

APPENDIX M

Preliminary Cost Estimate

Structure 4: B109133					Welded Plate		NU 1200		Prestressed Box		Concrete Rigid Frame	
Item	Item Code	Description	Unit	Unit Price	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
Grading												
1	0308-0010	Tack Coat	m2	\$ 3.70	423	\$ 1,563	423	\$ 1,563	423	\$ 1,563	423	\$ 1,563
2	0313-1373	Superpave 12.5	t	\$ 250.00	824	\$ 205,940	824	\$ 205,940	824	\$ 205,940	824	\$ 205,940
3	0314-0071	Granular A	t	\$ 46.00	5962	\$ 274,234	5962	\$ 274,234	5962	\$ 274,234	5962	\$ 274,234
4	0405-0010	Pipe Subdrains	m	\$ 45.00	82	\$ 3,708	82	\$ 3,708	82	\$ 3,708	82	\$ 3,708
5	0710-0010	Pavement Marking	m	\$ 15.00	95	\$ 1,418	95	\$ 1,418	95	\$ 1,418	95	\$ 1,418
Bridge Replacement												
6	0510-9010	Removal of Bridge Structure	LS	\$ 256,000.00	1	\$ 256,000	1	\$ 256,000	1	\$ 256,000	1	\$ 256,000
7	0510-9015	Removal of Bridge Footings	m3	\$ 20,500.00	4	\$ 75,606	4	\$ 75,606	4	\$ 75,606	4	\$ 75,606
8	0539-0040	Protection System	LS	\$ 117,875.00	1	\$ 117,875	1	\$ 117,875	1	\$ 117,875	1	\$ 117,875
9	0902-0010	Earth Excavation for Structure	m3	\$ 40.00	4383	\$ 175,301	4383	\$ 175,301	4383	\$ 175,301	4383	\$ 175,301
10	0314-0130	Granular B Backfill to Structure	t	\$ 40.00	2612	\$ 104,463	2612	\$ 104,463	2612	\$ 104,463	2612	\$ 104,463
11	0904-0055	Concrete in Footings	m3	\$ 1,200.00	83	\$ 99,360	83	\$ 99,360	83	\$ 99,360	54	\$ 65,280
12	0904-0095	Concrete in Substructure and Retaining Walls	m3	\$ 1,600.00	178	\$ 284,256	178	\$ 284,256	178	\$ 284,256	222	\$ 354,643
13	0904-0105	Concrete in Deck	m3	\$ 2,000.00	39	\$ 77,187	39	\$ 77,187	70	\$ 139,007		
14	0904-0125	Concrete in Parapet Walls	m3	\$ 2,500.00	13	\$ 31,453	13	\$ 31,453	13	\$ 31,453	13	\$ 31,453
15	0904-0135	Concrete in Approach	m3	\$ 1,500.00	41	\$ 61,200	41	\$ 61,200	41	\$ 61,200	41	\$ 61,200
16	0904-0085	Concrete in Structure	m3	\$ 2,000.00							343	\$ 686,265
17	0905-0010	Reinforcing Steel Bar	t	\$ 4,500.00	32	\$ 145,850	32	\$ 145,850	33	\$ 147,533	36	\$ 161,309
18	0905-0025	Stainless Steel Reinforcing Bar	t	\$ 14,000.00	4	\$ 55,272	4	\$ 55,272	4	\$ 60,509	28	\$ 388,888
19	0908-0030	Parapet Wall Railing	m	\$ 500.00	58	\$ 28,800	58	\$ 28,800	58	\$ 28,800	58	\$ 28,800
20	0913-0010	Embedded Work in Structure	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
21	0914-0011	Bridge Deck Waterproofing	m2	\$ 135.00	298	\$ 40,190	298	\$ 40,190	298	\$ 40,190	298	\$ 40,190
22	0914-0031	Form and Fill Grooves	m	\$ 75.00	54	\$ 4,080	54	\$ 4,080	54	\$ 4,080	54	\$ 4,080
23	0914-0040	Membrane Reinforcement	m	\$ 20.00	27	\$ 544	27	\$ 544	27	\$ 544	27	\$ 544
24	0920-0010	Deck Joint Assemblies, Installation	m	\$ 3,585.00	27	\$ 97,512	27	\$ 97,512	27	\$ 97,512	0	\$ -
25	0922-0010	Bearings	each	\$ 3,895.00	8	\$ 31,160	8	\$ 31,160	20	\$ 77,900		
26	0928-0055	Access to Work Area, Work Platform and Scaffolding	LS	\$ 102,500.00	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500
27	0909-0230	Prestressed Concrete Girders NU 900 Fabrication	LS/m	\$ 2,560.00			76	\$ 195,584				
28	0909-0240	Prestressed Concrete Girders NU 900 Delivery	LS/m	\$ 260.00			76	\$ 19,864				
29	0909-0250	Prestressed Concrete Girders NU 900 Installation	LS/m	\$ 425.00			76	\$ 32,470				
30	0906-0011	Fabrication of Structural Steel	t	\$ 4,100.00	39	\$ 159,752						
31	0906-0020	Delivery of Structural Steel	t	\$ 360.00	39	\$ 14,027						
32	0906-0030	Erection of Structural Steel	t	\$ 1,025.00	39	\$ 39,938						
33	0911-0012	Coating New Structural Steel	m2	\$ 280.00	112	\$ 31,360						
34	0909-0330	Prestressed Concrete Box Girders Fabrication	LS/m	\$ 2,560.00					191	\$ 488,960		
35	0909-0340	Prestressed Concrete Box Girders Delivery	LS/m	\$ 685.00					191	\$ 130,835		
36	0909-0350	Prestressed Concrete Box Girders Installation	LS/m	\$ 450.00					191	\$ 85,950		
		Temporary Traffic Signals	LS		1	\$ -	1	\$ -	1	\$ -	1	\$ -
		Temporary road alignment	LS	\$ 102,500.00	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500
		Design	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
		Geotech	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
				Σ		\$ 2,623,047		\$ 2,625,888		\$ 3,199,195		\$ 3,243,757
		Subtotal				\$ 2,623,047		\$ 2,625,888		\$ 3,199,195		\$ 3,243,757
		Contingency				\$ 524,609		\$ 525,178		\$ 639,839		\$ 648,751
		Total				\$ 3,147,657		\$ 3,151,065		\$ 3,839,034		\$ 3,892,509

