

Risk Register PWD and EWLR Scheme										Impact & severity:		Likelihood score:		Risk realisation removed/no longer a risk		1. Senior Manager (Name):		2. Title of Service:		3. Risk Management Group:		4. Programme or Project:		Risk Allowance = Assessed Value x Risk Multiplier															
										S = Schedule/Programme C = Cost O = Client/ 3 <sup>rd</sup> Party Ops & Maint P = Public Relations E = Environmental/ Ecological		Scored 1 to 5 where Cost: 1 = < 50k; 2 = 51 - 250k; 3 = 251k - 500k; 4 = 0.5m - 1m; Se: 1m - 5m Programme: 1 = 0-1wk; 2 = 1-4 wks; 3 = 4-8 wks; 4 = 8-12 wks; 5 = 12+ wks		1 (Very unlikely) to 5 (Very Likely)		Risk realisation removed/no longer a risk		Phil Wilson		Planning and Policy		City Deal Delivery Team		PWD and EWLR Scheme															
Risk Identification Number	Risk Description	Open/Closed	Risk Type	Risk Category	Risk Owner	Cost Owner	Possible Consequences	Current Controls	Impact & Severity					Initial Risk Score	Pre-mitigated Probability	Mitigating Actions	Impact & Severity					Residual Risk Score	Post Mitigated Probability	Residual Risk Values			Risk EMV	Bernoulli	Distribution	Outputs	Comments	Risk Allowance = Assessed Value x Risk Multiplier							
									S	C	O	P	E				Max	S	C	O	P			E	Max	Lowest						Most probable	Highest	Lowest	Most Probable	Highest			
R0001	Not following Risk Management Process	O	Development	Management	Richard Helme	LCC	Delay to programme Increase costs	Review all risks Mitigate and reduce or remove risks Focus on top risks	3	3	1	1	3	3	2	6	20%	Single project shared risk register Risk Register regularly (at least quarterly) reviewed and updated To be kept live throughout scheme development	3	3	1	1	3	3	1	3	5%	£ 20,000.00	£ 100,000.00	£ 250,000.00	£ 2,666.67	0	£ 53,333.33	£ -	Appoint risk manager/individual to manage update and control	£ 1,000.00	£ 19,250.00	£ 37,500.00	
R0002	Programme conflicts with other schemes on the highway network. Lack of network co-ordination both LCC schemes and infrastructure stakeholders - e.g. utilities companies	O	Construction	Programme	Phil Wilson	LCC	Clashes with other work Delays Reputational damage (Includes but not limited to: CRT dredging works to Savick NR electrification programme ENWL and NG overhead power lines) Clashes with other works required on network Delays and consequential cost impacts	Early engagement Follow relevant procedures Early submission of TMA notices and liaison with co-ordination team.	5	5	4	3	1	5	3	15	40%	Recorded with the Co-ordination team. Distribution of the construction phase programme as early as possible to key team leaders Likely PWD/R would take priority over other schemes within County/ City councils. Road space bookings as soon as possible - even if only advisory and confirmed at 12 weeks out Regular engagement with other stakeholders and recorded with the Co-ordination Team * Construction phase programme to highlight TTM requirements to enable road space bookings to be submitted from date of contract award * Co-ordination with street works team to ensure aware of PWD/R and timescales.	4	4	3	3	1	4	2	8	20%	£ 62,500.00	£ 125,000.00	£ 250,000.00	£ 29,166.67	0	£ 145,833.33	£ -	Worst case 1 month site delay @£250k/month	£ 6,250.00	£ 59,375.00	£ 112,500.00	
R0003	LCC Network - lack of co-ordination	C	Construction	Programme	Shiona MacDonald	LCC	Delay to programme Reputational damage	*Put in early TMA notices for the work *Liaise with Co-ordination Team	5	5	4	3	1	5	3	15			4	4	3	3	1	4	2	8		£ -	£ -	£ -	£ -	0	£ -	£ -	Duplicate with R002	£ -	£ -	£ -	
R0004	Programme conflict with infrastructure stakeholders works on their assets	C	Construction	Programme	Shiona MacDonald	LCC	(Includes but not limited to: CRT dredging works to Savick NR electrification programme ENWL and NG overhead power lines) Clashes with other works required on network Delays and consequential cost impacts	*Early engagement *Follow relevant procedures	5	5	4	3	1	5	3	15		Engagement with stakeholders and regular stakeholder updates of programme Early issue of programme information to inform affected parties (CRT, ENWL, NG, NR etc)	4	4	3	3	1	4	2	8		£ -	£ -	£ -	£ -	0	£ -	£ -	£ -	Duplicate with R002	£ -	£ -	£ -
R0005	Network Rail - lack of co-ordination	C	Construction	Programme	Steve Webster	LCC	Failure to adequately coordinate may lead to delays achieving approvals and risks to works not being approved in line with requirements to achieve programme dates for possessions. Significant delay to programme seeking possession/ approvals for works Costs associated with aborted/ cancelled possessions	*Early consultation with NR *Invite to attend Infrastructure Delivery Steering Group Ongoing works planning and RAMS submitted with NR to ensure agreed methodology is developed for approval Agreement of approval timesframes and inclusion in the programme as key dates. Minimise reliance on possession working where possible Overbook possessions and accept costs of cancellation	5	4	3	2	1	5	3	15		Met 05/11/2013 Regular co-ordination meetings in the approach and into construction phase Early issue of proposed construction phase programme and regular updates of key changes to ensure always aware of requirements Key approval periods and necessary submission dates to be included on programme	5	3	3	2	1	5	2	10		£ -	£ -	£ -	£ -	0	£ -	£ -	£ -	Highest - NR Costs for Xmas possession - CLOSED as included in R021	£ -	£ -	£ -
R0006	Highways England - lack of co-ordination with MACASC, RCC, HATOs etc	O	Construction	Construction Methods	Sean Ellison	LCC	Delay to programme as TTM closures or other restrictions not permitted. Conflicting TM requirements creating delays	Early consultation with HE Invite to attend Infrastructure Delivery Steering Group Continued liaison with representatives	3	2	2	1	1	3	2	6	20%	Regular co-ordination meetings in the approach and into the construction phase - Ongoing HE meetings taking place 17/18/19	3	2	2	1	1	3	1	3	5%	£ 50,000.00	£ 100,000.00	£ 250,000.00	£ 6,666.67	0	£ 133,333.33	£ -	Worst case 1 month site delay @£250k/month	£ 2,500.00	£ 20,000.00	£ 37,500.00	
R0007	Environment Agency - lack of co-ordination	O	Construction	Environment	Karl Heath	Costain	Delay to programme seeking approvals for works/ consents or licenses to work Delays could lead to missed opportunity to do work within suitable season Failure to obtain consents could lead to prosecution and/or fines.	Early consultation with EA LCC complying GDP for Inheadwall in Savick	3	3	1	3	4	4	3	12	40%	Early engagement of the ECI contractor with EA Engagement with the EA at pre-construction to establish the requirements, agree required licensing and consents and timescales for approval. EA required timescales included within programme Consents checklist to be prepared in advance of construction EA approached to water not 3 months wait for response Regular meetings in advance of construction to plan works. ECI contractor engagement in advance of construction Approvals process and notification of closure periods defined in advance of construction and included within construction programme	3	3	1	3	4	4	2	8	20%	£ 50,000.00	£ 250,000.00	£ 1,000,000.00	£ 120,000.00	0	£ 600,000.00	£ -	Could result in permits being wrog as no one to check. FD permits 2 month Discharge 3 months Need to apply latest July19 Allowance based upon 3 months delay to construct programme based upon prelims at £250k Timescales for approvals known, base on worst case 3 months delay on site (BETM) - but local to Savick	£ 5,000.00	£ 127,500.00	£ 250,000.00	
