

Bridge Name: CLODDACH

Bridge Ref/No: C2E/20

Structure Document

Structure Location





General Inspection CSS		Inspector: [REDACTED]	Form 1 of 3 for this bridge						
Bridge Name: CLODDACH		Date: 02/07/2019							
Bridge Ref/No: C2E/20		Span Width: 4.55m		Map Ref: 320172, 858398					
		Span Length: 6.73m		Primary Deck Form: 04 Beam / Girder - At Or Below Deck Surface					
Span description: west span		Primary Deck Material: E Steel							
All above ground elements inspected: Yes		Photographs: Yes		Secondary Deck Form: 23 Jack Arch - No Transverse Beams					
Number of construction forms in bridge/span: 1		Secondary Deck Material: B Plain / Mass Concrete							
Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments
Deck Elements	1	Primary Deck Element (Table 2)	5	E	1.1	RM	H	500,000	New bridge required
	3	Secondary Deck Element/S - Element From Table 3	5	E	3.5	RM	H	500,000	Replace bridge
	7	Deck Bracing	5	E	1.1	RM	M	500,000	Replace bridge
Load Bearing Sub Structure	8	Foundations	1	A	6.1	?	?	0	
	9	Abutments (Incl. Arch Springing)	4	D	2.5	RM	H	500,000	Replace bridge
	11	Pier/Column	5	E	2.2	RM	H	500,000	Replace bridge
Durability Elements	16	Substructure Drainage	2	C	8.1	I	M	1,000	Investigate drainage
	17	Waterproofing	5	E	14.2	RM	H	500,000	Replace bridge
	19	Painting: Deck Elements	5	E	4.1	RM	M	500,000	Replace bridge
	21	Painting: Parapets/Safety Fences	5	E	4.1	RM	M	500,000	Replace bridge
Safety Elements	23	Handrail/Parapets/Safety Fences	5	E	1.1	RM	H	500,000	Replace bridge
	24	Carriageway Surfacing	3	D	9.2	RM	L	4,000	Repair
	25	Footway/Verge/Footbridge Surfacing	3	E	5.1	RV	L	1,000	Remove vegetation
Other Bridge Elements	26	Invert/River Bed	1	A	7.1	?	?	0	
	30	Revetment/Batter Paving	1	A	3.1	?	?	0	
	33	Embankments	2	B	11.1	N	?	0	Cracking in road
Ancillary Elements	35	Approach Rails/Barriers/Walls	3	E	3.5	RM	L	2,000	Repair
	36	Signs	1	A	1.1	?	?	0	
	38	Services	1	A	1.1	?	?	0	Pipe clipped to upstream parapet at deck level outside

Multiple Defects					
Element Number	Defect Number	Severity	Extent	Defect	Comments
9	1	2	D	3..4	vertical crack in abutment

Inspector's Comments	
No comments recorded by inspector.	

Name: Derek Reid Signed: Date: 02/07/2019

Engineer's Comments	
No comments recorded by engineer.	

Name: ? Signed: Date: 01/01/9999

Work Required			
Reference No.	Suggested Remedial Work	Priority	Estimated Cost
1	R Repair / Maintain	High	£500,000
3	R Repair / Maintain	High	£500,000
7	R Repair / Maintain	Medium	£500,000
9	N No Action Monitor Only	?	£0
9	R Repair / Maintain	High	£500,000
11	R Repair / Maintain	High	£500,000
16	To be investigated	Medium	£1,000
17	R Repair / Maintain	High	£500,000
19	R Repair / Maintain	Medium	£500,000
21	R Repair / Maintain	Medium	£500,000
23	R Repair / Maintain	High	£500,000
24	R Repair / Maintain	Low	£4,000
25	REMOVE VEGETATION	Low	£1,000
33	N No Action Monitor Only	?	£0
35	R Repair / Maintain	Low	£2,000



