

Appendix A Designer's Risk Assessment

	ΔRI		Hazard Id	Apptification	and Risk Assess	ment		Job Number	2	268401-00	
			(Including F	Particular Risks	s & Other Significant	Risks)		Page Number		1 of 15	
Proj	ect	BusConnects – Belfie Core Bus Corridor Sc	ld/Blackrock to City	Centre	Design Issue or	Element	Work on Live Issues	ork on Live Roads – Traffic Management and Pu sues			Safety
Stag	e	So	cheme Stage		Pre-Tender Stage			C	other (PSD	P)	
		Name	Initial	Date	Name	Initial	Date	Name	Initial		Date
Desi	gner	Brian Burke	BB	25/02/22							
Proje	ect Owner	Niall Harte	NH	25/02/22							
	Hazard		Design Mitigation measures			Other Possible (including me	Mitigation Measures asures by Contractor	Residu following	al Risk Ass g mitigation	essment measures	
								on site)	Likelihood	Severity	Risk Rating
1	Risk of collision	between construction traffic	and public traffic i.e.	It is considered	d that these risks shoul	d be	The Contractor sh	all put in place Temporary	L	Н	M
	cars, buses, H	GVs, emergency vehicles.		capable of saf	e management and cor	ntrol by a	Traffic Manageme	nt measures to ensure			
2	Risk of collisior	between construction traffic	and pedestrians and	competent Co	ntractor using safe syst	ems of	that members of the	ne public i.e. public	L	н	М
2	cyclists using the	ne road or footpaths.	ing the works	work and the a	appropriate levels of res	ources and	vehicles, pedestria	ans and cyclists do not	L	н	М
3	Risks associate	ed with construction traffic ent	tering and leaving the	and trained so	o as to avoid dangerous	s use of	Detailed control m	easures are to be			
•	site i.e. collision	n with public traffic, pedestria	ns & cyclists.	vehicles on sit	e.		developed by the	Contractor to mitigate all		H	IVI
5	Risk of Contrac	tor personnel coming into co	ntact with plant and	Access to wor	ks areas to be cordone	d off and	planned sequence	of work, and issue of	L	Н	М
	equipment resulting in injury.			warning signs	erected. Site security n	neasures to	suitable PPE to pr	oject personnel and as	L	н	М
6	Risks associated with lack of co-ordination on the project.			be designed a	ccordingly.		Safety Health	and Welfare at Work		M	1
7	Risks associated with lack of co-ordination on the project. Risk of slips, trips and falls by Contractor personnel & members of the public due to inadequate housekeeping and site management.				(Constructio • Safety Healt (General Ap) Regulations 2013 and Welfare at Work lication) Regulations 2007		IVI	

Severity of Harm L = Minor Injury/Illness $\mathbf{M} = \text{Injury/Illness causing short term disability}$ $\mathbf{H} = \text{Fatality or major injury/illness causing long term disability}$

Risk Assessment L = Low Risk (No action) M = Medium Risk (Action required unless good reason not to) H= High Risk (Action required e.g. Design Change)

