B6344 - Crag End land slip repairs
Quantified risk assessment

Scheme Description : B6344 Crag End land slip - Repairs
Date: 19/02/2013
Reference :
Region :

Works :	£7,128,330	Risk Allowance :	£125,718
D&S :	£419,617	Standard Deviation:	£42,870
Land :	£10,000	SBE + Risk Allowance :	£7,683,665
Base Estimate :	£7,557,947	SBE + Risk Allowance + 1SD :	£7,726,534

Risk Number	Description	Curve Type	Occurrence	Probability	Minimum Estimate	Risk Estimate	Maximum Estimate	Average of calculated estimate
1.01	Serious Accident	1 Normal	Very Low	2%	£500,000	£500,000	£500,000	9,850
1.02	Vandalism, theft	1 Normal	Extremely Low	0%	£0	£0	£0	0
2.01	Access road at east end - soft spots	1 Normal	Low to Medium	25%	£0		£10,000	1,241
2.02	Access road at west end - soft spots	1 Normal	Low to Medium	25%	£0		£20,000	2496
3.01	Poor ground conditions due to ongoing land slip	1 Normal	Extremely Low	0%	£0	£0	£0	0
3.02	Deeper well points required for temporary water management	1 Normal	Low to Medium	20%	£0		£50,000	5,044
3.03	Temporary ground water management system required for longer than anticipated	1 Normal	Low to Medium	20%	£0		£38,610	2,447
3.04	Width of land slip being wider than is visible at present	1 Normal	Very Low	5%	£0		£214,368	5,351
3.05	Capping beam to be larger than envisaged at initial design stage	1 Normal	Low	10%	£0		£42,000	2,093
3.06	Ground anchors not long enough because of inadequate rock	1 Normal	Low	10%	£0		£150,000	7,589
3.07	Facing construction may be larger than estimated	1 Normal	Low to Medium	20%	£0		£40,000	4,008
3.08	Unknown quantity of ground water to be managed permanently	1 Normal	Low to Medium	20%	£0		£50,000	4,996
3.09	Access shafts for installation of permananent ground water management equipment may have	1 Normal	Low to Medium	20%	£0		£195,000	19,456
3.10	Permanent water management - larger quantity of water than assumed	1 Normal	Low to Medium	20%	£0		£15,000	1,501
3.11	Greater area/depth of road reconstruction required	1 Normal	Low	10%	£0		£60,000	3,023
3.12	Obstruction or soft spots in road drainage	1 Normal	Low to Medium	20%	£0		£15,000	1,503
4.01	Tie bar installation - extra time for gang in attendance due to bad weather	1 Normal	Low to Medium	20%	£0		£25000	2,475
4.02	Capping beam construction - extra time for gang in attendance due to bad weather	1 Normal	Low to Medium	20%	£0		£26,600	2,700
5.01	Acquisition of access over private land	1 Normal	High	50%	£4,000	£4,000	£4,000	1,996
5.02	Design changes require additional land	1 Normal	Extremely Low	1%	£10,000		£100,000	540
5.03	Delay in obtaining land / Non performance - delays construction	1 Normal	Very Low	5%	£500,000	£500,000	£500,000	25,175
5.04	Unsatisfactory reinstatement of "licensed Land "	1 Normal	Very Low	5%	£50,000	£50,000	£50,000	2,509
5.05	Additional works - Licence areas	1 Normal	Very Low	5%	£80,000		£100,000	4,499
6.01	Materials or workmanship not in accordance with works information	1 Normal	Extremely Low	1%	£50,000	£50,000	£50,000	523
6.02	Failure of critical suppliers/subcontractors	1 Normal	Extremely Low	1%	£50,000	£50,000	£50,000	502
7.01	Bankruptcy main contractor	1 Normal	Extremely Low	1%	£100,000	£100,000	£100,000	1,025
7.02	Errors in - budget, BoQ, measure, tender, contract documents or scope of works	1 Normal	Very Low	5%	£0		£375,000	9,421
7.03	Non collaborative approach by main contractor	1 Normal	Low	10%	£25,000	£25,000	£25,000	2,495
7.04	Failure to achieve timely and accurate Assessment of compensation events	1 Normal	Very Low	5%	£0		£50,000	1,261
					1,369,000	**1,279,000**	**2,855,578**	**125,718**