Structure 5: C109123					Welded Plate		NU 1200		Prestressed Box		Concrete Rigid Frame	
Item	Item Code	Description	Unit	Unit Price	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
Grading												
1	0308-0010	Tack Coat	m2	\$ 3.70	436	\$ 1,611	436	\$ 1,611	436	\$ 1,611	436	\$ 1,611
2	0313-1373	Superpave 12.5	t	\$ 250.00	827	\$ 206,627	827	\$ 206,627	827	\$ 206,627	827	\$ 206,627
3	0314-0071	Granular A	t	\$ 46.00	8064	\$ 370,944	8064	\$ 370,944	8064	\$ 370,944	8064	\$ 370,944
4	0405-0010	Pipe Subdrains	m	\$ 45.00	82	\$ 3,708	82	\$ 3,708	82	\$ 3,708	82	\$ 3,708
5	0710-0010	Pavement Marking	m	\$ 15.00	125	\$ 1,868	125	\$ 1,868	125	\$ 1,868	125	\$ 1,868
Bridge Replacement												
6	0510-9010	Removal of Bridge Structure	LS	\$ 155,000.00	1	\$ 155,000	1	\$ 155,000	1	\$ 155,000	1	\$ 155,000
7	0510-9015	Removal of Bridge Footings	m3	\$ 20,500.00	4	\$ 75,606	4	\$ 75,606	4	\$ 75,606	4	\$ 75,606
8	0539-0040	Protection System	LS	\$ 77,000.00	1	\$ 77,000	1	\$ 77,000	1	\$ 77,000	1	\$ 77,000
9	0902-0010	Earth Excavation for Structure	m3	\$ 40.00	4901	\$ 196,032	4901	\$ 196,032	4901	\$ 196,032	4901	\$ 196,032
10	0314-0130	Granular B Backfill to Structure	t	\$ 40.00	4797	\$ 191,862	4797	\$ 191,862	4797	\$ 191,862	4797	\$ 191,862
11	0904-0055	Concrete in Footings	m3	\$ 1,200.00	110	\$ 132,480	110	\$ 132,480	110	\$ 132,480	82	\$ 97,920
12	0904-0095	Concrete in Substructure and Retaining Walls	m3	\$ 1,600.00	245	\$ 392,144	245	\$ 392,144	245	\$ 392,144	366	\$ 585,720
13	0904-0105	Concrete in Deck	m3	\$ 2,000.00	33	\$ 66,632	33	\$ 66,632	72	\$ 143,962		
14	0904-0125	Concrete in Parapet Walls	m3	\$ 2,500.00	13	\$ 32,484	13	\$ 32,484	13	\$ 32,484	13	\$ 32,484
15	0904-0135	Concrete in Approach	m3	\$ 1,500.00	41	\$ 61,200	41	\$ 61,200	41	\$ 61,200	41	\$ 61,200
16	0904-0085	Concrete in Structure	m3	\$ 2,000.00							396	\$ 791,145
17	0905-0010	Reinforcing Steel Bar	t	\$ 4,500.00	42	\$ 189,368	42	\$ 189,368	42	\$ 190,854	50	\$ 226,322
18	0905-0025	Stainless Steel Reinforcing Bar	t	\$ 14,000.00	4	\$ 57,619	4	\$ 57,619	4	\$ 62,244	36	\$ 500,065
19	0908-0030	Parapet Wall Railing	m	\$ 500.00	78	\$ 38,800	78	\$ 38,800	78	\$ 38,800	78	\$ 38,800
20	0913-0010	Embedded Work in Structure	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
21	0914-0011	Bridge Deck Waterproofing	m2	\$ 135.00	306	\$ 41,243	306	\$ 41,243	306	\$ 41,243	306	\$ 41,243
22	0914-0031	Form and Fill Grooves	m	\$ 75.00	54	\$ 4,080	54	\$ 4,080	54	\$ 4,080	54	\$ 4,080
23	0914-0040	Membrane Reinforcement	m	\$ 20.00	27	\$ 544	27	\$ 544	27	\$ 544	27	\$ 544
24	0920-0010	Deck Joint Assemblies, Installation	m	\$ 3,585.00	27	\$ 97,512	27	\$ 97,512	27	\$ 97,512	0	\$ -
25	0922-0010	Bearings	each	\$ 3,895.00	8	\$ 31,160	8	\$ 31,160	20	\$ 77,900		
26	0928-0055	Access to Work Area, Work Platform and Scaffolding	LS	\$ 102,500.00	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500	1.0	\$ 102,500
27	0909-0230	Prestressed Concrete Girders NU 900 Fabrication	LS/m	\$ 2,560.00			80	\$ 205,824				
28	0909-0240	Prestressed Concrete Girders NU 900 Delivery	LS/m	\$ 260.00			80	\$ 20,904				
29	0909-0250	Prestressed Concrete Girders NU 900 Installation	LS/m	\$ 425.00			80	\$ 34,170				
30	0906-0011	Fabrication of Structural Steel	t	\$ 4,100.00	41	\$ 168,116						
31	0906-0020	Delivery of Structural Steel	t	\$ 360.00	41	\$ 14,761						
32	0906-0030	Erection of Structural Steel	t	\$ 1,025.00	41	\$ 42,029						
33	0911-0012	Coating New Structural Steel	m2	\$ 280.00	112	\$ 31,360						
34	0909-0330	Prestressed Concrete Box Girders Fabrication	LS/m	\$ 2,560.00					201	\$ 514,560		
35	0909-0340	Prestressed Concrete Box Girders Delivery	LS/m	\$ 685.00					201	\$ 137,685		
36	0909-0350	Prestressed Concrete Box Girders Installation	LS/m	\$ 450.00					201	\$ 90,450		
		Temporary Traffic Signals	LS		1	\$ -	1	\$ -	1	\$ -	1	\$ -
		Temporary road alignment	LS	\$ 102,500.00	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500
		Design	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
		Geotech	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
			Σ		\$ 2,886,790		\$ 2,891,421		\$ 3,503,401		\$ 3,864,782	
		Subtotal			\$ 2,886,790		\$ 2,891,421		\$ 3,503,401		\$ 3,864,782	
		Contingency			\$ 577,358		\$ 578,284		\$ 700,680		\$ 772,956	
		Total			\$ 3,464,148		\$ 3,469,705		\$ 4,204,081		\$ 4,637,739	

