NetworkRail	NETWORK RAIL Additional Examination	NetworkRail
ELR: COL	Contract Mileage: 189 m 0817 yds 37.14 ch	Struc. Ref: 64

Examination Type: Additional Exam	NR ID: 12010421	Exam Date: 23/07/2024
GPS:		OS Ref: SJ83809750
Structure Name: VIADUCT	Type: BU	Exam ID: 3788086
Route: London North Western		Complete Exam: no

Section A: To Be Completed By The Examining Organisation

HIDDEN PARTS NOT EXAMINED (EXCLUDING FOUNDATIONS)	Part	Reason
1	Approx. 36m2 of structure	Due to cladding and property furniture - tenanted structure

ITEM	DESCRIPTION	LOCATION	Est. Cost £ +/- 20%	Priority Within	Quantity	Severity	Probability	Risk Score	Works Category
1	Ensure as a minimum, the entire soffit is free of any PNE's. Continue with the 3 monthly monitoring of the soffit.	Soffit of COL-64	1000	6mths	1unit	3	4	E12	Other
2	Develop renewal plan (provisionally to be delivered CP7 year 3 2026/27) - for under ringing the arch	COL-64	1000	6mths	1unit	3	4	E12	Other
3	Continue liaising with the interface management team and Arch Co, ensuring there is plan going forward for the duration of the additional until the arch has been under rung (note this will be also the case for COL-63, COL-65, COL-66 and COL-67), renewal is provisionally scheduled for CP7 year 3 (2026/27)	COL-64	1000	6mths	1unit	3	4	E12	Other
4	Create new individual A3 additional remit for this structure. Currently using the previous additional group remit that included COL-63 through to COL-66	CARRS and Additional Exam Tracker	1000	6mths	2unit	2	2	E4	Other

Data in this table prior to this examination date is imported from CES, Amey does not verify its completeness or accuracy

No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for closure	Engineer Comments
1	Unexamined parts due to sheeting. (soffit) and plaster (piers)	Internal elements	23/01/2014	No	V		8	Yes	Baseline	No	N	Hidden critical elements
1	Unexamined parts due to sheeting. (soffit) and plaster (piers)	Internal elements	11/04/2015	No	V		8	Yes	Not Viewed	No	N	No change
1	Unexamined parts due to sheeting. (soffit) and plaster (piers)	Internal elements	21/03/2017	No	V		8	Yes	Not Viewed	No	N	no change, see Work id 1504411 in CARRS
1	Unexamined parts due to sheeting.	Internal elements	14/01/2018	No	V		8	Yes	Not Viewed	No	N	No change

No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for closure	Engineer Comments
	(soffit) and plaster (piers)											
1	Unexamined parts due to sheeting. (soffit) and plaster (piers)	Internal elements	12/12/2019	No	D		8	Yes	Not Viewed	No	N	Some cladding removed during exam, most of soffit viewed. Description updated for plastering to piers.
1	Unexamined parts due to sheeting. (soffit) and plaster (piers)	Internal elements	26/02/2022	No	V		8	Yes	Not Viewed	No	N	No access/cannot determine. CARRS WI 1504411 with the risk scores of 8.
1	Unexamined parts due to sheeting. (soffit) and plaster (piers)	Internal elements	12/01/2023	No	V		8	Yes	Not Viewed	No	N	Saplings and trees can be seen from road side. See CARRS WI 1504411 with RS 8.
1	Unexamined parts due to sheeting. (soffit) and plaster (piers)	Internal elements	24/01/2024	No	V		8	Yes	Not Viewed	No	N	No access/cannot be determined. See correspondence item CARRS WI 1504411 with a risk score of 8.
2	Several shrubs and saplings	Downside string course.	21/03/2017	Yes	V		6	Yes	Baseline	No	N	no change, see Work id 1509156 in CARRS
2	Several shrubs and saplings	Downside string course.	14/01/2018	Yes	V		6	Yes	No	No	N	Old standing with no deterioration
2	Several shrubs and saplings	Downside string course.	12/12/2019	Yes	D		6	Yes	No	No	N	OS with SSD
2	Several shrubs and saplings	Downside string course.	26/02/2022	Yes	V		8	Yes	Yes	No	N	No deterioration. CARRS WI 1789706 with the risk scores of 6.
2	Several shrubs and saplings	Downside string course.	12/01/2023	Yes	V		8	Yes	Yes	No	N	Saplings and trees can be seen from road side. CARRS WI 1789706 with RS of 6.
2	Several shrubs and saplings	Downside string course.	24/01/2024	Yes	V		6	No	No Deterioration	Yes	N	Some trees/saplings have been removed, however, some remain. Risk reduced from RS8 to RS6 - see existing CARRS WI 1789706 (RS6).
3	7No. longitudinal fractures, max 3mm W. Calcite build up and dampness to 2no fractures.	Barrel	12/12/2019	Yes	D		8	Yes	Baseline	No	N	Unclear if OS, cladding not removed at previous exam. No movement noticed during load.
3	7No. longitudinal fractures, max 3mm W. Calcite build up and dampness to 2no fractures.	Barrel	26/02/2022	No	V		8	Yes	Not Viewed	No	N	Cannot determine no access. CARRS WI 1904823 with the risk scores of 8.
3	7No. longitudinal fractures, max 3mm W. Calcite build up and dampness to 2no fractures.	Barrel	12/01/2023	No	V		8	Yes	Cannot Determine	No	N	Unable to gain access to the arch at the time of examination. See CARRS WI 1904823 with RS of 8.
3	7No. longitudinal fractures, max 3mm W. Calcite build up and dampness to 2no fractures.	Barrel	24/01/2024	No	V		8	Yes	Not Viewed	No	N	Unable to gain access to the arch at the time of examination. See CARRS WI 1904823 with RS of 8.
4	Hollowness to Arch LM quarter point and LTH	DS elevation	12/12/2019	Yes	D		6	No	Baseline	No	N	New tracked defect

