

**City of London: Projects Procedure Corporate Risks Register**

Project name: *Tower Bridge HV Replacement and Increasing Resilience*

Unique project identifier: *11520*

Total est cost (exc risk) *£5687003*

PM's overall risk rating	Medium
Avg risk pre-mitigation	9.0
Avg risk post-mitigation	4.8
Red risks (open)	4
Amber risks (open)	44
Green risks (open)	7

Corporate Risk Matrix score table

	Minor impact	Serious impact	Major impact	Extreme impact
Likely	4	8	16	32
Possible	3	6	12	24
Unlikely	2	4	8	16
Rare	1	2	4	8

Costed risks identified (All)

£9,535,000.00	168%
£9,535,000.00	168%
£2,185,000.00	38%
£335,000.00	6%

Costed risk as % of total estimated cost of project

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Costed risk pre-mitigation (open)

Costed risk post-mitigation (open)

Costed Risk Provision requested

CRP as % of total estimated cost of project

- (1) Compliance/Regulatory
- (2) Financial
- (3) Reputation
- (4) Contractual/Partnership
- (5) H&S/Wellbeing
- (6) Safeguarding
- (7) Innovation
- (8) Technology
- (9) Environmental
- (10) Physical

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	11	10.2	£1,670,000.00	0	10	1
(2) Financial	2	9.0	£845,000.00	0	2	0
(3) Reputation	6	8.3	£170,000.00	1	4	1
(4) Contractual/Partnership	1	4.0	£150,000.00	0	0	1
(5) H&S/Wellbeing	2	14.0	£250,000.00	1	1	0
(6) Safeguarding	0	0.0	£0.00	0	0	0
(7) Innovation	0	0.0	£0.00	0	0	0
(8) Technology	0	0.0	£0.00	0	0	0
(9) Environmental	3	8.0	£700,000.00	0	3	0
(10) Physical	30	8.7	£5,750,000.00	2	24	4

Issues (open)	0
All Issues	0

Open Issues  
All Issues

Extreme	Major	Serious	Minor
0	0	0	0
0	0	0	0

Cost to resolve all issues (on completion)

£0.00
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Total CRP used to date