Risk Table	1	Severity		
Likelihood	н	м	L	
н	н	н	N	
м	.н.	M	L	
L	M	4	1	

	ΔRI	ΙΡ	Hazard Ic	lentification	and Risk Ass	assmant		Job Number		268401-00	
			(Including F	articular Risk	s & Other Signific	ant Risks)		Page Number	:	2 of 15	
Proj	ect	BusConnects – Bell Core Bus Corridor S	field/Blackrock to City Scheme	Centre	Design Issue	or Element	Working near	r a watercourse			
Stag	Stage Scheme Stage			Pre-Tender Stage			ge	C	Other (PSD	P)	
		Name	Initial	Date	Name	Initial	Date	Name		Initial	Date
Desi	gner	Brian Burke	BB	25/02/22							
Proje	ect Owner	Niall Harte	NH	25/02/22							
	Hazard			Design Mitigation measures			Other Possible (including me	e Mitigation Measures easures by Contractor on site)	Residu following	ual Risk Ass g mitigation	essment measures
									Likelihood	I Severity	Risk Rating
1	Risk of Drowni	ng in the river or flooded ex	cavations	The nature of works requires the Contractor A su			A suitable emer	gency procedure to be	L	Н	М
2	Risk of sudden place	ingress of water into areas	where work is taking	the Grand Canal.			lifeboat, lifebuoys, safety ropes etc.		L	Н	М
3	Risk of falling i	nto river or other bodies of	water	The designe capable of s	rs consider the w afe construction b	orks to be by a	A suitable warning system regarding water levels in streams to be put in		L	н	М
4	Risk of flooding	I		resources.	ontractor using a	dequate	piace.		L	н	М
	Diele of other a			Where work	s are to be carried	out near the	On each site a s assessment is t	site-specific risk o be carried out by the			
5	works such as	props, scaffolding etc	sning away temporary	river channe be required.	I, suitable tempor These should be	ary works will designed by	Contractor prior the maintenanc Statement is to	to commencement of e task and the Method address the necessary	L	н	М
				Similarly, ter	nporary work item	is designer.	site-specific mit	igation measures.			
			dewatering of sides of dee	vatering of excavations and propping of es of deep excavations are to be Detailed contri developed by			measures are to be ne contractor to mitigate				
Likeliho L = Low M = Mec H = High	od of Hazard occurrin (Seldom) lium (Reasonably Likel n (Certain/Nearly Certa	Severity of Harm L = Minor Injury/Illness y) M = Injury/Illness causing sl n) H = Fatality or major injury/illness	hort term disability illness causing long term disability	Risk Assessm L = Low Risk (N M = Medium Ris H= High Risk (A	Risk Assessment Refer to Arup Healt L = Low Risk (No action) Handbook and Dett M = Medium Risk (Action required unless good reason not to) Flowchart for guida and issue to PSDP			& Safety Designer's led Design Project ce on form sign off	Risk Live	Table Severity filood H M L H H H M M H H M L M L L	

Construction) Regulations 2006 Safety Health and Welfare at Work (General Application) Regulations 2007	designed and implemented b Contractor. All temporary wor designed to withstand floods conditions which may arise o to the particular nature of the	y the rks are to be or other n the sites due sites.		
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Severity of Harm L = Minor Injury/Illness $\mathbf{M} = \text{Injury/Illness causing short term disability}$ $\mathbf{H} = \text{Fatality or major injury/illness causing long term disability}$

Risk Assessment L = Low Risk (No action) M = Medium Risk (Action required unless good reason not to) H= High Risk (Action required e.g. Design Change)

Risk Table		everity		
Likelihood	н	м	L	
н	н	н	11	
м	.н.	м.	L	
L	M	4	1	

	ARI		Hazard I	dentificatior	and Risk Assess	sment		Job Number	2	268401-00	
			(Including	Particular Risk	s & Other Significant	Risks)		Page Number	3	3 of 15	
Proj	ect	BusConnects – Belfie Core Bus Corridor Se	eld/Blackrock to Cit	y Centre	Centre Design Issue or Element Noise and Vik			Vibration during Excavation and Construction			
Stag	Stage Scheme Stage				Pre-Tender Stage			C	other (PSDI	P)	
	Name Initial				Name	Initial	Date	Name	1	nitial	Date
Desi	Designer Brian Burke BB			25/02/22							
Proje	Project Owner Niall Harte NH			25/02/22							
	Hazard		Desi	Design Mitigation measures			e Mitigation Measures asures by Contractor	res Residual Risk Asses tor following mitigation m		essment measures	
								on site)	Likelihood	Severity	Risk Rating
1	Temporary or p	permanent hearing damage /	loss for construction	Noise reducin	ng barriers to be used.		Contractor to liais	e with local residents.	L	М	L
	workers / local	residents		Noise and vib	pration generating activit	ies to be	developed by the	Contractor to mitigate all	L	L	L
2	Noise and vibra	ation disturbances for local re	esidents	restricted to li	mited hours per day, to	reduce	risks to health and	safety, including a			
				exposure. Noise monitor	ring in sensitive location	s to be	suitable PPE to pr	oject personnel and as			
				carried out for	r the duration of the wor	ks.	 per the requireme Safety Health 	nts of: h and Welfare at Work			
							(Construction	n) Regulations 2013			
							(General App	blication) Regulations 2007			