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No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for closure	Engineer Comments
	bricks to curtain wall											
4	Hollowness to Arch LM quarter point and LTH bricks to curtain wall	DS elevation	26/02/2022	Yes	V		6	No	Cannot Determine	No	N	Cannot determine hollow. CARRS WI 1904823 with the risk scores of 8.
4	Hollowness to Arch LM quarter point and LTH bricks to curtain wall	DS elevation	12/01/2023	Yes	V		6	No	Cannot Determine	No	N	Unable to gain access to the arch at the time of examination. See CARRS WI 1904823 with RS of 8.
4	Hollowness to Arch LM quarter point and LTH bricks to curtain wall	DS elevation	24/01/2024	No	V		6	Yes	Not Viewed	No	N	Unable to gain access to the arch at the time of examination. See CARRS WI 1904823 with RS of 8.
5	3No. Fractures to parapet wall face and 1No. fracture between face rings and spandrel wall 1-3mm W.	US elevation	12/12/2019	Yes	D		6	No	Baseline	No	N	PPT fractures OS, face ring/ spandrel new.
5	3No. Fractures to parapet wall face and 1No. fracture between face rings and spandrel wall 1-3mm W.	US elevation	26/02/2022	Yes	V		6	No	No	No	N	No deterioration. CARRS WI 1904823 with the risk scores of 8
5	3No. Fractures to parapet wall face and 1No. fracture between face rings and spandrel wall 1-3mm W.	US elevation	12/01/2023	Yes	V		6	No	Not Viewed	No	N	Unable to determine from ground level. See CARRS WI 1904823 with RS of 8.
5	3No. Fractures to parapet wall face and 1No. fracture between face rings and spandrel wall 1-3mm W.	US elevation	24/01/2024	Yes	V		6	No	Cannot Determine	No	N	Unable to determine from ground level. See CARRS WI 1904823 with RS of 8. No obvious signs of significant deterioration in photo.
6	PNE - Internal elements not examined due to locked premises.	Asset internals	24/01/2024	No	V		8	Yes	Baseline	No	N	New defect. Internal elements not examined - long-term locked/untenanted premises.
7	Various Longitudinal fractures in the soffit of the structure	In soffit below the sheeting		Yes	ADDIT		12	Yes	Baseline	N/A	N	New defect raised that relates back to this structure individually as this has previously been on COL 63
7	Various Longitudinal fractures in the soffit of the structure	In soffit below the sheeting	23/07/2024	Y	ADDIT	Y	12	Y	No Deterioration	N	N	No obvious deterioration noted at the time of this additional examination. Continue with 3 monthly monitoring of this arch.

Engineers Notes

Continue with the 3 monthly monitoring of the arch. Ensure prior to carrying out the next additional, the soffit is free of any PNE's.

