NetworkRail	NETWORK RAIL Additional Examination	NetworkRail
ELR: COL	Contract Mileage: 189 m 0798 yds 36.27 ch	Struc. Ref: 63

Examination Type: Additional Exam	NR ID: 12010420	Exam Date: 29/10/2024
GPS:		OS Ref: SJ83889748
Structure Name: PRIVATE	Type: BU	Exam ID: 3788082
Route: London North Western		Complete Exam: no

Section A: To Be Completed By The Examining Organisation

HIDDEN PARTS NOT EXAMINED (EXCLUDING FOUNDATIONS)	Part	Reason

ITEM	DESCRIPTION	LOCATION	Est. Cost £ +/- 20%	Priority Within	Quantity	Severity	Probability	Risk Score	Works Category
1	Continue with the 3 monthly monitoring of the soffit	Throughout Soffit	500	6mths	1unit	4	3	M12	Other
2	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-64, COL-65, COL-66 and COL-67), renewal is provisionally scheduled for CP7 year 3 (2026/27)	COL 63	500	6mths	1unit	4	3	M12	Other
3	Create new individual A3 additional remit for this structure. Currently using the previous additional group remit that included COL-63 through to COL-66	Additional Exam Tracker	500	6mths	1unit	2	2	M4	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	Part Soffit and internal face of Piers and Bedstones	23/07/2012	No	V		1	Yes	Baseline	No	N	Unexamined parts
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	08/02/2014	No	V		4	Yes	Not Viewed	No	N	check at next detailed exam
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	24/07/2014	No	D		5	Yes	Not Viewed	No	N	Downside face of structure previously included in this defect now examined by this detailed exam using rope access
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	19/11/2015	No	V		5	Yes	Not Viewed	No	N	No change
1	Unexamined parts	Part Soffit and internal face of Piers	14/03/2017	No	V		5	Yes	Not Viewed	No	N	Unable to view. see Work id 1531834 in CARRS

No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for closure	Engineer Comments
		and Bedstones										
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	03/11/2017	No	V		5	Yes	Not Viewed	No	N	No change
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	18/05/2019	No	V		5	Yes	Not Viewed	No	N	N/A Visual exam, no defects to cladding reported, expose at next detailed
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	12/12/2019	No	D		4	Yes	Yes	Cannot Deter mine	N	Large part of cladding to barrel soffit removed; piers remain unexamined.
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	15/09/2022	No	V		4	Yes	Not Viewed	Cannot Deter mine	N	No deterioration approximately 8m2 of the soffit and both piers not seen at this examination.
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	19/08/2023	No	V		4	Yes	Not Viewed	N/A	N	No deterioration but not viewed inside the arch at the time of examination.
1	Unexamined parts	Part Soffit and internal face of Piers and Bedstones	04/06/2024	Yes	V		4	Yes	No Deterioration	No	N	No deterioration noted at the time of examination. Partial areas of the sheeting have been removed.
2	vegetation / buddleia growing to piers and parapet face	Upside and Downside Both piers and parapet faces	18/05/2019	Yes	V		6	No	Baseline	No	N	deveg
2	vegetation / buddleia growing to piers and parapet face	Upside and Downside Both piers and parapet faces	12/12/2019	Yes	D		6	No	Not Viewed	No	N	no action
2	vegetation / buddleia growing to piers and parapet face	Upside and Downside Both piers and parapet faces	15/09/2022	Yes	V		6	No	Yes	No	N	Little deterioration, see WI 2009190 in CARRS (risk 12)
2	vegetation / buddleia growing to piers and parapet face	Upside and Downside Both piers and parapet faces	19/08/2023	Yes	V		6	No	No	No	N	No deterioration noted at the time of examination. see WI 2009190 in CARRS (risk 12)
2	vegetation / buddleia growing to piers and parapet face	Upside and Downside Both piers and parapet faces	04/06/2024	Yes	V		6	Yes	No Deterioration	No	N	No deterioration noted at the time of examination. see WI 2009190 in CARRS (risk 12)
3	Long barrel fractures, bulge dropped brick,movement under load	US barrel soffit	12/12/2019	Yes	D		15	N/A	Baseline	Cannot Deter mine	N	new; over tenanted arch takeaway