R0008	Canal and Rivers Trust - lack of co-ordination	O	Construction	Programme	Steve Webster	LCC	Delay to programme	Early consultation with CRT Invite to attend Infrastructure Delivery Steering Group	3	1	3	3	1	3	3	9	40%	Regular co-ordination meetings in the approach and into the construction phase - Ongoing HE meetings taking place 17/18/19	3	1	2	2	1	3	1	3	5%	£ 5,000.00	£ 10,000.00	£ 25,000.00	£ 666.67	0	£ 13,333.33	£ -	Check if covered elsewhere	£ 250.00	£ 3,250.00	£ 6,250.00	
R0009	Delay to Funding Approvals	O	Development	Commercial	Phil Wilson	LCC	Delay to programme Increasing costs associated with delay Reputational damage of delay	Completing funding documentation on time Regular scheme estimate reviews aligned to emerging design to assure accuracy	5	4	4	3	1	5	4	20	60%	Maintain identifiable milestones on Programme for funding approval process Ensure timely preparation and approvals of all funding documentation	5	4	4	3	1	5	2	10	20%	£ 50,000.00	£ 300,000.00	£ 500,000.00	£ 85,000.00	0	£ 425,000.00	£ -	Base on worst case = 3 months - i.e. miss relevant LEP meeting and delayed until next planned session in 3 months. Inflation 1.5% =£1.5m - reduced this risk March 2019 as LEP boards etc all realised still some outstanding elements to complete though	£ 5,000.00	£ 165,000.00	£ 325,000.00	
R0010	Insufficient resources to complete design (through staff turn, sickness, capability etc)	O	Development	Detailed design	Phil Wilson	LCC	Delay to programme Inadequate standard of submissions produced Inconsistent design if personnel changes part way through.	Use of additional resources from designer/ ECI contractor as required to assist Robust supervision of design to avoid rework due to invalid assumptions	5	4	1	2	1	5	4	20		Dedicate resources to PWD/R Stagger designs for other schemes Programme identify needs early Supplement team as required from design framework/ ECI contractor as appropriate Co-location of team Regular project team meetings to highlight key milestones, new parties engagement etc.	5	3	1	2	1	5	3	15		£ 50,000.00	£ 100,000.00	£ 200,000.00	£ -	0	£ -	£ -	£ -	Re opened as its an actual risk at present with JMck, Chris Riley, Dave Brown	£ 15,000.00	£ 72,500.00	£ 130,000.00
R0011	Other County Council/District Council Initiatives	O	Construction	Programme	Phil Wilson	LCC	Clashes with other work Reputational damage if released to public	Early engagement and continuous Structured consultation PCC and SRBC attend Infrastructure Delivery Steering Group (ISDG)	2	1	2	2	1	2	2	4	20%	Early engagement within County with other section leads to keep informed of PDWR timescales to prevent clashes.	3	1	2	2	1	3	1	3	5%	£ 35,000.00	£ 105,000.00	£ 140,000.00	£ 4,666.67	0	£ 93,333.33	£ -	Base worst case on contract notice period for end at 15 no Costain FTE (£140,000). Determination period is 21 days (Proc Agreement section 14). This can be CLOSED ??	£ 1,750.00	£ 11,375.00	£ 21,000.00	
R0012	Statutory Undertakers Diversions - Lack of STATs Misunderstanding of scheme Underestimating scope of works/work required (excluding Hodder Aqueduct works)	O	Construction	Underground / Overground Services	Simon Crisp	LCC	Delay to programme Increase costs Reputational damage if seen to miss diversion	Early NRSWA enquiries	5	3	3	3	1	5	4	20	60%	Self delivery of civils scope of works C4 Enquiries received Q1 2016 Engagement with the SU companies in design phase to ensure they understand scheme Review of estimates to ensure scope is necessary for works and demonstrates understanding of the scheme Use of experienced ECI contractor to identify opportunities for savings.	5	3	3	3	1	5	2	10	20%	£ 62,500.00	£ 125,000.00	£ 250,000.00	£ 29,166.67	0	£ 145,833.33	£ -	Could be significant delays to certain areas, hodder, elec etc allow 1 months preliminaries delay	£ 6,250.00	£ 84,375.00	£ 162,500.00	
R0013	No "buy-in" from maintaining authorities	O	Development	Detailed design	Kim Whalley & John McKeever	LCC	Design/Construction not accepted by HE.	Engagement with HE regarding maintenance issues, handover etc.	2	2	2	1	1	2	3	6	40%	Set up agreed design review/approval procedure Ensure lack of engagement identified and addressed early - not allowed to drag on	2	2	4	1	1	4	1	4	5%	£ 1,000.00	£ 2,436.25	£ 9,745.00	£ 219.69	0	£ 4,393.75	£ -	Works case one dedicated body for 1 month equiv time-based upon "Professional" rate. Most likely 1 week. To co-ordinate specific issue (ex connex) design etc	£ 50.00	£ 755.88	£ 1,461.75	
R0014	DfT funding approval	O	Development	Commercial	Phil Wilson	LCC	Delay in final approval	Continual engagement and interim approval	3	2	3	1	1	3	3	9	40%	Ensure key dates and timescales for review and approval of submissions are included within programme	3	3	3	1	1	3	1	3	5%	£ 35,000.00	£ 70,000.00	£ 140,000.00	£ 4,083.33	0	£ 81,666.67	£ -	Worst case based upon equiv of 15 Costain FTE for 1 month delay. Oca we have the LEP approval this can be reviewed/removed CONSTRUCTION RISK NEEDS TO BE ADDED	£ 1,750.00	£ 18,375.00	£ 35,000.00	
R0015	Delays in CPO Process & land acquisition	C	Development	Land	Margaret Whitmore	LCC	Programme delays May miss ecology windows May delay key access points/ set up areas leading to construction disruption and additional cost	Appropriate resource planning including third party resource Maintain option of using Notice to Treat/Enter Acquire land via GVD	4	3	4	3	4	4	4	16		Ensure process is defined and understood by all necessary parties. Ensure resource in place to serve notices on date of planning authorisation or receipt of CPO powers Ensure key land entry points (compounds/ areas requiring early ecology mitigation) served as soon as possible. Co-ordinate GVD/ Notice to treat service	4	3	2	3	3	4	3	12		£ -	£ -	£ -	£ -	0	£ -	£ -	£ -	Challenge to process and re submission complete. PMI scheduled for November 16. ECI delay 3 months at 15 staff	£ -	£ -	£ -
R0016	Inadequate liaison with MA and RCC / Traffic Officer	C	Construction	Programme	Sean Ellison	LCC	Clashing with other works	Regular meetings with HE	3	2	2	1	1	3	2	6		Regular co-ordination meetings in the approach and into the construction phase Review of all proposed works for agreement	3	2	2	1	1	3	1	3		£ -	£ -	£ -	£ -	0	£ -	£ -	£ -	CLOSED	£ -	£ -	£ -