[redacted]

NETWORK RAIL Additional Examination		
ELR: COL	**Contract Mileage: 189 m 0817 yds 37.14 ch**	**Struc. Ref: 64**

Exam ID	3788086	**Exam Date**	23/07/2024	**SAD ID**	12010421
Name:		VIADUCT			

EXAMINER COMMENTS

Defect(s) present on this structure

I confirm that the previous detailed and visual reports have been reviewed and the dates of said reports are given in this report

Please note that the previous additional examination dated 15/05/2024 was also reviewed at this time, however there is no previous additional date, option or tab present in Alarm 2".

The last Detailed Examination was incomplete

Parts not examined at last detailed exam:

[redacted]

ADDITIONAL GENERAL COMMENTS

Additional examination of COL 64.

These spans are owned by Arch Co but currently (23/07/24) empty. Internal cladding to be removed locally around fractures where possible and left down. Plastic sheeting to cover areas where water ingress is an issue. Renewal strategy to be confirmed.

All seen
Areas of soffit sheeting remained in place as highlighted in the sketch.
Trackside elements, piers and the downside elevation have not been viewed as part of this examination.

Continuation Sheet

Initial Exam Date: 17/05/2022

Current Examination Date: 23/07/2024

Change: No deterioration to the fractures at this examination.

Trigger Levels: Trigger level not met.

Network Rail Instruction: 3 Monthly examinations.

Visual examination of fractures from mezzanine levels. Tapping around fractures with pole. Marking up of plan drawings from most recent detailed exams.

Summary:
This structure shows no deterioration from the previous additional examination.

Other:
No changes in loading or the surrounding environment observed since the previous examination.

METHOD OF EXAM/TOOLS USED

Examination undertaken from mezzanine floor level using tapping pole.

NEW DEFECT(S)

NONE

PREVIOUSLY RECORDED SIGNIFICANT (OPEN) DEFECT(S)

NONE

PREVIOUS RECOMMENDATION(S)
- See Recommendation(s) below

Previous Recommendation 1
Date Raised: 24/01/2024
Location: Inside asset
Description: Arrange for access into untenanted premises to facilitate future examinations.
Status: Has been actioned
Notes:

Monitoring Devices Present (if Yes - see Element detail for advice)	
Date Tab	No
Plumb Points	No
Avongards	No
Inclinometers	No
Total stations	No

KEY

General

Dia. – Diameter
G.L – Ground Level
M.H – Manhole
N.F.D – No Further Deterioration
WL – Water Level
Col – Column
No. – Number
O/S – Old Standing
S.S.D – Shows Slight Deterioration

Masonry and Concrete

H – Hollow
H/L – Hairline
L.T.H – Loose to Hammer
O.J – Open Joints
DT – Date Tab
Sp. – Spall

Fractures
V.F – Vertical Fracture
V.S.F – Vertical Stepped Fracture
B.J.F – Bed Joint Fracture
D.F – Diagonal Fracture
D.S.F – Diagonal Stepped Fracture
HF – Horizontal Fracture
X<>mm – displaced by <> mm. *(+/- indicates direction of displacement)*

New / Worsened Fracture (line thickness to reflect fracture width) *(Red Line)*

Old Standing Fracture – NFD (line thickness to reflect fracture width) *(Blue Line)*

Spalling / Missing Brickwork *(Light Grey)*

Open Joints *(Yellow)*

Bulging / Out of Plumb / Displacement *(Brown)*

Indications of wetness *(Light Blue)*

H — Hollow / Drummy *(Black outline of area with "H")*

Date Tab / Avonguard (must also show installation date & reading) *(Black)*

Metal

MG – Main Girder
XG – Cross Girder
BF – Bottom Flange
TF – Top Flange
CI – Cast Iron
WI – Wrought Iron
Corr – Corrosion
Lam – Lamination
LOS – Loss of Section
KE – Knife Edge

Corrosion / Lamination *(Light Orange)*

Fractures / Tears / Cracked Welds *(Red Line)*

Loss of Section / Buckling *(Red)*

OFFICIAL

COL/63 PRIVATE

ELR:	COL	Structue ID:	63	Elevation Photo	Defect Photo

Description:	PRIVATE
Mileage:	189.0798
Area:	Central East
Asset Type:	
Exam ID:	3425413
Start Date:	06/05/2022
Frequency of Detailed Exams:	6 Yearly
Severity:	4
Probability:	3
Risk Score:	12
Frequency:	0 Years 6 Months 0 Days
Engineer:	Mark Brundle, Marcus Dockray

Defect	Cause of Defect	Consequence of Failure
Multiple Longitundinal fractures throughout Spans 63-66.	Overloading	Debris falling into buisnessess and line restrictions.