General Inspection CSS		Inspector: XXXXXXXXXX	Form 2 of 3 for this bridge						
Bridge Name: CLODDACH		Date: 02/07/2019							
Bridge Ref/No: C2E/20		Span Width: 4.55m		Map Ref: 320172, 858398					
		Span Length: 6.73m		Primary Deck Form: 04 Beam / Girder - At Or Below Deck Surface					
Span description: centre span		Primary Deck Material: E Steel							
All above ground elements inspected: Yes		Photographs: Yes		Secondary Deck Form: 23 Jack Arch - No Transverse Beams					
Number of construction forms in bridge/span: 1		Secondary Deck Material: B Plain / Mass Concrete							
Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments
Deck Elements	1	Primary Deck Element (Table 2)	5	E	1.1	RM	H	500,000	New bridge required
	3	Secondary Deck Element/S - Element From Table 3	5	E	3.5	RM	H	500,000	Replace bridge
	7	Deck Bracing	5	E	1.1	RM	M	500,000	Replace bridge
Load Bearing Sub Structure	8	Foundations	1	A	6.1	?	?	0	
	11	Pier/Column	5	E	2.2	RM	H	500,000	Replace bridge
Durability Elements	17	Waterproofing	5	E	14.2	RM	H	500,000	Replace bridge
	19	Painting: Deck Elements	5	E	4.1	RM	M	500,000	Replace bridge
	21	Painting: Parapets/Safety Fences	5	E	4.1	RM	M	500,000	Replace bridge
Safety Elements	23	Handrail/Parapets/Safety Fences	5	E	1.1	RM	H	500,000	Replace bridge
	24	Carriageway Surfacing	3	D	9.2	RM	L	4,000	Repair
	25	Footway/Verge/Footbridge Surfacing	3	E	5.1	RV	L	1,000	Remove vegetation
Other Bridge Elements	26	Invert/River Bed	5	E	7.1	RM	H	20,000	Repair scour to concrete revetment
	30	Revetment/Batter Paving	3	C	3.1	RM	H	20,000	See element 26
Ancillary Elements	38	Services	1	A	1.1	?	?	0	Pipe clipped to upstream parapet at deck level outside

Multiple Defects

No multiple defects recorded

Inspector's Comments

No comments recorded by inspector.

Name: Derek Reid Signed: Date: 02/07/2019

Engineer's Comments

No comments recorded by engineer.

Name: ? Signed: Date: 01/01/9999

Work Required

Reference No.	Suggested Remedial Work	Priority	Estimated Cost
1	R Repair / Maintain	High	£500,000
3	R Repair / Maintain	High	£500,000
7	R Repair / Maintain	Medium	£500,000
11	R Repair / Maintain	High	£500,000
17	R Repair / Maintain	High	£500,000
19	R Repair / Maintain	Medium	£500,000
21	R Repair / Maintain	Medium	£500,000
23	R Repair / Maintain	High	£500,000
24	R Repair / Maintain	Low	£4,000
25	REMOVE VEGETATION	Low	£1,000
26	R Repair / Maintain	High	£20,000
30	R Repair / Maintain	High	£20,000

General Inspection CSS		Inspector: XXXXXXXXXX	Form 3 of 3 for this bridge						
Bridge Name: CLODDACH		Date: 02/07/2019							
Bridge Ref/No: C2E/20		Span Width: 4.55m		Map Ref: 320172, 858398					
		Span Length: 6.73m		Primary Deck Form: 04 Beam / Girder - At Or Below Deck Surface					
Span description: east span		Primary Deck Material: E Steel							
All above ground elements inspected: Yes		Photographs: Yes		Secondary Deck Form: 23 Jack Arch - No Transverse Beams					
Number of construction forms in bridge/span: 1		Secondary Deck Material: B Plain / Mass Concrete							
Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments
Deck Elements	1	Primary Deck Element (Table 2)	5	E	1.1	RM	H	500,000	New bridge required
	3	Secondary Deck Element/S - Element From Table 3	5	E	3.5	RM	H	500,000	Replace bridge
	7	Deck Bracing	5	E	1.1	RM	M	500,000	Replace bridge
Load Bearing Sub Structure	8	Foundations	1	A	6.1	?	?	0	
	9	Abutments (Incl. Arch Springing)	4	D	2.5	RM	H	500,000	Replace bridge
Durability Elements	16	Substructure Drainage	2	C	8.1	I	M	1,000	Investigate drainage
	17	Waterproofing	5	E	14.2	RM	H	500,000	Replace bridge
	19	Painting: Deck Elements	5	E	4.1	RM	M	500,000	Replace bridge
	21	Painting: Parapets/Safety Fences	5	E	4.1	RM	M	500,000	Replace bridge
Safety Elements	23	Handrail/Parapets/Safety Fences	5	E	1.1	RM	H	500,000	Replace bridge
	24	Carriageway Surfacing	3	D	9.2	RM	L	4,000	Repair
	25	Footway/Verge/Footbridge Surfacing	3	E	5.1	RV	L	1,000	Remove vegetation
Other Bridge Elements	26	Invert/River Bed	1	A	7.1	?	?	0	
	30	Revetment/Batter Paving	1	A	3.1	?	?	0	
	33	Embankments	1	A	11.1	?	?	0	
Ancillary Elements	35	Approach Rails/Barriers/Walls	3	E	3.5	RM	L	2,000	Repair
	36	Signs	1	A	1.1	?	?	0	
	38	Services	1	A	1.1	?	?	0	Pipe clipped to upstream parapet at deck level outside



Multiple Defects

No multiple defects recorded

Inspector's Comments

No comments recorded by inspector.