R0017	Not allowing sufficient time for HE Procedures	O	Development	Detailed design	Kim Whalley & John McKeever	LCC	Delay to construction work start Inaccurate TC if design changes after late approval change	AIPs / departures / Geotech approvals - Have to be written reviewed and understood by LCC and agreed by HE	3	1	3	2	1	3	2	6	20%	Ensure all approval periods are agreed and known by all parties Include key approval periods within programmes as milestones Approvals to be sought in advance of TC preparation	3	1	3	2	1	3	1	3	5%	£ -	£ -	£ 75,000.00	£ 1,250.00	0	£ 25,000.00	£ -	Assume worst case is 1/2 month ECI Costain at 15 FTE (150000). Most likely 0 and best 0	£ -	£ 5,625.00	£ 11,250.00	
R0018	Partnership performance	C	Development	Detailed design	Phil Wilson	LCC	Approach to partnering Delays to handover of information or decisions if partners not working together Inefficient design process creating increasing costs and delays	Co-location where possible Regular face to face meetings for those working remotely, with regular calls between face-to-face meetings.	2	3	2	1	1	3	3	9	40%	Ensure all parties brought together when new partner joins the team - establish roles and common aims and goals Ensure project requirements, roles and responsibilities of all parties are understood Health of partnership reviews if concerns are raised.	2	3	2	1	1	3	1	3	5%	£ -	£ -	£ -	£ -	0	£ 7,881.08	£ -	£ -	Issues resolved quickly so worst case 1 week ECI cost at Costain 10 FTE - NOT SURE WHAT THIS IS NEEDS REVIEW	£ -	£ -	£ -
R0019	Jacobs/LCC discipline capacity not aligned to programme Environmental Coordinator lacks capacity to manage deliverables	C	Development	Planning	Phil Wilson	LCC	Potential delays to key deliverables Errors or omissions within submissions Miss key ecology survey d with potential significant future delay Delays due to rework Additional costs associated with rework/delay	Support from LCC and Jacobs wider team	3	1	1	1	3	3	2	6		Jacobs PM and LCC Environmental Coordinator to monitor progress towards deliverables Strong management from the Environmental Coordinator (and support) will facilitate tracking and delivery to schedule.	1	1	1	1	2	2	1	2		£ -	£ -	£ -	£ -	0	£ -	£ -	£ -	£ -			
R0020	The pre-application consultation results in large design change	C	Development	Detailed design	Kim Whalley & John McKeever	LCC	*Delay to programme *Additional budget required for more expensive/additional resources to meet programme	Many alternatives of design explored - robust evidence for the proposed design	4	3	2	3	1	4	3	12		Seek to take robust design to consultation	4	3	2	3	1	4	1	4		£ -	£ -	£ -	£ -	0	£ -	£ -	£ -	CLOSED	£ -	£ -	£ -
R0021	Third Party fees (supervision / possession) exceed estimate/ budget allowance	O	Construction	Commercial	Steve Webster	LCC	Increased costs and potential cost overrun Potential for delays if costs disputed and supervision is withdrawn	Stakeholder Management	1	3	1	1	1	3	4	12	60%	Robust planning of construction phase works to minimise likelihood of aborted possessions Plan to maximise works undertaken during every possession to minimise requirements Plan contingency possessions and plans with NR at earliest opportunity to ensure robust cost forecast. Co-ordination of tasks to ensure efficient use of supervision when on site. Flexibility within design to ensure construction sequence can change if possessions aborted/late	1	3	1	1	1	3	2	6	20%	£ 10,000.00	£ 75,000.00	£ 150,000.00	£ 23,200.00	0	£ 116,000.00	£ -	£ -	Reduced given the other allowances for NR works but still included for unforeseen - WC dropped to 150k	£ 500.00	£ 19,000.00	£ 37,500.00
R0022	Inadequate LCC cost forecasting	O	Development	Land	Phil Wilson	LCC	Change to DfT and LCC spend profiles - affects funding	DfT/LCC strategic engagement to be maintained	3	2	1	1	1	3	3	9	40%	Keep forecasting as up to date as possible and in line with current programme, inform LCC keep abreast of funding streams for scheme from other funding streams	3	2	1	1	1	3	1	3	5%	£ -	£ 630.40	£ 19,550.00	£ 336.34	0	£ 6,726.80	£ -	£ -	Could this prevent funding to the scheme - could it prevent scheme - CHECK WITH PHILL	£ -	£ 2,443.75	£ 4,887.50
R0023	Land Cost Increase	C	Development	Land	Margaret Whitmore	LCC	Increased costs <b>NOTE: This risk has been realised with an impact to scheme budget of circa £10m</b>	Accurate scheduling of land requirements Robust management of costs Acquire land early to mitigate delay/ land cost increases	1	5	2	3	1	5	3	15		Ensure robust business case and land cost estimate for CPO Advance negotiation of the scope of accommodation works	1	3	2	3	1	3	2	6		£ -	£ -	£ -	£ -	0	£ -	£ -	£ -	Reduced risk @ 26/11/18 as no challenges at present to current CPO on this basis therefore halved current allowances	£ -	£ -	£ -

Risk Identification Number	Risk Description	Open/Closed	Risk Type	Risk Category	Risk Owner	Cost Owner	Possible Consequences	Current Controls	Impact & Severity					Initial Risk Score	Pre-mitigated Probability	Mitigating Actions	Impact & Severity					Residual Risk Score	Post-mitigated Probability	Residual Risk Values			Comments				Risk Allowance = Assessed Value x Risk Multiplier																		
									S	C	O	P	E				Max	S	C	O	P			E	Max	Lowest	Most Probable	Highest	Risk EMV	Bernoulli	Distribution	Outputs	Lowest	Most Probable	Highest														
									Likelihood	Score	Score	Score	Score				Score	Score	Score	Score	Score			Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score												
R0024	Potential scope change post target cost	O	Construction	Detailed design	Paul Sullivan	LCC	Increase costs	Robust estimate Construction cost monitoring in line with design development This is a reconciliation of the development items listed previously which were realised in Jan19 update and removed	1	5	1	1	1	5	5	25	80%	Early Contractor involvement contract to enable greater cost certainty early and development of design with contractor input to reduce future cost increases Live estimate reviewed as design reviewed VE workshops lowest priced cost	1	5	1	1	1	5	2	10	20%	£ 4,000,000.00	£ 5,000,000.00	£ 10,500,000.00	£ 1,500,000.00	0	£ 7,500,000.00	£ -	Recent change values to similar schemes 13M	£ 400,000.00	£ 4,662,500.00	£ 8,925,000.00											
R0025	Part 1 Claims	O	Construction	Commercial	Margaret Whitmore	LCC	Increase costs	Accurate scheduling of effects Provision of robust estimate	1	5	1	3	1	5	3	15	40%	Ensure that the robust mitigation design is carried out during construction All agreements made with landowners to be fed back to design team for inclusion in construction issue design Key or critical timescales for works to be completed must be confirmed within design to ensure they are programmed accordingly	1	5	1	3	1	5	2	10	20%	£ 125,000.00	£ 250,000.00	£ 500,000.00	£ 58,333.33	0	£ 291,666.67	£ -	Part 1 claims cannot be commenced until post 12 months scheme completion - allowance worse case set at 500k	£ 12,500.00	£ 118,750.00	£ 225,000.00											