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Risk Table		Severity		
Likelihood	н	м	L	
н	н	н	12	
м	.н.	м.	L	
L	M	4	1	

	ΔRΙ	ID	Hazard k	Antification	and Rick Ass	essment		Job Number		268401-00	
			(Including F	Particular Risks	s & Other Signifi	cant Risks)		Page Number		4 of 15	
Proj	ect	BusConnects – Belfield/Bla Core Bus Corridor Scheme	ckrock to City	Centre	Design Issu	e or Elemen	t Excavatio	ation and Demolition Works (including buried se			ervices)
Stag	Stage Scheme Stage			Pre-Tender Stage			tage	Other (Clarify)			
	Name Hand Initial			Date	Name	Initial	Date	Name		Hand Initial	Date
Desi	Designer Brian Burke BB										
Proje	Project Owner Niall Harte NH										
	Hazard			Design Mitigation measures			Other Possible Mitigation Measures (including measures by Contractor on site)		Resic followi	lual Risk Ass ng mitigation	essment measures
								-		od Severity	Risk Rating
1 2 3	Risk of personnel falling into open excavations during the works.Risk of plant and equipment coming into contact with openexcavations during the works resulting in an accident.Risks associated with excavation works and contact with ordamage to uncharted and/or underground services on the site asfollows:• Electrical HV & LV cables			Excavations o The indicative is shown in the It is considered	n the project are s location of all buri e Information Pack d that these risks s	hallow. ed services should be	The Contractor shall location of all existing same. All excavation works with the HSA Code of Danger from Underg January 2010. Detailed control mea Contractor to mitigat including a planned s suitable PPE to proje	confirm the existence, nature and g services and protect and uphold shall be carried out in accordance of Practice for the Avoidance of round Services Second Edition sures are to be developed by the e all risks to health and safety, sequence of work, and issue of ect personnel and as per the			M M M M
4	follows: Electrical HV & LV cables Gas mains Drainage foul and storm Watermains Fibre optic and telecommunications cables Risks associated with coming into contact with basements under the carriageway. There are known basements along Baggot Street.			a competent C of work and th resources and	e management an Contractor using sa e appropriate leve I equipment.	fe systems ls of	 requirements of: Safety Health a Regulations 20 Safety Health a Application) Re HSA Code of F Danger from U Edition Januar 	and Welfare at Work (Construction) 113 and Welfare at Work (General egulations 2007 Practice for the Avoidance of inderground Services Second y 2010.	L L L	M M M H	L L L

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Risk Table		ieverit)		
Likelihood	н	м	L	
н	н	н	N	
м	.н.	м.	L	
L	M	4	1	

	A RI		Hazard Id	lentification	and Risk Ass	essment		Job Number		268401-00		
			(Including P	Particular Risk	s & Other Signific	ant Risks)		Page Number		5 of 15		
Proj	ect	BusConnects – Belfie Core Bus Corridor Sc	eld/Blackrock to City cheme	Centre	Design Issue	or Element	Work in t	k in the Vicinity of Overhead Services				
Stag	e	S	cheme Stage		Pre-Tender Stage			Other (Clarify)				
		Name	Hand Initial	Date	Name	Initial	Date	Name		Initial	Date	
Desi	gner	r Brian Burke BB 25/02/22										
Proje	Project Owner Niall Harte NH			25/02/22								
	Hazard			Design Mitigation measures			Other Possible Mitigation Measures (including measures by Contractor or site)		Residu followin	ual Risk Ass g mitigation	essment measures	
)	Likelihood	Severity	Risk Rating	
1 2	Risk of contact Risk associate lines.	with overhead electrical cabl	les. mage to overhead	The indicative overhead se included in t be issued to It is consider	ve location of all k ervices on the site he information pa the Contractor. red that these risk	nown are ck and will s should be	The Contractor shall and location of all ex- uphold same. All works in the vicin are to be carried out Networks Code of Pr Overhead Electrical	confirm the existence, nature isting services and protect and ity of overhead electricity lines in accordance with the ESB ractice for Avoiding Danger from Lines.	L	н	M	
	capable of sa by a compete systems of we levels of reso			afe management tent Contractor us work and the appr ources and equip	and control ing safe opriate ment.	the Contractor to mit safety, including a pl issue of suitable PPt of: • Safety Health a (Construction) • Safety Health a Application) Re • ESB Networks Danger from C	igate all risks to health and anned sequence of work, and E and as per the requirements and Welfare at Work Regulations 2013 and Welfare at Work (General egulations 2007 Code of Practice for Avoiding werhead Electrical Lines.					