Structure 6: B109132					Welded Plate		NU 1200		Prestressed Box		Concrete Rigid Frame	
Item	Item Code	Description	Unit	Unit Price	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
Grading												
1	0308-0010	Tack Coat	m2	\$ 3.70	638	\$ 2,359	638	\$ 2,359	638	\$ 2,359	638	\$ 2,359
2	0313-1373	Superpave 12.5	t	\$ 250.00	679	\$ 169,788	679	\$ 169,788	679	\$ 169,788	679	\$ 169,788
3	0314-0071	Granular A	t	\$ 46.00	4488	\$ 206,430	4488	\$ 206,430	4488	\$ 206,430	4488	\$ 206,430
4	0405-0010	Pipe Subdrains	m	\$ 45.00	98	\$ 4,428	98	\$ 4,428	98	\$ 4,428	98	\$ 4,428
5	0710-0010	Pavement Marking	m	\$ 15.00	125	\$ 1,868	125	\$ 1,868	125	\$ 1,868	125	\$ 1,868
Bridge Replacement												
6	0510-9010	Removal of Bridge Structure	LS	\$ 256,000.00	1	\$ 256,000	1	\$ 256,000	1	\$ 256,000	1	\$ 256,000
7	0510-9015	Removal of Bridge Footings	m3	\$ 20,500.00	4	\$ 75,606	4	\$ 75,606	4	\$ 75,606	4	\$ 75,606
8	0539-0040	Protection System	LS	\$ 117,875.00	1	\$ 117,875	1	\$ 117,875	1	\$ 117,875	1	\$ 117,875
9	0902-0010	Earth Excavation for Structure	m3	\$ 40.00	4929	\$ 197,162	4929	\$ 197,162	4929	\$ 197,162	4929	\$ 197,162
10	0314-0130	Granular B Backfill to Structure and Retaining Wall	t	\$ 40.00	4488	\$ 179,504	4488	\$ 179,504	4488	\$ 179,504	4488	\$ 179,504
11	0904-0055	Concrete in Footings	m3	\$ 1,200.00	125	\$ 149,520	125	\$ 149,520	125	\$ 149,520	68	\$ 81,101
12	0904-0095	Concrete in Substructure and Retaining Walls	m3	\$ 1,600.00	387	\$ 618,944	387	\$ 618,944	387	\$ 618,944	249	\$ 398,448
13	0904-0105	Concrete in Deck	m3	\$ 2,000.00	52	\$ 104,856	52	\$ 104,856	100	\$ 200,023		
14	0904-0125	Concrete in Parapet Walls	m3	\$ 2,500.00	15	\$ 36,609	15	\$ 36,609	15	\$ 36,609	15	\$ 36,609
15	0904-0135	Concrete in Approach	m3	\$ 1,500.00	53	\$ 79,200	53	\$ 79,200	53	\$ 79,200	53	\$ 79,200
16	0904-0085	Concrete in Structure	m3	\$ 2,000.00							547	\$ 1,093,389
17	0905-0010	Reinforcing Steel Bar	t	\$ 4,500.00	44	\$ 196,814	44	\$ 196,814	44	\$ 196,059	48	\$ 216,425
18	0905-0025	Stainless Steel Reinforcing Bar	t	\$ 14,000.00	6	\$ 87,577	6	\$ 87,577	6	\$ 85,225	40	\$ 563,915
19	0908-0030	Parapet Wall Railing	m	\$ 500.00	68	\$ 34,000	68	\$ 34,000	68	\$ 34,000	68	\$ 34,000