R0026	Impact of national/international incidents - -HAM, bird flu -Influenza -Terrorism -Civil strike	O	Construction	Programme	Phil Wilson	LCC	-Delay to programme -Increase costs	Maintain awareness of national events/ alerts	5	5	3	2	1	5	1	5	5%	Potential mitigation under Put in place emergency measures as soon as possible in advance of known risk or realisation of unexpected risk	5	5	3	2	1	5	1	5	5%	£ 30,000.00	£ 62,500.00	£ 250,000.00	£ 5,708.33	0	£ 114,166.67	£ -	Highest as 1 months delay of prelim value, most likely 25%	£ 1,500.00	£ 19,500.00	£ 37,500.00											
R0027	LCC Procurement process leading to delays	O	Construction	Commercial	Phil Wilson	LCC	Onerous process generating delays Delay to programme Key timescale requirements don't make it to final contract creating delays	Robust programming of procurement requirements providing sufficient time for process. Ensure documents checked prior to final agreement for key dates/ milestones requirements	3	1	2	1	1	3	4	12	60%	Robust programming of procurement requirements with key timeframes. Long period between final cost determination and work commencement This risk is likely to be fully mitigated through proposed amendments to the Planning Act which will remove the need for local major schemes, which connect into the Strategic Road Network, to use the Development Consent Order Process. Note: Planning Act amended and scheme does not now meet threshold to be NSIP and require DCO	3	1	2	1	1	3	1	3	5%	£ 20,000.00	£ 50,000.00	£ 150,000.00	£ 3,666.67	0	£ 73,333.33	£ -	Assessing the impact v team knowledge of scheme and suitable allowances within the target cost should reduce ECI phase risk. Therefore this is based upon construction phase impact and subsequent design and	£ 1,000.00	£ 19,250.00	£ 37,500.00											
R0028	Increase in delivery timescales due to both local and national planning processes	C	Development	Planning	Niamh O'Sullivan	LCC	Delay to programme	Robust planning application and subsequent information progress through LPA	5	4	1	3	1	5	4	20			4	3	1	2	1	4	1	4		£ -	£ -	£ -	£ -	0	£ -	£ -	CLOSED	£ -	£ -	£ -											
R0029	Resource risk - Lack of clarity in role definition	O	Development	Management	Phil Wilson	LCC	Delay to programme Duplication of efforts/missing elements of deliverables Adverse impact to resource planning	Robust Programme Management	3	3	2	1	3	3	2	6	20%	Clear scope for every role/ contractor involvement Regular reviews of works Consultant/ Contractor works managed by task order	2	2	3	2	2	3	2	6	20%	£ 5,000.00	£ 37,500.00	£ 150,000.00	£ 12,833.33	0	£ 64,166.67	£ -	Based upon most likely = 1 week delay at equiv to 15 Costain FTE, highest being 1 month delay at 15FTE	£ 250.00	£ 11,375.00	£ 22,500.00											
R0030	Resource risk - Insufficient communication/coordination across Project Team	C	Development	Management	Phil Wilson	LCC		Duplication of Risk 010								0		Duplication of R0010									£ -	£ -	£ -	£ -	0	£ -	£ -	Duplication of R0010	£ -	£ -	£ -												
R0031	Legal challenge delay - in excess of 3 months (judicial review)	C	Development	Legal	Phil Wilson	LCC	Delay to DfT approval and Start of Works Reputational damage Resource planning issues Additional cost	3 months in scheme programme Planning act filters challenges	2	3	2	3	3	3	4	12		ECI contract programme indicated legal challenge period Opportunities to sever ECI contract at milestones points; inc. if challenge protracted and costs escalating	4	3	2	1	1	4	2	8		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	Highest = 6 months inflation cost Most likely = 3 months delay in ECI at 15 Costain FTE Reduced the likelihood and value by half due to current legal position	£ -	£ -	£ -								
R0032	Marine Licence from Marine Management Organisation may be required for construction works on Savick Brook Potential that separate EIA for bridge may be required.	C	Construction	Construction Methods	Steve Webster	LCC	-Delay to programme -Increase costs	LCC early engagement with MMO to check requirements.	4	1	1	1	1	4	3	12		Request sent to MMO and confirmed that a MMO licence is not required	1	1	1	1	1	1	1			£ -	£ -	£ 0	£ -	£ -	£ -	£ -	CLOSED	£ -	£ -	£ -											
R0033	Canal & River Trust need for s106 agreement under HA 1980 for navigation rights	O	Development	Legal	Jane Turner	LCC	Delay to programme	Early engagement with CRT to agree scope of S106	4	3	4	4	1	4	3	12		Reviews of developing document with CRT to ensure agreements in place and acceptable to both parties prior to formal submission	4	3	4	4	1	4	2	8		£ 10,000.00	£ 50,000.00	£ 250,000.00	£ -	£ 0	£ -	£ -	Canal and river trust have not challenged CPO. CLOSED - RE opened as this agreement still needs to be site up agreed and instructed - assessment based upon 1 weeks preliminary delays (250k)	£ 1,000.00	£ 31,750.00	£ 62,500.00											
R0034	Third party agreement to include lands in CPO (line Canal & River Trust, Duchy of Lancaster land, Network Rail)	C	Development	Legal	Jane Turner	LCC	Delay to programme	Enter early engagement outside CPO with each stakeholder	4	2	4	2	1	4	3	12		Early and regular engagement to confirm planned works and proposals to confirm agreement to works and land requirements as design progresses. Ensure all land requirements are identified early and completely to prevent revising of requirements Enter into Third Party Works agreement	4	2	2	1	1	4	1	4		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	Early in process to assume delays based on FTE Most prob = 2 weeks delay Highest = 1 month	£ -	£ -	£ -							
R0035	Duchy of Lancaster need agreement to include land in CPO	C	Development	Legal	Jane Turner	LCC	Delay to programme	Enter into early engagement	4	1	3	1	1	4	2	8		Early agreement with the Duchy outside of CPO	4	1	3	1	1	4	2	8		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	see R0281 awaiting 106 with latest updated planning submission CLOSED	£ -	£ -	£ -						
R0036	Network Rail need agreement to include land in CPO (over sailing rights)	O	Development	Legal	Jane Turner	LCC	Delay to programme seeking land agreement Costs associated with delay Reputational impact if disrupt rail users	Early engagement and agree land acquisition outside of CPO	3	2	2	3	1	3	3	9	40%	Early and regular engagement to confirm planned works and proposals to seek agreement to works and land requirements as design progresses. Ensure all land requirements are identified early and completely to prevent revising of requirements	3	2	2	2	1	3	2	6	20%	£ -	£ 15,000.00	£ 150,000.00	£ 11,000.00	0	£ 55,000.00	£ -	Yet to be agreed and challenged within the CPO process at this point. Item remains open until closure of inquiry about process expected to be agreed - Assessment at this point based upon 1 month delay to programme ECI (15 Staff 1 month allow 150k)	£ -	£ -	£ 18,750.00	£ 37,500.00										
