Risk Overview							Current Score							Action			Target Score							Admin			
ID	Status	Risk Title	Description	Cause	Consequence	Risk Owner	Prob	Cost	Time	Stakeholder Confidence (Reputation)	Environment	Health, Safety and Security	Current Score	Response Actions	Action Owners	Action Date Due	Prob	Cost	Time	Stakeholder Confidence (Reputation)	Envir'n	Health, Safety and Security	Target Score	Review date	Notes	Change since last review	Comment
1		Engagement with HE geo/structures/drainage delays	Delays in HE approval of geotechnical, structural and/or drainage design cause delays to programme.	Scarce resources available at HE. HE already delivering projects to value of £2.5m in south west.	Loss of funding as construction not completed within allocated time period. Increased contractor fees as condensed construction window.	Designer/Contractor	21-50%	-	>6 mths	-	-	-	15	Early engagement Regular technical workshops	Designer/contractor		<5%		>6 mths				5				
2		Planning amendment not granted	Section 96a application is refused.	Proposed amendments are not consider 'minor' and 596a application is deemed inappropriate.	Business case and design work must be redone so that based on the consented scheme, adding delays to programme.	SBC	6-20%	-	>6 mths	-	-	-	10	Engagement with SBC planning team	SBC		6-20%		>6 mths				10				
3		Planning condition not discharged	Planning conditions are not discharged by SBC within reasonable timescales.	Additional information/ changes in design are required by SBC planning/technical officers/statutory bodies.	Delays to programme whilst additional information is collated/deign changes are made.	SBC		-	2-4 mths	-	-	-	0										0				
4		Legal challenge to revised scheme	An individual or organisation mounts a legal challenge to the revised scheme.	Local/statutory objection to the scheme.	Delays to programme until resolved.	SBC	6-20%	-	>6 mths	-	-	-	10	Adhere to process Competent designers			<5%		>6 mths				5				
5		LEP/DfT change priorities	LEP/DfT decide to change funding/infrastructure delivery priorities reducing/removing scheme funding.	Change in political will / change in DfT or LEP policy.	Severe delays to programme until funding gap is plugged.	SBC	6-20%	-	>6 mths	-	-	-	10	Adhere to business case process Progress business case			<5%		>6 mths				5				
6		Canal trust campaign to get scheme pushed back to include canal	Canal Trust persuade DfT to delay scheme delivery timescale requirements to allow inclusion of canal within scheme.	Canal Trust objectives to deliver a canal crossing of M4.	Delays to programme whilst design and business case is reworked to include canal crossing, and whilst fundraising for canal crossing is carried out.	SBC	6-20%	-	>6 mths	-	-	-	10	SBC to hold meeting with DfT to review programme	SBC		6-20%		>6 mths				10				
7		Network Rail object	Network Rail object to the scheme/construction methods.	No consultation has been carried out to liaise with NR and inform them of revised plans.	Scheme delay to	SBC		-	2-4 mths	-	-	-	0										0				
8		Green Book guidance changes	Changes made to Green Book guidance are required to be incorporated into business case before submission/determination of funding.	Green book guidance is revised which results in the business case needing to be revised/updated.	Delays to programme whilst business case is amended, and ensuring scheme is rated financially positive	PBA		-	1-2 mths	-	-	-	0										0				
9		Change in political control	Change in political control (at local, regional or national level) leads to reduction/removal of funding.	Local/regional/national voting in elections.	Severe delays to programme until funding gap is plugged.	SBC	21-50%	-	>6 mths	-	-	-	15				21-50%		>6 mths				15				
10		Funding withdrawn	Same as 5?			SBC	6-20%	-	>6 mths	-	-	-	10				6-20%		>6 mths				10				
11		BCR is low/ doesn't stack up. Scheme modelling shows no benefit	BCR of scheme is low and scheme does not stack up financially, delaying submission of business case.	Financial disbenefits of the scheme are outweighed by benefits - scheme modelling shows little to no benefit.	Delays to programme whilst business case is amended, and ensuring scheme is rated financially positive	PBA	21-50%	-	>6 mths	-	-	-	15	Improve network conditions in modelling and identify as many economic benefits as possible	PBA		6-20%		>6 mths				10				