Severity of Harm L = Minor Injury/Illness

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Refer to Arup Health & Safety Designer's Handbook and Detailed Design Project Flowchart for guidance on form sign off and issue to PSDP.

Risk Table		Severity		
Liketihood	н	м	L	
н	н	н	11	
м	.н.	м.	L	
L	M	4	1	

HS1

	ΔDΙ		Hozard Io	Instification	and Dick Acc	ocement			Job Number		268401-00	
			(Including F	Particular Risk	s & Other Signific	ant Risks)			Page Number		6 of 15	
Proj	ect	BusConnects – Belfie Core Bus Corridor Sc	eld/Blackrock to City	Centre	Design Issue	e or Eleme	nt	Work with	/ith Chemical or Biological Substances			
Stag	je	S	cheme Stage		Pre-Tender Stage				Other (Clarify)			
		Name	Hand Initial	Date	Name	Initial		Date	Name		Initial	Date
Desi	gner	Brian Burke	BB	25/02/22								
Proje	ect Owner	Niall Harte	NH	25/02/22								
	Hazard			Design Mitigation measures			Otl (inc	her Possible I luding measu	Mitigation Measures res by Contractor on	Residu followin	ual Risk Ass g mitigation	essment measures
									site)	Likelihood	d Severity	Risk Rating
1	Risk of exposu	re to chemicals, solvents or b	viological substances	The Contractor			ontractor's welfa ater supply for wa	are facilities should have a ashing purposes.	L	М	L	
2	while carrying of Risks associate tack coat, seali	out the works. ed with working with bitumen, ng joints with molten bitumen	, bituminous liquids i.e. n, cementitious				Contra soil for	actor to continuo r possible contar	usly monitor excavated minants.	L	м	L
3	tack coat, sealing joints with molten bitumen, cementitious products, thermoplastics and road marking materials on the project. Risks associated with removal of road markings i.e. inhalation of dust and fumes by Contractor personnel and by members of the			It is not possible to eliminate the risks associated with chemical or biological substances by design.			Detailed control measures are to be develope by the Contractor to mitigate all risks to health and safety, including a planned sequence of work, suitable emergency plans, and issue of suitable PPE as per the requirements of:			L	М	L
4 5 6	public. Risk of exposu Risk of encoun Risk of exposu lampposts and	re to Weil's disease tering unexpected contamina re to asbestos during demolit the Coffee Dock on Pembrok		suitable PPE Safety H (Constru Safety H (Genera Safety, (Chemic Chemic			Safety Health and Construction) Re Safety Health and General Applicat Safety, Health and Chemical Agents Chemicals Act 20 Amendments 201	d Welfare at Work egulations 2013 d Welfare at Work tion) Regulations 2007 d Welfare at Work s) Regulations, 2001 008 and Chemicals 10	L L L	M M H H	L L M M	

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Risk Table		ieverit)	
Likelihood	н	м	L
н	н	н	11
м	.н.	м.	L
L	M	4	1

HS1

		ID	Hazard k	lentification	and Rick Assass	ment		Job Number	2	268401-00	
Γ		JI	(Including F	Particular Risks	& Other Significant F	Risks)		Page Number		7 of 15	
Projec	ct	BusConnects – Belfield/Blac Core Bus Corridor Scheme	krock to City	Centre	Design Issue or	Element	Assembly	mbly or dismantling heavy prefabricated components			
Stage Scheme Stage			Pre-Tender Stage			Other (Clarify)					
		Name	Hand Initial	Date	Name	Initial	Date	Name		Initial	Date
Design	ner	Brian Burke	BB	25/02/22							
Project	Project Owner Niall Harte NH		25/02/22								
Hazard		Des	Design Mitigation measures			Other Possible Mitigation Measures (including measures by Contractor on site)		Residual Risk Assessment following mitigation measures			
							Com		Likelihood	I Severity	Risk Rating
1	Risks associated with handling and installing prefabricated components i.e. concrete road kerbs, drainage pipework and road gullies etc.			Any prefabric considered to capable of sa Contractor us resources.	cated units specified a b be suitable for their afe installation by a co sing adequate safety	are purpose and ompetent systems and	 Detailed control measures are to be developed by the Contractor to mitigate all risks to health and safety, including a planned sequence of work, and issue of suitable PPE and as per the requirements of: Safety Health and Welfare at Work (Construction) Regulations 2013 Safety Health and Welfare at Work (General Application) Regulations 2007 		L	M	L