20	0913-0010	Embedded Work in Structure	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
21	0914-0011	Bridge Deck Waterproofing	m2	\$ 135.00	474	\$ 64,031	474	\$ 64,031	474	\$ 64,031	474	\$ 64,031
22	0914-0031	Form and Fill Grooves	m	\$ 75.00	70	\$ 5,280	70	\$ 5,280	70	\$ 5,280	70	\$ 5,280
23	0914-0040	Membrane Reinforcement	m	\$ 20.00	35	\$ 704	35	\$ 704	35	\$ 704	35	\$ 704
24	0920-0010	Deck Joint Assemblies, Installation	m	\$ 3,585.00	35	\$ 126,192	35	\$ 126,192	35	\$ 126,192	0	\$ -
25	0922-0010	Bearings	each	\$ 3,895.00	8	\$ 31,160	12	\$ 46,740	28	\$ 109,060		
26	0928-0055	Access to Work Area, Work Platform and Scaffolding	LS	\$ 102,500.00	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500	1.0	\$ 102,500
27	0909-0230	Prestressed Concrete Girders NU 900 Fabrication	LS/m	\$ 2,560.00			145	\$ 370,176				
28	0909-0240	Prestressed Concrete Girders NU 900 Delivery	LS/m	\$ 260.00			145	\$ 37,596				
29	0909-0250	Prestressed Concrete Girders NU 900 Installation	LS/m	\$ 425.00			145	\$ 61,455				
30	0906-0011	Fabrication of Structural Steel	t	\$ 4,100.00	64	\$ 260,858						
31	0906-0020	Delivery of Structural Steel	t	\$ 360.00	64	\$ 22,905						
32	0906-0030	Erection of Structural Steel	t	\$ 1,025.00	64	\$ 65,215						
33	0911-0012	Coating New Structural Steel	m2	\$ 280.00	441	\$ 123,488						
34	0909-0330	Prestressed Concrete Box Girders Fabrication	LS/m	\$ 2,560.00					337	\$ 863,744		
35	0909-0340	Prestressed Concrete Box Girders Delivery	LS/m	\$ 685.00					337	\$ 231,119		
36	0909-0350	Prestressed Concrete Box Girders Installation	LS/m	\$ 450.00					337	\$ 151,830		
37	SP	Retaining Wall System	m2	\$ 1,200.00	70	\$ 84,000	70	\$ 84,000	70	\$ 84,000	70	\$ 84,000
Temporary Traffic Signals Temporary road alignment Design Geotech			LS	\$ 102,500.00	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500
			LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
			LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
			LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
			Σ		\$ 3,507,373		\$ 3,519,714		\$ 4,451,559		\$ 4,073,120	
Subtotal					\$ 3,507,373		\$ 3,519,714		\$ 4,451,559		\$ 4,073,120	
Contingency					\$ 701,475		\$ 703,943		\$ 890,312		\$ 814,624	
Total					\$ 4,208,848		\$ 4,223,657		\$ 5,341,870		\$ 4,887,745	

