# BRIDGE DETAILED & HCE EXAMINATION REPORT

| | | |
|---|---|---|
| *ELR:* WCM2 | *Contract Mileage:* 102 *m* 0088 *yds* 4.00 *ch* | *Struc. Ref* 031/082A |

| | | | | | |
|---|---|---|---|---|---|
| **Examination Type:** | **Additional Assess HCE** | **NR ID:** | **11016334** | **Exam Date:** | **14-Feb-2012** |
| **Area:** | **Scotland West** | **BRS:** | **0** | **OS Ref:** | **NS58716475** |
| **Structure Name:** | **NEW CLYDE BRIDGE** | **Type:** | **BU** | **Exam ID** | **305231** |
| **Route:** | **Gretna - Glasgow Central (via Beattock)** | | | **Complete Examination:** | **N/A** |

## 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 | Make good defective, damaged or missing sections of walkway handrailing | 6m long section of rail tubing missing to main girders mid span, upside face | 0.00 | | 1.00 unit | 5 | 2 | E10 | Handrail renewal/repair |
| 2 | Renew/repair & clean as appropriate walkway rails floor boards and toe boards. Area up to 100mm deep in bird dirt. | Isolated Toe boards missing, floor boards fire damaged and or damp. | 0.00 | | 1.00 unit | 5 | 2 | E10 | Other |
| 3 | Clean out debris (general hazard), discarded timbers (fire risk)and any drug users detritus (needles) by appropriate methods. | Isolated MG btm boom areas, cut wood stacked by LM box bearing girders. | 0.00 | | 1.00 unit | 5 | 2 | E10 | Other |
| 4 | Ensure bridge drainage guttering and downpipes are present and effective as water leakage from system as examined causing extensive steelwork corrosion. | Throughout superstructure. | 0.00 | | 1.00 unit | 2 | 3 | E6 | Water Control |
| 5 | Consider rectification of deck waterproofing where defective | Isolated areas of seepage observed | 0.00 | | 1.00 unit | 2 | 3 | E6 | Water Control |
| 6 | Consider repair/renewal of bird control netting to deter bird. | Generally to bridge. | 0.00 | | 1.00 unit | 2 | 3 | E6 | Other |
| 7 | carry out suitable steelwork repairs to areas where loss of section has ocurred. | throughout superstructure and substructure | 0.00 | | 1.00 unit | 2 | 3 | E6 | Steelwork Repairs |
| 8 | Replace bolts and rivets by appropriate fasteners where defective or missing. Where fasteners have sheared establish cause and rectify. | Isolated locations including tie plates between main booms and to bracing. | 0.00 | | 1.00 unit | 2 | 3 | E6 | Steelwork Repairs |
| 9 | Grit blast and apply protective paint system to areas of defective paint, light corrosion or where repaired. | throughout structure as required | 0.00 | | 1.00 unit | 2 | 3 | E6 | Painting |

| | | |
|---|---|---|
| **Signed** Redacted<br>**For Employer** | **Name** Redacted | **Date** **9-May-2012** |

# BRIDGE DETAILED & HCE EXAMINATION REPORT

| | | | |
|---|---|---|---|
| ***ELR:*** **WCM2** | ***Contract Mileage:*** **102** ***m*** **0088** ***yds*** **4.00** ***ch*** | ***Struc. Ref*** **031/082A** | |
| ***Structure Type*** **BU** | **Network Rail ID 11016334** | **Rpt ID 15** | **Exam ID 305231** |
| ***OS Ref:*** ***NS58716475*** **BRS:** | ***Name:*** ***NEW CLYDE BRIDGE*** | **Exam Date** | |
| ***Line:*** ***Gretna - Glasgow Central (via Beattock)*** | | **14/2/2012** | |

The examiner should record any deterioration in condition or development of defects or other factors, which might place at risk the rail traffic, customers, staff or the public at large. Special reference should be made to those structures or parts of structures whose condition may require action before the next examination.

***Examiner General Comments***

The remit was to examine structural elements affected by HCE code MJA in accordance with document HCE – Codes v1.5.

However, the structure was identified in the HCE task list as having HCE code BBT. Supporting information is given in this report

This report is to be read in conjunction with detailed examination report dated 29/04/2011.

Redacted

Has all of the structure been examined? No

(If no, state reasons below)

Only areas with pertinent HCE codes were inspected.

**SIGNED** _____

**EXAMINERS NAME** Redacted

**DATE** **13 Jul 2011**

***Amey Comments & Recommendations***

**Notes for attention**

Detailed examination report re-issued to incorporate HCE examination undertaken on 14/02/2012. Original detailed examination report reviewed by and recommendations made by Redacted n 12/08/2011.
No further recommendations added following HCE examination.
Interfaces between girder and hidden part are in fair condition.
The Hobson's flooring support members are inverted Tee's and not considered an HCE. The bridge could be classed as a 'no-HCE' bridge.

See attached Summary Sheet [X]

Further action required / query [ ]

No action required at present [ ]

Redacted

**Signed** _____

**Engineer** Redacted

**Date** **9-May-2012**

***Network Rail Comments & Actions***

**Signed** _____

**SME** _____

**Date** _____

EXAMINATION SUMMARY
This HCE examination was undertaken during the day. A line blockage was not necessary to provide a safeguarded worksite.

Only cameras were used for the non intrusive works.

The non-intrusive MJA investigations were achieved in full.

The MJA code applies as there is a curved metallic deck.

The BBT does not apply as the booms are free from debris and there is easy access to at least one face over the bearings.

CONDITION SUMMARY
The structure is a three span truss type underbridge carrying multiple ballasted tracks outside of Glasgow central over a major watercourse, the River Clyde. The structure is comprised of ten longitudinally spanning metallic truss girders supporting a transverse trough decking and two edge lattice parapet girders.

The structure is in fair to good condition and owes its longevity largely to the deck arrangement which shields the structure from the elements. The paint system is largely intact and there was only moderate localised water penetration through the deck above the piers.

The deck is comprised of Hobsons type flooring which was found to be in good condition throughout. Ultrasonic thickness gauging suggests a thickness of ½" with less than 1mm section loss.

# BRIDGE DETAILED & HCE EXAMINATION REPORT

| ELR: WCM2 | Contract Mileage: 102 m 0088 yds 4.00 ch | Struc. Ref 031/082A |
|---|---|---|

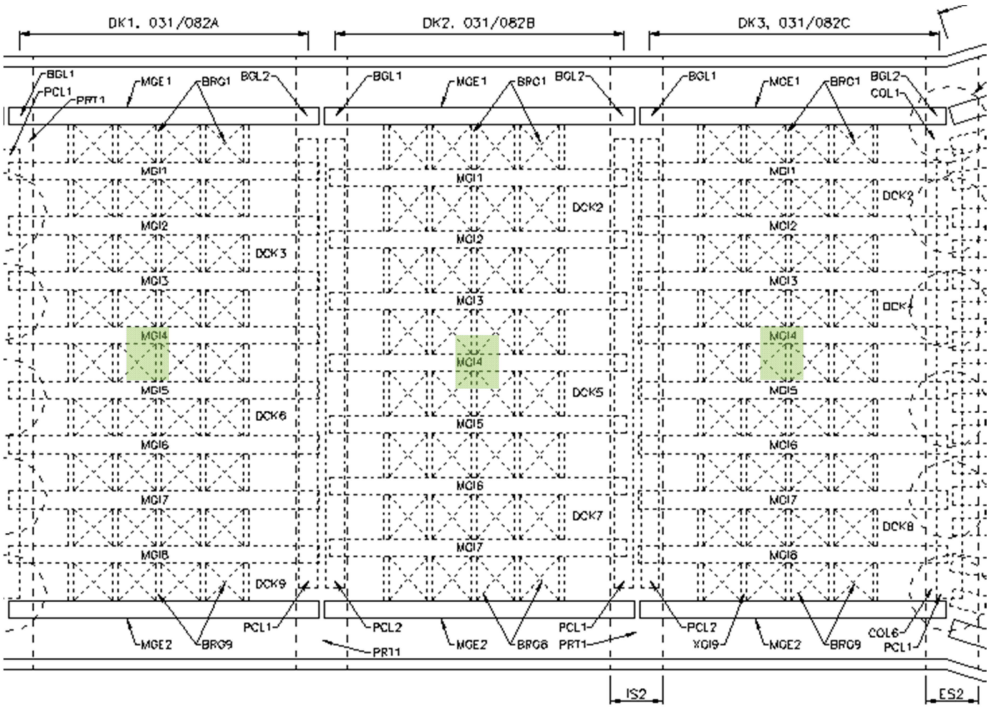
| Structure Information | | Other Information |
|---|---|---|
| ELR | WCM2 | |
| Structure Ref. | UB 031/082 | |
| Mileage | 102m 0088yds | |

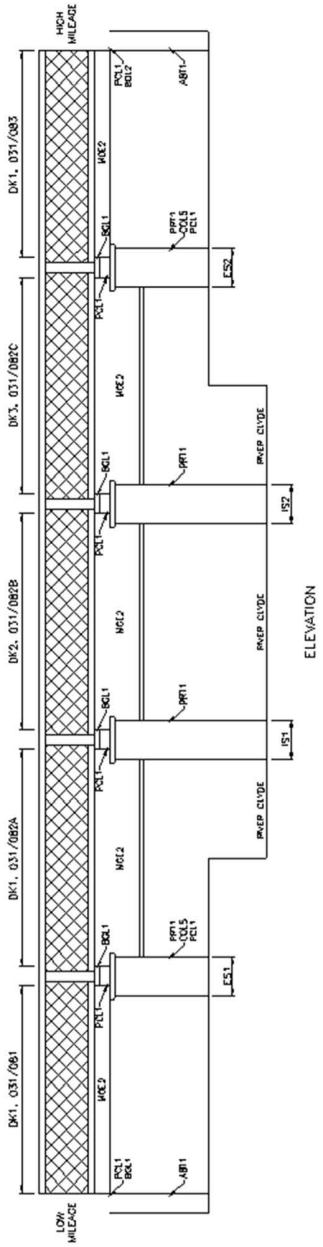
| BCMI Span | BCMI Deck | BCMI Comp | HCE Code | Priority | Line: | Mileage | Specific Action |
|---|---|---|---|---|---|---|---|
| Span 1 | DK 1 | DCK | MJA | 3 | ☑ Up<br>☑ Down<br>☐ N/A | ☑ High<br>☑ Low<br>☐ N/A | Thickness gauging to be undertaken on the deck. |