R0037	Public Open Space - if identified need agreement for exchanged land unless exemption is obtained. - Cottam Way roundabout is designated open space and may trigger parliamentary procedures	O	Development	Legal	Jane Turner	LCC	Increase costs Procedures Delay during Inquiry Resource planning impact	Avoidance of public open space Early identification of public open space	3	2	2	3	1	3	4	12	60%	Land swap has been agreed for the area within the housing estate review to be carried out on Cottam roundabout	1	1	2	3	1	3	1	3	5%	£ -	£ 1,000.00	£ 5,000.00	£ 100.00	0	£ 2,000.00	£ -	Risk seen as minimal at present with Section 10 application	£ -	£ -	£ 625.00	£ 1,250.00										
R0038	Cottam Way roundabout is designated open space and scheme may trigger parliamentary procedures	C	Development	Legal	Jane Turner	LCC	Increase costs Procedures Delay during Inquiry Resource planning impact	Combined with R0037								0		Combined with R0037									£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	Combined with R0037	£ -	£ -	£ -									
R0039	Taylor Wimpey public open space issue with alignment	C	Development	Legal	Jane Turner	LCC	Delay to programme	Discussions with developer Discussion with Preston City Council as planning authority	3	2	3	3	1	3	3	9		After exchange land may be compensate less	1	2	2	2	1	2	1	2		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	Highest based on 6 week delay for JR Most likely 2 week delay Costs based on 6Costain FTE due to timing in programme.	£ -	£ -	£ -						
R0040	Delays in arranging Public Inquiry due to Planning Inspector delays	C	Development	Legal	Jane Turner	LCC	Delay to programme Costs associated with Inquiry - legal representation etc.	Early engagement	3	3	2	2	1	3	3	9		Programme timescales based upon Public Inquiry and timescales based upon previous PI performance	3	3	2	2	1	3	1	3		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	Inquiry date set for 22nd November 2018 so risk reduced albeit NSIP clash may extend duration of process - 0/2 weeks/2 months - Closed as inquiry underway Nov 18	£ -	£ -	£ -						
R0041	Delays in accessing land for surveys	C	Development	Land	Margaret Whitmore	LCC	Risk that ecology survey season is missed and delays to programme May delay scheme design development and delivery start dates	Maintain access under notice via S289 Highways Act. Negotiation with landowners for time/ programme sensitive access	3	1	1	1	3	3	9		Matt Gibbs has been engaged as an additional resource to assist in access arrangements Regular monitoring - via Jacobs PM (Ecology coordinator and LCC Environmental coordinator is required to ensure access arrangements are kept on track with programmed survey requirements Engagement with landowners/ occupiers regarding compensation	3	1	1	1	3	3	2	6		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	CLOSED	£ -	£ -	£ -						
R0042	Land issues: - Failure to identify correct land interests - Failure to identify correct extent of CPO - Potential delay with land assembly - Failure to agree inclusion of land for CPO from crown or stat interests - delay in agreeing acquisition of land from statutory/ crown interest not within CPO	C	Development	Land	Margaret Whitmore	LCC	Risk to CPO -Assembly of land	Early appointment of land referencing firm	4	1	1	3	1	4	3	12		Ensure robust land referencing (external specialist supplier Terra Quest have been engaged)	2	1	1	1	1	2	1	2		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	This risk is newly closed out with CPO/PIM process Nov 18. Allowance included for unforeseens	£ -	£ -	£ -					
R0043	Failure to identify correct extent of land required under CPO	C	Development	Land	Margaret Whitmore	LCC	Risk to CPO -Assembly of land	Refer design and construction requirements on land take Review with maintainer to ensure maintenance access sufficient	4	1	1	2	1	4	3	12		Workshops held to review land take ensuring cover construction/perm works and operational/ maintenance requirements	4	1	1	2	1	4	2	8		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -						
R0044	Potential delay with land assembly	C	Development	Land	Margaret Whitmore	LCC	Delay to programme	This will be mitigated through early commencement of the order processes and land acquisitions	5	2	1	1	1	5	2	10		Ensure robust land take planning and accurate land referencing	5	2	1	1	1	5	1	6		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -						
R0045	Failure to agree inclusion of land in CPO from statutory/crown interests	C	Development	Land	Margaret Whitmore	LCC	Risk to CPO -Assembly of land Requirement for realignment of route/redesign/ planning	Early engagement with Crown Estates to establish land take required Regular engagement to assess progress of agreements and establish any concerns early	5	5	1	1	1	5	3	15		Early engagement with Crown Estates to establish land take required Regular engagement to assess progress of agreements and establish any concerns early	5	5	1	1	1	5	2	10		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -						
R0046	Delays in agreeing land interest acquisition from statutory/crown/charity interests not in CPO	C	Development	Land	Margaret Whitmore	LCC	Delay to programme	Early discussions with statutory/crown/charity interests	5	5	1	1	1	5	3	15		Early engagement with Crown Estates to establish land take required Regular engagement to assess progress of agreements and establish any concerns early	5	5	1	1	1	5	2	10		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -						
R0047	Compensation claims following Blight Notices - Risk following protection of route	C	Development	Land	Margaret Whitmore	LCC	Increase costs	Avoid residential properties	1	4	3	1	1	4	2	8		Early identification of potential blight situations and seek redesign.	1	4	3	1	1	4	1	4		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -					
R0048	Severed land	C	Development	Land	Margaret Whitmore	LCC	LCC ownership of severed land plots	Residual value taken account of in Lands Budget	1	4	3	3	1	4	3	12		Seek to mitigate severance where possible. Aim to provide alternative means of access to avoid severance Ensure plans reviewed and allocation provided for accommodation works and land costs for unavoidable severed plots	1	4	3	3	1	4	2	8		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -			
R0049	Potential for unforeseen access issues - e.g. Bird Flu, uncooperative landowners etc.	O	Construction	Land	Margaret Whitmore	LCC	Delays to access prevent surveyors meeting programme deadlines and access for construction operations	Full engagement were possible between LCC local community and land owners - keeping updated with local "wellbeing" of agricultural and social issues	3	3	3	1	1	3	3	9	40%	Additional resource will need to be engaged from LCC property (or elsewhere within LCC) Regular monitoring - via Jacobs PM (Ecology coordinator and LCC Environmental coordinator is required to ensure access arrangements are kept on track with programmed survey requirements Liaise with statutory bodies (ex EA, DEFRA)	3	3	3	1	1	3	2	6	20%	£ 50,000.00	£ 250,000.00	£ 750,000.00	£ 70,000.00	0	£ 350,000.00	£ -	Matt Gibbs left unsure who carries on this role allowance left as previous.	£ 2,500.00	£ 95,000.00	£ 187,500.00											