£0.00
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Project Name: Tower Bridge HV Replacement and Increasing Resilil			PM's overall risk rating: Medium		CRP requested this gateway: £ 335,000		Average unmitigated risk score: 9.0				Open Risks: 66														
Unique project identifier: 11520			Total estimated cost (exc risk): £ 5,687,003		Total CRP used to date: -		Average mitigated risk score: 4.8				Closed Risks: 6														
Risk ID	Gateway	Category	Description of the Risk	Risk Impact Description	Likelihood Classification	Impact Classification	Risk score	Costed Impact pre-mitigation (£)	Costed Risk Provision requested Y/N	Confidence in the estimation	Mitigation actions	Mitigation cost (£)	Likelihood Classification post-mitigation	Impact Classification post-mitigation	Costed Impact post-mitigation (£)	Post-Mitigation Risk	CRP used to date	Use of CRP	Date raised	Named Department / Risk Manager / Manager	Risk owner (Named Officer or External)	Date Closed or Realised	Action open service	Comment(s)	
81	5	(10) Physical	Terrorism	Terrorist attack affecting the ability to get to site, affecting planned or completed works. Risk of 4 weeks delay. Cost of works, permits, storage, re-letting.	Possible	Extreme	34	£150,000.00	N	D - Very Uncomfortable	Bridge forms part of existing Col counter terrorism policy. Site security requirements to be reviewed during design development. Specific holding requirements to be specified within ITT documents and pricing.	£0.00	Possible	Major	£0.00	12	£0.00		17/08/20		COLC (Newdeep Brui)				
82	4	(1) Compliance/Rulatory	Not obtaining or delay in Planning & Listed Building Consents.	Delay / redesign fees and application costs. Incurring increased risk of power failure due to delay.	Possible	Major	12	£300,000.00	Y - for costed impact post-mitigation	B - Fairly Confident	Early engagement with Historic England and LB Tower Hamlets.	£0.00	Possible	Serious	£300,000.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / Fellings (Andrew Fisher)				
83	4	(10) Physical	Unlimited site survey information results in delay to the design process as surveys require tendering & instruction.	Delay in developing design results in overall project delay.	Likely	Serious	8	£75,000.00	Y - for costed impact post-mitigation	B - Fairly Confident	Implement site survey schedule and identify surveys / information required from early RIBA Stage 2.	£0.00	Possible	Serious	£30,000.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / Design Team (Phil Brown & David Brown AECOM / PHU (Steve McConeghy))				
84	4	(1) Compliance/Rulatory	Failure to obtain Statutory Approvals	Number of approvals required that could delay works including TR, (associated Highways), FLA, license required etc.	Possible	Major	12	£150,000.00	Y - for costed impact post-mitigation	C - Uncomfortable	Early engagement (RIBA Stage 3) with TR, FLA to agree proposals.	£0.00	Possible	Serious	£30,000.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / Fellings (Andrew Fisher)			Early engagement with TR & FLA may require the appointment of a Transport Consultant. This must be considered during RIBA Stage 3.	
85	5	(1) Compliance/Rulatory	Reliance on Third Party Statutory Works e.g. UKPN	Time and cost (extension of time claims from contracts and design team)	Possible	Major	12	£150,000.00	N	C - Uncomfortable	Early engagement and submission of application to UKPN by COLC. An early application fee will be payable, c.£100-150k, estimated to reserve north shore supply.	£0.00	Possible	Serious	£50,000.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / PHU (Steve McConeghy)				AECOM shall submit the UKPN application during early RIBA Stage 2. AECOM shall monitor the UKPN application and detailed design process. UKPN quotation received 20.10.2020 allowing early placement of order.
86	5	(3) Reputation	Disturbance to neighbours during construction works resulting in negative reputation of project and client. Increased costs and delays to programme.	Reputation	Possible	Serious	6	£0.00	N	B - Fairly Confident	Ensuring that logistics plan and environmental team requirements are met by the contractor. Draft CRMP to be agreed from contractor as part of ITT process / Stage 3.	£0.00	Possible	Serious	£0.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / Contract (TBC)				
87	5	(3) Reputation	Disturbance or effect on business / Local Activities Tower Bridge. Potential requirement for temporary hoist office should closure be required to facilitate works.	Revenue impact (est £400k per month)	Possible	Major	12	£0.00	N	B - Fairly Confident	Consider phasing of works during design development. Out of hours working and back up supply to be considered to avoid B&I disruption.	£0.00	None	Major	£0.00	4	£0.00		17/08/20		COLC (Newdeep Brui) / Design Team (Phil Brown & David Brown AECOM / PHU (Steve McConeghy))				Design team to develop phasing strategy / sectional construction proposals prior to ITT issue.