12		DfT review business case as well as LEP and don't agree with it	The DfT decides to review the business case following the LEP's decision on funding and do not agree that scheme should receive funding.	DfT do not believe business case is correct/BCR is not high enough.	Delays to programme whilst business case is amended, and ensuring scheme is rated financially positive	PBA		-	2-4 mths	-	-	-	0										0				
13		Scope creep (extent of haul road, canal)	Infrastructure scope creep (for example extending haul road) increases cost of scheme above funding allocation.	Increased infrastructure requirements to connect access/increased infrastructure requirements due to statutory bodies/local objection etc.	Cost of scheme increases and SBC must contribute more towards scheme costs.	SBC	51-75%	>£1m	-	-	-	-	20	Cost planning and management	SBC/PBA		<5%	>£1m					5				
14		New EIA needed	Temporary works extend outside the planning red line and require a new EIA.	Temporary works extend outside the red line (the limit of known environmental information).	Additional surveys, dependent on season, and technical work required to produce EIA, delaying approvals and start of work.	SBC	21-50%	£100k-250k	>6 mths	-	-	-	15	Understand zone of influence of temporary works Early consultations with Claire Elliott at HE to review existing information for HE land Tender specification of zone for temporary works	PBA Keystone SBC		<5%	£100k-250k	>6 mths				5				
15		Joint venture influence - JV don't want to build more than 2500 homes	The new Joint Venture decides that it does not want to build more than 2500 homes at Wichelstowe, therefore the southern access is not required.	Joint Venture member priorities/finances.	Delays to programme until resolved.	SBC	<5%	-	>6 mths	-	-	-	5	Monitoring Clarify project status within JV agreement	SBC		<5%		>6 mths				5				
16		Natural England approval of GCN licence	Delays to Natural England approval of GCN licence	Natural England disagree with strategy	Delays to programme until resolved.	Keystone		-	1-2 mths	-	-	-	0										0				
17		Natural England approval of badger sett closure licence	Delays to Natural England approval of badger sett closure licence	Natural England disagree with strategy	Delays to programme until resolved.	Keystone	6-20%	-	>6 mths	-	-	-	10	Dialogue with NE	Keystone		<5%		>6 mths				5				
18		Requirement for haul road / elcombe brook crossing to be greater than 50m, so water vole licence can't be used	Working corridor at haul road crossing of Elcombe Brook is required to be wider than 50m, so current water vole licence cannot be used, and new licence must be applied for.	Construction methods require working corridor to be wider than 50m in this location.	Delays to programme whilst new licence is obtained.	Keystone	<5%	£25k-100k	>6 mths	-	-	-	5	Specify in tender pack	SBC		<5%	£25k-100k	>6 mths				5				
19		HE design approvals (geo, structures, drainage) delay (lack of internal resource)	Same as 1?			Designer/Contractor	6-20%	£25k-100k	>6 mths	-	-	-	10	Early engagement	PBA		<5%	£25k-100k	>6 mths				5				
20		HE design approvals (geo, structures, drainage) delay (HE disagree with design)	HE disagree with geotechnical, structural and/or drainage design, delaying approval.	HE disagreement with design.	Design must be revised to comply with HE requirements.	Designer/Contractor	51-75%	£25k-100k	>6 mths	-	-	-	20	Early engagement with HE	PBA/Contractor		6-20%	£25k-100k	>6 mths				10				
21		Nature Conservation Management Strategy and licence design requirements and compliance	Design changes are required to be compliant with Natural England licences and the Nature Conservation Management Strategy	Natural England disagree with strategy	Delays to programme until resolved.	Keystone		£25k-100k	2-4 mths	-	-	-	0										0				
22		Lead in time for GI on motorway and design time	Long lead-in times are required to carry out ground investigations on motorway	Working restrictions and other conflicting works.	Delays to design period and approvals.	PBA		<£25k	4-6 mths	-	-	-	0										0				
23		Ground conditions (unforeseen weak ground, not as expected, contamination)	Ground investigations show that ground conditions are not as expected, e.g. unforeseen weak ground, contamination.	Current ground conditions information does not cover exact location of tunnel.	Design must be revised to suit ground conditions.	Designer/Contractor	21-50%	>£1m	1-2 mths	-	-	-	15	GI progressed early Comprehensive GI	PBA		6-20%	>£1m	1-2 mths				10				
