

City of London: Projects Procedure Corporate Risks Register

Project Name:	London Bridge Maintenance Works	PM's Overall	Red	Average unmitigated risk score	7.4	Open Risks	16
Unique project identifier:	12017 (Project Number 72800020)			Average mitigated risk score	3.8	Closed Risks	6

General risk classification									Mitigation actions						Ownership & Action					
Risk ID	Category	Description of the Risk	Risk Impact Description	Likelihood Classification	Impact Classification	Costed impact (£)	Risk score	Confidence in the estimation	Mitigating actions	Mitigation cost (£)	Likelihood Classification after mitigation	Impact Classification after mitigation	Costed impact after mitigation (£)	Mitigated Risk score	Date raised	City of London Dept monitoring the risk	Risk owner (Officer/ External)	Action dependencies	Date Closed/ realised moved to Issues	Comment(s)
1	(5) Safety/ Health	Leaks persist after works	Continuing risk to structure from potential corrosion around post tension cable anchor points.	Rare	Serious	£0	2	A – Very Confident	Waterproofing will minimise leakage. Investigate what additional work can be done to seal ducts. Design waterproofing to work around existing cast iron gullies	£0	Rare	Minor	£0	1	21.05.2018	DBE	T. deSilva		08/01/2019	This project will do everything to mitigate for water going through the structure. The ongoing risk isn't attached to this project, but is a long term risk associated with the structure.
2	(1) Service Delivery/ Performance	Lane closures can't be agreed for the times required.	Could lengthen the works programme and cost	Possible	Extreme	£300,000	24	B – Fairly Confident	Negotiate lane closures during design stage. Carry out bearing and waterproof replacement together, so if any TM is needed for bearings it doesn't have to be negotiated separately. Ensure contractor doesn't establish site until we have confirmed agreement on closures.	£0	Rare	Extreme	£300,000	8	21.05.2018	DBE	Contractor	TfL final approval.		Cost given is for six weeks delay at £50k per week.
3	(2) Financial	Alternative access cannot be created	Additional manhandling (walk across Fish Wharf, through gym, negotiate several stairs and pedestrian load only on Riverside Walkway). Need to work around gym – i.e. night and weekend working. Licence required? Conditions imposed?	Unlikely	Serious	£60,000	4	B – Fairly Confident	ECI to be used. Investigate direct access through west footpath. Request plans of services from Stat undertakers, undertake trial hole / CAT scan where access is proposed. Consider refurbishment of bearings in the northern abutment. Design near completion. Barring obstructions during trial holes, this is considered a negligible risk.	£10,000	Rare	Minor	£60,000	1	21.05.2108	DBE	AECOM		03/04/2019	Consultants confident new access can be created to avoid working via the gym.
4	(1) Service Delivery/ Performance	Successful tenderer doesn't agree with proposals.	If tender occurs at end of design, risk appointed contractor will not agree with ECI proposals.	Unlikely	Serious	£0	4	A – Very Confident	Contractor to be involved in design (ECI). All background information to ECI proposals to be issued with tender. Tenderers to state they are happy with proposals or provide priced alternatives (as well as requested prices). Should have no financial impact as the bid will need to be competitive and compliant to be considered. Only compliant unqualified bids will be accepted. Price and Quality will be	£0	Unlikely	Minor	£0	2	21.05.2018	DBE	T. deSilva			
5	(2) Financial	Access ladders and gantries not sufficient for works	Ladders and gantries need replacement	Possible	Serious	£100,000	6	B – Fairly Confident	Access ladders have been sufficient for use of the designers. Specify access requirements necessary for works. Contractor to assess whether they would need to remove any of the existing equipment, replacements should be provided at the end of the works.		Rare	Serious	£0	2	21.05.2018	DBE	Contractor		08/01/2019	closed
6	(2) Financial	TfL charge for lane rental	Increased project costs	Unlikely	Major	£65,000	8	A – Very Confident	No confirmation yet from TfL on whether this would be charged. C&CS to advise on legality if TfL confirm they would charge.	£0	Rare	Major	£65,000	4	21.05.2018	DBE	T. deSilva	TfL decision		