88	5	(9) Environmental	Poor consultant / contractor performance	Time and cost for disputes, delays or replacement of resource	Possible	Serious	6	£400,000.00	N	C - Uncomfortable	Close team management in place - high quality weighting for tender assessment and EPR during appointment etc.	£0.00	Unlikely	Serious	£30,000.00	4	£0.00		17/08/20		COLC (Newdeep Brui) / CL James Campbell / PHU (Steve McConeghy) / Contractor				Project team to assess most appropriate procurement route during early RIBA Stage 3 (procurement workshop). This will define the most appropriate route to identify a principal contractor.
89	5	(3) Reputation	Negative Press	Reputation	Possible	Serious	6	£20,000.00	N	B - Fairly Confident	liaison with TR Marketing / Col press office ahead of commencement of works.	£0.00	Possible	Minor	£0.00	3	£0.00		17/08/20		COLC (Newdeep Brui)				Press release to be issued to provide sufficient and balanced warning of works. Communications Strategy to be developed with TR & COLC. Potential use of communications consultant if negative press is received due to bridge closure / bus diversion etc.
90	5	(3) Reputation	Local transport disruption caused by construction traffic	Reputation	Likely	Minor	4	£0.00	N	C - Uncomfortable	highlight traffic management sensitivities to UKPN & TR on engagement.	£0.00	Possible	Minor	£0.00	3	£0.00		17/08/20		COLC (Newdeep Brui)				Refer to Risk 4 above.
91	5	(10) Physical	Delays during construction unable to achieve practical completion as programmed	Time and cost (consultant fees, staff costs)	Possible	Serious	6	£0.00	N	C - Uncomfortable	Project management and good operation of contractor and robust ITT documentation to be developed at RIBA Stage 3.	£0.00	Possible	Minor	£0.00	3	£0.00		17/08/20		COLC (Newdeep Brui) / CL James Campbell / PHU (Steve McConeghy)	Oct-20			Risk Closed. Refer to Risk 42
92	5	(10) Physical	Site access constraints for construction, access and logistics.	Site logistics impacting on cost, time and quality of completing the works	Possible	Major	12	£0.00	N	C - Uncomfortable	the logistics plan will be developed and included in tender docs. Meeting to project team and Contractor to be held with options, access and logistics discussed.	£0.00	Unlikely	Major	£0.00	8	£0.00		17/08/20		COLC (Newdeep Brui) / Design Team (Phil Brown AECOM / David Brown AECOM / PHU (Steve McConeghy)) / Contract (TBC)	Oct-20			Refer to Risk 3 above. Implement site survey schedule and identify surveys / information required from early RIBA Stage 2. Design team to develop design based on accurate measured building survey information. Review of tender massive installation information. Risk Closed. Refer to Risk 42
93	5	(10) Physical	Unavoidable or un-anticipated bridge activities affecting these works	Time and Cost - extension of time	Likely	Minor	4	£250,000.00	N	C - Uncomfortable	liaise closely with TR Team and contractor on programme.	£0.00	Possible	Minor	£100,000.00	3	£0.00		17/08/20		COLC (Newdeep Brui) / PHU (Steve McConeghy) / Contract (TBC)				
94	5	(1) Compliance/Rulatory	Delay due to Col Committee Approval Process	Time and Cost	Possible	Serious	6	£30,000.00	N	A - Very Confident	include committee process into programme. Also reports with the committee dates and utilise the DA / Urgency processes.	£0.00	Unlikely	Minor	£0.00	2	£0.00		17/08/20		COLC (Newdeep Brui) / PHU (Steve McConeghy) / Lead Designer (Phil Brown AECOM)				Strategic Programme now agreed with project team and Col. Note that the project programme must be maintained to achieve a 2021 completion date.
95	5	(1) Compliance/Rulatory	Works could be subject to change further to Statutory requirements. This includes English Heritage etc.	Staff costs, re-design fees and application fees	Possible	Major	12	£150,000.00	N	B - Fairly Confident	Early engagement with Planning Authorities & English Heritage via planning consultant and through understanding of any conditions which require alterations.	£0.00	Unlikely	Serious	£100,000.00	4	£0.00		17/08/20		COLC (Newdeep Brui) / Planning Consultant (Irene Thompson)				
96	4	(1) Compliance/Rulatory	Change in Regulations for HV or LV during project	Additional time and possible cost related to make to standards and potential impact on quality	Unlikely	Serious	4	£150,000.00	N	C - Uncomfortable	ensure that all regulations are completed with design development at stage 3. Maintain understanding of manufacturing directives.	£0.00	None	Serious	£0.00	2	£0.00		17/08/20		COLC (Newdeep Brui) / Lead Designer (Phil Brown AECOM)				
97	5	(10) Physical	Long lead on specialist / order prior to Contractor engagement. Refer to Strategic Project Programme.	Time	Likely	Serious	8	£150,000.00	N	C - Uncomfortable	Early placement of UKPN order prior to Contractor engagement. Refer to Strategic Project Programme.	£0.00	Unlikely	Serious	£25,000.00	4	£0.00		17/08/20		COLC (Newdeep Brui) / Design Team (Phil Brown AECOM / Andrew Fisher) / Contract (TBC)				It is not proposed for COLC to order specialist equipment on this will form part of the Construction Control Contract to de-risk liability and construction issues. UKPN quotation received 20.10.2020 allowing early placement of order.