HS1

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Risk Assessment L = Low Risk (No action) M = Medium Risk (Action required unless good reason not to) H= High Risk (Action required e.g. Design Change)

Risk Table		everity	
Likelihood	н	м	L
н	н	н	M
м	.н.	м.	L
L	M	4	1

ΔΓ		Hazard Id	Intification	and Risk Assess	ment		Job Number		268401-00	
		(Including F	Particular Risk	s & Other Significant I	Risks)		Page Number	٤	8 of 15	
Project	BusConnects – Belfield/ Core Bus Corridor Sche	Blackrock to City	Centre	Design Issue or	Element	Site Restri	estrictions, Work Area Layout and Security			
Stage	Sche	eme Stage		Pre-Tender Stage		Other (Clarify)				
	Name	Hand Initial	Date	Name	Initial	Date	Name	1	Initial Date	
Designer	Brian Burke	BB	25/02/22							
Project Owner	Niall Harte	NH	25/02/22							
Hazard		Design Mitigation measures M			Other Possible Mitigation Measures (including measures by Contractor on site)		Residual Risk Assessment following mitigation measures			
							,	Likelihood	Severity	Risk Rating
1 Unautho accident hours or	Unauthorised access to work area resulting in accident/injury to members of the public during working hours or after hours. It is not poss associated wisecurity in a Restricted access resulting in a Restricted access resulting for injured construction. Contractor is site security The works sp safe execution using safe sy appropriate I			sible to eliminate the h with the work area lays project of this nature. ccess/egress for eme ulting in a delay in pro onstruction personnel. s required to implement measures at all times pecified are considered on by a competent co ystems of work and the levels of resources an	azards buts and site rgency oviding care	Work Sites to times (contra No open hole be left unpro requirement) It is expected to be inducted measure will regard on sit It is expected for emergend maintained a addressed in Managemen	o be secured at all act requirement). es or other hazards to tected (contract). d that all visitors to site ed or some other be put in place in this e. d that suitable access cy services is will be at all times. This can be o the Temporary Traffic t plans for the works.	L	Н	М

HS1

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Risk Table	Severity				
Likelihood	н	м	L		
н	н	н	11		
м	.н.	м.	L		
L	M	4	1		

	It is considered that these risks should be capable of safe management and control by a competent contractor using safe systems of work and the appropriate levels of resources and equipment.		

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Risk Table	Severity				
Likelihood	н	м	L		
н	н	н	N		
м	.н.	M	L		
L	M	4	1		

	ARUP Hazard Ic		dentification	and Risk Ass	sessment		Job Number		268401-00		
1		U I	(Including F	Particular Risk	ks & Other Signifi	cant Risks)		Page Number		9 of 15	
Projec	ct	BusConnects – B Core Bus Corrido	elfield/Blackrock to City r Scheme	Centre Design Issue or Element Risks asso			ociated with Night Works				
Stage	Stage Scheme Stage			Pre-Tender Stage			Other (Clarify)				
		Name	Hand Initial	Date	Name	Initial	Date	Name		Initial	
Desigr	ner	Brian Burke	BB	25/02/22							
Projec	t Owner	Niall Harte	NH	25/02/22							
		Hazard		Design Mitigation measures			Other Possible Mitigation Measures (including measures to Contractor on cite)		Residual Risk Assessment following mitigation measure		
									Likelihood	d Severity	Risk Rating
1 Risk of injury to operatives and members of the public due to works being completed at night with a resultant lack of light.			It is not possible to eliminate the hazards associated with night works in a project of this nature. The works specified are considered capable of safe execution by a competent contractor using safe systems of work and the appropriate levels of resources and equipment.			It is considered that these risks should be capable of safe management and control by a competent contractor using safe systems of work and the appropriate levels of resources and equipment.		L	М	L	