7	(5) Safety/ Health	Deflection of bridge can't be carried by existing staircase	Check whether existing staircase can carry deflection during jacking? Will need to be shut during jacking or during the whole period the bridge is jacked up?	Rare	Serious	£250,000	2	B – Fairly Confident	Designers to consider effects of jacking on staircase. Outcome - bridge/staircase joint allows for much more movement than the 2mm max expected.	£0	Rare	Minor	£0	1	21.05.2018	DBE	AECOM			
8	(5) Safety/ Health	Services within bridge are damaged by jacking	Damage to services, reputational damage and financial costs to put this right.	Possible	Major	£100,000	12	C – Uncomfortable	Restrict movement during jacking to < 2mm. Stat companies notified so they can take action if needed. GL and TDS have identified cast iron services in abutment, which are bridge drainage and should be replaced.	£0	Rare	Minor	£30,000	1	21.05.2018	DBE	Contractor		22/01/2019	
9	(5) Safety/ Health	Damage to gym/switchroom within bridge during removal of bearings (e.g. hydro demolition)	Damage to gym/switchroom, reputational damage and financial costs to put this right.	Possible	Major	£100,000	12	C – Uncomfortable	Ensure services are protected or the works are enclosed. Tin sheet over plywood as protection during hydrodem. Use handtools or cut whole structure and replace/lap over reinforcing steel instead of using hydrodem over gym and switchroom. Risk remains of damage in north abutment particularly - additional money allowed for working around the gym/switchroom.	£0	Rare	Minor	£30,000	1	21.05.2018	DBE	Contractor			
10	(1) Service Delivery/ Performance	Bridge does not move as one unit during jacking		Rare	Major	£50,000	4	C – Uncomfortable	Design to confirm diaphragms are tied together. Current proposal has jacks under each diaphragm. Jacking restricted to 2mm.	£0	Rare	Minor	£0	1	04.09.2018	DBE	Contractor		08/01/2019	closed
11	(1) Service Delivery/ Performance	Rod Anchorages at back of deck can't take the movement during jacking.	Damage to rods or anchorages. Risk to structure.	Rare	Extreme	£10,000,000	8	C – Uncomfortable	Movement during jacking kept to <2mm. Less than range of movement bridge is designed to take.	£0	Rare	Minor	£0	1	04.09.2018	DBE	AECOM		08/01/2019	closed
12	(1) Service Delivery/ Performance	Joints damaged during works	Additional costs incurred to repair or replace joints	Possible	Serious	£30,000	6	B – Fairly Confident	Hand break only within 0.5m of joint. Condition survey to benchmark defects. Ensure remedial works (cracked epoxy resin and broken rail) are rectified in advance of main works.	£0	Unlikely	Minor	£30,000	2	04.09.2018	DBE	Contractor			
13	(2) Financial	Condition of concrete not acceptable	Smoothing of the surface or repair of defective concrete required before waterproofing can be applied.	Possible	Serious	£100,000	6		Trial holes undertaken, suggest it is sensible to allow for repair of 10% of bridge deck.	£9,000	Unlikely	Serious	£100,000	4	04.09.2018	DBE	T. deSilva			

14	(5) Safety/ Health	Failure of jacks	Damage to deck from movement	Unlikely	Serious	£50,000	4		Locking collars are used on jacks. Even in the event there was unexpected movement before the collar was applied, the maximum amount the deck will be moved is 2mm, which would probably result in damage to the jacks more than it would damage to the bridge.	£0	Rare	Minor	£0	1	04.09.2018	DBE	Contractor			
15	(5) Safety/ Health	Security risk to workers and works given current protection in place for pedestrians	Possible terror attack during works	Unlikely	Extreme	£2,000,000	16	D – Very Uncomfortable	Works are not as much of a target as the open pavements with high volumes of pedestrians. Contractor to consider safety and security of site and possibly use vehicle barriers to cordon off the works. For public safety, the Met Police's HVM barriers will remain in place during the works.	£0	Rare	Extreme	£100,000	8	04.09.2018	DBE	Contractor			Cost to CoL reduced to two week's closure of the site.