98	4	(10) Physical	Specialist knowledge / continuity of staff.	Heavy reliance on External Consultants and internal technical expertise - potential risk that TR team may change leading to loss of existing knowledge	Possible	Minor	3	£0.00	N	C - Uncomfortable	Knowledge share with external specialists holding crucial information in the team to provide resilience	£0.00	Unlikely	Minor	£0.00	2	£0.00		17/08/20		COLC (Newdeep Brui) / Project Team (Phil Brown AECOM / Fellings (Andrew Fisher)				
99	4	(10) Physical	Procurement strategy of Professional Team to suit project requirements. This may not comply with the 'best' procurement	Time (staff time and costs) and Quality	Possible	Serious	6	£0.00	N	C - Uncomfortable	explore procurement routes for design team appointment. Discuss internally and other internal requirements as necessary.	£0.00	Unlikely	Minor	£0.00	2	£0.00		17/08/20		COLC (Newdeep Brui)	Oct-20			Project team now fully appointed. Risk closed.
100	4	(10) Physical	Insufficient Record Information	Impact on design	Likely	Serious	8	£250,000.00	Y - for costed impact post-mitigation	C - Uncomfortable	Allowance in budget needs to be available to accommodate unknowns. Also complete necessary surveys and accounted for in works.	£0.00	Possible	Minor	£30,000.00	3	£0.00		17/08/20		COLC (Newdeep Brui) / Lead Designer (Phil Brown AECOM)				Surveys closely monitored during DTMs.
101	5	(10) Physical	Poor existing condition or works / working area	Additional works or remedial works required which were unplanned	Possible	Serious	6	£250,000.00	N	C - Uncomfortable	Early surveys, contractor engagement and site set up	£0.00	Unlikely	Serious	£0.00	4	£0.00		17/08/20		COLC (Newdeep Brui) / Lead Designer (Phil Brown AECOM)				Risk allowance allocated under Risk 12 above (survey costs).
102	5	(5) H&W/Wellbeing	Uncovering of unknown hazardous materials (Lead Paint, Asbestos, any other hazardous materials)	Time impact if works stopped, additional cost if further surveys or works required	Likely	Major	16	£100,000.00	N	C - Uncomfortable	Surveys are included in the project budget and budget	£0.00	Possible	Serious	£0.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / Contract (TBC)				Asbestos RCD to be procured prior to ITT issue. CB to allow specialist / other removal/ remediation costs within PFI.
103	5	(3) Reputation	Excessive or unclear insurance requirements	Additional Cost or self insured route required	Likely	Major	16	£150,000.00	N	C - Uncomfortable	Consultation with Insurance Team required ahead of survey and contractor appointment	£0.00	Possible	Serious	£0.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / Contract (TBC)				
104	5	(10) Physical	Existing equipment expires before project completed	Poor condition of existing infrastructure not taking into project completion time may impact completion for the project	Possible	Major	12	£300,000.00	N	C - Uncomfortable	Review of existing equipment prior to PIC of the HV upgrade project. A generator plug-in point is also included in the scope of works as a back up power source	£0.00	Possible	Serious	£200,000.00	6	£0.00		17/08/20		COLC (Newdeep Brui)				Existing south shore HV supply to be reviewed as part of project and be used as secondary HV back-up supply upon project PIC.
105	4	(10) Physical	Risk of failure of existing back up (gen / LV) supplies prior to commencing work	Delay to works to fill a temporary back-up supply	Possible	Serious	6	£30,000.00	N	C - Uncomfortable	Existing south shore HV to be monitored and provide back-up HV	£0.00	Unlikely	Minor	£0.00	2	£0.00		17/08/20		COLC (Newdeep Brui) / Lead Designer (Phil Brown AECOM)				
106	5	(10) Physical	Services to neighbouring sites disrupted during construction.	Time	Possible	Serious	6	£250,000.00	N	C - Uncomfortable	Phasing of the works, timescales and costs to be considered to allow for transition.	£0.00	Unlikely	Serious	£0.00	4	£0.00		17/08/20		Contractor (TBC)				
107	4	(10) Physical	Statutory Authorities cannot relieve capacity which may impact design.	Time and cost impact to redesign solution	Possible	Extreme	34	£0.00	N	C - Uncomfortable	early engagement and tender placed with UKPN to ensure that capacity is secured.	£0.00	Unlikely	Extreme	£0.00	16	£0.00		17/08/20		COLC (Newdeep Brui) / Lead Designer (Phil Brown AECOM)	Oct-20			Refer to Risk 5. UKPN quotation received 20.10.2020 allowing early placement of order. Risk Closed.
108	5	(2) Financial	Unlimited high level costs only allowed for. Actual costs may be more	Cost increase	Possible	Serious	6	£300,000.00	N	C - Uncomfortable	design information to be closely monitored by QS based upon benchmarking information. Cost plan information to be closely monitored to determine and define procurement route.	£0.00	Possible	Serious	£0.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / CL James Campbell / PHU (Steve McConeghy)				
109	5	(10) Physical	Site Conditions unsuitable for new UKPN supply / sub-station	Cost and Time	Possible	Serious	6	£300,000.00	N	C - Uncomfortable	undertake site identification surveys early in RIBA Stage 2/3 and complete the works with UKPN during design stage. Site surveys already included in project plan.	£0.00	Possible	Serious	£0.00	6	£0.00		17/08/20		COLC (Newdeep Brui) / Lead Designer (Phil Brown AECOM)				Sub-station siting to be determined by UKPN during PFI design phase.