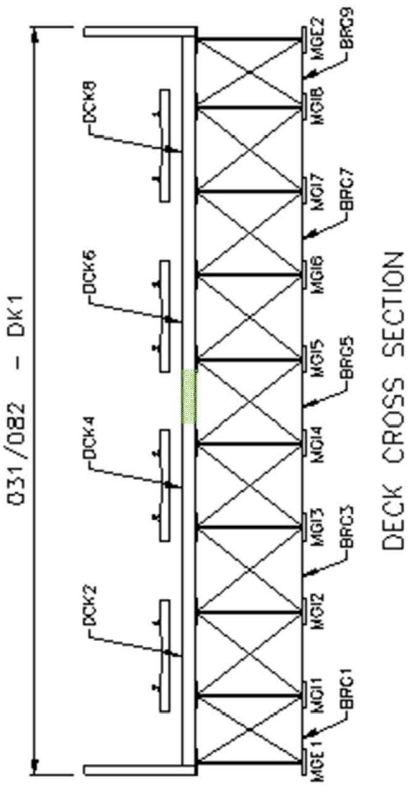
**Examiner comments**

| | | | | | | |
|---|---|---|---|---|---|---|
| HCE Examined? | ☑ Yes ☐ No ☐ Partial | | | Material which interfaces HCE | Material: ☐ Timber ☐ Concrete ☐ Brick ☐ Masonry ☐ Other: ..... ☑ None | Interface condition |
| Defects present on HCE? | ☐ Yes ☑ No ☐ N/A | | | | | |
| General condition description | Good. Paint system intact ☐ N/A | | | | | |
| Changes in condition since last HCE exam? | ☐ Yes ☐ No ☑ N/A | | | Debris present? | ☐ Yes ☑ No | |
| | | | | Debris removed for examination? | ☐ Yes ☐ No ☑ N/A | |
| Condition state | ☐ A | Protective treatment intact | ☐ N/A | Any dampness/ waterproofing/ drainage to the HCE? | ☐ Dampness ☐ Waterproofing ☐ Drainage ☑ None | ☐ N/A |
| | ☑ B | Surface Corrosion <1mm deep | | | | |
| | ☐ C | Loss of section ≥1mm deep | | General condition relative to other non-HCE parts of element | | ☑ N/A |
| | In contact with HCE | | Compaction | | | |
| Ballast | ☐ Yes ☐ No | | ☐ Loose ☐ Dense | Other comments | It is unknown what is in contact with the deck hence these boxes have been left blank. The flooring appears to be hobsons type flooring. | |
| Fill | ☐ Yes ☐ No | | ☐ Loose ☐ Dense | | | |

| ELR: WCM2 | Contract Mileage: 102 m 0088 yds 4.00 ch | Struc. Ref 031/082A |
|---|---|---|




HIGH MILEAGE
LOW MILEAGE
DK1, 031/083
DK3, 031/082C
DK2, 031/082B
DK1, 031/082A
DK1, 031/081
ELEVATION


031/082 - DK1
DCK8
DCK6
DCK4
DCK2
MGE2
MGI8
MGI7
MGI6
MGI5
MGI4
MGI3
MGI2
MGI1
MGE1
BRC9
BRC7
BRC5
BRC3
BRC1
DECK CROSS SECTION

**Photograph 1 – Typical elevation (14/02/2012).**

**Photograph 2 – Typical view of the underside. Note the fair to good condition of the structure. The paint system is largely intact and the underside is dry. The structure owes its condition to the deck which is shielding the truss beams from the elements (14/02/2012).**

**Photograph 3 – Localised water penetration and associated rusting over the abutments (14/02/2012).**

**Photograph 4 – Detail of the MJA. The deck is comprised of Hobsons flooring (14/02/2012).**

**Photograph 5 – Thickness gauging suggests a thickness of ½" with less than 1mm loss of section (14/02/2012).**

**Photograph 6 – The south end of the structure had a significant number of hypodermic needles (14/02/2012).**

**Photograph 7 – disused sleeping bags were noted throughout the span suggesting it is used by the homeless. Access to the structure is particularly easy from the southside (14/02/2012).**

# NETWORK RAIL

# Bridge Detailed Examination Report

| | | | | | |
|---|---|---|---|---|---|
| *ELR:* WCM2 | *Contract Mileage:* 102 *m* 0088 *yds* 4.00 *chs* | | | *Struc. Ref* | 031/082A |
| **Examination Type:** | **Bridge Detailed** | **NR ID:** | **11016334** | **Exam Date:** | **29-Apr-2011** |
| **Area:** | **Scotland West** | **BRS:** | **0** | **OS Ref:** | **NS58716475** |
| **Structure Name:** | **NEW CLYDE BRIDGE** | **Type:** | **BU** | **Exam ID** | **305231** |
| **Route:** | **Gretna - Glasgow Central (via Beattock)** | | | **Complete Examination:** | **Yes** |

## 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 | Make good defective, damaged or missing sections of walkway handrailing | 6m long section of rail tubing missing to main girders mid span, upside face | 0.00 | | 1.00 unit | 5 | 2 | E10 | Handrail renewal/repair |
| 2 | Renew/repair & clean as appropriate walkway rails floor boards and toe boards. Area up to 100mm deep in bird dirt. | Isolated Toe boards missing, floor boards fire damaged and or damp. | 0.00 | | 1.00 unit | 5 | 2 | E10 | Other |
| 3 | Clean out debris (general hazard), discarded timbers (fire risk)and any drug users detritus (needles) byappropriate methods. | Isolated MG btm boom areas, cut wood stacked by LM box bearing girders. | 0.00 | | 1.00 unit | 5 | 2 | E10 | Other |
| 4 | Ensure bridge drainage guttering and downpipes are present and effective as water leakage from system as examined causing extensive steelwork corrosion. | Throughout superstructure. | 0.00 | | 1.00 unit | 2 | 3 | E6 | Water Control |
| 5 | Consider rectification of deck waterproofing where defective | Isolated areas of seepage observed | 0.00 | | 1.00 unit | 2 | 3 | E6 | Water Control |
| 6 | Consider repair/renewal of bird control netting to deter bird. | Generally to bridge. | 0.00 | | 1.00 unit | 2 | 3 | E6 | Other |
| 7 | carry out suitable steelwork repairs to areas where loss of section has ocurred. | throughout superstructure and substructure | 0.00 | | 1.00 unit | 2 | 3 | E6 | Steelwork Repairs |
| 8 | Replace bolts and rivets by appropriate fasteners where defective or missing. Where fasteners have sheared establish cause and rectify. | Isolated locations including tie plates between main booms and to bracing. | 0.00 | | 1.00 unit | 2 | 3 | E6 | Steelwork Repairs |
| 9 | Grit blast and apply protective paint system to areas of defective paint, light corrosion or where repaired. | throughout structure as required | 0.00 | | 1.00 unit | 2 | 3 | E6 | Painting |

| | | |
|---|---|---|
| **Signed** Redacted<br>**For Employer** | **Name** Redacted | **Date** **12-Aug-2011** |

Version 3.3 28-04-08

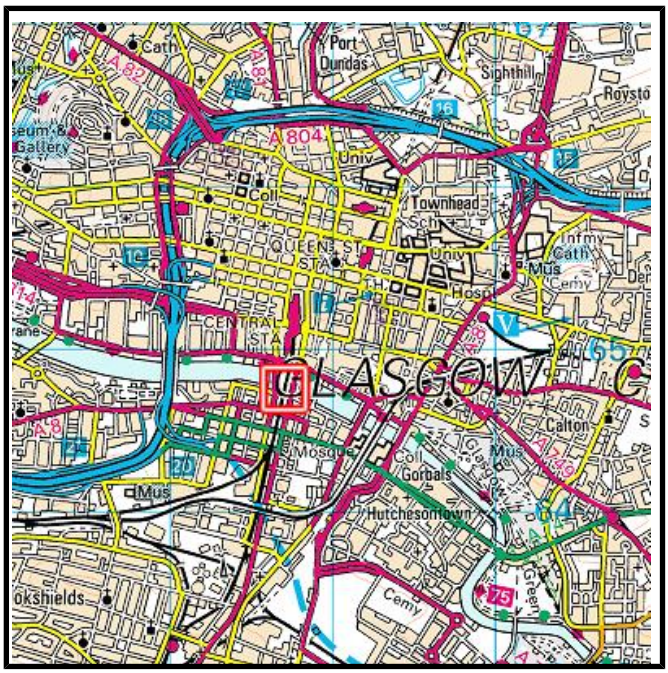
# NETWORK RAIL

# Bridge Detailed Examination Report

| | | | |
|---|---|---|---|
| **ELR:** WCM2 | **Contract Mileage:** 102 m 0088 yds 4.00 chs | | **Struc. Ref** 031/082A |
| **Structure Type** BU | **NR ID** 11016334 | **Rpt ID** 1510 | **Exam ID** 305231 |
| **OS Ref:** NS58716475 | **Contract Mileage:** 102 m 0088 yds 4.00 chs | | **Exam Date** 29/4/2011 |
| **Line:** Gretna - Glasgow Central (via Beattock) | | | Last Detailed 7/11/2004 |
| **Name:** NEW CLYDE BRIDGE | | | Last Visual 22/12/2009 |

**Site Sketch / Elevation Photograph**

**Location Plan**



# NETWORK RAIL

# Bridge Detailed Examination Report

| ELR: WCM2 | Contract Mileage: 102 m 0088 yds 4.00 chs | Struc. Ref 031/082A |
|---|---|---|

| Name of Part | |
|---|---|
| Main Girders | Fair |
| Cross Girders | - |
| Rail Bearers | - |
| Trough Deck Floor | Fair |
| Rivets & Bolts | Poor |
| Arch Ring | - |
| Spandrels | - |
| Abutments | Fair |
| Piers | Fair |
| Wing & retaining Walls | - |
| Pointing | Fair |
| Parapets & Pilasters | Fair |
| Columns & Cylinders | Fair |
| Trestles & Crossheads | - |
| Bedstones & Cills | Fair |
| Bearings | Fair |
| Ballast Plates/Boards | - |
| Longitudinal Timbers | - |
| Waterproofing | N/E |
| Drainage | - |
| Gutters & Downpipes | Poor |
| Handrails | Fair |
| Painting | Fair |
| Track & Road Condition | Fair |
| Revetment Walls | - |
| Vegetation | NO |
| Debris | YES |
| Visibility of Signs | - |
| Rubbish | YES |
| Inspection Walkways | Poor |
| Parapet Walkways | Fair |
| - | - |
| - | - |
| | |
| | |
| | |
| Insert 'X' for | |
| Change of Construction | |
| Closed Line | |
| C.W.R. | X |
| Rail Joints | X |
| 25T Axle/Abnormal Rd Loads | |
| Weight Restriction Plates | |
| Inaccessible Parts | |
| Tell Tales/Avonguards | |
| Plumbing Points | |

N/E = Not Examined
N/A = Not Applicable

## Examiner's General Comments

Wood stacked behind bearing girder at LM, seepage from gutters, downpipes and down through deck causing corrosion, loose/sheared rivets and bolts to tie plates also bird dirt throughout.

Previous Engineers Recommendations – No Action

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

Has all the structure been viewed? Yes

Has the structure been viewed under load? Yes

Redacted

**SIGNED** _____

**EXAMINERS NAME** Redacted

**DATE** **11-Aug-2011**

ABBREVIATION KEY
LOP - Loss of Paint
RJ – Rust Jacking
KE – Knife Edge
LOS – Loss of Section
TB – Top Boom
BB – Bottom Boom
VP – Vertical Post
WD – Web Diagonal

Main structure examined by Redacted nd Redacted Lattice parapets examined by Redacted

Glasgow Central is to High Mileage of structure.
Structure 031/082A is Low mileage span of three span New Clyde Bridge.

Photo No. 1 shows downside elevation from LM side.
Photo No. 2 shows upside elevation from LM side.
Photo No. 3 shows top of structure from LM side.
Photo No. 4 shows underside of structure from LM side.