Structure 10: B109134					Welded Plate		NU 1200		Prestressed Box		Concrete Rigid Frame	
Item	Item Code	Description	Unit	Unit Price	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
Grading												
1	0308-0010	Tack Coat	m2	\$ 3.70	423	\$ 1,563	423	\$ 1,563	423	\$ 1,563	423	\$ 1,563
2	0313-1373	Superpave 12.5	t	\$ 250.00	953	\$ 238,340	953	\$ 238,340	953	\$ 238,340	953	\$ 238,340
3	0314-0071	Granular A	t	\$ 46.00	7926	\$ 364,585	7926	\$ 364,585	7926	\$ 364,585	7926	\$ 364,585
4	0405-0010	Pipe Subdrains	m	\$ 45.00	82	\$ 3,708	82	\$ 3,708	82	\$ 3,708	82	\$ 3,708
5	0710-0010	Pavement Marking	m	\$ 15.00	110	\$ 1,643	110	\$ 1,643	110	\$ 1,643	110	\$ 1,643
Bridge Replacement												
6	0510-9010	Removal of Bridge Structure	LS	\$ 256,000.00	1	\$ 256,000	1	\$ 256,000	1	\$ 256,000	1	\$ 256,000
7	0510-9015	Removal of Bridge Footings	m3	\$ 20,500.00	4	\$ 75,606	4	\$ 75,606	4	\$ 75,606	4	\$ 75,606
8	0539-0040	Protection System	LS	\$ 117,875.00	1	\$ 117,875	1	\$ 117,875	1	\$ 117,875	1	\$ 117,875
9	0902-0010	Earth Excavation for Structure	m3	\$ 40.00	3659	\$ 146,365	3659	\$ 146,365	3659	\$ 146,365	3659	\$ 146,365
10	0314-0130	Granular B Backfill to Structure	t	\$ 40.00	8782	\$ 351,275	8782	\$ 351,275	8782	\$ 351,275	8782	\$ 351,275
11	0904-0055	Concrete in Footings	m3	\$ 1,200.00	97	\$ 115,920	97	\$ 115,920	97	\$ 115,920	65	\$ 78,336
12	0904-0095	Concrete in Substructure and Retaining Walls	m3	\$ 1,600.00	320	\$ 512,768	320	\$ 512,768	320	\$ 512,768	228	\$ 364,752
13	0904-0105	Concrete in Deck	m3	\$ 2,000.00	39	\$ 77,187	39	\$ 77,187	70	\$ 139,007		
14	0904-0125	Concrete in Parapet Walls	m3	\$ 2,500.00	13	\$ 31,453	13	\$ 31,453	13	\$ 31,453	13	\$ 31,453
15	0904-0135	Concrete in Approach	m3	\$ 1,500.00	41	\$ 61,200	41	\$ 61,200	41	\$ 61,200	41	\$ 61,200
16	0904-0085	Concrete in Structure	m3	\$ 2,000.00							350	\$ 700,265
17	0905-0010	Reinforcing Steel Bar	t	\$ 4,500.00	32	\$ 146,129	32	\$ 146,129	33	\$ 147,812	38	\$ 169,470
18	0905-0025	Stainless Steel Reinforcing Bar	t	\$ 14,000.00	4	\$ 55,272	4	\$ 55,272	4	\$ 60,509	28	\$ 397,374
19	0908-0030	Parapet Wall Railing	m	\$ 500.00	48	\$ 24,200	48	\$ 24,200	48	\$ 24,200	48	\$ 24,200