830	4	(1) Compliance/Regulatory	Timely manner of planning/planning conditions	Time (may affect works starting)	Possible	Major	12	£150,000.00	Y - for costed impact post-mitigation	C - Uncomfortable	Ensure that contractor is fully aware of conditions they are liable to discharge. Condition header already aware of project plan and to be provided by Heritage Planning Consultants	£0.00	possible	Serious	£30,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Feilings (Andrew Fisher)		Planning Consultant to maintain good contact with IFA's and agree condition writing / review draft conditions. Seek to limit the number of pre-commencement conditions.
831	4	(10) Physical	Works outside of the site boundary not accounted for	Legal, licenses, authority implications	Possible	Major	12	£350,000.00	Y - for costed impact post-mitigation	C - Uncomfortable	Works to be developed in special construction with legal / asset managers and relevant powers to determine site demise. This is already part of the project plan	£0.00	possible	Serious	£40,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM) / CB/James Combert		Legal costs to be allowed by COLC. Co/C Negotiations should remain separate to project construction costs.
832	4	(3) Reputation	Buy-in from all stakeholders	Various stakeholder buy-in required - impact on time	Possible	Serious	6	£0.00	N	C - Uncomfortable	Consultation with stakeholders will take place during design and construction phases. Already part of project RBA	£0.00	unlikely	Serious	£0.00	4	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Key project Stakeholders attend fortnightly IFA reporting meetings.
833	5	(1) Compliance/Regulatory	Completing works in line with legal bridge lifting constraints	Reach of condition. Possible cost and time effects planned Contractors contract works - extension of time claims	Possible	Major	12	£250,000.00	N	C - Uncomfortable	Ensure that contractors are aware of the need to work around bridge lifts. Set out agreement ahead of construction to agree how these are dealt with in terms of programme and costs.	£0.00	possible	Serious	£25,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj)		Temporary generator to be installed as part of works. Currently under RBA Stage 3 development.
834	5	(5) H&V/Wellbeing	Working around public and tourists	Impact on completing works and associated costs	Possible	Major	12	£150,000.00	N	D - Very Uncomfortable	Ensure that sensitivities are included in the tender price for contractor. Ensure that contractor. Agreement of RBA during the project to ensure H&S considerations are taken into account and implemented. This is included in the project plan	£0.00	possible	Serious	£0.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Specific handling requirements to be identified within IT Documents. Handling and security costs allowed for within Cost Plan.
835	5	(10) Physical	Revised management / restricted value numbers if the routes amended	It may affect ticket sales, ability to let out venue, signage, signage or different emergency procedures	Possible	Serious	6	£150,000.00	N	C - Uncomfortable	The logistics and the strategy will be considered in the design stages and worked through with the contractor which should mean that any impact on existing site strategies will not impact H&V	£0.00	unlikely	Serious	£0.00	4	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM) / Feilings (Andrew Fisher)		Project Team to develop planning strategy to avoid restrictions. Feilings Consultant to review planning proposals throughout design development.
836	4	(10) Physical	Additional surveys required	Cost	Likely	Minor	4	£0.00	N	B - Fairly Confident	Allowance built within cost plan / PFI of contractor surveys.	£0.00	possible	Minor	£0.00	3	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)	Oct 20	Refer to Risk 3 - Risk Closed
837	5	(10) Physical	Valid Extension of time request from Contractor	Cost	Possible	Serious	6	£150,000.00	N	C - Uncomfortable	continue to assess risks and liability during development of design to ensure that issues are addressed prior to construction as far as possible	£0.00	possible	Serious	£30,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Implement robust contract administration.
838	4	(10) Physical	Valid additional fee requests from Professional Team	Cost	Possible	Serious	6	£150,000.00	Y - for costed impact post-mitigation	C - Uncomfortable	Ensure that programme takes account of risk with foot to deal with any unforeseen issues prior to tendering consultant fee	£0.00	possible	Serious	£25,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj)		