STRUCTURE DIMENSIONS
Span - 50m
Width – 30.2m
Height – 4m over land
Height – 10m over water

MAIN GIRDERS
Main girders (steel truss type, 1.22m wide x 3.97m high)
General note - Main girders bottom booms, cross bracers between main girders and inspection walkways of structures 031/082A, 082B and 082C are all heavily covered with bird dirt up to 100mm deep.
All corrosion is due to water seepage.

(10 main girders numbered 1 to 10 from downside to upside)

MAIN GIRDER 1 – MGE1
Top Boom – Generally TB shows areas of moderate corrosion/lamination to top of internal face, Max 1-2mm, covers <10%.
TB upside flange toe at LM end shows thinning/lamination for 200mm, Max 5mm, Photo No. 5.
TB has curtailment plates (4/5) to areas throughout which show areas of thinning and lamination at connections to deck, covers <5%, Max 20mm, worst at following. Above VP5 from LM area of thinning and lamination at connection to deck, 2000mm long, Max 20mm, Photo No. 6 & 7. Above VP10 from LM area of thinning and lamination at connection to deck, 2500mm long, Max 20mm, Photo No. 8. Between VP20 & 21 from LM area of thinning and lamination at connection to deck, 1500mm long, Max 15mm, Photo No. 9.

Bottom Boom – Generally BB shows areas of minor LOP and corrosion, Max 1mm, covers <5%.
Internal trough and top face of bottom flange at upside has heavy covering of bird dirt, 100mm deep, more so from mid span to HM end, Photo No. 10.
Debris is lying in internal trough to isolated areas.

Tie Plates – TB & BB troughs have tie plates between inner and outer sections at intervals throughout length. These tie plates also connect to tie plates for diagonal and transverse bracers.
Tie plates show areas of minor LOP and corrosion, Max 1mm, covers <5%.

Vertical Lattice Posts – Generally VP show areas of minor LOP and corrosion, Max 1mm, covers <5%, Photo No. 11 shows typical.

Web Diagonals - Generally WD show areas of minor LOP and corrosion, Max 1mm, covers <5%.

End Plates - LM – EP shows widespread areas of LOP with moderate corrosion and lamination from downside edge, 600mm wide x full height x 10mm Max deep. Rivets are pin head at same location. Fault due to seepage from adjacent box gutter, Photo No. 12 shows top and Photo No. 13 shows bottom.

HM – EP shows minor LOP and corrosion, Max 1mm.
All faults due to seepage from adjacent box gutters.

MAIN GIRDER 2 – MGI1
Top Boom – Generally TB shows areas of moderate corrosion/lamination to top faces, Max 1-2mm, covers <10%.
TB upside flange toe at LM end shows thinning/lamination for 1200mm, Max 10mm, Photo No. 14.
TB downside flange toe at HM end also shows thinning/lamination for 300mm, Max 5mm.
TB has curtailment plates (4/5) to areas throughout which show areas of thinning and lamination at connections to deck, covers <5%, Max 15mm.

Bottom Boom – Generally BB shows areas of minor LOP and corrosion, Max 1mm, covers <5%.
Internal trough and top face of bottom flange has heavy covering of bird dirt, 100mm deep, more so from mid span to HM end. Debris is lying in internal trough to isolated areas.

Tie Plates – TB & BB troughs have tie plates between inner and outer sections at intervals throughout length. These tie plates also connect to tie plates for diagonal and transverse bracers.
Tie plates show areas of minor LOP and corrosion, Max 1mm, covers <5%.

Vertical Lattice Posts – Generally VP show areas of minor LOP and corrosion, Max 1mm, covers <5%.

Web Diagonals - Generally WD show areas of minor LOP and corrosion, Max 1mm, covers <5%.

End Plates - LM – EP shows area of LOP with moderate corrosion and lamination at top, 400mm x 300mm x 5mm Max deep. Rivets are pin head at same location.
HM – EP shows minor LOP with corrosion and pitting, Max 4mm.
All faults due to seepage from adjacent box gutters.

Redacted
MAIN GIRDER No.3 (DK1, MGI 2)
Top boom - Area of moderate corrosion/lamination at downside to low mileage end, 800mm x 100mm x 8mm deep.
Area of severe corrosion and thinning to K/E with notching at high mileage downside 600mm from end plate , 1.1m x 50mm, Photo No. 15.
3no bolt connections to deck at same location also show severe corrosion.
2 No rivets missing from downside of top flange at high mileage end, Photo No. 16.
Isolated patches of minor corrosion to edges of top boom due to slight seepage from deck

Bottom Boom – Internal trough and top face of bottom flange at east end have heavy covering of bird dirt x 100mm deep, more so from mid span to north end.

Tie Plates – TB & BB troughs have tie plates between inner and outer sections at intervals throughout length. These tie plates also connect to tie plates for diagonal and transverse bracers.
Tie plates show areas of minor LOP and corrosion, Max 1mm, covers <5%.
Tie plate on TB between VP2&3 has 2 loose and 1 sheared rivets at HM downside, Photo No. 17.

Vertical lattice posts, flatbar dia bracers and centre lattice cross bracers Widespread areas of minor corrosion and flaking paintwork. Widespread bird dirt staining

End plates - North -Area of moderate to severe corrosion/lamination at top, 700mm x 700mm x 10mm deep
Rivets to pin head at same location.
Isolated minor pitting down centre of plate
South -Area of moderate corrosion/lamination at top, 400mm x full width x 8mm deep. Rivets to pin head at same location
Isolated minor pitting to centre of plate

Redacted
MAIN GIRDER No.4 (DK1, MGI 3)
Top boom - areas of moderate to severe corrosion and lamination at low mileage up and downside and 1m x 100mm x 10mm, Photo No. 18.
Isolated patches of minor to moderate corrosion to edges of top boom due to slight seepage from deck.

Bottom boom -internal trough and top face of bottom flange at east end have heavy covering of bird dirt x 100mm deep. Minor corrosion/flaking paintwork to underside from south end x 5m long x full width

Vertical lattice posts, flatbar dia bracers and centre lattice cross bracers – isolated small areas of minor corrosion and flaking paintwork. Widespread bird dirt staining

End plates - North - Area of moderate corrosion/lamination at centre, 500mm wide x full height x 10mm deep. Rivets to pin head at same location.
South -Area of moderate corrosion/lamination at centre, 500mm wide x full height x 10mm deep.
Rivets to pin head at same location
Moderate corrosion/lamination to south west end plate cover angle.
Faults possibly due to seepage from adjacent box gutters.

MAIN GIRDER 5 – MGI4
Top Boom – Generally TB shows areas of moderate corrosion/lamination to top faces, Max 1-2mm, covers <10%.
TB upside flange toe at LM end shows thinning to KE for 400mm, Max 12mm, Photo No. 19. Same area show minor LOS, area total 200mm x 30mm Max, Photo No. 20 and 21.
TB downside flange toe at LM end also shows thinning/lamination for 1000mm, Max 10mm.
TB has curtailment plates (4/5) to areas throughout which show areas of thinning and lamination at connections to deck, covers <5%, Max 15mm.
TB also shows isolated RJ to stiffener angle plates at inside, Max 5mm, Photo No. 22 shows typical between VP10&11.

Bottom Boom – Generally BB shows areas of minor LOP and corrosion, Max 1mm, covers <5%. LM underside shows area of flaking paint for 5m.
Internal trough and top face of bottom flange has heavy covering of bird dirt, 100mm deep. Debris is lying in internal trough to isolated areas.

Tie Plates – TB & BB troughs have tie plates between inner and outer sections at intervals throughout length. These tie plates also connect to tie plates for diagonal and transverse bracers.
Tie plates show areas of minor LOP and corrosion, Max 1mm, covers <5%.

Vertical Lattice Posts – Generally VP show areas of minor LOP and corrosion, Max 1mm, covers <5%.

Web Diagonals - Generally WD show areas of minor LOP and corrosion, Max 1mm, covers <5%, Photo No. 23 shows typical.

End Plates - LM – EP shows areas of LOP with moderate corrosion and lamination, 3mm Max deep. Rivets are pin head to isolated areas.
HM – EP shows area of LOP with moderate corrosion and lamination at middle, 500mm x full height x 10mm Max deep. Rivets are pin head at same location, Photo No. 24 shows top.
All faults due to seepage from adjacent box gutters.

MAIN GIRDER 6 – MGI5
Top Boom – Generally TB shows areas of moderate corrosion/lamination to top faces, Max 1-2mm, covers <10%.
TB downside flange toe at LM end shows thinning/lamination for 1200mm, Max 10mm, Photo No. 25. Same area shows minor LOS at 500mm from LM, area of 20mm x 15mm Max.
TB upside flange toe at LM end also shows thinning/lamination for 700mm, Max 10mm.
TB downside flange toe at HM end shows thinning/lamination for 400mm, Max 6mm, Photo No. 26.
TB also shows RJ and lamination at joins to trough deck in isolated areas, Max 20mm, and Photo No. 27 shows typical.
TB has curtailment plates (4/5) to areas throughout which show areas of thinning and lamination at connections to deck, covers <5%, Max 15mm.
TB also shows isolated RJ to stiffener angle plates at inside, Max 5mm, Photo No. 28 shows typical.

Bottom Boom – Generally BB shows areas of minor LOP and corrosion, Max 1mm, covers <5%.
Internal trough and top face of bottom flange has heavy covering of bird dirt, 100mm deep. Debris is lying in

internal trough to isolated areas.
LM end of bottom flange is soot covered for 5m due to fire set below, Photo No. 29.
BB bottom flange at HM end shows lamination and thinning below end plate, Max 8mm, covers <5%, Photo No. 30.

Tie Plates – TB & BB troughs have tie plates between inner and outer sections at intervals throughout length. These tie plates also connect to tie plates for diagonal and transverse bracers.
Tie plates show areas of minor LOP and corrosion, Max 1mm, covers <5%.
Tie plate on TB between VP5&6 has missing rivet at LM upside, Photo No. 31.
Tie plate on TB between VP8&9 has loose/projecting rivet at LM upside, Photo No. 32.
Tie plate on TB between VP8&9 has loose/projecting bolt at HM upside, Photo No. 33.
Tie plate on TB between VP8&9 has two loose bolts at LM upside, Photo No. 34.

Vertical Lattice Posts – Generally VP show areas of minor LOP and corrosion, Max 1mm, covers <5%, Photo No. 35 shows typical.

Web Diagonals - Generally WD show areas of minor LOP and corrosion, Max 1mm, covers <5%.

End Plates - LM – EP shows areas of LOP with moderate corrosion and lamination at top, 350mm x full width x 5mm Max deep. Rivets are pin head to isolated areas.
HM – EP shows area of LOP with moderate corrosion and lamination at top, 2000mm x full width x 10mm Max deep. Rivets are pin head at same location, Photo No. 36 shows top.
All faults due to seepage from adjacent box gutters.

MAIN GIRDER 7 – MGI6
Top Boom – Generally TB shows areas of moderate corrosion/lamination to top faces, Max 1-2mm, covers <10%.
TB downside flange toe at LM end shows thinning/lamination for 1000mm, Max 15mm, Photo No. 37 and 38.
TB upside flange toe at LM end also shows thinning/lamination for 500mm, Max 5mm.
TB downside flange toe at HM end shows thinning/lamination for 300mm, Max 5mm, Photo No. 39.
TB also shows RJ and lamination at joins to trough deck in isolated areas, Max 30mm, and Photo No. 40 shows typical.
TB has curtailment plates (4/5) to areas throughout which show areas of thinning and lamination at connections to deck, covers <5%, Max 15mm.
TB also shows isolated RJ to stiffener angle plates at inside, Max 5mm.

