

APPENDIX A

DESIGNERS RISK ASSESSMENT

1. Risk Assessment

The Risk Assessment is based on guidelines to the Safety Health & Welfare at Work (Construction) Regulations, issued by the Health & Safety Authority. The following Risk Rating Matrix is adopted:

Severity		H	M	L
	H	3	3	2
	M	3	2	1
	L	2	1	1
		Likelihood		

Severity	Likelihood	Risk Rating
H – Fatality, major injury causing long-term disability	H – Certain or near certainty	3 = High risk – action required
M – Injury or illness causing short-term disability	M – Reasonably likely	2 = Medium risk – action required unless good reason
L – Other injury or illness	L – Very seldom or never	1 = Low risk – no action required

Table 1.0 overleaf gives the risk assessment of general hazards that have been identified during the design process for the construction of two underpasses and associated works access routes and civil works as part of the Tralee Northern Relief Road.

Table 1.0 Detailed Design Risk Assessment for Construction of Ballyseedy Amenity Trail Phase 3 including installation of Steel Bridge Structure No. 3 and all Associated Civil Works

Activity, Design, Process, Material Description of activity	Hazard Outline what the potential is of the activity to cause harm	Initial Risk Rating See Severity/ Likelihood Matrix	Actions by Designer to Reduce Risk Rating (a) Is the initial risk rating >1? If yes, consider as a priority the need to avoid and reduce risks. (b) Can the risk be reasonably avoided by changing the design or specification? If yes, explain how and change it. (c) Can the risk be reasonably reduced by changing the design or specification? (d) If the final risk rating is >1, explain why and what others need to do to minimise the risk.	Final Risk Rating See Severity / Likelihood Matrix.
General construction activity	Dust.	2	(a) Yes, risk rating > 1 (b) No - inherent to the nature of construction activity (c) No (d) Residual risk remains because it is impossible to eliminate dust. Personal Protective Equipment (PPE) should be used.	2
General construction activity	Exposure to Noise Vibration.	2 2	(a) Yes, risk rating >1 (b) No – inherent to the nature of construction activity. (c) No (d) Residual risk remains because it is impossible to eliminate exposure to noise / vibration on modern construction sites. Enclosures of noise should be provided where practical; ear defenders and PPE should be used.	2 2
Handling and Lifting	Muscular injury	2	(a) Yes, risk rating > 1. (b) No – inherent to the nature of construction activity. (c) No (d) Residual risk remains because it is impossible to eliminate handling. Attachment points should be provided on items to be handled or lifted. Self- release shackles should be provided. Weight details should be ascertained in relation to elements to be lifted/handled. Method statement and lifting plan to be prepared in advance where lifting by crane is necessary.	2

Activity, Design, Process, Material	Hazard	Initial Risk Rating	Actions by Designer to Reduce Risk Rating	Final Risk Rating
Plant operation and machinery use	Collision Crushing Struck by Moving machinery	3	(a) Yes, risk rating > 1 (b) No – inherent to the nature of construction activity. (c) Optimise design by allowing for adequate working space and providing adequate access route(s). (d) Residual risk remains because it is impossible to eliminate plant. Adequate working space and planning should be provided.	3
Working adjacent to the river embankments	Falling from height, material slippage	3	(a) Yes, risk rating > 1 (b) No – inherent to the nature of construction activity. (c) No. (d) Residual risk remains because it is impossible to eliminate the possibility of falling objects or material slippage on river banks. Adequate working space and planning should be provided. Temporary edge protection, safe working methods, supervision, monitor embankments for stability.	2
Works in river / stream diversion	Drowning, flood risk	3	(a) Yes, risk rating > 1 (b) No – inherent to nature of construction activity. (c) No. (d) Residual risk remains because it is impossible to eliminate the possibility of flooding. Plan works during low flow, install barriers and monitor weather forecasts, refer to 1 in 100-year flood levels.	2
General construction activity	Overhead/ underground cables.	3	(a) Yes, risk rating >1 (b) No – overhead cables existing along length of trail route. (c) No. (d) Residual risk remains. Clearance and safe distances to be confirmed with ESB. Appropriate temporary guarding/signage/bunting to be put in place.	3

Activity, Design, Process, Material	Hazard	Initial Risk Rating	Actions by Designer to Reduce Risk Rating	Final Risk Rating
Unauthorised Access by members of the public	Risk to falls;	3	(a) Yes, risk rating >1.	3
	Exposure to moving vehicles;	3	(b) No – it is not possible to design out this hazard	3
	Tripping;	1	(c) The construction site layout shall be managed so as to minimise the perimeter and to ensure it is feasible to secure the site, within the constraints of the scheme. It is not, however, possible to design out this hazard.	1
	Electrocution;	2	(d) A residual risk remains in relation to this hazard. The Contractor must ensure that the site is secure.	2
Earthworks / berm construction	Exposure to harmful substances.	2		2
	Risk of falls;	2	(a) Yes, risk rating >1	1
	Being struck by machinery;	3	(b) No – the design requires excavations.	3
	Collapse;	2	(c) Yes – dig levels minimised where possible. Provide slopes or shoring as necessary.	1
			(d) Residual risk of falls, being struck by machinery or collapse remains. Contractor to ensure all personnel have PPE. All necessary temporary works to be provided by Contractor.	
Installation of fencing	Manual handling , struck by tools	2	(a) Yes, risk rating > 1 (b) No – inherent to nature of construction activity. (c) No – inherent to nature of construction activity. (d) Residual risk remains; use correct tools, PPE, follow installation method statements.	2
Installation of site access traffic signage	Risk of being struck by moving vehicles;	3	(a) Yes, risk rating >1. (b) Signage should be erected in early morning/late evening when traffic volumes are low. (c) Yes – signage should be erected in early morning/late evening when traffic volumes are low. (d) Experienced personnel, traffic management plan and PPE will be required.	2

Activity, Design, Process, Material	Hazard	Initial Risk Rating	Actions by Designer to Reduce Risk Rating	Final Risk Rating
Removal of invasive species (Himalayan Balsam)	Skin irritation, allergic reaction, environmental contamination	2	(a) Yes, risk rating > 1 (b) No – inherent to the nature of construction activity. (c) No – inherent to the nature of construction activity. (d) Residual risk remains in relation to this hazard. Provide appropriate PPE, contain all plant material on site, ensure staff are training and decontamination of tools and machinery after use to prevent spread.	2
Excavation/ below ground level Construction	Weils disease and other mammal borne diseases	2	(a) Yes, risk rating > 1 (b) No – inherent to the nature of construction activity. (c) No. (d) Residual risk remains with appropriate PPE required.	2
Placement of granular material	Trip hazards, uneven surface	2	(a) Yes, risk rating > 1 (b) No – inherent to the nature of construction activity. (c) No – inherent to the nature of construction activity. (d) Residual risk remains; maintain clear working areas, proper ramping and access.	2
Installation of Gabions wall / erosion protection	Manual handling, material collapse	2	(a) Yes, risk rating > 1 (b) No – inherent to the nature of construction activity. (c) No – inherent to the nature of construction activity. (d) Residual risk remains; follow manufacturer instructions, PPE, ensure stable stacking	2
Site access and traffic	Vehicle Strike	3	(a) Yes, risk rating > 1 (b) No – inherent to the nature of construction activity. (c) No – inherent to the nature of construction activity. (d) Traffic management plan, signage, PPE	3