839	5	(10) Physical	BBEIT market uncertainty, increased goods costs and labour shortages	Cost & Time	Likely	Serious	6	£150,000.00	N	C - Uncomfortable	Use Consultant team benchmarking & contractor knowledge to estimate	£0.00	likely	Serious	£100,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Current market conditions show strong competition BBEIT conditions remain uncertain.
840	4	(9) Environmental	lack of interested from the market for tender contract	potential re-procurement / additional consultant / re-procurement fees potentially applicable	Possible	Major	12	£30,000.00	N	C - Uncomfortable	engage early with contractor and liaise with team to identify any specialist knowledge contractors to target	£0.00	unlikely	Serious	£0.00	4	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / CB (David Sutton) / Lead Designer(PH Brown / AECOM)		
841	5	(10) Physical	Archaeological finds	Cost & Time	Possible	Major	12	£250,000.00	N	D - Very Uncomfortable	Desktop study to be considered in planning and heritage consultant and contingency amount held. Cost of surveys included in the project	£0.00	unlikely	Serious	£30,000.00	4	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Architect (Feilings) (Andrew Fisher)		Heritage & Planning consultant to engage with IFA's. Pre-Application process to be implemented.
842	4	(10) Physical	Scope creep	Cost / Time	Unlikely	Serious	4	£100,000.00	N	C - Uncomfortable	Establish capacity of existing scope of project. Record any change requests through RBA system.	£0.00	none	minor	£0.00	1	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Robust Change Control Procedures in place. Design to be tendered upon RBA Stage 4 information.
843	4	(1) Compliance/Regulatory	Environmental Agency Issuing Permits & Licenses	Time and cost	Possible	Serious	6	£150,000.00	N	C - Uncomfortable	Assessment to be undertaken to determine permits & license requirements during the design stage which will be incorporated into the project programme.	£0.00	none	Serious	£0.00	2	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		All related costs allowed for under Risk 31.
844	5	(10) Physical	Contamination	Time and Cost	Possible	Serious	6	£300,000.00	N	C - Uncomfortable	Surveys to be undertaken as part of project plan	£0.00	unlikely	Serious	£30,000.00	4	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Refer to Risk 22 & 42
845	5	(9) Environmental	Ecological site constraints	Legal, reputational, cost and time	Possible	Serious	6	£50,000.00	N	C - Uncomfortable	Ecological surveys to be undertaken as part of planning pre-applications.	£0.00	unlikely	Serious	£10,000.00	4	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Planning consultant to engage with IFA's. Pre-Application process to be implemented.
846	5	(10) Physical	Site Constraints - additional costs for provision of Contractor space and welfare	Site Constraints - additional costs for provision of Contractor space and welfare	Possible	Major	12	£150,000.00	N	C - Uncomfortable	Where site location will be considered as part of the design development for tender documentation	£0.00	possible	Serious	£25,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / CB (David Sutton) / Lead Designer(PH Brown / AECOM)		Additional welfare locations to be considered during RBA Stage 3 & 4.
847	4	(10) Physical	Road closures approval refused	Applications (and time allowances) need to be made if road closures required	Possible	Major	12	£0.00	N	B - Fairly Confident	Working methodology to be covered. Highway authorities to be engaged early to consult on traffic management plan which will be developed during design stage	£0.00	possible	Serious	£0.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Costs and use of transport Consultant to be considered at RBA Stage 2 & 3.
848	5	(2) Financial	Project exceeding budget	Cost	Possible	Major	12	£350,000.00	N	D - Very Uncomfortable	The tender estimate and Q3 feedback throughout the design.	£0.00	possible	Serious	£0.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		
849	5	(4) Contractual/Risk/Reput	Contractual disputes/ team disagreements	Cost and Time	Unlikely	Serious	4	£150,000.00	N		Clear lines of communication. RACI put in place as part of project plan	£0.00	none	Serious	£0.00	2	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM) / Project / Feilings (Andrew Fisher)		
850	5	(10) Physical	Inclement weather construction	Adverse weather affecting works being able to go ahead / completed.	Possible	Serious	6	£25,000.00	N	C - Uncomfortable	No mitigation actions can be taken. Provision of weather cover occurs.	£0.00	none	minor	£0.00	1	£0.00	17/08/20	COLC(Nov/Deep Bhuj)		
