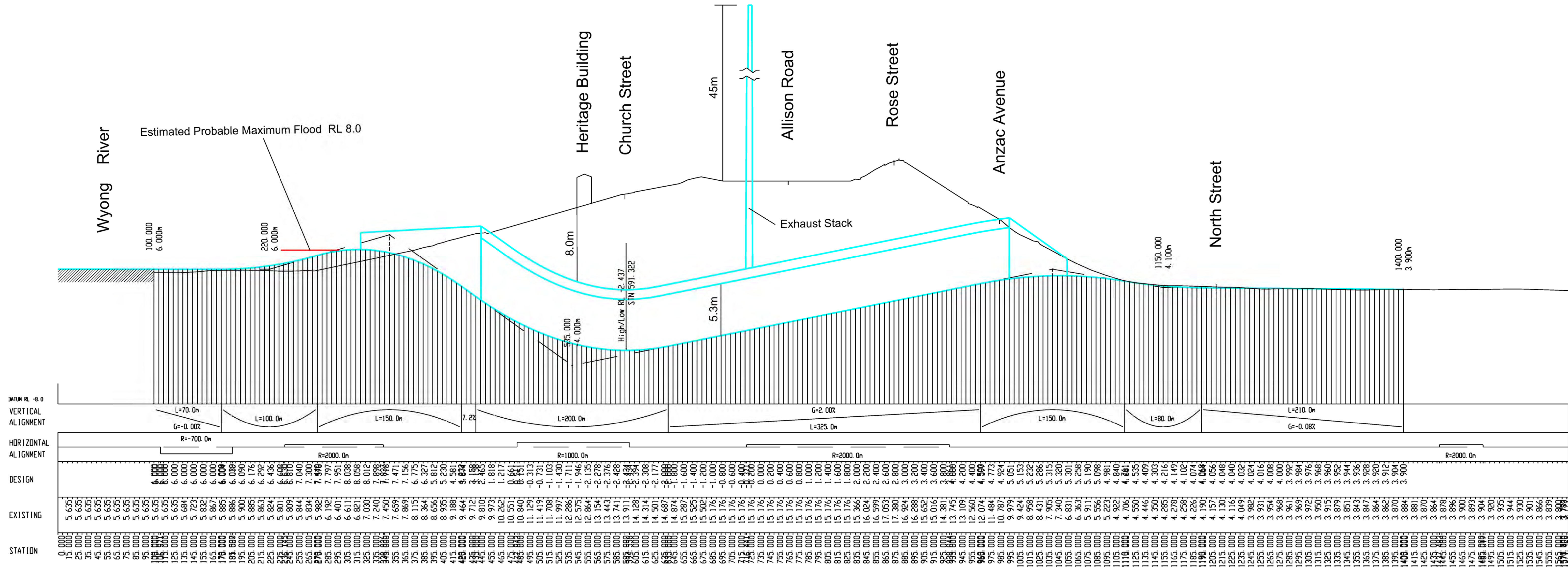




By	Original Issue	15/02/2007
Rev	Revision Description	15/02/2007

Plot Date: 15/02/2007





TUNNEL OPTION - WYONG BYPASS 29.1.2007