Bottom Boom – Generally BB shows areas of minor LOP and corrosion, Max 1mm, covers <5%.
Internal trough and top face of bottom flange has heavy covering of bird dirt, 100mm deep. Debris is lying in internal trough to isolated areas.

Tie Plates – TB & BB troughs have tie plates between inner and outer sections at intervals throughout length. These tie plates also connect to tie plates for diagonal and transverse bracers.
Tie plates show areas of minor LOP and corrosion, Max 1mm, covers <5%.
Tie plate on TB between VP11&12 has sheared rivet head at LM upside, Photo No. 41.
Tie plate on TB between VP20&21 has two sheared rivet heads at HM downside, Photo No. 42. Tie plate at upside of sheared rivets fix diagonal and transverse bracers between MGI5 and MGI6 and this has sprung by 6mm Max, Photo No. 43.

Vertical Lattice Posts – Generally VP show areas of minor LOP and corrosion, Max 1mm, covers <5%.

Web Diagonals - Generally WD show areas of minor LOP and corrosion, Max 1mm, covers <5%.

End Plates - LM – EP shows areas of LOP with moderate corrosion and lamination, Max 5mm, worst at top. Rivets are pin head to isolated areas.
HM – EP shows area of LOP with moderate corrosion and lamination, Max 5mm, worst at top. Rivets are pin head at same location. Photo No. 44 shows top.
All faults due to seepage from adjacent box gutters.

Redacted
MAIN GIRDER No.8 (DK1, MGI 7)
Top boom - area of moderate corrosion/lamination at south west end, 600mm x 120mm x 8mm deep. Isolated

patches of minor corrosion to edges.

Bottom boom -internal trough and top face of bottom flange at east end have heavy covering of bird dirt x 75mm deep, more so mid span to north end.

Vertical lattice posts, flatbar dia bracers and centre lattice cross bracers - isolated areas of minor corrosion and flaking paintwork. Widespread bird dirt staining

End plates - North -Area of moderate corrosion/lamination to centre, 300mm wide x full height x 8mm deep. Fault possibly due to seepage from drainage pipe above. Isolated minor pitting down centre of plate
South – few patches of minor corrosion

Redacted
MAIN GIRDER No.9 (DK1, MGI 8)
Top boom – areas of moderate corrosion/lamination at south east end, 700mm x 50mm x 5mm deep, north east end, 500mm x 40mm x 5mm deep and south west end, 700mm x 50mm x 5mm deep.
Bottom boom -internal trough and top face of bottom flange at east end have heavy covering of bird dirt x 75mm deep, more so from mid span to north end

Vertical lattice posts, flatbar dia bracers and centre lattice cross bracers – isolate small areas of minor corrosion and flaking paintwork. Widespread bird dirt staining

End plates - North – fair condition
South – minor corrosion flaking paintwork to east internal face

MAIN GIRDER 10 – MGE2
Top Boom – Generally TB shows areas of moderate corrosion/lamination to top faces, Max 1-2mm, covers <10%.
TB also shows corrosion and lamination isolated areas of outer toe of top flange due to timber deck of walkway on top, Max 5mm, covers <10%.
TB downside flange toe at LM end shows thinning to KE for 1000mm, Max 15mm. Same area shows minor LOS at 600mm from LM, area of 160mm x 50mm Max, Photo No. 45.
TB upside flange toe shows thinning/lamination throughout length to isolated areas, Max 5mm. This is due to timber walkway sitting on top flange. Photo No. 46 shows typical at LM end.
TB downside flange toe at HM end shows thinning/lamination for 200mm, Max 5mm, Photo No. 47.
TB also shows RJ and lamination at joins to trough deck in isolated areas, Max 10mm, and Photo No. 48 shows typical.
TB has curtailment plates (4/5) to areas throughout which show areas of thinning and lamination at connections to deck, covers <5%, Max 15mm.
TB also shows isolated RJ to stiffener angle plates at inside, Max 5mm.

Bottom Boom – Internal trough and top face of bottom flange has heavy covering of bird dirt, 100mm deep. Debris is lying in internal trough to isolated areas, Photo No. 49 shows typical.
Generally BB shows areas of minor LOP and corrosion, Max 1mm, covers <5%, Photo No. 50 shows typical to bottom flange at HM end.
BB upside flange toe at LM end adjacent to bearing shows thinning to KE for 300mm, Max 15mm. Same area shows two areas of minor LOS, area of 60mm x 40mm and 15mm x 10mm Max, Photo No. 51.
BB inner stiffener plate shows lamination to isolated areas, Max 5mm, Photo No. 52 shows typical.
BB outer stiffener plate shows thinning and lamination to isolated areas, Max 5mm, with pin headed rivets to same, Photo No. 53 shows typical at HM end.
BB bottom flange at HM end shows lamination, thinning and RJ at connection to end plate, Max 20mm, covers <5%, Photo No. 54.

Tie Plates – TB & BB troughs have tie plates between inner and outer sections at intervals throughout length. These tie plates also connect to tie plates for diagonal and transverse bracers.
Tie plates show areas of minor LOP and corrosion, Max 1mm, covers <5%.

Vertical Lattice Posts – Generally VP show areas of minor LOP and corrosion, Max 1mm, covers <5%.

Web Diagonals - Generally WD show areas of minor LOP and corrosion, Max 1mm, covers <5%.

End Plates - LM – EP shows areas of LOP with moderate corrosion and lamination, Max 5mm. Upside edge of plate shows thinning to KE for full height, Max 9mm. Same area shows minor LOS to areas, total area of 400mm x 50mm Max, Photo No. 55.
Downside edge of plate shows thinning to full height, Max 5mm, Photo No. 56 shows bottom. Same area shows minor LOS to isolated, worst at top, area of 80mm x 20mm Max, Photo No. 57.
Rivets are pin head to isolated areas.
Inside face of LM EP, viewed through inspection hatch, shows corrosion, thinning and pin headed rivets throughout, Photo No. 58.
HM – EP shows area of LOP with moderate/severe corrosion and lamination to full height, 1000mm wide x 10mm Max deep. Rivets are pin head at same location, Photo No. 59 shows top.
Rivets are pin head throughout.
All faults due to seepage from adjacent box gutters.

BRACERS – SKETCH 1
DK1 - BRG1–9
15 sets of 'T' diagonal bracers run longitudinally along girders between BB and vertically/diagonally from BB to TB with transverse 'U' channel at TB & BB at each tie plate connection, see Photo No. 4 above and Sketch No. 1. Tie plates attached to TB & BB. Note: Rivets have sheared in areas at connection to top and bottom boom tie plates with some being replaced by bolts which have also sheared in areas, see individual girder text and below.
Heavy build up of bird dirt to 150mm deep max on lower horizontal angle bracers, more so from mid span to HM end. Vertical/diagonal bracers also show build up of bird dirt to isolated areas.
Bracers show surface corrosion with minor LOP and corrosion, Max 1mm, to isolated areas, covers <5%.
Photo No. 60 shows typical to lower horizontal angle bracers and Photo No. 61 shows typical to transverse 'U' channel bracers. Faults are due to seepage from deck.
Vertical/diagonal bracer between MGI7 and MGI8 at 6th bracer from LM end shows 5 x sheared rivets on connection plate at bottom boom of MGI7. Two rivets sheared at transverse 'U' channel connection, Photo No. 62. Three rivets sheared at bracer tie plate into BB tie plate, Photo No 63.

DECK – DK1 – DCK1-9
Steel Hobson Type Trough deck numbered 1 to 9 from downside.
General note – All deck section is generally in fair condition with only isolated areas of minor corrosion/lamination to bottom flanges at connections to main girders. All due to seepage in isolated areas.

Deck No.1 - DCK1
Deck over MGE1 sits on steel blocks, Photo No. 64.
Deck bottom flanges and troughs show surface corrosion, LOP and thinning, Max 3mm, to isolated areas, worst at connections to MGI1, covers <5%.
Trough plate ends show thinning/lamination at connections to top boom, Max 5mm, covers <5%.
Photo No. 65 shows general view of DCK1.

Redacted
Deck No.2 - DCK2
Deck No.2 generally fair condition with only a few isolated small areas of minor corrosion/lamination to bottom flanges at connection to main girders. Area of moderate to severe corrosion to external edge of plate work at HM end, full width x 10mm deep.

Deck No.3 – DCK3
Deck bottom flanges and troughs show surface corrosion, LOP and thinning, Max 6mm, to isolated, worst at connections to main girders, covers <5%.
Trough plate ends show thinning/lamination at connections to top boom, Max 5mm, covers <5%.
Photo No. 66 shows general view of DCK3.
At VP18 there is a support beam fitted which goes up through deck, Photo No. 67. Assumption is that support is for gantry at track level.

Redacted
Deck No.4 – DCK4
Deck No.4 is generally in fair condition with only a few isolated small areas of minor corrosion/lamination to bottom flanges at connection to main girders.

Deck No.5 – DCK5

Deck bottom flanges and troughs show surface corrosion, LOP and thinning, Max 3mm, to isolated areas, worst at connections to MGI1, covers <5%.
Trough plate ends show thinning/lamination at connections to top boom, Max 5mm, covers <5%.
Photo No. 68 shows general view of DCK5.
Note: Timber boards run length of deck.

Deck No.6 – DCK6
Deck bottom flanges and troughs show surface corrosion, LOP and thinning, Max 3mm, to isolated, worst at connections to main girders, covers <5%.
End plate work at both ends show thinning/lamination to isolated areas, Max 10mm, covers <5%.
Trough plate ends show thinning at connections to top boom, Max 5mm, covers <5%, Photo No. 69 shows typical.

Redacted
Deck No.7 – DCK7
Deck No.7 generally fair condition with only a few isolated small areas of minor corrosion/lamination to bottom flanges at connection to main girders.

Redacted
Deck No.8 – DCK8
Deck No.8 generally fair condition with only a few isolated small areas of minor to moderate corrosion/lamination to bottom flanges at connection to MGI7.

Deck No.9 – DCK9
Deck bottom flanges and troughs show surface corrosion, LOP and thinning, Max 6mm, to isolated, worst at connections to main girders, covers <5%.
Trough plate ends show thinning/lamination at connections to top boom, Max 5mm, covers <5%.
End plate work at both ends show thinning/lamination to isolated areas, Max 10mm, covers <5%, Photo No. 70 shows typical to LM side.
Photo No. 71 shows general view of DCK9.

RIVETS AND BOLTS
Isolated areas of pinheaded rivets on main girder flanges and end plates, see above.
There are sheared rivets, loose rivets and bolts to tie plates between booms and at connection plates for bracers, see above.
Generally rivets and bolts are in poor condition.

PIERS
LM pier is on land and supports 81 and 82A. HM Pier is in water and supports 82A and 82B.
Low Mileage pier consists of 5 x cylindrical granite piers, 800mm high, with concrete encased steel girders on top, 150mm high, supporting 4 x steel riveted box bearing girders, 1200mm high, Photo No. 72.

Columns – ES1 – COL1-5
Columns numbered from downside.