24		Ecology delays/impacts GI	Ecological constraints delay ground investigations.	Certain works not permitted at specific times of year.	Ground investigation must use certain methodologies/be carried out at certain times, causing delays and adding cost.	Keystone		£25k-100k	<1 mth	-	-	-	0										0				
25		Badger sett found to be main sett	Badger bait marking shows that badger sett close to southern access is a main sett.	Badgers have started to use sett more.	Main sett must be replaced and badgers relocated.	Keystone		<£25k	1-2 mths	-	-	-	0										0				
26		Works extend beyond red line (permanent works). Ecology info only extends to red line.	Detailed design shows that permanent works extend beyond the red line of the planning permission, where ecological information is not present	Local constraints mean scheme extends beyond planning boundary.	New planning application is required.	Designer	<5%	>£1m	>6 mths	-	VH	-	5	Specify in tender park	PBA		<5%	>£1m	>6 mths				5				
27		Works extend beyond red line and highway (temporary works). Ecology info only extends to red line.	Same as 14?			Designer/Contractor	>75%	>£1m	>6 mths	-	VH	-	25	Specify in tender pack			21-50%	>£1m	>6 mths				15				
28		Network Rail object to scheme TM	Same as ??			Designer/Contractor		-	1-2 mths	-	-	-	0										0				
29		Conflict with other nearby scheme being built in same timescales (j15 lanes and improvements, resurfacing schemes, bridge widening shrub bridge, ballards asha ndblagrove bridge refurbs etc). Departures will be needed due to proximity to other schemes.	Other nearby schemes being delivered on M4 in close proximity in the same time period means departure applications will be required.	Other infrastructure schemes / repairs being delivered between 2019 and 2021.	Delays to programme due to coordination of works and departure applications for minimum distances between works.	Designer/Contractor	51-75%	-	>6 mths	VH	-	-	20	Early engagement with HE Coordination of works/opportunities to combine work packages Engagement with DfT re timescales	PBA SBC		51-75%		<1 mth	VL			4				
30		Delay through third party approvals (EA, HE, Wilts, NR)	Delays in third-party approvals of scheme design cause delays to programme.	Scarce resources / disagreements with design.	Delay to programme	Designer/Contractor	>75%	-	>6 mths	-	-	-	25	Early engagement Fund discussions with stakeholders Build in float in programme	PBA/Keystone/SBC	CHECK CAN ACCOMMODATE IN PORGAMME	>75%		<1 mth				5				
31		Departures from standards (HE), esp temporary layouts. Taking a long time because of smart motoways	Delays in HE approval of departures from standard	Temporary layouts conflicting with smart motorway scheme	Delay to programme and design changes so that layouts are considered safe	Designer/Contractor	>75%	>£1m	>6 mths	-	-	-	25	Design without geometrical departures			<5%	>£1m	>6 mths				5				
32		Departures from standards (SBC)	Delays in SBC approval of departures from standard	Disagreements with safety of design	Delay to programme	Designer/Contractor		£100k-250k	2-4 mths	-	-	-	0										0				
33		Contractor design complexity in limited time	Contractor not able to complete detailed design in allocated time due to complexity	Insufficient time allocated in programme	Delay to programme	Designer/Contractor	51-75%	-	>6 mths	-	-	-	20	Specify dates in tender that designs must be submitted			6-20%		>6 mths				10				
34		Procurement timescales are tight - tender pack to required level of detail	Tender information pack is insufficiently detailed	Insufficient time in programme to prepare tender pack	Delay to procurement	SBC		-	1-2 mths	-	-	-	0										0				
35		Tender response shows programme not deliverable	Responses to invitation to tender indicate that construction programme is not achieveable.	Programme is too tight.	Delays to project completion. Increased cost to achieve condensed programme.	SBC	6-20%	>£1m	4-6 mths	-	-	-	10	Incentives in contract to deliver early			6-20%	>£1m	4-6 mths				10				
36		Public sector procurement takes long than programme	Procurement takes long that allowed for in the programme	Delays in preparation of tender documentation.	Delays to appointment and start of construction.	SBC		-	2-4 mths	-	-	-	0										0				
37		Contract takes a long time to sign	Construction contract takes a long time to sign.	Contract terms.	Delays to appointment and start of construction.	SBC		-	2-4 mths	-	-	-	0										0				