R0050	Access refusal for EIA fieldwork	C	Development	Land	Margaret Whitmore	LCC	Incomplete survey data causing delay, or refusal of planning and licence approval	Process through Highway or Planning Powers	3	1	2	2	4	3	12		Ensure early liaison with land owners to secure access to land for field studies. Approach landowners with sufficient time to invoke Highways powers if required within sampling window	1	1	1	1	3	3	1	3		£ -	£ -	£ 0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	CLOSED	£ -	£ -	£ -			
R0051	Planning application is not approved by DC Committee	C	Development	Planning	Niamh O'Sullivan	LCC	The planning application is refused	Appropriate resource planning and robust programming required to ensure strong planning case is made for the road	5	5	4	3	1	5	2	10		Robust planning application prepared Ensure all necessary survey works completed Address any questions/ queries quickly and efficiently to prevent undue delays	5	5	4	3	1	5	1	5		£ -	£ -	£ 0	£ 165,000.00	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	Agreed in principle awaiting 106 for bat barn. Could result in awaiting for next committee meeting on 3 month rota (15 staff at 3 months)	£ -	£ -	£ -
R0052	Running the planning applications and Environmental Impact Assessment for all 4 schemes together	C	Development	Planning																																													







Risk Identification Number	Risk Description	Open/Closed	Risk Type	Risk Category	Risk Owner	Cost Owner	Possible Consequences	Current Controls	Impact & Severity										Initial Risk Score	Pre-mitigated Probability	Mitigating Actions	Impact & Severity										Residual Risk Score	Post-mitigated Probability	Residual Risk Values				Comments				Risk Allowance = Assessed Value x Risk Multiplier											
									S					C								O					P							E					Max					Lowest	Most probable	Highest	Risk EMV	Bernoulli	Distribution	Outputs	Lowest	Most Probable	Highest
									S	C	O	P	E	Max	S	C	O	P				E	Max	S	C	O	P	E	Max	S	C			O	P	E	Max	S	C	O	P	E	Max										
R0129	Weather impact on project, weather exceeds 1:10 year average (rain, snow, wind, drought)	O	Construction	Weather	Paul Sullivan	LCC	Potential to delay the construction works, significant risks associated with the management of excessive water/ runoff etc. Possible impact of additional watering required if drought in landscape establishment period	Review of weather records for the area (or relevant weather station)	4	5	1	1	4	5	4	20	60%	At earliest opportunity install permanent drainage system; suitable and effective temporary drainage systems established prior to permanent Early construction of the ponds to permit water settlement during construction	4	4	1	1	4	4	3	12	40%	£ 500,000.00	£ 1,000,000.00	£ 2,000,000.00	£ 466,666.67	0	£ 1,166,666.67	£ -	-	Establish that correct weather station is allowed for within contract.	£ 50,000.00	£ 675,000.00	£ 1,300,000.00														
R0130	Protestor action	O	Construction	Contractual	Phil Wilson	LCC	Potential damage to works Delay to programme Increase costs	Resolve issues during Phase 1 to ensure we address Acknowledge fears and issues and look to resolve where possible prior to construction	2	2	1	3	1	3	2	6	20%	Employ countrywide intelligence with regard to protester actions plans Utilise Company experience of managing protester actions	2	2	1	3	1	3	2	6	20%	£ -	£ -	£ 62,500.00	£ 4,166.67	0	£ 20,833.33	£ -	-	Allow 1 weeks delay to anticipated preliminary costs	£ -	£ 4,687.50	£ 9,375.00														
R0131	Notable trees - cost of translocation of trunk/ branches - EMP now showing that certain areas may be translocated twice	O	Construction	Environment	John Jones	LCC	Translocation objectives not achieved	Awaiting EMP drawings from LCC ecologist to establish full requirement and calculation.	2	1	1	1	3	3	3	9	40%	Identification of suitable trees/ hedgerows for translocation Where possible undercut in advance of translocation as per best practice guidance Plan translocation to appropriate season & directly from donor to receptor site	2	1	1	3	3	3	2	6	20%	£ 10,680.63	£ 21,361.25	£ 42,722.50	£ 2,650.96	0	£ 13,254.79	£ -	-	Worst case based upon total failure of translocation and requirement to install new hedge: 1490m to be translocated @rate for new hedge = £15.25 per linear m Plus allowance for additional trees to be removed at £20k	£ 534.03	£ 5,607.33	£ 10,680.63														
R0132	Noise and vibration and dust to local residents	C	Construction	Environment	Karl Heath	Costain	Potential H&S issue for public	mitigation put in place	1	2	1	4	3	4	4	16		Eliminate during the design process as far as possible. Thereafter, best practise measures to be included within H&SMP - well maintained plant, regularly serviced - no idling of plant - strict adherence to permitted hours - seed long term stockpiles - seal all stockpiles - don't store materials adj to sensitive sites - damp down areas during prolonged dry spells - soil strips only where necessary	1	2	1	4	3	4	2	8		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Construction period risk therefore re opened	£ -	£ -	£ -														
R0133	Mud on road	O	Construction	Environment	Karl Heath	Costain	Potential H&S issue for public and site traffic	Suitable wheel washing facilities at site egress points, tumble strips/ jet washes as required See CEMP	2	3	1	4	3	4	4	16	60%	Dedicated access routes to/from site Attendance of multiple road sweepers across site all day every day during operational hours Use of hardened run of strips at site exit points with appropriate cleaning facilities.	2	3	1	4	3	4	2	8	20%	£ 5,000.00	£ 10,000.00	£ 50,000.00	£ 4,333.33	0	£ 21,666.67	£ -	-	see above	£ 500.00	£ 11,500.00	£ 22,500.00														
R0134	Access restrictions for Contractors haulage	O	Construction	Access for construction	Steve Webster	Costain	Risk of assumptions changing Reputational damage if site traffic using unsuitable routes Delay and cost impact if loads cannot reach site	Robust supervision of construction stages	2	2	1	3	1	3	4	12	60%	Agreed access routes prior to construction start Identification of designated access points including dedicated access from M55 Communication of approved routes to all delivery drivers/ contractors Communication of routes at induction and enforcement Signage on vehicles to identify PWD/R traffic Overstressed loads to be routes in consultation with LCC Abnormal Loads specialist, highway authority and	2	3	1	3	1	3	3	9	40%	£ 12,500.00	£ 25,000.00	£ 100,000.00	£ 18,333.33	0	£ 45,833.33	£ -	-	Based upon most likely being cost of a bridge inspection, worst case is requirement to remediate or temporary close road and pack up and over stru to cross for 1 day As well as programme and other output delay, Fox have suggested that they were never allowed to take abnormal loads across the canal bridge	£ 1,250.00	£ 13,125.00	£ 25,000.00														