Name: Derek Reid Signed: Date: 02/07/2019

Engineer's Comments

No comments recorded by engineer.

Name: ? Signed: Date: 01/01/9999

Work Required

Reference No.	Suggested Remedial Work	Priority	Estimated Cost
1	R Repair / Maintain	High	£500,000
3	R Repair / Maintain	High	£500,000
7	R Repair / Maintain	Medium	£500,000
9	R Repair / Maintain	High	£500,000
16	To be investigated	Medium	£1,000
17	R Repair / Maintain	High	£500,000
19	R Repair / Maintain	Medium	£500,000
21	R Repair / Maintain	Medium	£500,000
23	R Repair / Maintain	High	£500,000
24	R Repair / Maintain	Low	£4,000
25	REMOVE VEGETATION	Low	£1,000
35	R Repair / Maintain	Low	£2,000

General Inspection CSS		Inspector: XXXXXXXXXX	Form 1 of 3 for this bridge						
Bridge Name: CLODDACH		Date: 02/12/2021							
Bridge Ref/No: C2E/20		Span Width: 4.55m		Map Ref: 320172, 858398					
		Span Length: 6.73m		Primary Deck Form: 04 Beam / Girder - At Or Below Deck Surface					
Span description: west span		Primary Deck Material: E Steel							
All above ground elements inspected: Yes		Photographs: Yes		Secondary Deck Form: 23 Jack Arch - No Transverse Beams					
Number of construction forms in bridge/span: 1		Secondary Deck Material: B Plain / Mass Concrete							
Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments
Deck Elements	1	Primary Deck Element (Table 2)	4	D	1.2	RM	H	99	Significant section loss to outside beams. Approx 5mm section loss to bottom flange (assumed original flange thickness of 15mm). Concrete jack-arches could not be inspected. Some rusting and corrosion visible to corrugated metal base. Condition of concrete unknown. No tie rods visible.
	3	Secondary Deck Element/S - Element From Table 3	6	F	0.0	?	?	0	
	7	Deck Bracing	3	D	1.2	RM	M	99	
Load Bearing Sub Structure	8	Foundations	1	A	6.1	?	?	0	0.8mm vertical crack full height. . Horizontal crack
	9	Abutments (Incl. Arch Springing)	3	B	2.2	RM	M	99	
	11	Pier/Column	2	B	2.2	N	?	0	
Durability Elements	15	Superstructure Drainage	5	E	8.1	VD	H	99	deck drainage totally blocked. Water dripping from superstructure Abutment weep holes not working Soffit of deck wet and dripping throughout with calcite stalactites. Waterproofing failed
	16	Substructure Drainage	5	E	8.4	VD	H	99	
	17	Waterproofing	4	E	14.2	W	H	99	
	19	Painting: Deck Elements	5	E	4.1	SBP	H	99	
	21	Painting: Parapets/Safety Fences	5	D	4.1	SBP	L	99	
Safety Elements	23	Handrail/Parapets/Safety Fences	4	B	1.2	RM	H	99	Vertical posts flaking at base Resurfacing required
	24	Carriageway Surfacing	3	C	9.2	RM	M	99	
Other Bridge Elements	26	Invert/River Bed	2	B	7.1	N	?	0	Minor scour Minor scour Blockwork on top of cutwater spalled and broken out. Small weir upstream to divert water towards middle span at low flow. Concrete spalling and brakout to detailing at top of wingwall
	27	Aprons	2	B	7.1	N	L	1,000	
	28	Fenders/Cutwaters/Collision Protection	3	D	3.6	RM	L	1,000	
	29	River Training Works	1	A	99.1	?	?	0	
	31	Wing Walls	3	C	3.5	RM	L	99	
	33	Embankments	1	A	11.1	?	?	0	



Ancillary Elements	35	Approach Rails/Barriers/Walls	1	A	16.1	?	?	0	
	36	Signs	4	C	13.1	RM	H	99	Height restriction gantry damaged
	38	Services	1	A	1.1	?	?	0	

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Multiple Defects					
Element Number	Defect Number	Severity	Extent	Defect	Comments
1	1	3	D	1..1	Pitting to bottom flange of outside beams.
11	1	1	A	2..2	
31	1	3	B	2..4	

Inspector's Comments	
No comments recorded by inspector.	