38		Contractor is not sufficiently competent	Incompetent contractor is appointed.	Insufficient vetting of tenders.	Major construction issues.	SBC	21-50%	>£1m	>6 mths	VH	VH	VH	15	Set quality standard high Good specification for tender	SBC		6-20%	>£1m	>6 mths	VH	VH	VH	10				
39		Lack of interest in contract	Construction marketplace is busy and there is a lack of interest in the scheme	Competition with other major infrastructure	Lack of interest in contract so higher prices and delay to programme	SBC	21-50%	>£1m	2-4 mths	-	-	-	15	Soft market testing	SBC		6-20%	>£1m	2-4 mths				10				
40		Tender prices are high	Construction marketplace is busy and therefore prices are high	Competition with other major infrastructure	High prices	SBC	21-50%	>£1m	-	-	-	-	15	Soft market testing	SBC		6-20%	>£1m					10				
41		Contractor awareness at tender stage of all ecology constraints				Keystone		£100k-250k	-	-	-	-	0										0				
42		Contract terms considered unacceptable	Construction contract terms are not acceptable to both parties	Terms in contract	Delay to appointment and additional cost to resolve.	SBC		£100k-250k	1-2 mths	-	-	-	0										0				
43		Newt/reptile translocation takes longer than expected	Relocation of newts and/or reptiles takes longer than anticipated.		Delay to programme and start of construction	Keystone		£25k-100k	1-2 mths	-	-	-	0										0				
44		Flooding of railway during construction	Construction works cause flooding of railway.	Construction works.	Liquidated damages and delays to programme. Environmental damage.	Contractor	6-20%	>£1m	>6 mths	VH	VH	VH	10	Specify in tender pack Liquidated damages clause Contractors temporary works design	SBC SBC Contractor		<5%	>£1m	>6 mths	VH	VH	VH	5				
45		Temporary works construction failure	Temporary works fail (embankments, central reservation piling etc.)	Poor design/construction	Delays to programme, liabilities, repairs, bad publicity, major damage to M4, environmental damage, health and safety issues.	Contractor	6-20%	>£1m	>6 mths	VH	VH	VH	10	Robust governance Technical approvals Coordination of temporary works Competent contractor	Designer Designer Designer SBC		<5%	>£1m	>6 mths	VH	VH	VH	5				
46		Time for temporary works approval is too short	Timescales for temporary works approval are too short	Information is subitted too late by contractor	Delays to approval and construction	Contractor		£250k-1m	2-4 mths	-	-	-	0										0				
47		New badger setts found	New badger setts are found during construction.	Badgers have relocated.	Delays to construction whilst badgers are relocated away from construction site.	Keystone	6-20%	£100k-250k	>6 mths	M	M	-	10	Regular monitoring			6-20%	£100k-250k	>6 mths	M	M		10				
48		Ground nesting birds in working footprint	Ground nesting birds are found within working footprint of construction.	Ground nesting birds within working footprint	Minor delays to construction whilst birds are relocated.	Keystone		<£25k	<1 mth	-	-	-	0										0				
49		Damage to NERTS system.	Damage to NERTS system	Poor coordination with HE NERTS team/incompetent contractor.	Significant cost and programme delays to repair NERTS.	SBC/Contractor	6-20%	£250k-1m	2-4 mths	-	-	-	8	Consultation with NERTS team Early diversion of services			<5%	£250k-1m	2-4 mths				4				
50		Failure of or damage to other HE assets	Damage to HE assets	Poor coordination with HE/incompetent contractor.	Significant cost and programme delays to repair asset	SBC/Contractor	6-20%	>£1m	>6 mths	VH	VH	VH	10	Good coordination with asset owners Competent contractor	Designer SBC		<5%	>£1m	>6 mths	VH	VH	VH	5				
51		Blagrove Bridge repairs are delayed	HE repairs to Blagrove Bridge are delayed	Unforeseen issues with repairs	Delay to construction start	HE	6-20%	-	>6 mths	-	-	-	10										0				Resurfacing, concrete deck repair, replace joints
52		Bad weather	Poor weather impacts construction	Poor weather	Delays to construction/damage	SBC		>£1m	2-4 mths	-	-	-	0										0				
53		Water vole burrows appear in ditches where currently absent	Water voles relocate to areas within working footprint where they are current absent	Relocating water voles	Delay to construction whilst water voles are relocated/scheme is redesigned to avoid burrows	Keystone	51-75%	£100k-250k	>6 mths	-	M	-	20	Watching brief for early warnings Redesign temporary works to avoid			51-75%	£100k-250k	1-2 mths				12				