R0135	Difficult access for large construction plant	C	Construction	Access for construction	Steve Webster	Costain	Delays to works Limitations on design options Increased costs due to creating new access Land issues	Joint working between Designer and Contractor to reduce risk	1	1	1	2	1	2	4	8		Agreement of routes with Highway Authority, LCC Abnormal Loads specialist and Police in advance of any delivery Effective planning methodology	1	1	1	2	1	2	1	2		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Closed as covered in 132	£ -	£ -	£ -														
R0136	Access for plant with rail and canal restrictions	C	Construction	Access for construction	Steve Webster	Costain	Delay to programme Increased cost Land issues	Joint working between Designer and Contractor to reduce risk	2	1	3	1	1	3	4	12		Early liaison with NR/ CRT to establish requirements, restrictions and agree measures acceptable to all for inclusion in work planning	2	1	3	1	1	3	1	3		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Closed as covered in 134	£ -	£ -	£ -														
R0137	Piling rig access - existing routes, weight limits	C	Construction	Access for construction	Steve Webster	Costain	Delays to works Increased costs due to creating new access Land issues	Joint working between Designer and Contractor to reduce risk	2	2	1	1	1	2	3	6		confirmation of plant requirements during ECI phase to enable assessment of weights, routes to site/ requirements Ensure requirements factored into programme and method related changes within TC	2	2	1	1	1	2	2	4		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Closed as covered in 134	£ -	£ -	£ -														
R0138	Existing drainage system adequacy. Modifying, cleaning and access	O	Construction	Environment	John McKeever	LCC	Additional works to existing drainage	Robust supervision of construction stages	3	3	3	1	3	3	4	12	60%	Existing ditches and drainage outfalls have been surveyed. Review outfall locations and capacity/ cleaning works required during design phase. Ensure scope is defined and agreed with relevant regulatory body (water board/ flood risk team/ EA etc.) Ensure permits in place for works in advance of construction to prevent site delay.	3	3	3	1	3	3	3	9	40%	£ 2,500.00	£ 5,000.00	£ 50,000.00	£ 7,666.67	0	£ 19,166.67	£ -	-		£ 250.00	£ 6,375.00	£ 12,500.00														
R0139	Savick Brook viaduct- Proximity to large diameter sewers. Risk of services not being located as shown on service records	C	Construction	Underground / Overground Services	Kim Whalley	LCC	Risk of damage during construction	Work with UU to obtain most accurate information available and check via additional surveys	4	3	3	1	1	4	4	16		Site survey to identify location of sewers (note trial holes completed Mar 16 and locations confirmed to design team to inform design - led to movement of abutment position)	4	3	3	1	1	4	1	4		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Duplication of R0177	£ -	£ -	£ -														
R0140	Culvert extensions under slip roads	C	Construction	Underground / Overground Services	John McKeever	LCC	Possible delays due to agreements with HE	Early planning and liaison with HE and inclusion within the partnership to ensure engagement and full understanding of their concerns	3	2	3	1	2	3	4	12		Ensure scope of works clearly defined during design to enable inclusion in TC and construction programme to prevent site delay	3	2	3	1	2	3	2	6		£ -	£ -	£ -	£ -	0	£ -	£ -	-	should be included in target cost	£ -	£ -	£ -														
R0141	Approvals for railway works Duplicate of R0005	C	Construction	Construction Methods	Steve Webster	LCC	Failure of NR to approve RAMS etc. on time leading to construction delays	Early planning and liaison with NR and inclusion within the partnership to ensure engagement and full understanding of their concerns Minimise reliance on possessions to complete the works through design and temporary works design Overbook and accept cost of cancellation	5	3	3	1	1	5	4	20		Include key dates for document production and submission to NR within the works programme to ensure none missed Early agreement of timetables to book possessions, obtain approvals etc. - timescales to be included within programme. Programme to be developed in sufficient detail during ECI to enable possession booking to be made on date of contract award Mistakes to be included on programme in advance of possession for all document approvals (RAMS/ WPP etc.)	5	3	3	1	1	5	2	10		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Duplication of R0005	£ -	£ -	£ -														
R0142	NR approvals for crane and steelwork erection included in R0005	C	Construction	Legal	Jane Turner	LCC	Delays in securing approvals can delay scheme progress	Early planning and liaison with NR and inclusion within the partnership to ensure engagement and full understanding of their concerns	5	3	3	1	1	5	4	20		Same mitigation actions as above PLUS Engagement with NR to review proposed construction methodology in advance of RAMS submission	5	3	3	1	1	5	2	10		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Duplication of R0005	£ -	£ -	£ -														
R0143	Working over the railway - work at height - working in proximity to electric cables	C	Construction	Health and Safety	Steve Webster	Costain	Risk to Safety during construction	Risk Management plan in place as part of any contract awarded for development	3	3	1	1	1	3	3	9		Robust management of health and safety risks during works planning Competent contractors engaged for works over the	3	3	1	1	1	3	2	6		£ -	£ -	£ -	£ -	0	£ -	£ -	-	see above	£ -	£ -	£ -														
R0144	Blackpool Railway Bridge- Working adjacent/over railway	C	Construction	Construction Methods	Steve Webster	Costain	Possible delays due to agreements and possessions with NR	Risk Management plan in place as part of any contract awarded for development	5	3	3	1	1	5	4	20		Include key dates for document production and submission to NR within the works programme to ensure none missed Early agreement of timetables to book possessions, obtain approvals etc. - timescales to be included within programme. Programme to be developed in sufficient detail during ECI to enable possession booking to be made on date of contract award Mistakes to be included on programme in advance of possession for all document approvals (RAMS/ WPP etc.)	5	3	3	1	1	5	2	10		£ -	£ -	£ -	£ -	0	£ -	£ -	-	see above risk R0142	£ -	£ -	£ -														
R0145	Managing NR interfaces - level of resource required, additional or special requirements (PPE, chestnut fencing etc.)	C	Construction	Construction Methods	Steve Webster	Costain	Possible delays due to agreements with NR	Early planning and liaison with NR and inclusion within the partnership to ensure engagement and full understanding of their concerns	2	2	3	1	1	3	4	12		Early engagement with NR to agree requirements and ensure they are included within TC allowances.	2	2	3	1	1	3	2	6		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Closed	£ -	£ -	£ -														