16	(2) Financial	Third Party delays (Met Police, TfL, CoL Police)	Delay to contractor's works	Possible	Major	£200,000	12	B – Fairly Confident	Agree dates in advance and ensure they are aware of impact if work not completed in time. Arrange works to give maximum flexibility in the dates 3rd party works occurs. Undertake works ourselves as far as possible. Try to keep TfL's CCTV camera out of the area of the contraflow. Programme notice periods for removal and replacement.	£0	Unlikely	Serious	£200,000	4	04.09.2018	DBE	T. deSilva	Third party approvals and works		allows for four weeks delay
17	(3) Reputation	Connections between bridge deck and gym ceiling/walls.	Cracking of finishes to wall/ceilings in gym when deck is jacked.	Possible	Minor	£10,000	3	B – Fairly Confident	Check on site whether this is likely to occur. Warn the gym, perhaps create a 'break line' in advance and allow for repairs in prices. 2mm movement expected to be much less than the bridge ordinarily moves. Make tenant aware that more movement of the bridge in operation should be expected when the new bearings are in service.	£0	Unlikely	Minor	£10,000	2	20.11.2018	DBE	Contractor			
18	(3) Reputation	TfL don't complete repairs to south approach prior to these works starting.	Extension of works in the minds of the public when the repairs are carried out, or unfinished job, if they are not.	Possible	Minor	£0	3	A – Very Confident	Make TfL aware early and often of the need for repairs to surfacing on south side of bridge.	£0	Unlikely	minor	£0	2	09.01.2018	DBE	T. deSilva	TfL works		
19	(1) Service Delivery/ Performance	Contractor doesn't replace bearings in the same order	Fixed bearings may be replaced with rotational causing locking/damage to bridge	Unlikely	Major	£500,000	8		Quality check on contractor prior to tender. Quality check on tenderers work in progress. Clear documentation on order and location of bearings to be replaced. Any deviation from this specified order would be down to the contractor to correct.	£0	Rare	Serious	£0	2	09.01.2018	DBE	Contractor			
20	(2) Financial	Broken paving slabs and kerbs	Paving slabs are broken during the works.	Possible	Minor	£70,000	3	B – Fairly Confident	Extra time allowed in programme for take up and relaying of granite kerbs. Site inspection: several slabs on eastern footway broken where guardrail columns were. Incomplete trial pits: slabs on eastern footway very strongly adhered into the bedding mortar and difficult to remove. Many more slabs to be replaced than previously estimated.	£0	Likely	Major	£380,000	16	09.01.2018	DBE	T. deSilva	Lead in period for paving slabs.		Estimate 40% replacement on west footpath and 100% replacement on east footpath. Cost based on JBR £100/m2 (+£50/m2 in case JBR's rates are purposefully low) for supply only of yorkstone. Add in 1 weeks worth of cutting (8 hours*5 days*£30/hr labour rate), and an additional 1.5% for kerbs
21	(2) Financial	Damage to parapet facing panels discovered during the works.	Removal of surfacing adjacent to the parapets may expose hidden damage, which requires repair	Unlikely	Serious	£250,000	4	B – Fairly Confident	Four week delay allowed for as lead time for stonework. Possibly mitigated by installing a temporary cladding panel while awaiting the permanent replacement.	£0	Unlikely	Minor	£62,000	2	06.03.2019	DBE	T. deSilva	Lead in period for replacement stone. Temporary fix possible.		Costs - one week delay plus granite replacement costs. (£3000 to replace one granite panel for LB Joints project, x4 to allow for inflation and replacement of two panels)
22	(2) Financial	Damage to lighting cables discovered during the works.	Removal of surfacing in the central reservation may expose hidden damage, which requires repair	Unlikely	Serious	£130,000	4	B – Fairly Confident	Two week delay, plus some repair costs. Ensure central reservation works carried out in first phase of closure to mitigate delay being on critical path.	£0	Unlikely	Minor	£50,000	2	06.03.2019	DBE	T. deSilva			2 weeks delay + £28k repairs, temporary lighting around £2000pw for replacement of 10 lighting columns for 2 weeks.s
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