20	0913-0010	Embedded Work in Structure	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
21	0914-0011	Bridge Deck Waterproofing	m2	\$ 135.00	298	\$ 40,190	298	\$ 40,190	298	\$ 40,190	298	\$ 40,190
22	0914-0031	Form and Fill Grooves	m	\$ 75.00	54	\$ 4,080	54	\$ 4,080	54	\$ 4,080	54	\$ 4,080
23	0914-0040	Membrane Reinforcement	m	\$ 20.00	27	\$ 544	27	\$ 544	27	\$ 544	27	\$ 544
24	0920-0010	Deck Joint Assemblies, Installation	m	\$ 3,585.00	27	\$ 97,512	27	\$ 97,512	27	\$ 97,512	0	\$ -
25	0922-0010	Bearings	each	\$ 3,895.00	8	\$ 31,160	8	\$ 31,160	20	\$ 77,900		
26	0928-0055	Access to Work Area, Work Platform and Scaffolding	LS	\$ 102,500.00	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500
27	0909-0230	Prestressed Concrete Girders NU 900 Fabrication	LS/m	\$ 2,560.00			76	\$ 195,584				
28	0909-0240	Prestressed Concrete Girders NU 900 Delivery	LS/m	\$ 260.00			76	\$ 19,864				
29	0909-0250	Prestressed Concrete Girders NU 900 Installation	LS/m	\$ 425.00			76	\$ 32,470				
30	0906-0011	Fabrication of Structural Steel	t	\$ 4,100.00	39	\$ 159,752						
31	0906-0020	Delivery of Structural Steel	t	\$ 360.00	39	\$ 14,027						
32	0906-0030	Erection of Structural Steel	t	\$ 1,025.00	39	\$ 39,938						
33	0911-0012	Coating New Structural Steel	m2	\$ 280.00	112	\$ 31,360						
34	0909-0330	Prestressed Concrete Box Girders Fabrication	LS/m	\$ 2,560.00					191	\$ 488,960		
35	0909-0340	Prestressed Concrete Box Girders Delivery	LS/m	\$ 685.00					191	\$ 130,835		
36	0909-0350	Prestressed Concrete Box Girders Installation	LS/m	\$ 450.00					191	\$ 85,950		
		Temporary Traffic Signals	LS		1	\$ -	1	\$ -	1	\$ -	1	\$ -
		Temporary road alignment	LS	\$ 102,500.00	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500	1	\$ 102,500
		Design	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
		Geotech	LS	\$ -	1	\$ -	1	\$ -	1	\$ -	1	\$ -
			Σ			\$ 3,204,651		\$ 3,207,491		\$ 3,780,799		\$ 3,633,822
						\$ 609,838						
		Subtotal				\$ 3,204,651		\$ 3,207,491		\$ 3,780,799		\$ 3,633,822
		Contingency				\$ 640,930		\$ 641,498		\$ 756,160		\$ 726,764
		Total				\$ 3,845,581		\$ 3,848,990		\$ 4,536,958		\$ 4,360,586