Name: Derek Reid Signed: Date: 02/12/2021

Engineer's Comments	
No comments recorded by engineer.	

Name: ? Signed: Date: 01/01/9999

Work Required			
Reference No.	Suggested Remedial Work	Priority	Estimated Cost
1	SHOT BLAST AND PAINT	High	£99
1	R Repair / Maintain	High	£99
7	R Repair / Maintain	Medium	£99
9	R Repair / Maintain	Medium	£99
11	N No Action Monitor Only	?	£0
15	REMOVE VEGETATION & DEBRIS	High	£99
16	REMOVE VEGETATION & DEBRIS	High	£99
17	REPLACE WATERPROOFING	High	£99
19	SHOT BLAST AND PAINT	High	£99
21	SHOT BLAST AND PAINT	Low	£99
23	R Repair / Maintain	High	£99
24	R Repair / Maintain	Medium	£99
26	N No Action Monitor Only	?	£0
27	N No Action Monitor Only	Low	£1,000
28	R Repair / Maintain	Low	£1,000
31	R Repair / Maintain	Low	£99
31	R Repair / Maintain	Low	£99
36	R Repair / Maintain	High	£99



General Inspection CSS	Inspector: XXXXXXXXXX	Form 2 of 3 for this bridge
Bridge Name: CLODDACH		Date: 02/12/2021
Bridge Ref/No: C2E/20	Span Width: 4.55m	Map Ref: 320172, 858398
	Span Length: 6.73m	Primary Deck Form: 04 Beam / Girder - At Or Below Deck Surface
Span description: centre span		Primary Deck Material: E Steel
All above ground elements inspected: Yes	Photographs: Yes	Secondary Deck Form: 23 Jack Arch - No Transverse Beams
Number of construction forms in bridge/span: 1		Secondary Deck Material: B Plain / Mass Concrete

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments
Deck Elements	1	Primary Deck Element (Table 2)	4	D	1.2	RM	H	99	Significant section loss to outside beams. Approx 5mm section loss to bottom flange (assumed original flange thickness of 15mm). Concrete jack-arches could not be inspected. Some rusting and corrosion visible to corrugated metal base. Condition of concrete unknown. No tie rods visible.
	3	Secondary Deck Element/S - Element From Table 3	6	F	0.0	?	?	0	
	7	Deck Bracing	3	D	1.2	RM	M	99	
Load Bearing Sub Structure	8	Foundations	1	A	6.1	?	?	0	
Durability Elements	15	Superstructure Drainage	5	E	8.1	VD	H	99	deck drainage totally blocked. Water dripping from superstructure Soffit of deck wet and dripping throughout with calcite stalactites. Waterproofing failed
	17	Waterproofing	4	E	14.2	W	H	99	
	19	Painting: Deck Elements	5	E	4.1	SBP	H	99	
	21	Painting: Parapets/Safety Fences	5	D	4.1	SBP	L	99	
Safety Elements	23	Handrail/Parapets/Safety Fences	4	B	1.2	RM	H	99	Vertical posts flaking at base
	24	Carriageway Surfacing	3	C	9.2	RM	M	99	Resurfacing required
Other Bridge Elements	26	Invert/River Bed	5	E	7.1	RM	H	99	Severe scour at centre span undercutting invert. Scour is approx 0.5-1m away from pier.
	27	Aprons	4	D	7.1	RM	H	99	



Ancillary Elements	38	Services	1	A	1.1	?	?	0	



Multiple Defects					
Element Number	Defect Number	Severity	Extent	Defect	Comments
1	1	3	D	1..1	Pitting to bottom flange of outside beams.

Inspector's Comments	
No comments recorded by inspector.	

Name: Derek Reid Signed: Date: 02/12/2021

Engineer's Comments	
No comments recorded by engineer.	

Name: ? Signed: Date: 01/01/9999

Work Required			
Reference No.	Suggested Remedial Work	Priority	Estimated Cost
1	SHOT BLAST AND PAINT	High	£99
1	R Repair / Maintain	High	£99
7	R Repair / Maintain	Medium	£99
15	REMOVE VEGETATION & DEBRIS	High	£99
17	REPLACE WATERPROOFING	High	£99
19	SHOT BLAST AND PAINT	High	£99
21	SHOT BLAST AND PAINT	Low	£99
23	R Repair / Maintain	High	£99
24	R Repair / Maintain	Medium	£99
26	R Repair / Maintain	High	£99
27	R Repair / Maintain	High	£99

