					Bridges with low clearance for electrification				
					Мск	(ee Barrack	s Bridge (O	BO3)	
				Requirements	-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standards)				
					Intervention Assessment				
		Baseline interven	ntion (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention		•			
Options Level 1 (PC 2)	Option 0: Do Nothing	Requirements Structural sounds		Safety Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Leave as is Standard clearance for electrification and free running solution	•	Pass	The parapet needs to be raised potentially (Bridge not in use)	
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	

					Bridges wit	h low clear	rance for el	ectrification
					Blackh	norse Aven	ue Bridge (OBO4)
				Requirements	-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standard	ds)		
					Intervention			Assessment
		Baseline inte	ervention (not subject to options)		-	-	-	
			Feasibility	Constructability Geometrical fitness for intervention Safety		•		Service bridge on the southern face makes the electrification not feasible
	Option 0: Do Nothing	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads) Leave as is) s	•	fail	
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues
c 2)		Engineering	Feasibility	Constructability Geometrical fitness for intervention Safety		•		
Options Level 1 (PC 2)	Option 1: Do Minimum		Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Divert service bridge on the southern face of the bridge Standard clearance for electrification and 4.4 m cw height and free running solution	0	Pass	Assuming Service bridge can be diverted Parapet needs to be raised
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues
			Feasibility	Constructability Geometrical fitness for intervention Safety	Combination of track lowering, civil intervention and OHLE derrogation for cw heights and electrical clearances	•		Assuming service bridge cannot be diverted
	Option 2: Do Something	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads		•	Pass	
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues

					Bridge	es with lov	v clearance f	for electrification	
					Old Cabra Road Bridge (OBO5)				
		Requirements	-Electrical clearance for electrification ts -Keep current functionality of roads -Track alignment and drainage requirements (standards)						
					Intervention		Assessment		
		Baseline in	tervention (not subject to options)		-	-	-		
2)		Nothing Engineering	Feasibility	Constructability Geometrical fitness for intervention Safety		0			
Options Level 1 (PC	Option 0: Do Nothin		Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Leave as is Standard clearance for electrification and free running solution	•	Pass	Parapet to be raised	
0		Economy Environment		Investment guidelines and programme for DART+				Included within the National Inventory of Architectural Heritage (NIAH)	

					Bridges with	h low clear	rance for el	ectrification						
					Ca	bra Road I	Bridge (OBC	06)						
			Requirements	-Electrical clearance for electrification s -Keep current functionality of roads -Track alignment and drainage requirements (standards)										
					Intervention			Assessment						
		Baseline in	tervention (not subject to options)		-	-	-							
			Feasibility	Constructability Geometrical fitness for intervention Safety										
	Option 0: Do Nothing	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Leave as is	•	fail	Bridge not clear for electrification						
		Economy		Investment guidelines and programme for DART+										
		Environment						No significant environmental issues						
	Option 1 Do Minimum	Engineering	Engineering	Feasibility	Constructability Geometrical fitness for intervention Safety		•							
Options Level 1 (PC 2)				Engineering	Engineering	Engineering	Engineering	Engineering	Engineering	Engineering		Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and OHLE derogation from standards/fitted solution. Anticipated 301 mm additional vertical clearance for 4.2 m cw height.
Optic		Economy		Investment guidelines and programme for DART+										
		Environment						No significant environmental issues						
			Feasibility	Constructability Geometrical fitness for intervention Safety	Partial bridge reconstruction. Combination of track lowering and OHLE derogation from standards/fitted solution if required (to minimize impact to road levels). Anticipated 501mm additional vertical clearance for	•								
	Option 2	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads		0	Pass							
		Economy		Investment guidelines and programme for DART+	4.4m cw height.									
		Environment						Protected structure and Included within the National Inventory of Architectural Heritage (NIAH)						

					Bridges wit	h low clea	rance for el	ectrification	
_				Faussagh Avenue Bridge (OBO7)					
				-Electrical clearance for electrification s -Keep current functionality of roads -Track alignment and drainage requirements (standards)					
					Intervention			Assessment	
		Baseline in	tervention (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention Safety		•			
	Option 0: Do Nothing	Engineering Economy	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads Investment guidelines and programme for DART+	ds) Leave as is ns) ds		fail	Bridge not clear for electrification	
		Environment		investment guidennes and programme for DAKI+				No significant environmental issues	
Options Level 1 (PC 2)	Option 1: Do minimum	Engineering	Feasibility Requirements	Constructability Geometrical fitness for intervention Safety Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions)	Combination of track lowering and OHLE derogation from standards/fitted solution. Anticipated 178 mm additional vertical clearance for 4.2 m cw height.	•	Pass	Feasible in principle but pending structural assessment	
Opti		F		Keep current functionality of roads					
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
			Feasibility	Constructability Geometrical fitness for intervention Safety	Partial bridge reconstruction.	•		The agranted the control of the cont	
	Option 2	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and OHLE derogation from standards/fitted solution if required (to minimize impact to road levels). Anticipated 501mm additional vertical clearance for 4.4m cw height.	•	Pass		
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	