Trigger Level Cause for Action	Action Steps
Any lengethening or widening of fractures clear from ground level. new missing/loose brickwork. Significant increase in water penetration.	Targeted brickwork repairs.

Remove Additional Exam When...	Comments
Structural renewal.	Exam encompasses structure COL/63 to COL/66, but has been put against 63 for reporting. Spans are owned by Arch Co but currently (22/04/22) empty. Internal cladding to be removed locally around fractures where possible and left down. Plastic sheeting to cover areas where water ingress is an issue. Renewal strategy to be confirmed.

Type of Exam	Additional Visual Exam
Method of Visual Exam	Visual examination of fractures from mezzanine levels. Tapping around fractures with pole. Marking up of plan drawings from most recent detailed exams.

Remote Monitoring			
Supplier:	0		
Initial Costs(£)	0	Ongoing Costs (£)pa	0
Frequency of Measurement:	0		
Specification			
0			

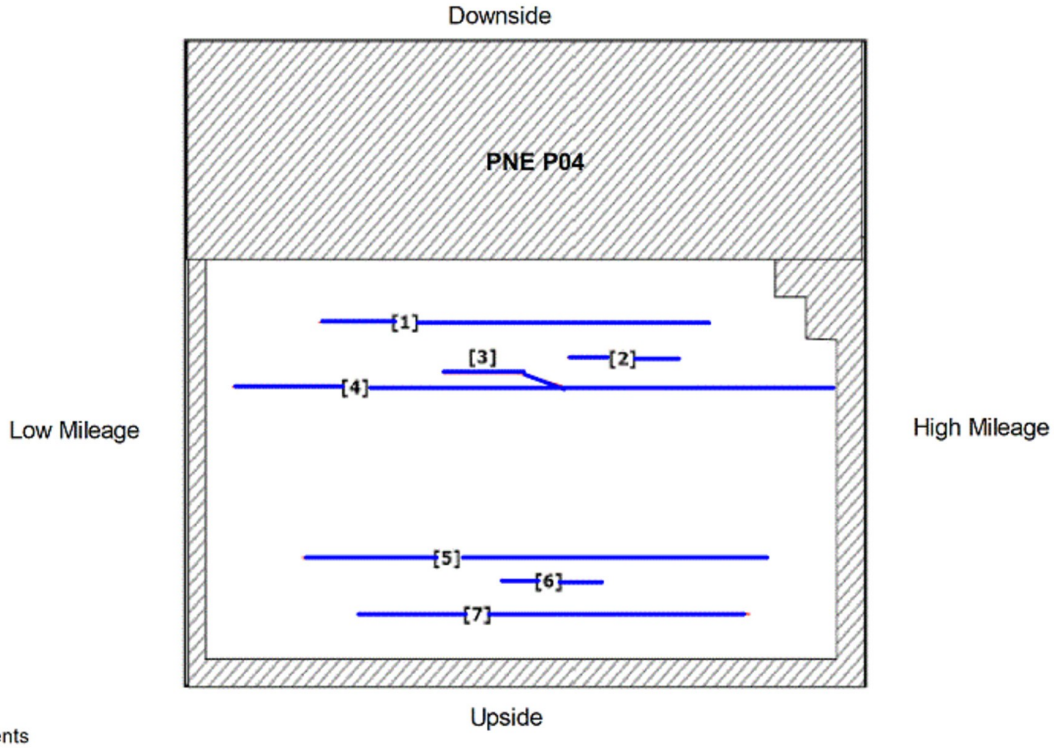
COL BU 64

Soffit defects

Sketch 2

NTS

General view photos P02 and P03



Comments

Fractures viewed from the upper floor only, tapping pole used to tactile the surrounding areas of fractures 1-3, fractures 4-7 were not tactile examined due to the location of the fractures being over the staircase.

Under load of a passenger trains there is possible movement of the upper haunches on the up and down lines with the sheeting moving by 1-2mm when under load.

PNE areas as highlighted in the sketch above approximately 36m² not seen at this time typical photo P04.

Defects

1- Longitudinal fracture running through both bricks and mortar open H/L-1mm x 6.5 metres in length O.S N.F.D photos P05 and P06.

2- Longitudinal fracture running through both bricks and mortar open H/L x 800mm in length O.S N.F.D photo P07.