General Inspection CSS		Inspector: XXXXXXXXXX	Form 3 of 3 for this bridge						
Bridge Name: CLODDACH		Date: 02/12/2021							
Bridge Ref/No: C2E/20		Span Width: 4.55m		Map Ref: 320172, 858398					
		Span Length: 6.73m		Primary Deck Form: 04 Beam / Girder - At Or Below Deck Surface					
Span description: east span		Primary Deck Material: E Steel							
All above ground elements inspected: Yes		Photographs: Yes		Secondary Deck Form: 23 Jack Arch - No Transverse Beams					
Number of construction forms in bridge/span: 1		Secondary Deck Material: B Plain / Mass Concrete							
Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments
Deck Elements	1	Primary Deck Element (Table 2)	4	D	1.2	RM	H	99	Significant section loss to outside beams. Approx 5mm section loss to bottom flange (assumed original flange thickness of 15mm). Concrete jack-arches could not be inspected. Some rusting and corrosion visible to corrugated metal base. Condition of concrete unknown. No tie rods visible.
	3	Secondary Deck Element/S - Element From Table 3	6	F	0.0	?	?	0	
	7	Deck Bracing	3	D	1.2	RM	M	99	
Load Bearing Sub Structure	8	Foundations	1	A	6.1	?	?	0	Concrete spalling/breakout at beams. Large aggregate size. No reinforcement visible. Horizontal crack
	9	Abutments (Incl. Arch Springing)	3	B	2.1	RM	M	99	
	11	Pier/Column	2	B	2.2	N	?	0	
Durability Elements	15	Superstructure Drainage	5	E	8.1	VD	H	99	deck drainage totally blocked. Water dripping from superstructure Abutment weep holes not working Soffit of deck wet and dripping throughout with calcite stalactites. Waterproofing failed
	16	Substructure Drainage	5	E	8.4	VD	H	99	
	17	Waterproofing	4	E	14.2	W	H	99	
	19	Painting: Deck Elements	5	E	4.1	SBP	H	99	
	21	Painting: Parapets/Safety Fences	5	D	4.1	SBP	L	99	
Safety Elements	23	Handrail/Parapets/Safety Fences	4	B	1.2	RM	H	99	Vertical posts flaking at base Resurfacing required
	24	Carriageway Surfacing	3	C	9.2	RM	M	99	
Other Bridge Elements	26	Invert/River Bed	2	B	7.1	N	?	0	Minor scour Minor scour Blockwork on top of cutwater spalled and broken out. Small weir upstream to divert water towards middle span at low flow. Concrete spalling and brakout to detailing at top of wingwall
	27	Aprons	2	B	7.1	N	L	1,000	
	28	Fenders/Cutwaters/Collision Protection	3	D	3.6	RM	L	1,000	
	29	River Training Works	1	A	99.1	?	?	0	
	31	Wing Walls	3	C	3.5	RM	L	99	
	33	Embankments	1	A	11.1	?	?	0	



Ancillary Elements	35	Approach Rails/Barriers/Walls	1	A	16.1	?	?	0	
	36	Signs	4	C	13.1	RM	H	99	Height restriction gantry damaged
	38	Services	1	A	1.1	?	?	0	

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Multiple Defects					
Element Number	Defect Number	Severity	Extent	Defect	Comments
1	1	3	D	1..1	Pitting to bottom flange of outside beams.
11	1	1	A	2..2	
31	1	3	B	2..4	

Inspector's Comments	
No comments recorded by inspector.	

Name: Derek Reid Signed: Date: 02/12/2021

Engineer's Comments	
No comments recorded by engineer.	

Name: ? Signed: Date: 01/01/9999

Work Required			
Reference No.	Suggested Remedial Work	Priority	Estimated Cost
1	SHOT BLAST AND PAINT	High	£99
1	R Repair / Maintain	High	£99
7	R Repair / Maintain	Medium	£99
9	R Repair / Maintain	Medium	£99
11	N No Action Monitor Only	?	£0
15	REMOVE VEGETATION & DEBRIS	High	£99
16	REMOVE VEGETATION & DEBRIS	High	£99
17	REPLACE WATERPROOFING	High	£99
19	SHOT BLAST AND PAINT	High	£99
21	SHOT BLAST AND PAINT	Low	£99
23	R Repair / Maintain	High	£99
24	R Repair / Maintain	Medium	£99
26	N No Action Monitor Only	?	£0
27	N No Action Monitor Only	Low	£1,000
28	R Repair / Maintain	Low	£1,000
31	R Repair / Maintain	Low	£99
31	R Repair / Maintain	Low	£99
36	R Repair / Maintain	High	£99