Wellington Road 109 - Preliminary Life Cycle Cost Analysis

discount rate (r) = 0.05

Present Value (PV) = $COST/(1+r)^{YEAR}$

(value in present day dollars)

Wellington Road 109 - Bypass

Option 2 - WR 109 Bypass				
	YEAR	ITEM	COST	PV of COST
2025	0	WR 109 Bypass road, Eliza St Extension, Culvert & Bridge	\$ 23,020,000	\$ 23,020,000
2030	5			\$ -
2035	10			\$ -
2040	15			\$ -
2045	20			\$ -
2050	25	Minor Rehab Culvert & Bridge	\$ 584,000	\$ 172,457
2055	30			\$ -
2060	35			\$ -
2065	40			\$ -
2070	45			\$ -
2075	50	Major Rehab Culvert & Bridge	\$ 1,960,000	\$ 170,919

NEXT REPL. YEAR 75

TOTAL PV	\$ 23,370,000
RESIDUAL VALUE	\$ (1,414,630)
TOTAL NET PRESENT VALUE	\$ 22,000,000
(value in present day dollars)	

Residual Yrs	25
Bypass Option Cost	\$ 23,020,000
Value at (Yrs) = 50	\$6,797,870
Diff'l Value	\$16,222,130

Wellington Road 109 - Preliminary Life Cycle Cost Analysis

discount rate (r) = 0.05

Present Value (PV) = $COST/(1+r)^{YEAR}$

(value in present day dollars)

WR 109 - Structure Replacement

Option 1 - Replace Existing Structures (With Temporary Bridge for C109123)

	YEAR	ITEM	COST	PV of COST
2025	0	Replace B109132	\$ 4,690,000	\$ 4,690,000
		Replace C109123	\$ 3,890,000	\$ 3,890,000
		Replace B109133	\$ 3,630,000	\$ 3,630,000
		Replace B109134	\$ 4,330,000	\$ 4,330,000
2030	5			\$ -
2035	10			\$ -
2040	15			\$ -
2045	20			\$ -
2050	25	Minor Rehab	\$ 770,000	\$ 227,383
		Rehab B109132	\$ 280,000	
		Rehab C109123	\$ 170,000	
		Rehab B109133	\$ 160,000	
		Rehab B109134	\$ 160,000	
2055	30			\$ -
2060	35			\$ -
2065	40			\$ -
2070	45			\$ -
2075	50	Major Rehab	\$ 2,752,000	\$ 239,985
		Rehab B109132	\$ 982,000	
		Rehab C109123	\$ 610,000	
		Rehab B109133	\$ 580,000	
		Rehab B109134	\$ 580,000	

NEXT REPL. YEAR 75

TOTAL PV

\$ 17,010,000

RESIDUAL VALUE

\$ (1,016,420)

TOTAL NET PRESENT VALUE

\$ 16,000,000

(value in present day dollars)

Residual Yrs

25

Repl. Cost

\$ 16,540,000

Value at (Yrs) = 50

\$4,884,308

Diff'l Value

\$11,655,692