R0146	Risk of settlement to existing assets (CRT/ NR) resulting from embankment construction	O	Construction	Construction Methods	Kim Whalley	LCC	Risk of damage during construction Construction works stopped if movement outside acceptable limits Closure of third party asset if damage occurs Reputational damage to all parties Repair costs	Design solution to reduce loadings from embankments and bridge Select form of construction to minimise risk Monitor during construction	4	4	5	4	1	5	4	20	60%	Ensure design models the potential settlement impact on assets and details any limits and monitoring required to ensure no adverse impact on third party assets Review potential settlements and control measures with third party asset owner early in design process to seek agreement to controls/ monitoring requirements Ensure monitoring included within TC	4	4	5	3	1	5	3	15	40%	£ 100,000.00	£ 500,000.00	£ 2,000,000.00	£ 346,666.67	0	£ 866,666.67	£ -	-	Currently there is an issue with regards to track movement during bridge works as not being acceptable by NR. May need change to design on order to alleviate settlement to lightweight fill or similar other wisconsequences of movement could be significant. Also since electrification there is a risk of track and overheads moving and re-amping track but on clearance now differing	£ 30,000.00	£ 665,000.00	£ 1,300,000.00														
R0147	Remedial works as a result of track monitoring works during construction	C	Construction	Contractual	Kim Whalley	LCC	Settlement will require remedial work Risk of construction works being stopped if damage occurs and resultant delay	Select form of construction to minimise risk Monitor during construction	3	2	3	1	1	3	4	12		Ensure scope of monitoring is known prior to TC preparation to ensure allowances included Agree trigger levels for action to avoid likelihood of damage to assets.	3	2	3	1	1	3	2	6		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Closed	£ -	£ -	£ -														
R0148	Darkinson Lane underpass- To be constructed in close proximity to overhead power cables	C	Construction	Underground / Overground Services	Kim Whalley	LCC	Risk to Safety during construction	Risk Management plan in place as part of any contract awarded for development	1	3	4	1	1	4	4	16		Ensure restrictions for works in proximity to NG/ENWL assets are known and clearly communicated to design/ construction team for consideration in design and works planning Engage with ENWL/ NG prior to finalisation of works method to ensure their agreement/ satisfaction of protection of their asset	1	3	4	1	1	4	1	4		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Being designed out by lowering	£ -	£ -	£ -														
R0149	Savick Brook Viaduct- Proximity to overhead power cables	O	Construction	Construction Methods	Steve Webster	Costain	Risk to Safety during construction	Risk Management plan in place as part of any contract awarded for development	4	4	4	1	1	4	4	16	60%	Significant works required in proximity of these ENWL & NG assets. Ensure engagement to agree proposed work methods, proposed plant and understand asset protection measures that must be applied Use of modelling to confirm available clearances/ check proposed plant can work within the restrictions. Inclusion of supply chain in planning works, highlighting potential issues	4	4	4	1	1	4	3	12	40%	£ 100,000.00	£ 150,000.00	£ 500,000.00	£ 100,000.00	0	£ 250,000.00	£ -	-	Design has been revised in consideration of this and remaining is included within TC. Consideration has to be sought that until all process agreed that this should remain open.	£ 10,000.00	£ 117,500.00	£ 225,000.00														
R0150	Works over watercourses: Savick Brook and Lancaster Canal	C	Construction	Construction Methods	Steve Webster	LCC	Possible delays due to agreements and possessions with CRT	Early planning and liaison with CRT and inclusion within the partnership to ensure engagement and full understanding of their concerns	2	2	4	2	2	4	4	16		Ensure 100% environmental protection measures to prevent pollution of watercourse Seek flood alerts for this floodplain and ensure robust plans for the storage of materials/ plant in safe zones to minimise risk Engagement with CRT to establish controls or procedures to work over the waterway and co-ordination of navigation Works planning to consider SHE risks of works over/ adjacent to watercourse and pollution prevention measures required. Avoid planning works in stream between October and May Liaison with CRT to establish possession availability and notification periods Inclusion of these notification periods within programme Provision of works to reflect risk of work on adjacent river	2	2	4	2	2	4	2	8		£ -	£ -	£ -	£ -	0	£ -	£ -	-	Process programme and discussions taken place to ensure that this will not happen - Closed	£ -	£ -	£ -														
R0151	Lancaster Canal- Working adjacent/over canal	C	Construction	Health and Safety	Steve Webster	LCC	Possible delays due to agreements and possessions with CRT	Early planning and liaison with CRT and inclusion within the partnership to ensure engagement and full understanding of their concerns	2	2	3	1	1	3	4	12		Ensure work plans are comprehensive and consider risks associated with plant, substances or other technology. Trained and competent operatives RAMS and site processes	2	2	3	1	1	3	2	6		£ -	£ -	£ -	£ -	0	£ -	£ -	-		£ -	£ -	£ -														
R0152	Risk of accidents having regard in particular to substances or technologies used	O	Construction	Health and Safety	Richard Helme	Costain	Risk to Safety during construction	Risk Management plan in place as part of any contract awarded for development	2	3	1	4	4	4	4	16	60%	Ensure work plans are comprehensive and consider risks associated with plant, substances or other technology. Trained and competent operatives RAMS and site processes	2	3	1	4	4	4	2	8	20%	£ 10,000.00	£ 30,000.00	£ 2,500,000.00	£ 169,333.33	0	£ 846,666.67	£ -	-	Worst case major incident , lowest minor site claims.	£ 1,000.00	£ 563,000.00	£ 1,125,000.00														
R0153	Protection of services	O	Construction	Underground / Overground Services	Simon Crisp	Costain	Risk of damage during construction	Ensure protection survey works undertaken to verify SU records Plan for reconstruction requirements (in situ protection slabs diversions, GSE etc.) and include within TC allowances	2	3	4	3	1	4	4	16	60%	Ensure protection survey works undertaken to verify SU records Plan for reconstruction requirements (in situ protection slabs diversions, GSE etc.) and include within TC allowances	2	3	4	3	1	4	2	8	20%	£ 10,000.00	£ 20,000.00	£ 50,000.00	£ 5,333.33	0	£ 26,666.67	£ -	-	Unforeseen services that require additional protection	£ 1,000.00	£ 11,750.00	£ 22,500.00														