3- Longitudinal fracture running through both bricks and mortar open 1mm x 1 metre in length O.S N.F.D photo P08.

4- Longitudinal fracture running through both bricks and mortar open H/L-3mm x 9 metres in length with heavy calcite deposits and wetness noted from this fracture O.S N.F.D photos P09 and P10.

5- Longitudinal fracture running through both bricks and mortar open H/L-1mm x 6 metres in length with calcite deposits and wetness noted from this fracture O.S N.F.D photo P11.

6- Longitudinal fracture running through both bricks and mortar open H/L x 1.3 metres in length O.S N.F.D photo P12.

7- Longitudinal fracture running through both bricks and mortar open H/L-1mm x 4.5 metres in length O.S N.F.D photo P13.



Photo 1: P01 Upside elevation 23-07-24



Photo 2: P02 Soffit general view looking towards the low mileage haunch 23-07-24



Photo 3: P03 Soffit general view looking towards the high mileage haunch 23-07-24



Photo 4: P04 PNE soffit not seen sheeted with false ceiling also noted 23-07-24

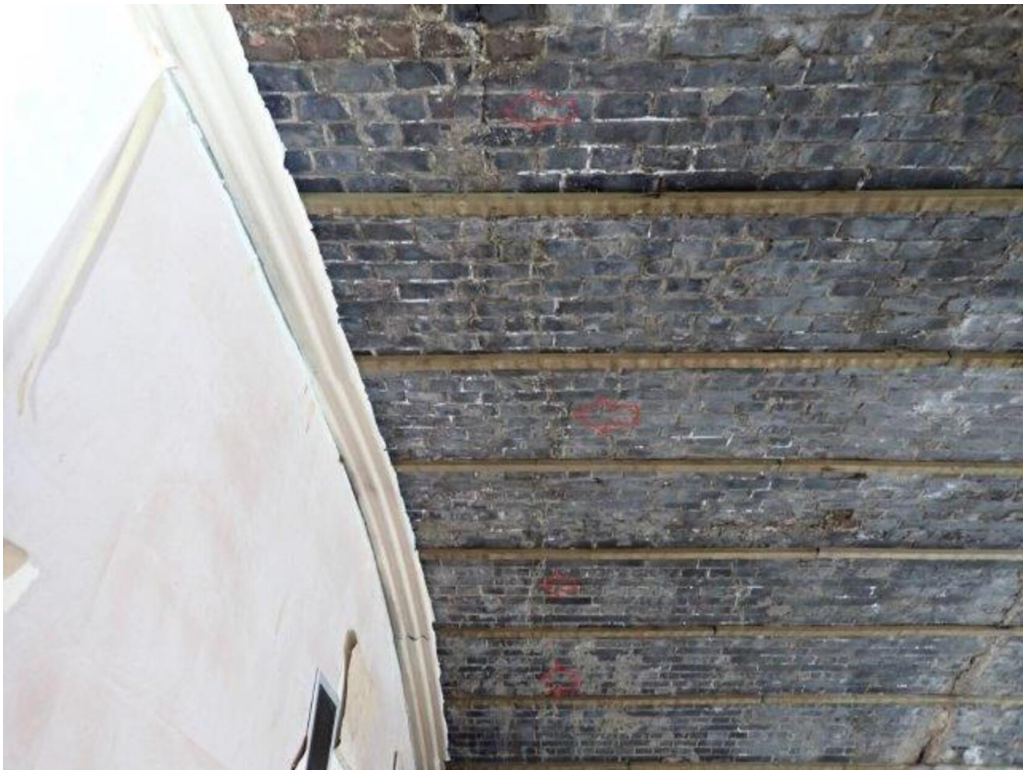


Photo 5: P05 Longitudinal fracture shows no deterioration 23-07-24



Photo 6: P06 Longitudinal fracture shows no deterioration 23-07-24



Photo 7: P07 Longitudinal fracture shows no deterioration 23-07-24



Photo 8: P08 Longitudinal fracture shows no deterioration 23-07-24



Photo 9: P09 Longitudinal fracture shows no deterioration 23-07-24



Photo 10: P10 Longitudinal fracture shows no deterioration, 23-07-24



Photo 11: P11 Longitudinal fracture shows no deterioration 23-07-24



Photo 12: P12 Longitudinal fracture shows no deterioration 23-07-24



Photo 13: P13 Longitudinal fracture shows no deterioration 23-07-24