NETWORK RAIL

Additional Examination

ELR: COL | Contract Mileage: 189 m 0798 yds 36.27 ch | Struc. Ref: 63

No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for closure	Engineer Comments
3	Long barrel fractures, bulge dropped brick,movement under load	US barrel soffit	15/09/2022	Yes	V		12	N/A	No	Cannot Deter mine	N	No deterioration movement noted under load 1-3mm
3	Long barrel fractures, bulge dropped brick,movement under load	US barrel soffit	19/08/2023	Yes	V		12	N/A	Cannot Determine	N/A	N	Cannot determine at time of examination additional is long over due. See WI1942145 in CARRS RENEWAL
3	Long barrel fractures, bulge dropped brick,movement under load	US barrel soffit	18/01/2024	Yes	ADDIT		12	N/A	Yes	Cannot Deter mine	N	Further fractures and dropped bricks identified. Risk re-evaluated.
3	Long barrel fractures, bulge dropped brick,movement under load	US barrel soffit	04/06/2024	Yes	V		12	Yes	No Deterioration	No	N	No deterioration noted at the time of examination. See WI2094317 in CARRS at RS12 (correspondence)
3	Long barrel fractures, bulge dropped brick,movement under load	US barrel soffit	29/10/2024	Yes	ADDIT		12	Yes	Little Deterioration	No	N	Fracture C has deteriorated slightly, it was 2m in length, now it is 2.1m. There is a possibility that the fracture continues behind the sheeting, which was not removed at this examination.
3	Long barrel fractures, bulge dropped brick,movement under load	US barrel soffit	29/10/2024	Yes	ADDIT		12	Yes	No Deterioration	No	N	No deterioration noted at the time of examination
4	Spalled, oj, lth, fractured masonry	US LM Buttress,,abu t quoin, ds elevation	12/12/2019	Yes	D		8	No	Baseline	Cannot Deter mine	N	new
4	Spalled, oj, lth, fractured masonry	US LM Buttress,,abu t quoin, ds elevation	15/09/2022	Yes	V		8	No	No	Cannot Deter mine	N	No deterioration, see CARRS 1924465 WI with the risk scores of 8.
4	Spalled, oj, lth, fractured masonry	US LM Buttress,,abu t quoin, ds elevation	19/08/2023	Yes	V		8	No	No	N/A	N	No deterioration noted at the time of examination. see CARRS 1924465 WI with the risk scores of 8.
4	Spalled, oj, lth, fractured masonry	US LM Buttress,,abu t quoin, ds elevation	04/06/2024	Yes	V		8	Yes	No Deterioration	No	N	No deterioration noted at the time of examination. see CARRS 1924465 WI with the risk scores of 8.
5	Long barrel fracture, bulge dropped brick,movement under load	US barrel soffit	17/02/2022	No	V		15	N/A	Repaired	Cannot Deter mine	N	Cannot determine/ no access
5	Long barrel fracture, bulge dropped brick,movement under load	US barrel soffit	04/06/2024	Yes	V		15	Yes	No Deterioration	No	N	No deterioration noted at the time of examination. See WI2094317 in CARRS at RS12 (correspondence)
5	Long barrel fracture, bulge dropped brick,movement under load	US barrel soffit	29/10/2024	Yes	ADDIT		0	N/A	N/A	N/A	Y	Duplication of tracked defect 3, removed from tracker in Alarm II.

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Engineers Notes

The previously repaired (pointed and date tabbed) fractures are now fracturing again. This should be monitored at the time of examination review.

[redacted]

NETWORK RAIL Additional Examination		
ELR: COL	**Contract Mileage: 189 m 0798 yds 36.27 ch**	**Struc. Ref: 63**

Exam ID	3788082	**Exam Date**	29/10/2024	**SAD ID**	12010420
Name:		PRIVATE			

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 23/07/2024 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:

Areas of cladding to the soffit not removed before examination.

Both pier faces and bed stones hidden by tiles inside structure.

[redacted]

ADDITIONAL GENERAL COMMENTS

Additional Exam: COL 63
(Exam previously encompassed structure COL/63 to COL/66 but has been put against 63 for reporting) These have now been individually broken down into single spans.

These spans are owned by Arch Co but currently (29/10/24) 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: 29/10/2024

Change: Repointing repairs and reinstatement of brickwork has been carried out since the previous additional examination, several areas of repointing has already re-fractured please see sketch one for all current defects.

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:
Repairs undertaken since the previous additional examination with some repairs already refractured please see sketch 1.

Other:
No changes in loading or the surrounding environment observed since the previous examination.
Please note that extensive water damage is an issue to the underside of the concrete mezzanine floor with the wooden and plastered ceiling failing in various areas, the mezzanine floor remains safe at the time of this examination please see photo P23.

Defects
Please see the defects sketch for all fractures noted at the time of this examination.

METHOD OF EXAM/TOOLS USED

METHOD OF EXAM/TOOLS USED
Examination undertaken from mezzanine floor level using tapping pole and lighting.

NEW DEFECT(S)

NONE

PREVIOUSLY RECORDED SIGNIFICANT (OPEN) DEFECT(S)

NONE

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

NONE

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Monitoring Devices Present (if Yes - see Element detail for advice)	
Date Tab	Yes
Comment	Six number date tabs present with two fractured / partially missing please see sketch one.