Column No.1 – COL1
Column shows isolated open joints, Max 40mm, covers <5%.
Column also shows spalling at upside rear, area of 300mm x 200mm x 70mm Max, Photo No. 73.
Exposed steel on concrete encased girders on top of column shows lamination and thinning to KE to isolated, Photo No. 74 shows typical

Column No.2 – COL2
Column shows minor spalling at HM face, area of 370mm x 120mm x 60mm Max.
Exposed steel on concrete encased girders on top of column shows lamination and thinning to KE to isolated areas. Exposed steel at upside rear also shows LOS, 2 x 25mm x 20mm Max, Photo No. 75.

Column No.3 – COL3
Column shows fire/soot damage throughout.
Column shows spalling due to fire damage at HM face, area of 3000mm x 300mm x 80mm Max, Photo No. 76.
The exposed steel on concrete encased girders on top of column shows lamination, thinning to KE and LOS to isolated areas.

Column No.4 – COL4
The exposed steel on concrete encased girders on top of column shows lamination, thinning to KE and LOS to isolated areas.

Column No.5 – COL5
Column shows minor spalling at HM downside face, area of 500mm x 100mm x 70mm Max, Photo No. 77.
Column also shows minor spalling at HM upside top, Max 40mm, with Hairline vertical fracture for 400mm.
The exposed steel on concrete encased girders on top of column shows lamination, thinning to KE and LOS to isolated areas.

Riveted Steel Box Bearing Girders - ES1 PCL1
Four girders numbered from downside.
LM ends of MGE1, MGI1 and MGI2 and bearings are supported by girder No. 1. LM ends of MGI3 and MGI4 and part of MGI5 and bearings are supported by girder No. 2 (MGI5 & bearing sits across ends of girders 2&3).
Part of MGI5, MGI6 and MGI7 and bearings are supported by girder No. 3. MGI9 and MGE2 and bearings are supported by girder No. 4.

All four girders show isolated LOP and corrosion, Max 1mm to isolated areas, with thinning to isolated flanges, Max 5mm, all cover <10%.
Top flanges of girders have protective bituminous coating which is laminating in areas, Photo No. 78 shows typical.
Girder No. 1 shows thinning to KE for 150mm at LM bottom flange over upside inner of Column No. 1, Max loss 25mm, Photo No. 79.
Girder 2 at upside end and Girder 3 at downside end have cut wood stacked tight behind at LM side, Photo No.80. Note: This is a fire risk.
Girder 3 at downside end has fire/soot damage, Photo No. 81.
Photo No. 82 shows fire damage to column, girder and bearing under MGI5.
Girder No. 4 at upside HM end shows lamination for 500mm, Max 10mm, covers < 5%, Photo No. 83.
Girder No. 4 web stiffeners at HM upside end show corrosion, thinning and LOS to bottom crank, 90mm x 50mm and 40mm x 20mm, Photo No. 84.
Girder No. 4 web stiffeners at LM upside end show corrosion, thinning and LOS to bottom heels, 3 x 220mm x 200mm Max, Photo No. 85.

HM PIER – IS1 – COL1-5
LM pier is on land and supports 81 and 82A. HM Pier is in water and supports 82A and 82B.
HM pier consists of 5 x cylindrical granite and stone columns, 10m high, with concrete encased steel girders on top, 150mm high, supporting steel riveted box bearing girders, 1200mm high. End columns continue up to top of cantilevers. Photo No. 86 shows general view.
Note: Stone section examined above water level only.

Redacted
North pier (IS1, COL1-5)
All columns have small areas of open joints up to 35mm deep, Photo No. 87 shows typical to Column 2.
Column no.1 – vertical fracture through 1no stone on n/east face x H/L
Column no.2 – vertical step fracture through 3no courses 1no stone and 2no joints on east face x H/L.
Column no.3 – vertical fracture through 1no stone on s/east face x H/L
Column no.4 – vertical step fracture through 2no courses, 1no stone and 1no joint on south west face x 3mm open. Vertical fracture through 1no stone on south face x 2mm open. Photo No. 88 shows view of Column 4.
Column no.5 – vertical step fracture through 2no courses 1no stone and 1no joint on south west face x 3mm open

Riveted Steel Box Bearing Girder – IS1 - PCL1
Girder shows isolated LOP and corrosion, Max 1mm to isolated areas, with thinning to isolated flanges, Photo No. 89 shows typical, and to the bottom heels of the gusset web stiffeners above the pier columns, Max 5mm, all cover <10%.
Top flanges of girders have protective bituminous coating which is laminating in areas, Photo No. 90 shows typical.
There are numerous inspection covers on the web plates of the girder, some of which are missing.
Top and bottom flanges show isolated areas of thinning and lamination, Max 6mm, Photo No. 91 shows typical at HM downside end over Column 1.

The upside end of bearing girder over Column 5 shows thinning and lamination to gusset web stiffener against masonry wall, Max 5mm, Photo No. 92. The second web stiffener from wall shows LOS, 300mm x 140mm, Photo No. 93. The third and fourth web stiffener from wall show LOS, 120mm x 120mm and 80mm x 60mm respectively, Photo No. 94. The fifth web stiffener from wall shows LOS, 120mm x 25mm, Photo No. 95.
Girder web at HM side base over Column 5 shows thinning and lamination at area of LOS to stiffeners detailed above, Max 5mm, covers <5%, Photo No. 96 shows typical.
The exposed steel on concrete encased girders on top of column shows lamination, thinning to KE and LOS to isolated areas, see above.

POINTING
Columns show cracked pointing and open joints to stone sections at water level else in fair condition.

PARAPETS
The open lattice parapet/wind fence although a substantial element does not get SCMI scored.

Parapets examined from track level by Redacted 6/3/11.
Examined on Nightshift with aid of artificial lighting, hence poor quality of photographs. Structure in 3 No sections 082A LM end to 082C HM end.
Parapets consist of U-Type construction Top and Bottom Boom Main Girders with Diagonal Lattice Flat Bar Riveted and Bolted at Rail face, Diagonal Lattice U-Bar Riveted and bolted Outer face with Bolts connecting Flat bar and U-bar in 3No places (See Section Sketch No. 2).

Downside Parapet
Parapet 2M high at Trackside face (Photo 97 Elevation facing LM)
Unable to view into bottom boom channel due to build up of debris (Photo No. 98).
All rivets and bolts intact.
Widespread areas corrosion with pitting 2mm-4mm deep with slight lamination 5mm deep located at flat bar lattice and U-bar connections at worst 200mm long x 100mm wide (Photo No. 99).With patches minor corrosion sores at random.
Underside of Bottom Boom examined by Redacted
Bottom boom of lattice parapet sits on top of ends of cantilever supports.
Girder shows isolated areas of minor flaking paintwork and surface corrosion, Max 1mm, covers <5%.

Upside Parapet
Parapet 2M high at Trackside face (Photo 100 Elevation facing HM)
Unable to view into bottom boom channel due to build up of debris
1No connecting bolt missing between lattice bars located 17m from LM end (Photo No. 101).
1No connecting bolt missing between lattice bars located 10m from LM end (Photo 102).
Isolated areas of corrosion with pitting 2mm-4mm deep with slight lamination 5mm deep located on lattice flat bar and U-bar at connections at max 200mm long x 60mm high (Photo No 103 example).
All Rivets Intact.
Underside of Bottom Boom examined by Redacted
Bottom boom of lattice parapet sits on top of ends of cantilever supports.
Girder shows isolated areas of minor flaking paintwork and surface corrosion, Max 1mm, covers <5%.
Girder shows thinning and lamination to isolated areas to inner bottom flange toe over timber deck, Max 6mm, covers <5%, Photo No. 104.

PARAPET WALKWAYS
Downside – Steel Plate Deck
Note: Only underside of deck examined.
Deck shows areas of minor corrosion, Max 1mm. Worst around weep holes, at edges of angle support/fixing beams and plates above top boom of MGE1, total covers <5%. Lattice supports also show minor corrosion to isolated areas. Photo No. 105 shows typical of all of above.

Upside – Timber deck
Note: Only underside of deck examined.
Deck shows wet and damp staining to isolated areas.
Deck has 2m long section at LM end which is damp and showing minor decay, Photo No. 106.

PARAPET CANTILEVERS
Parapet cantilever bracers support parapet walkways off MGE1 and MGE2.

Downside
Cantilevers are generally in fair condition with only isolated areas of minor flaking paintwork and surface corrosion, covers <5%, Photo No. 107 shows typical.

Upside
Cantilevers show isolated areas of minor flaking paintwork and surface corrosion, covers <5%.
Cantilevers also show thinning, lamination and minor LOS to isolated top flanges under timber deck, Max 5mm, covers <5%, Photo No 108 shows typical.

BEARINGS – DK1 – BGL1&2
LM – BGL1
Bearing stools above LM support show patches of corrosion/flaking paintwork to isolated areas, Max 1mm, covers <5%.
The bearing below MGI5 shows fire/soot damage, Photo No. 109.
Bearing below MGE2 shows widespread loss of paint and corrosion to LM side due to seepage from box gutter above, Max 3mm, covers <5%, Photo No. 110.

HM – BGL2
Bearing stools above HM support show patches of corrosion/flaking paintwork to isolated areas, Max 1mm, covers <5%.
HM ends of bearings show corrosion and pitting, Max 4mm, due to seepage from box gutter and downpipes, Photo No. 111 shows typical under MGI7.

WATERPROOFING
Not examined although isolated areas of minor seepage from deck suggests some failure.

GUTTERS & DOWNPIPES
Box guttering at ends of structure are leaking to isolated areas due to areas of corrosion/lamination to full width, Max 8mm, Photo No. 112 shows typical.
Downpipes show corrosion to isolated areas with isolated pipes split and leaking.
Water seepage from gutters and downpipes is causing corrosion to ends of girders, bearings and bearing girders.

HANDRAILS
Handrails are on internal inspection walkways only.
Steel 65mm angle rail and uprights on downside of all walkways show widespread areas of bird dirt and surface corrosion/flaking paintwork.
Tubular handrails fixed to all main girders on upside face have a 6m long section missing at mid-span, probably having never been fitted, Photo No. 113 shows typical.
Tubing shows widespread areas of bird dirt and surface corrosion/flaking paintwork.

IINSPECTION WALKWAYS
9 x Timber Walkways numbered 1 to 9 from downside.
1 – Walkway only 400mm wide. Bird dirt is covering timbers in areas.
2 - Bird dirt covering timbers in areas. Walkway and toe-board shows fire damage and holes at VP15 on MGI2, 350mm x 250mm, Photo No. 114.
3 & 4 - Bird dirt is covering timbers in areas. Fire damage is showing to underside at LM end for 10m long.
5 - Bird dirt is covering timbers in areas.
6 - Bird dirt is covering timbers in areas. Timber shows isolated areas of damp/wet down from deck area.
7 - Bird dirt is covering timbers in areas. Toe-board missing to HM downside, 220mm x 35mm x 2.5m long and 8m long section at mid span.
8 - Bird dirt is covering timbers in areas. Two toe-boards are missing, 220mm x 35mm x 4m long.
9 - Bird dirt is covering timbers in areas. Timber shows fire damage to LM end, full width x 5m long, Photo No. 115. Section of toe-board 4.5m long is loose at HM end.

PAINTING
Paint cover has broken down in areas of corrosion, worst to main girder end plates. Widespread areas of paintwork are covered with bird dirt and staining. Generally paint cover is in fair condition.