HS1

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Risk Table		ieverit)	
Likelihood	н	м	L
н	н	н	11
м	.н.	м.	L
L	M	4	1

	ARUP		Hazard Ic	lentification	and Risk Assess	ment		Job Number		268401-00		
			(Including F	Particular Risks	& Other Significant F	Risks)		Page Number		10 of 15		
Proj	ect	BusConnects – Belfield/Blac Core Bus Corridor Scheme	krock to City	Centre Design Issue or Element Risks ass			Risks asso	ociated with felling of trees				
Stag	Stage Scheme Stage			Pre-Tender Stage Othe			ther (Clarify)					
		Name	Hand Initial	Date	Name	Initial	Date	Name		Initial		
Desi	gner	Brian Burke	BB	25/02/22								
Proje	Project Owner Niall Harte NH		25/02/22									
		Hazard		Design Mitigation measures			Other Possible Mitigation Measures (including measures by		Residual Risk Assessment following mitigation measures			
							Con		Likelihoo	od Severity	Risk Rating	
1	Risk of injury public due to t chainsaws) fa	or death to operatives and memb rees, branches or felling materia lling during the felling of trees.	ers of the s (i.e.	It is not possi associated w of this nature	s not possible to eliminate the hazards sociated with the felling of trees in a project this nature			considered that these risks uld be capable of safe		н	M	
2	height during	the felling of trees.	ng from a	The works sp	pecified are considere	d capable of	competent co systems of w	ontractor using safe	L		M	
3 Risk of injury or death to operatives and members of the public due falling trees coming into contact with overhead line.			safe executic using safe sy appropriate le	systems of work and the levels of resources and equipment.			purces and equipment.	L	Н	M		

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Risk Table	Severity					
Likelihood	н	м	L			
н	н	н	11			
м	.н.	м.	L			
L	M	4	1			

	ΔRΙ	ΙΡ	Hazard Io	Ientification	and Risk Assess	ment		Job Number		268401-00		
			(Including F	Particular Risks	& Other Significant I	Risks)		Page Number		11 of 15		
Proje	ect	BusConnects – Belfield/Bla Core Bus Corridor Scheme	ckrock to City	Centre	Design Issue or	Element	Risks asso	ssociated with working adjacent to a Railway				
Stage Concept Stage			Pre-1	Fender Stage		O	ther (Clar	ify)				
		Name	Hand Initial	Date	Name	Initial	Date	Name	Initial		Date	
Desig	gner	Brian Burke	BB	25/02/22								
Proje	Project Owner Niall Harte NH		NH	25/02/22								
	Hazard			Of Design Mitigation measures Measu			Other Possible Mitigation Measures (including measures by		Residual Risk Assessment following mitigation measures			
							Com	ractor on site)	Likelihoo	d Severity	Risk Rating	
1	Risk of injury	or death to operatives and mem	bers of the	It is not possi	ible to eliminate the h	azards	It is consider	ed that these risks	L	Н	М	
2	Risk of damag an impact with	ge to the train and injury to its or n works being carried out by the	cupants from contractor.	associated w railway line ir All persons w	I with working alongside and under a e in a project of this nature. s working on the railway line are to			pable of sare and control by a portractor using safe ork and the appropriate	L	н	М	
3	3 Risk of injury or death to operatives and members of the public due to conflict between trains and vehicles close to the site			be cleared to The works sr	work by Irish Rail.	ed capable of	levels of resc	purces and equipment.	L	н	М	
				safe execution using safe sy appropriate le	on by a competent co stems of work and th evels of resources an	ntractor le ld equipment.	or ent.					