Location	Width	HorizontalDisplacement	VerticalDisplacement

Plumb Points	No
Avongards	No
Inclinometers	No
Total stations	No

Photos

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)*

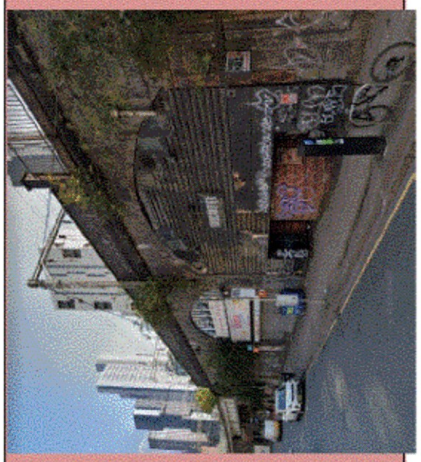
Loss of Section / Buckling *(Red)*

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 encompases 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.

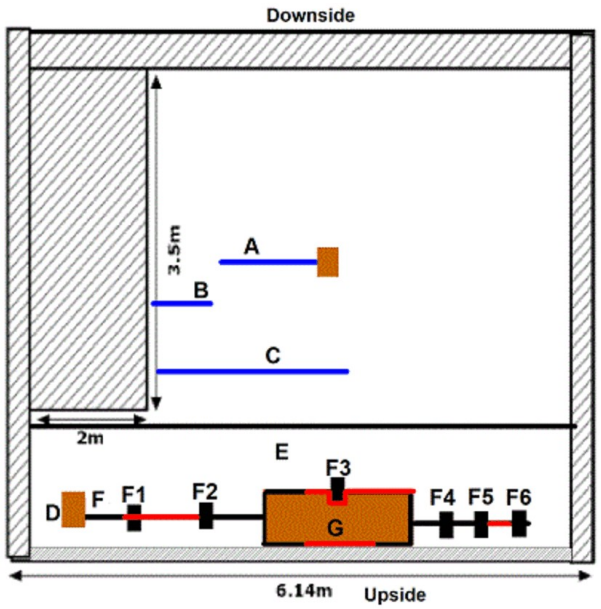
Type of Exam	Additional Visual Exam
Method of Visual Exam	Visual examination of fractures from mezzanine levels. Tapping around fractures with pole. Marking up of plan drawings from most recent detailed exams.

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

Capture remit (29/10/2024)

NTS

COL BU 63
Soffit defects
Sketch 1
General view photos P02 and P03.



Comments
Under load of passenger trains the soffit did not appear to show any signs of deflection / movement with the exception of defect F where the brickwork adjacent this fracture appeared to move by 1-3mm O.S N.F.D

Some sheeting was not removed as highlighted in the sketch above, this examination was undertaken from ground level only as per the remit instructions.

Defects
A- Longitudinal fracture runs through both bricks and mortar open H/ L-1mm x 1.2 metres in length with two number bricks displaced down by 10mm and slightly loose to hammer, O.S N.F.D photos P04 and P05.

B- Longitudinal fracture runs through both bricks and mortar open H/ L x 500mm in length (this may continue behind the sheeting O.S N.F.D photo P06.

C- Longitudinal fracture runs through both bricks and mortar open H/ L x 2.1 metres in length, this fracture may continue behind the sheeting which was not removed at this examination, O.S N.F.D photos P07 and P08.

D- One loose and displaced brick has been replaced with nine number new bricks now present in this area photo P09.
E- The upside of the soffit has been repointed since the previous additional examination 1.8 metres wide x full span of the arch, photos P10 and P11.
F- The Longitudinal fracture has been repointed with six number date tabs applied, this repair has failed in several areas, all date tabs comments below.

F1- Date tab dated 09/24 fractured H/ L new defect photo P12.
Longitudinal fracture continues into the upper haunch x 770mm x H/L new defect was repointed Photo P13.

F2- Date tab dated 09/24 intact photo P14.
F3- Date tab dated 09/24 intact photo P15.
Longitudinal fracture runs adjacent this date tab into the crown and to the high mileage upper haunch open H/ L x 1.4 metres new defect photos P16 and P17.

F4- Date tab dated 09/24 partially missing photo P18.
F5- Date tab dated 09/24 intact photo P19.
F6- Date tab dated 09/24 intact photo P20.
Longitudinal fracture runs above this date tab open H/ L x 250mm in length, new defect photo P20.

G-The crown is displaced down by 5-8mm and hollow sounding throughout with this area fully repointed, there is a longitudinal fracture which has re-fractured in this area open H/ L x 1.3 metres in length, new defect photos P21 and P22.