851	5	(10) Physical	Other projects impacting this project	Time and Cost	Possible	Major	12	£30,000.00	N	C - Uncomfortable	Review of works programme to be undertaken including planned maintenance	£0.00	none	minor	£0.00	1	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM) / Arch/Feilings (Andrew Fisher)		Maintain close dialogue with IB team.
852	5	(10) Physical	Damage to Bridge during works by contractor	Cost and Quality	Possible	Serious	6	£0.00	N	D - Very Uncomfortable	United Building Grade 1 - Contractor Survey Contractor need to be made aware. Cost would be recoverable.	£0.00	unlikely	Serious	£0.00	4	£0.00	17/08/20	Contractor(TIC)		Contractor RMA3 to be obtained prior to starting works. All RMA3 to be shared with IB Team & PHD for H&S.
853	5	(10) Physical	Unforeseen technical problems during installation	Problems with fittings / integrals / infrastructure	Possible	Major	12	£30,000.00	N	C - Uncomfortable	Pre-survey and maintain contingency.	£0.00	unlikely	Major	£0.00	8	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / CB (David Sutton) / Lead Designer(PH Brown / AECOM) / Contractor(TIC)		
854	5	(10) Physical	Additional Requirements for working in live environment	Cost	Possible	Serious	6	£30,000.00	N	C - Uncomfortable	Security requirements and any other additional requirements to be added.	£0.00	unlikely	Serious	£0.00	4	£0.00	17/08/20	COLC(Nov/Deep Bhuj)		
855	5	(10) Physical	Current infrastructure feeds new traffic lights and CCTV feed disrupted	reputational - CCTV impact new traffic chaos	Possible	Major	12	£0.00	N	C - Uncomfortable	Survey of exact infrastructure to be known and taken into account	£0.00	unlikely	Major	£0.00	8	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM) / Contractor(TIC)		Track and trace survey to be instructed during RBA Stage 3.
856	5	(10) Physical	Sporting Events	Time	Likely	Minor	4	£0.00	N	C - Uncomfortable	Sporting events (World Cup, Wimbledon, Rugby) disrupting work on site	£0.00	possible	minor	£0.00	3	£0.00	17/08/20	COLC(Nov/Deep Bhuj)		Early engagement with IB Team & GUA to understand potential events.
857	5	(1) Compliance/Regulatory	Requirement for replacement of existing LV cables which require reconnection should they not pass certification prior to being connected to new HV	Time & Cost	Likely	Serious	6	£0.00	N	C - Uncomfortable	PFM works and funding may be required to undertake remedial works to existing LV. No proposal to upgrade outgoing LV cables.	£0.00	unlikely	Serious	£0.00	4	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM) / Contractor(TIC)	Oct 20	PFM works not part of project scope. Risk Closed
858	5	(1) Compliance/Regulatory	IEPN works delayed	Delay the project programme, resulting in securing extension of time	Possible	Major	12	£40,000.00	N	C - Uncomfortable	Early engagement and order placed prior to contractor appointment	£0.00	possible	Serious	£30,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM)		Temporary generator to be provided as back-up. Currently allowed to within RBA Stage 3 Cost Plan.
859	5	(1) Compliance/Regulatory	Contractors works delay IEPN work / connection work	Delay the project programme, resulting in securing extension of time	Possible	Major	12	£40,000.00	N	C - Uncomfortable	engagement to be managed with contractor and order placed prior to contractor appointment	£0.00	possible	Serious	£0.00	6	£0.00	17/08/20	Contractor(TIC)		IEPN and pre-con construction programme closely managed.
860	5	(10) Physical	Time delay due to bridge House Estates/ Col do not agree to transfer leasehold/ come to a legal agreement for the new substation land	Programme delay and costs for design team on hold/ additional design work and extensions of time. Additional staff costs	Possible	Major	12	£250,000.00	N	C - Uncomfortable	Engage with Col legal team to undertake work to resolve land ownership with IEPN.	£0.00	possible	Serious	£3,000.00	6	£0.00	17/08/20	COLC(Nov/Deep Bhuj)		
861	5	(10) Physical	Capacity / routes of existing cable routes is not sufficient for routing new HV cables prior to removing existing	re-design costs and unforeseen works costs. Programme delays	Likely	Major	12	£300,000.00	N	C - Uncomfortable	Survey and enabling works to ascertain whether there is capacity for existing routes to new HV and LV cables as proposed. Included in project plan	£0.00	possible	Major	£30,000.00	12	£0.00	17/08/20	COLC(Nov/Deep Bhuj) / Lead Designer(PH Brown / AECOM) / Planning (Andrew Fisher)		If existing service routes are not sufficient following survey information, alternative routes will require investigation and development with engagement with the planning & heritage consultants.