TRACK CONDITION
Generally track is in fair condition.
12 lines cross over section of structure with numerous rail joints and several points. Photo 116 shows track elevation facing Upside.

| ELR: WCM2 | Contract Mileage: 102 m 0088 yds 4.00 chs | Struc. Ref 031/082A |
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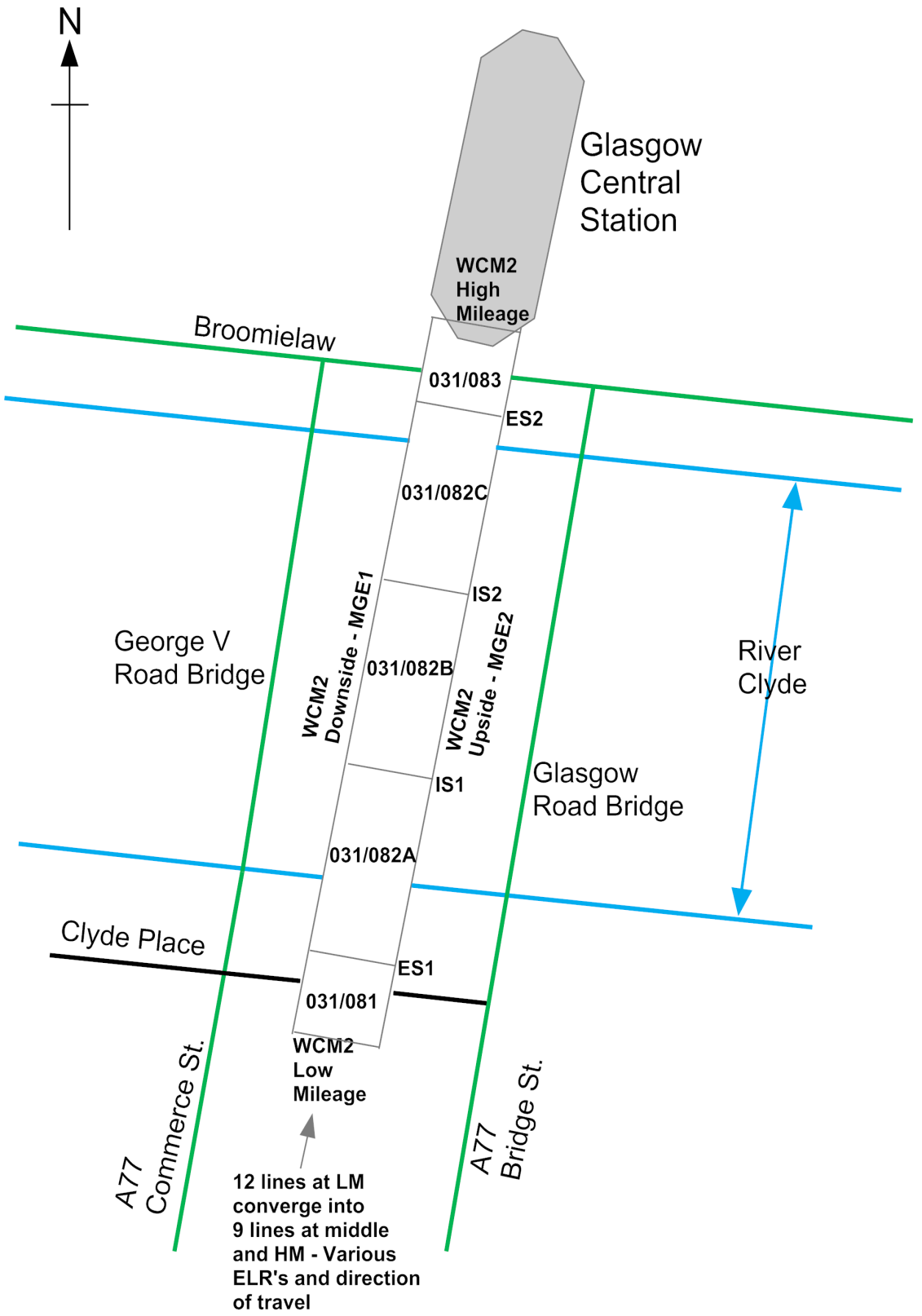
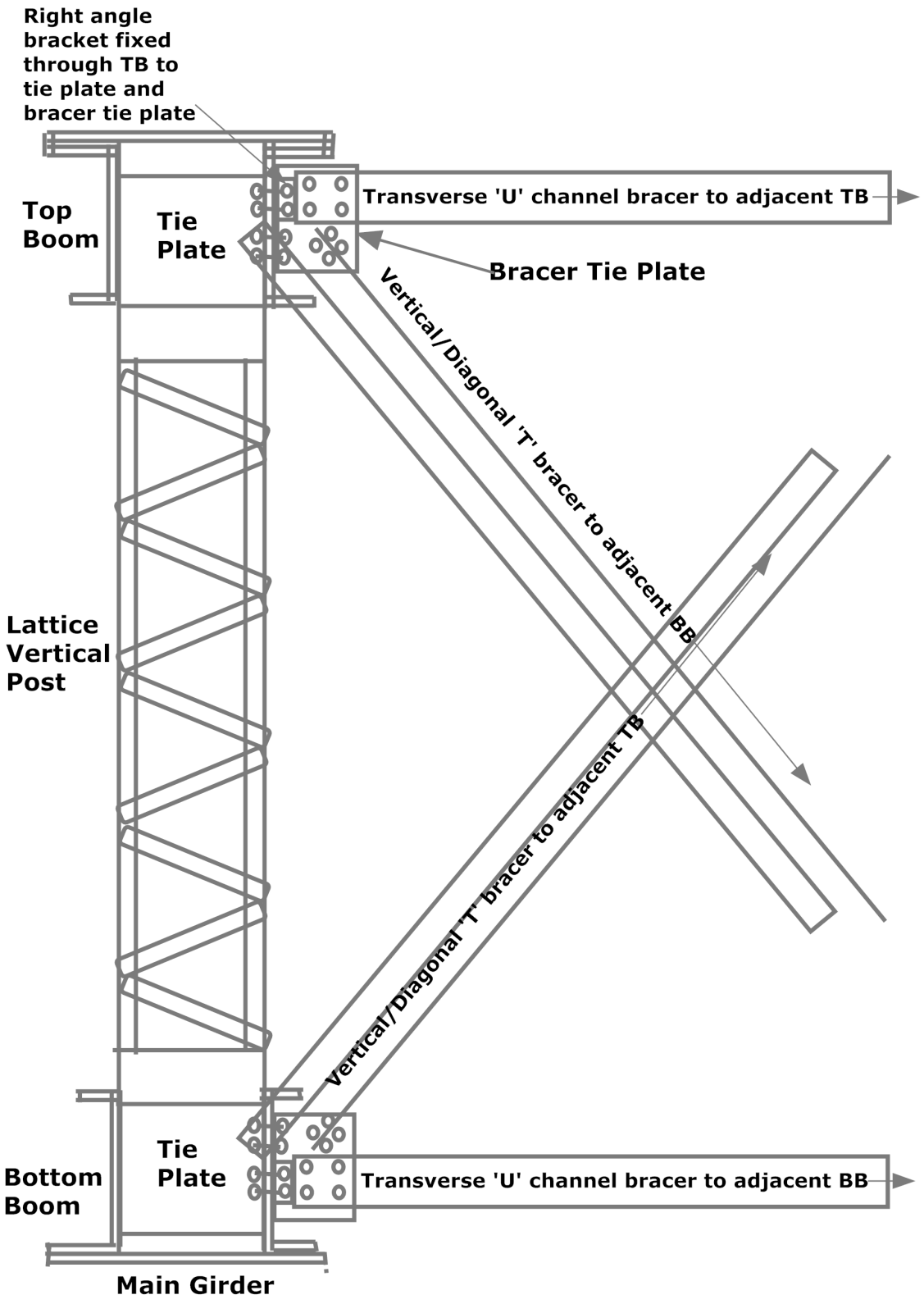