Photo 1: P01 Upside elevation (29/10/2024)



Photo 2: P02 Soffit general view looking towards low mileage haunch (29/10/2024)



Photo 3: P03 Soffit general view looking towards high mileage haunch (29/10/2024)



Photo 4: P04 Longitudinal fracture with two bricks displaced down by 10mm (29/10/2024)



Photo 5: P05 Longitudinal fracture with two bricks displaced down by 10mm, (29/10/2024)



Photo 6: P06 Longitudinal fracture to the arch soffit (29/10/2024)



Photo 7: P07 Longitudinal fracture to the arch soffit which may continue behind the sheeting (29/10/2024)



Photo 8: P08 Longitudinal fracture to the arch soffit (29/10/2024)



Photo 9: P09 Previously reported loose and dropped brick has been replaced (29/10/2024)



Photo 10: P10 The upside of the soffit has been repointed with date tabs applied to the fractures looking towards the low mileage haunch (29/10/2024)



Photo 11: P11 The upside of the soffit has been repointed with date tabs applied to the fractures looking towards the high mileage haunch (29/10/2024)



Photo 12: P12 Date tab fractured to the low mileage haunch (29/10/2024)



Photo 13: P13 Longitudinal fracture to the arch soffit (29/10/2024)



Photo 14: P14 Date tab intact (29/10/2024)



Photo 15: P15 Date tab intact (29/10/2024)

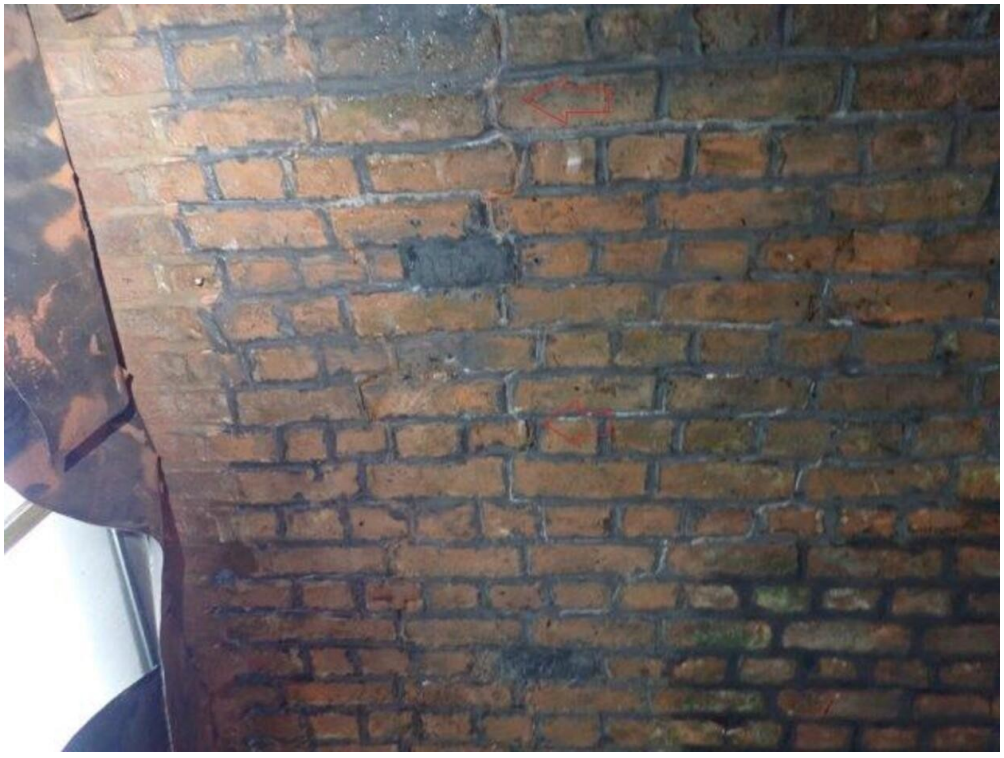


Photo 16: P16 Longitudinal fracture to the soffit (29/10/2024)



Photo 17: P17 Longitudinal fracture to the soffit (29/10/2024)



Photo 18: P18 Date tab partially missing (29/10/2024)



Photo 19: P19 Date tab intact (29/10/2024)



Photo 20: P20 Date tab intact with a longitudinal fracture above this tab open HL (29/10/2024)



Photo 21: P21 Soffit repointed with new longitudinal fracture to the arch soffit (29/10/2024)



Photo 22: P22 Soffit repointed with new longitudinal fracture to the arch soffit (29/10/2024)



Photo 23: P23 Collapsed section of ceiling to the underside of the mezzanine floor due to seepage (29/10/2024)