					Bridges with	h low clear	ance for ele	ectrification	
_					Royal Canal and LUAS Twin Arches (OBO8)				
	Requirements - K			-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standards)					
					Intervention			Assessment	
		Baseline intervent	ion (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention Safety		•		Bridge not clear for electrification	
	Option 0: Do Nothing	Engineering Economy	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads Investment guidelines and programme for DART+	ds) Leave as is ns) rds	•	fail		
		Environment		investment galacinies and programme for Dritti				No significant environmental issues	
Options Level 1 (PC 2)	Option 1 Do Minimum	Engineering	Feasibility Requirements	Constructability Geometrical fitness for intervention Safety Electrical clearance for electrification Track alignment and drainage (standards)	Track lowering (100 mm) or slab track and slewing. 4.2 m cw height and electrical clearance derogation (special reduced). OHLE Multiple fitted Tunnel arms	0	Pass	Assumes 100 m track lowering is possible	
Options		Economy		Structural soundness of the Bridge (if track interventions) Keep current functionality of roads Investment guidelines and programme for DART+	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•			
		Environment						No significant environmental issues	
			Feasibility	Constructability Geometrical fitness for intervention Safety		•			
	Option 2	Engineering Requiremen	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and bridge reconstruction. Standard cw height and electrical clearance. OHLE multiple fitted bridge arms	0	Pass		
		Economy Environment		Investment guidelines and programme for DART+				Potential impact to the Royal Canal	

					Bridges wit	h low clear	rance for el	ectrification	
_					Maynooth Line Twin Arch (OBO9)				
	Requirement			-Electrical clearance for electrification s -Keep current functionality of roads -Track alignment and drainage requirements (standards)					
					Intervention			Assessment	
		Baseline intervent	ion (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention Safety		•			
	Option 0: Do Nothing	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current for DADT	Leave as is	0	fail	Bridge not clear for electrification	
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
Options Level 1 (PC 2)	Option 1 Do minimum	Fee Engineering Require	Feasibility	Constructability Geometrical fitness for intervention Safety Electrical clearance for electrification Track alignment and drainage (standards)	Track lowering (100 mm) and slewing. 4.2 m cw height and electrical clearance derogation (special	0	Pass	ito significant environmentarissues	
Options Le			Requirements	Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	reduced). OHLE Multiple fitted Tunnel/bridge arms				
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
		Livionient	Feasibility	Constructability Geometrical fitness for intervention Safety		0		iro signincant environmental issues	
	Option 2	Engineering Requirements	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and bridge reconstruction. Standard cw height, electrical clearance. OHLE multiple bridge arms	•	Pass		
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	

					Bridges with low clearance for electrification					
					Glasnevin Cemetery Road Bridge (OBO10)					
				Requirements	-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements	(standard	ls)			
		Desaline intervention (ne	t subject to entions)		Intervention		I	Assessment		
		Baseline intervention (no	it subject to options)	Constructability	-	-	-			
			Formitalia.	·						
			Feasibility	Geometrical fitness for intervention						
	Option 0: Do			Safety						
	Nothing	Engineering		Electrical clearance for electrification			fail	Bridge not clear for electrification		
			Requirements	Track alignment and drainage (standards)	Leave as is					
			Requirements	Structural soundness of the Bridge (if track interventions)						
				Keep current functionality of roads						
		Economy		Investment guidelines and programme for DART+	RT+					
		Environment						No significant environmental issues		
				Constructability				No significant environmentarissues		
		Engineering	Feasibility	Geometrical fitness for intervention						
			i casionity							
ລ				Safety						
Options Level 1 (PC2)	Option 1 Do		Requirements		Electrical clearance for electrification	Track lowering (100 mm). 4.2 m cw height	= '		fail	Current bridge deck in poor condition
ons Levi	Minimum			Track alignment and drainage (standards)	fitted solution					
Opti				Structural soundness of the Bridge (if track interventions)						
				Keep current functionality of roads						
		Economy		Investment guidelines and programme for DART+						
		Environment						No significant environmental issues		
				Constructability						
			Feasibility	Geometrical fitness for intervention						
				Safety						
		Engineering		Electrical clearance for electrification	Partial bridge reconstruction (Bridge deck					
	Option 2			Track alignment and drainage (standards)	replacement). Standard cw height and		Pass			
			Requirements	Structural soundness of the Bridge (if track interventions)	electrical clearance. OHLE multiple bridge arms					
				Keep current functionality of roads						
		Economy		Investment guidelines and programme for DART+						
				investment galuennes and programme for DART+						
		Environment						No significant environmental issues		