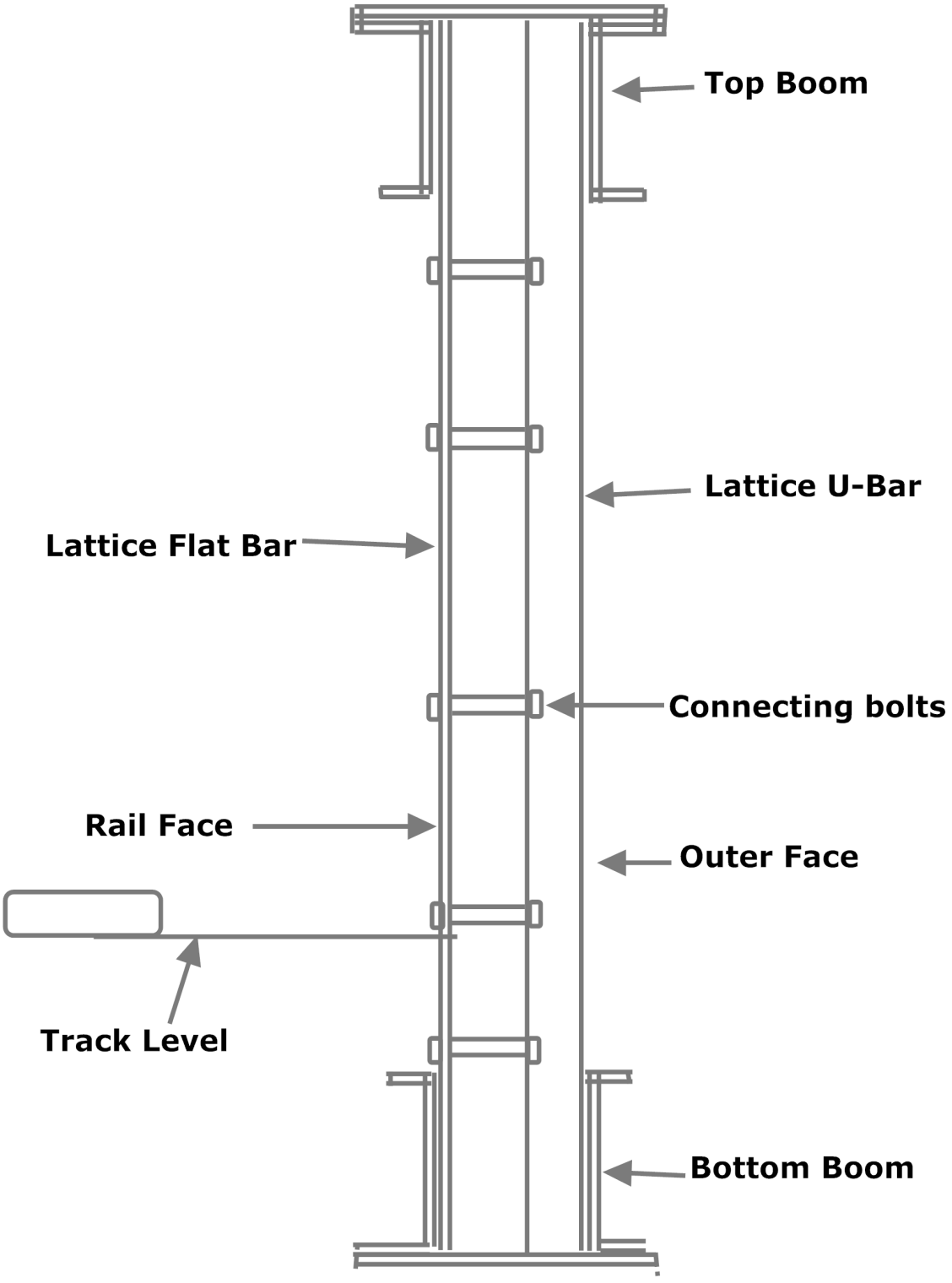

## Site Sketch

## Section of MG and Bracer Connection – Redacted




**SKETCH No. 1**

## Section Through Parapets




**SKETCH No. 2**

P1 - Downside elevation from LM - 17/04/11

P2 - Upside elevation from LM - 17/04/11

**P3 - Top from LM side - 17/04/11**

**P4 - Underside from LM side - 17/04/11**

P5 - MGE1-TB upside-Thin/lamin at LM - 20/04/11

P6 - MGE1-TB upside-Thin/lamin at VP5 - 20/04/11

P7 - MGE1-TB upside-Thin/lamin at VP5 - 20/04/11

P8 - MGE1-TB upside-Thin/lamin at VP10 - 20/04/11

**P9 - MGE1-TB upside-Thin/lamin between VP20&21 - 20/04/11**

**P10 - MGE1-BB upside-Heavy covering of bird dirt - 20/04/11**

P11 - MGE1-VP-Typical LOP & corrosion - 20/04/11

P12 - MGE1-EP-Thin/lamination at downside top - 20/04/11

**P13 - MGE1-EP-Thin/lamination at downside bottom - 20/04/11**

**P14 - MGI1-TB upside-Thin/lamin at LM - 20/04/11**

P15 - MGI2 - Top flange at HM downside end - LOS & KE - 20/04/11

P16 - MGI2 - HM end downside top flange- 2 rivets missing - 20/04/11


**P17 - MGI2 - Loose and sheared rivets at tie plate - 20/04/11**

**P18 - MGI3 - LM downside top flange - Corrosion&thinning - 20/04/11**

P19 - MGI4-TB upside-Thin to KE at LM - 19/04/11

P20 - MGI4-TB upside-LOS at LM - 19/04/11

P21 - MGI4-TB upside-LOS at LM - 19/04/11

P22 - MGI4-TB-Typical RJ to stiffener plates - 19/04/11

**P23 - MGI4-Typical corrosion to WD - 19/04/11**

**P24 - MGI4-HM EP-Thin/lamination at top middle - 19/04/11**

**P25 - MGI5-TB downside-Thin/lamin/LOS at LM - 18/04/11**

**P26 - MGI5-TB downside-Thin/lamin at HM - 21/04/11**

**P27 - MGI5-TB downside-RJ&lamin at joins to trough deck - 18/04/11**

**P28 - MGI5-TB-Typical RJ to stiffener plates - 18/04/11**

**P29 - MGI5-BB-Soot covered bottom flange at LM - 21/04/11**

**P30 - MGE2-BB-Lamin & thin to bot flange at HM end - 24/04/11**

P31 - MGI5-TB-Tie plate-Missing rivet at LM upside - 18/04/11

P32 - MGI5-TB-Tie plate-Loose rivet at HM upside - 18/04/11

**P33 - MGI5-TB-Tie plate-Loose bolt at HM upside - 18/04/11**

**P34 - MGI5-TB-Tie plate-Loose bolts at LM upside - 18/04/11**

P35 - MGI5-VP-Typical LOP & corrosion - 18/04/11

P36 - MGI5-HM EP-Thin/lamination at top - 21/04/11

P37 - MGI6-TB downside-Thin/lamin at LM - 17/04/11

P38 - MGI6-TB downside-Thin/lamin at LM - 17/04/11

P39 - MGI6-TB downside-Thin/lamin at HM - 19/04/11

P40 - MGI6-TB downside-RJ&lamin at joins to trough deck - 17/04/11

**P41 - MGI6-TB-Tie plate-Sheared rivet at LM upside - 19/04/11**

**P42 - MGI6-TB-Tie plate-Sheared rivets at HM downside - 19/04/11**

P43 - MGI6-TB-Tie plate-Sprung plate at HM upside - 19/04/11

P44 - MGI6-HM EP-Thin/lamination at top - 19/04/11

P45 - MGE2-TB downside-LOS at LM - 17/04/11

P46 - MGE2-TB upside-Typical lamin at LM- 17/04/11

P47 - MGE2-TB downside-Thin/lamin at HM - 18/04/11

P48 - MGE2-TB downside-RJ&lamin at joins to trough deck - 17/04/11

P49 - MGE2-BB-Debris in interal trough - 18/04/11

P50 - MGE2-BB-Typical corrosion to BB at HM end - 22/04/11

P51 - MGE2-BB-LOS at LM upside flange toe - 17/04/11

P52 - MGE2-BB-Lamination to inner stiffener - 17/04/11

P53 - MGE2-BB-Lamination to outer stiffener - 22/04/11

P54 - MGE2-BB-Lamin & RJ to bot flange at HM end - 22/04/11

P55 - MGE2-LM EP-Thin/LOS at upside bottom - 17/04/11

P56 - MGE2-LM EP-Thin/LOS at downside bottom - 17/04/11

P57 - MGE2-LM EP-Thin/LOS at downside top - 17/04/11

P58 - MGE2-LM EP-Thinning to inside face - 17/04/11

P59 - MGE2-HM EP-Thin/lamination at top - 18/04/11

P60 - BRG-Typical corrosion to lower bracers - 18/04/11

**P61 - BRG-Typical corrosion to transverse bracers - 18/04/11**

**P62 - BRG-Sheared rivets at transverse bracer at MGI7 - 20/04/11**

**P63 - BRG-Sheared rivets at bracer tie plate at MGI7 - 20/04/11**

**P64 - DCK1-Deck on steel blocks over MGE1 - 20/04/11**

**P65 - DCK1-General view of Deck 1 - 20/04/11**

**P66 - DCK3-General view of Deck 3 - 19/04/11**

**P67 - DCK3-Support beam at VP18 - 19/04/11**

**P68 - DCK5-General view of Deck 5 - 19/04/11**

P69 - DCK6-Thinning to trough ends - 17/04/11

P70 - DCK9-Typical lamination to deck ends - 17/04/11

**P71 - DCK9-General view of Deck 9 - 17/04/11**

**P72 - ES1-View of columns and box girders - 17/04/11**

**P73 - ES1-COL1-Spalling to upside rear - 20/04/11**

**P74 - ES1-COL1-Thinning to KE of exposed steel - 20/04/11**

**P75 - ES1-COL2-LOS to exposed steel at upside- 20/04/11**

**P76 - ES1-COL3-Spalling due to fire damage at HM - 20/04/11**

P77 - ES1-COL5-Spalling at HM downside - 20/04/11

P78 - ES1-PCL1-Typical lamination to bitumen coating - 17/04/11

P79 - ES1-PCL1-Thinning to KE over Column 1 - 20/04/11

P80 - ES1-PCL1-Wood stacked behind Girders 2&3 - 20/04/11

P81 - ES1-PCL1-Fire damage to Girder 3 downside - 20/04/11

P82 - ES1-Fire damage to column, girder & bearing - 20/04/11

P83 - ES1-PCL1-Lamination to Girder 4 upside - 17/04/11

P84 - ES1-PCL1-LOS to web stiff Girder 4 HM up - 20/04/11

P85 - ES1-PCL1-LOS to web stiff Girder 4 LM up - 20/04/11

P86 - IS1-COL-General view of pier - 22/04/11

P87 - IS1-COL2-Typical open joints - 22/04/11

P88 - IS1-COL-General view of COL4- 22/04/11

P89 - IS1-PCL1-Typical corrosion to top flange - 22/04/11

P90 - IS1-PCL1-Typical lamination to bitumen coating - 26/04/11

P91 - IS1-PCL1-Thin/lamin to top flange at HM down - 26/04/11

P92 - IS1-PCL1-Thin/lamin to web stiff at HM up - 22/04/11

P93 - IS1-PCL1-LOS to 2nd web stiff at HM up - 22/04/11

P94 - IS1-PCL1-LOS to 3rd&4th web stiff at HM up - 22/04/11

P95 - IS1-PCL1-LOS to 5th web stiff at HM up - 22/04/11

P96 - IS1-PCL1-Thin/lamin to web at HM up - 22/04/11

**P97 - DK1-PPT1-Elevation facing LM - 06/03/11**

**P98 - DK1-PPT1-Debris in bottom channel - 06/03/11**

P99 - DK1-PPT1-Typical lamination to lattice - 06/03/11

P100 - DK1-PPT2-Elevation facing HM - 06/03/11

P101 - DK1-PPT2-Bolt missing at 17m from LM - 06/03/11

P102 - DK1-PPT2-Bolt missing at 10m from LM - 06/03/11

P103 - DK1-PPT2-Typical lamination to lattice - 06/03/11

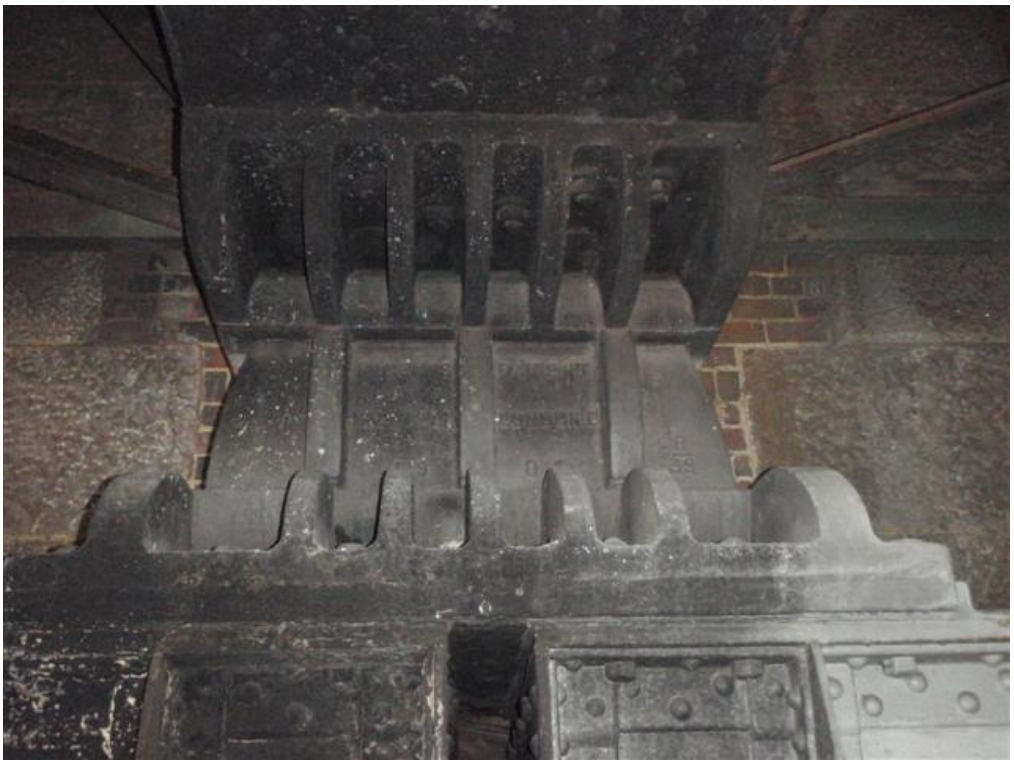
P104 - DK1-PPT2-Typical lamination to bottom boom - 18/04/11