HS1

Severity of Harm L = Minor Injury/Illness $\mathbf{M} = \text{Injury/Illness causing short term disability}$ $\mathbf{H} = \text{Fatality or major injury/illness causing long term disability}$ Risk Assessment L = Low Risk (No action) M = Medium Risk (Action required unless good reason not to) H= High Risk (Action required e.g. Design Change)

Risk Table	Severity					
Likelihood	н	м	L			
н	н	н	N			
м	.н.	м.	L			
L	M	4	1			

ARUP Hazard Id (Including F			rd Identification and Risk Assessment			Job Number Page Number		268401-00 12 of 15			
Project BusConnects – Belfield/Blackrock to City Core Bus Corridor Scheme			Centre	Design Issue or Element Risks assc			sociated with moving	Merrior	n Gates		
Stage Concept Stage			Pre-	Tender Stage		0	ther (Cla	rify)			
		Name	Hand Initial	Date	Name	Initial	Date	Name		Initial	Date
Desi	gner	Brian Burke	BB	25/02/22							
Proje	ect Owner	Niall Harte	NH	25/02/22							
		Hazard	I	Design Mitigation measures			Other Possible Mitigation Measures (including measures		Residual Risk Assessment following mitigation measures		essment measures
							by C.		Likelihoo	d Severity	Risk Rating
2	Risk of injury public due to Gates. Risk of damag being carried	or death to operatives and memb disassembling and reassembling ge to the Gates and Blockwork fr out by the contractor.	oers of the Merrion om the works	It is not possi associated w project of this The works sp safe executions safe systems of resources	ble to eliminate the h ith moving a stone and s nature. Decified are considered on by a competent co s of work and the app and equipment.	nazards rchway in a ed capable of ntractor using ropriate levels	It is consid should be manageme competent systems of appropriate and equipr	ered that these risks capable of safe ent and control by a contractor using safe work and the e levels of resources nent.	M	L	L

Severity of Harm L = Minor Injury/Illness M = Injury/Illness causing short term disability H = Fatality or major injury/Illness causing long term disability

Risk Assessment L = Low Risk (No action) M = Medium Risk (Action required unless good reason not to) H= High Risk (Action required e.g. Design Change)

Refer to Arup Health & Safety Designer's Handbook and Detailed Design Project Flowchart for guidance on form sign off and issue to PSDP.

Risk Table	Severity					
Likelihood	н	м	L			
н	н	н	N			
м	.н.	м.	L			
L	M	4	1			

HS1

	ΔRΙ	ID	Hazard Id	dentification	and Risk Assess	ment		Job Number		268401-00	
(Including			(Including F	Particular Risks	& Other Significant	Risks)		Page Number		13 of 15	
Project BusConnects – Belfield/Blackrock to City Core Bus Corridor Scheme			Centre	Design Issue or Element Risks associa			ciated with moving ESB	Sub-	Station		
Stage Concept Stage			Pre-1	Fender Stage		Other	' (Clari	fy)			
		Name	Hand Initial	Date	Name	Initial	Date	Name		Initial	Date
Desi	gner	Brian Burke	BB	25/02/22							
Proje	ect Owner	Niall Harte	NH	25/02/22							
		Hazard		Design Mitigation measures			Other Poss (including	ible Mitigation Measures measures by Contractor on site)	Resid	dual Risk As blowing mit measure	ssessment igation es
									Likelih ood	Severity	Risk Rating
1	Risk of injury public due to r Risk of damag surrounding th carried out by	or death to operatives and memb moving the ESB Sub-Station on t ge to the infrastructure contained he ESB Sub-Station from the wor the contractor.	ers of the Nutley Lane. within and ks being	It is not possi associated w a project of th The works sp safe executio using safe sy appropriate le	ible to eliminate the h ith moving an ESB S nis nature. pecified are considered on by a competent co rstems of work and th evels of resources an	azards ub-Station in ed capable of ntractor le ed equipment.	It is consider be capable o control by a c safe systems appropriate le equipment.	ed that these risks should f safe management and competent contractor using s of work and the evels of resources and	M	L	L

HS1

Severity of Harm L = Minor Injury/Illness

 $\begin{array}{l} {\sf L} = {\sf Minor Injury/Illness} \\ {\sf M} = {\sf Injury/Illness causing short term disability} \\ {\sf H} = {\sf Fatality or major injury/illness causing long term disability} \end{array}$

Risk Assessment L = Low Risk (No action) M = Medium Risk (Action required unless good reason not to) H= High Risk (Action required e.g. Design Change)