54		Water pollution incident	Water pollution incident during construction	Incompetent contractor	Environmental impacts and EA loss of confidence	Contractor		£25k-100k	-	H	M	-	0										0				
55		Massive objections from M4 users	M4 users object to scheme	Temporary works include narrow lanes and reduced speed limit	HE loss of confidence and costs to consult with stakeholders	SBC	21-50%	£250k-1m	-	VH	-	-	15	Early consultation with local businesses, public consitation, freight companies etc			6-20%	£250k-1m		VH			10				
56		Objectors block access to site	Objectors to scheme blockade site access	Local objection to scheme	Delay to programme whilst protestors removed	SBC		-	<1 mth	L	-	-	0										0				
57		Construction traffic causes major problems (dust dirt etc)	Construction traffic causes environmental issues with dust, dirt, noise etc.	Inappropriate construction traffic management practices	Delays to programme and costs to remedy issues	Contractor		£25k-100k	1-2 mths	M	-	-	0										0				
58		Archaeology construction leads to need for full uncovering and recording	Archaeological finds lead to requirement for full uncovering and recording	Archaeological finds made during construction	Delays to programme	SBC/Contractor	<5%	£100k-250k	>6 mths	-	M	-	5	Agree with archaeology officer any mitigation required Follow watching brief									0				
59		M4 major accident due to works	Temporary works contribute towards collision on M4	Temporary works layout	Potential serious injury or death	SBC/Contractor	21-50%	>£1m	>6 mths	VH	-	VH	15	Competent contractor Competent TM contractor and design RSA and approval process Average speed cameras Departures agreed	SBC SBC Contractor Contractor Contractor		6-20%	>£1m	>6 mths	VH		VH	10				
60		Construction traffic collision	Construction traffic collision	Poor construction traffic management	Potential serious injury or death	Contractor	6-20%	>£1m	>6 mths	VH	-	VH	10	Predefine acceptable construction traffic routes, timing and movements in CMP Ensure contractor is member of FORS			<5%	>£1m	>6 mths	VH		VH	5				
61		Specialist contractors required	Construction activites require appointment of specialist contractors	Complex design elements	Delay to programme whilst subcontractor appointed	Contractor		-	2-4 mths	-	-	-	0										0				
62		Vibration from piling works affects traveller site	Piling in central reservation affects nearby travellers' site	Piling in central reservation	Prohibition order from SBC	SBC/Contractor	>75%	-	2-4 mths	VH	VH	-	25	Potential for weekday day piling if planned in advance Other construction methods to be explored Model noise and vibrations Noise surveys before construction	Designer/Contractor		6-20%		2-4 mths	VH	VH		10				

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63		H&S associated with construction near live motorway	Health and safety issues associated with working adjacent to live motorway	High speed traffic on M4	Potential serious injury or death	SBC/Contractor	51-75%	>£1m	>6 mths	VH	-	VH	20	Competent contractor Competent TM contractor and design RSA and approval process Average speed cameras Departures agreed Contractor H&S policy and records	SBC SBC Contractor Contractor Contractor Contractor		<5%	>£1m	>6 mths	VH		VH	5				
64		Construction in close proximity to railway	Health and safety issues associated with working adjacent to live railway	Railway line	Potential serious injury or death	SBC/Contractor	6-20%	>£1m	>6 mths	VH	-	VH	10	Restrict working distance to railway Early engagement with NR	SBC SBC/PBA		<5%	>£1m	>6 mths	VH		VH	5				
65		Major utility cable damage (same as NE/ET5)	Damage to utilities	Poor coordination with utility providers team/incompetent contractor.	Significant cost and programme delays to repair utilities	SBC/Contractor	6-20%	£250k-1m	2-4 mths	-	-	-	8	Consultation with utility providers Early diversion of services			<5%	£250k-1m	2-4 mths				4				
66		Water vole recolonisation of elcombe brook haul road crossing folloiwng dispalcement	Same as 53?			Keystone	51-75%	£100k-250k	>6 mths	-	M	-	20	Watching brief for early warnings Redesign temporary works to avoid			51-75%	£100k-250k	1-2 mths				12				
67		finding bats in trees at pre felling inspections	Bats are found in trees at pre-felling inspections	Bats roosting in trees	Minor delays and costs to relocate bats	Keystone		£25k-100k	<1 mth	-	-	-	0										0				