**P105 - Walkway Downside-Typical corrosion to steel deck - 21/04/11**

**P106 - Walkway Upside-Rotting timber at LM side - 17/04/11**

**P107 - Cantilever Downside-Typical corrosion - 21/04/11**

**P108 - Cantilever Upside-Typical lamin & LOS - 17/04/11**



P109 - DK1-BGL1-Fire damage to bearing under MGI5 - 20/04/11

P110 - DK1-BGL1-Corrosion to bearing under MGE1 - 20/04/11

**P111 - DK1-BGL2-Corrosion to bearing under MGI7 - 26/04/11**

**P112 - Gutter-Typical corrosion - 20/04/11**

P113 - Walkway Handrail -Missing section at middle - 20/04/11

P114 - Walkway 2-Fire damage at VP15 at MGl2 - 20/04/11

P115 - Walkway 9-Fire damage at LM end - 17/04/11

P116 - Track-Elevation facing Upside - 06/03/11

# NETWORK RAIL SCMI EXAMINATION REPORT FORM - BRIDGES

**Amey**

| Territory | ELR | Structure No | Start Mileage | Group | Type | RAR ID | Structure Name | Exam Date | Task Year | Exam Type | Examiners Name | Weather |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TSCO | WCM2 | 031/082A | 102.0088 | BB | BBU | | New Clyde Bridge | 29/04/2011 | 10_11 | D | Redact | Fair |

| Major Element | | Minor Element | | | Metal / Masonry / Concrete / Timber | | Coated Metal / Cracked Masonry | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| Code | No | Code | No | Material | S/Ex 1 | S/Ex 2 | S/Ex 1 | S/Ex 2 | V | Note: This free text area of the report should be used extensively and can be enlarged as necessary. |
| ES | 1 | COL | 1 | B | D3 | C3 | A1 | A1 | | |
| ES | 1 | COL | 2 | B | D3 | A1 | A1 | A1 | | |
| ES | 1 | COL | 3 | B | D3 | A1 | A1 | A1 | | |
| ES | 1 | COL | 4 | B | A1 | A1 | A1 | A1 | | |
| ES | 1 | COL | 5 | B | D3 | A1 | G7 | A1 | | |
| ES | 1 | PCL | 1 | M | F3 | D3 | L3 | K3 | | |
| DK | 1 | MGE | 1 | M | E3 | D3 | L5 | K5 | | |
| DK | 1 | MGI | 1 | M | E3 | D3 | L5 | K5 | | |
| DK | 1 | MGI | 2 | M | F3 | D3 | L5 | K5 | | |
| DK | 1 | MGI | 3 | M | D3 | C3 | L5 | K5 | | |
| DK | 1 | MGI | 4 | M | F3 | E3 | L5 | K5 | | |
| DK | 1 | MGI | 5 | M | F3 | E3 | L5 | K5 | | |
| DK | 1 | MGI | 6 | M | E3 | D3 | L5 | K5 | | |
| DK | 1 | MGI | 7 | M | D3 | C3 | L5 | K5 | | |
| DK | 1 | MGI | 8 | M | D3 | C3 | L5 | K5 | | |
| DK | 1 | MGE | 2 | M | F3 | E3 | L5 | K5 | | |
| DK | 1 | DCK | 1 | M | C3 | B3 | L3 | K3 | | |
| DK | 1 | DCK | 2 | M | D3 | C3 | L3 | K3 | | |
| DK | 1 | DCK | 3 | M | D3 | C3 | L3 | K3 | | |
| DK | 1 | DCK | 4 | M | C3 | B3 | L3 | K3 | | |
| DK | 1 | DCK | 5 | M | C3 | B3 | L3 | K3 | | |
| DK | 1 | DCK | 6 | M | D3 | C3 | L3 | K3 | | |
| DK | 1 | DCK | 7 | M | C3 | B3 | L3 | K3 | | |
| DK | 1 | DCK | 8 | M | D3 | C3 | L3 | K3 | | |
| DK | 1 | DCK | 9 | M | D3 | C3 | L3 | K3 | | |
| DK | 1 | BRG | 1 | M | C3 | B3 | L3 | K3 | | |
| DK | 1 | BRG | 2 | M | C3 | B3 | L3 | K3 | | |
| DK | 1 | BRG | 3 | M | C3 | B3 | L3 | K3 | | |
| DK | 1 | BRG | 4 | M | C3 | B3 | L3 | K3 | | |
| DK | 1 | BRG | 5 | M | C3 | B3 | L3 | K3 | | |

# NETWORK RAIL SCMI EXAMINATION REPORT FORM - BRIDGES

| Major Element | | | |
|---|---|---|---|
| **Code** | **No** | **Material** | **Span No** |
| ES | 1 | B | 1 |
| DK | 1 | M | 1 |
| IS | 1 | B | 1 |
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# Sketch 1 - Plan

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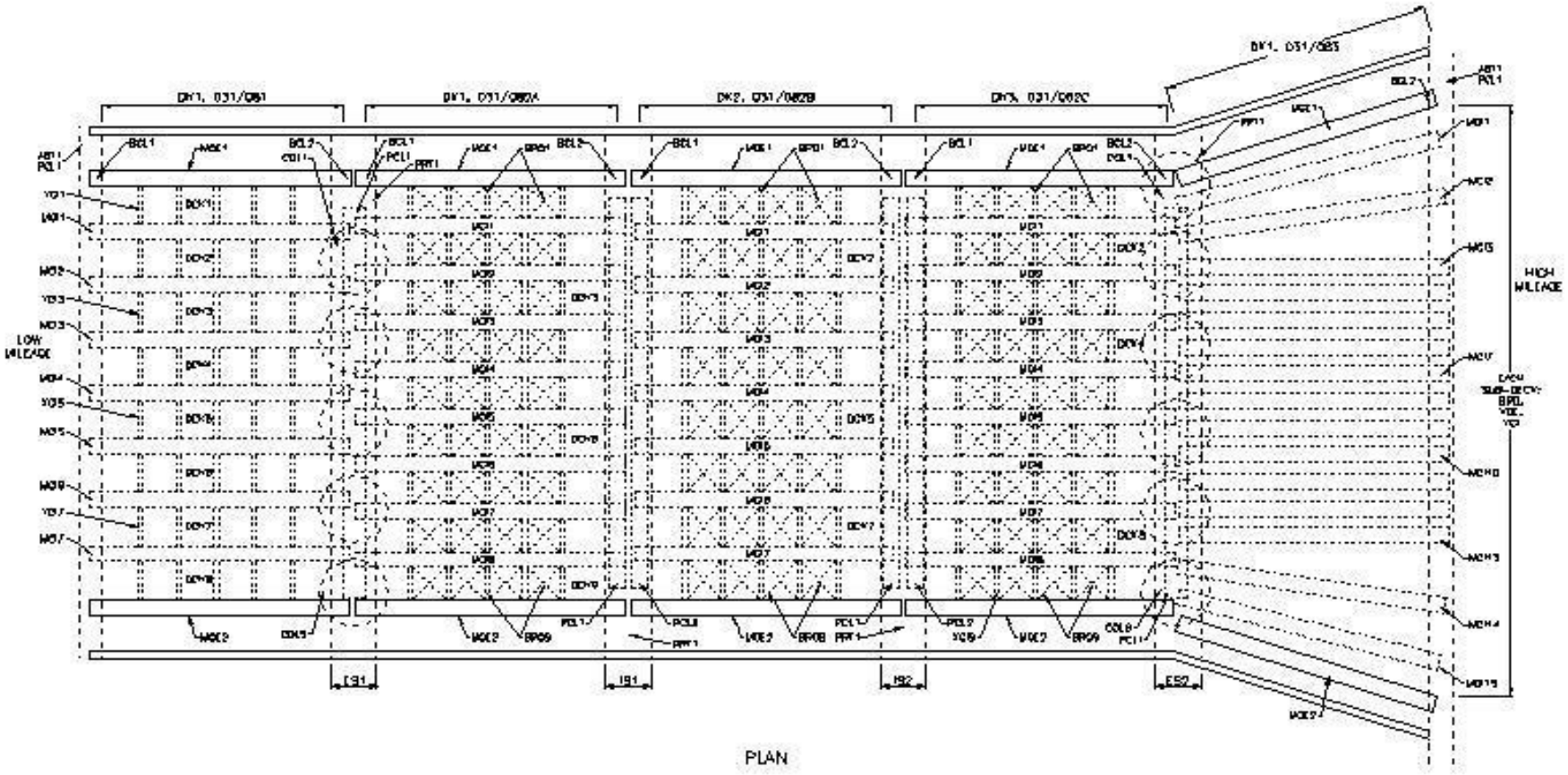
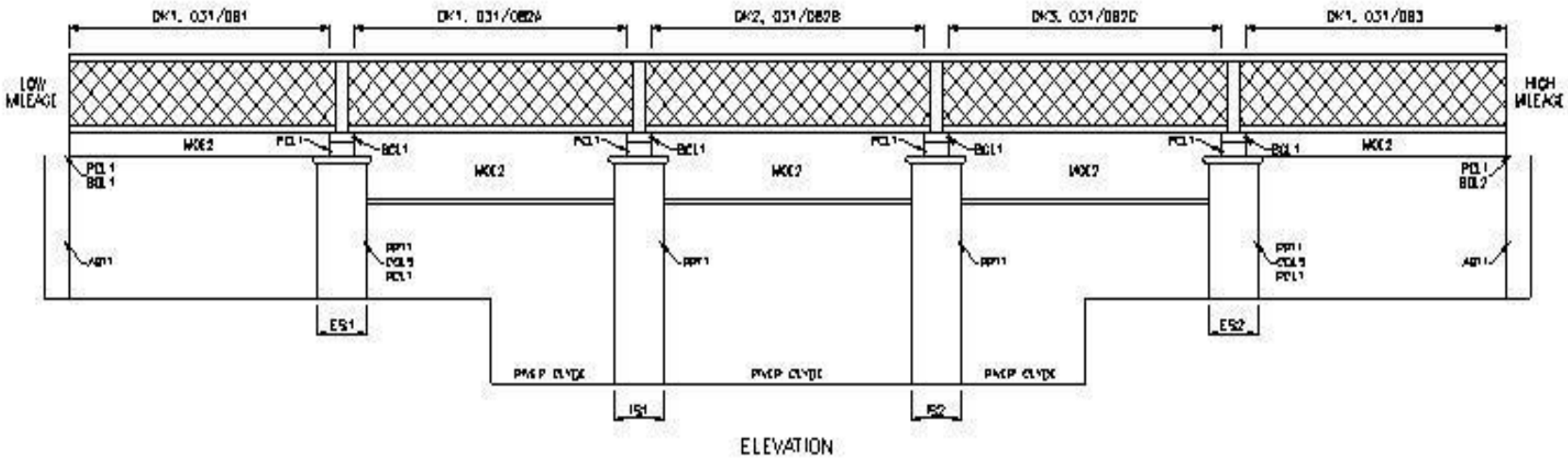


# Sketch 2 - Elevation

Amey



# Sketch 3 - Section

Amey