Risk Table	Severity					
Likelihood	н	м	L			
н	н	н	11			
м	.н.	м.	L			
L	M	4	1			

	ΔRΙ	ΙΡ	Hazard Id	Intification	and Risk Asse	essment		Job Number		268401-00	
			(Including F	Particular Risk	s & Other Significa	ant Risks)		Page Number		14 of 15	
Project BusConnects – Belfield/Blackrock to City Core Bus Corridor Scheme		Centre	Design Issue or Element Other Specif			ecific Risks Identified					
Stag	e	Schem	e Stage		P	re-Tender Stage		0	ther (Clar	ify)	
		Name	Hand Initial	Date	Name	Initial	Date	Name		Initial	Date
Desig	gner	Brian Burke	BB	25/02/22							
Proje	ect Owner	Niall Harte	NH	25/02/22							
		Hazard		Des	sign Mitigation m	easures	Other F Measures (i	Possible Mitigation including measures by	Resid followin	ual Risk Ass og mitigation	essment measures
									Likelihoo	d Severity	Risk Rating
1 2	Risk of injury public due to at the junction Risk of injury when working	or death to operatives and men moving the electrical cabinet or of Serpentine Avenue. to operatives due to being hit b in Elm Park Golf Club.	nbers of the n Merrion Road y golf balls	It is not poss project of the Contractor is site safety m	sible to eliminate th is nature. s required to imple neasures at all time	ne hazards in a ment adequate es.	It is conside should be ca managemen competent c	red that these risks apable of safe at and control by a contractor using safe	L	н	M
3	Risk of injury public due to Hospital off N	or death to operatives and men moving the electrical cabinet in utley Lane at the junction of Nu	nbers of the St. Vincent's tley Avenue.	The works s safe executi using safe s appropriate	pecified are considered on by a competen ystems of work an levels of resources	dered capable of t contractor d the s and equipment.	systems of v levels of res	work and the appropriate ources and equipment.	L	Н	М

HS1

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Risk Assessment L = Low Risk (No action) M = Medium Risk (Action required unless good reason not to) H= High Risk (Action required e.g. Design Change)

Risk Table	Severity					
Likelihood	н	м	L			
н	н	н	N			
м	.н.	м.	L			
L	M	4	1			

	ΔΡΙ	ID	Hazard Io	Ientification	and Risk Assess	ment		Job Number		268401-00	
		JI	(Including F	Particular Risks	s & Other Significant F	Risks)		Page Number		15 of 15	
Proj	ect	BusConnects – Belfield/Blac Core Bus Corridor Scheme	krock to City	Centre	Design Issue or	Element	Coordinati	on with surrounding a	activities		
Stage Scheme St		Stage		Pre-1	ender Stage	L	Ot	ther (Clarif	īy)		
		Name	Hand Initial	Date	Name	Initial	Date	Name	1	nitial	Date
Desi	gner	Brian Burke	BB	25/02/22							
Proje	ect Owner	Niall Harte	NH	25/02/22							
		Hazard		Des	ign Mitigation meas	ures	Other P Measures (i	ossible Mitigation ncluding measures by	Residu following	al Risk Ass g mitigation	essment measures
							Con	tractor on site)	Likelihood	Severity	Risk Rating
1	Coordination	with external projects		Potential sch	neme interactions are	being	No other miti	igation measures	L	L	L
2	Coordination	with stakeholders along the route		assessed for	coordination where a	vailable.			L	L	L
3	Coordination	with Seveso Sites.		Direct contact the individuat to agree tie i	ct is being made/ will l I designers on externa n details.	be made with al schemes			L	L	L
				Stakeholder stakeholders mitigate thes A problem id carried out o issues with th No Seveso s within the co	consultation is ongoir to identify potential is through design whe lentification audit will a n the route to identify he existing arrangeme the have been identified nsultation distance.	ng with key ssues and to re feasible. also be potential ent. ed which are					

HS1

Severity of Harm L = Minor Injury/Illness $\mathbf{M} = \text{Injury/Illness causing short term disability}$ $\mathbf{H} = \text{Fatality or major injury/illness causing long term disability}$

Risk Assessment L = Low Risk (No action) M = Medium Risk (Action required unless good reason not to) H= High Risk (Action required e.g. Design Change)

Risk Table	Severity					
Likelihood	н	м	L			
н	н	н	N			
м	.н.	м.	L			
L	M	4	1			