Gateshead Viaduct Principal Inspection 2023

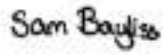
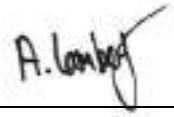
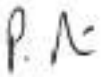
Principal Inspection

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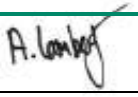
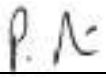
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1. Introduction

AECOM were commissioned by Gateshead Council to carry out a Principal Inspection of Gateshead Viaduct. The structure carries the A167 (Gateshead Highway) dual carriageway north to south, over two roundabout junctions with the A184 (Park Lane) and the B1426 (Sunderland Road) in Gateshead, Tyne and Wear, at Grid Reference NZ 258 630.

A series of inspections were undertaken on the structure between November 2023 to January 2024. The external underside surfaces were inspected from the carriageway, in a series of road closures using MEWPS, scaffolding and ladders to gain access to the soffit. The external areas of the topside were inspected from foot within lane closures. The internal voids were inspected using a remote controlled vehicle with 360 degree cameras controlled from ground level, and a 360 degree camera mounted pole for the topside access hatches.

2. Historical Information

The structure was originally constructed circa 1969.

Multiple defect drawings are available from a previous Principal Inspection undertaken by Bullen Consultants, dated April 2004. Defect schedules are available showing the external soffit and internal void plans as well as pier elevations and abutment plan/sections.

A large number of archive General Arrangement and Details Drawings are available for the structure which include; Post-tensioning strand profiles for the voids and crossheads, anchorage block layouts, elevations and sections showing void geometry and reinforcement details for the main superstructure and piers. There are additionally a set of plans outlining the original drainage system throughout the structure.

An asbestos survey was undertaken by Lucion Environmental dated 2014/2015.

3. Description of Structure

3.1 General Description

The Gateshead Viaduct is a 27 span bridge, 954m in length (including approach ramps), providing an elevated highway through Gateshead town centre. The structure spans in an approximate north-south direction. The road carried is the A167 Gateshead Highway Upper Level.

A General Arrangement drawing for the structure can be found in Appendix A.

3.2 Substructure

The abutments are of cellular RC construction and are founded upon RC pad foundations. The return walls are of RC cantilever construction and founded on strip foundations that run parallel to the road. The intermediate supporting piers are of RC construction on RC spread footings.

3.3 Superstructure

The width of the main deck varies from a minimum of 19.5m to a maximum of 38.0m. The north approach and intermediate ramps are 8.5m and 6.7m wide respectively.

The main structural form is a post-tensioned reinforced concrete (RC) torsionally stiff multi-cellular box with a soffit which slopes up to the sides to a relatively thin edge. The structure is post-tensioned transversely at the diaphragms at the supports. The structure is divided by two reinforced elastomeric expansion joints (“Transflex”) into three units: the 12 straight spans from the southern abutment to the first expansion joint; the 6 spans of the intermediate junction, plus 2 ramp spans on each side, between the two expansion joints; and the 6 spans of the northern junction plus 3 ramp spans, from the second expansion joint to the abutments of the northern ramps.

The northern ramps are triangular hollow post-tensioned RC boxes supported by a single bearing on the top of each column. The intermediate ramps are supported in a similar way and have a similar construction type.

The parapet to the deck edges is a three-rail steel P2 parapet with 3.0m post centres.

The deck edges/parapet upstands are finished with non–structural pre-cast RC fascia panels.

3.4 Carriageway Surfacing

The road comprises a dual carriageway each approximately 7.3m wide; a central reserve minimum 1.8m wide and a verge 1.5m wide situated on each edge of the viaduct. The permitted traffic speed on both the upper and lower highways is 40 mph.

3.5 Drainage System

The drainage system comprises PVC piping which is present in the outermost voids of every span and the centre voids between span 4 to span 27 which are fed by surface water drains at the edges of the carriageway. There are drainage outlets built into the piers at the expansion joints at Pier 9, Pier 15 and the abutments, which allow for egress into the ground network. The pier drains all have PVC hopper connections to allow for movement.

3.6 Services

The structure originally contained a heated deck system housed within the central void below the central reservation. There are a number of service ducts running throughout the centre void, many of which contain cables for street lights located within the access hatches. It is unclear if any services remain from the now redundant deck heating system.

4. Structure Location Plan

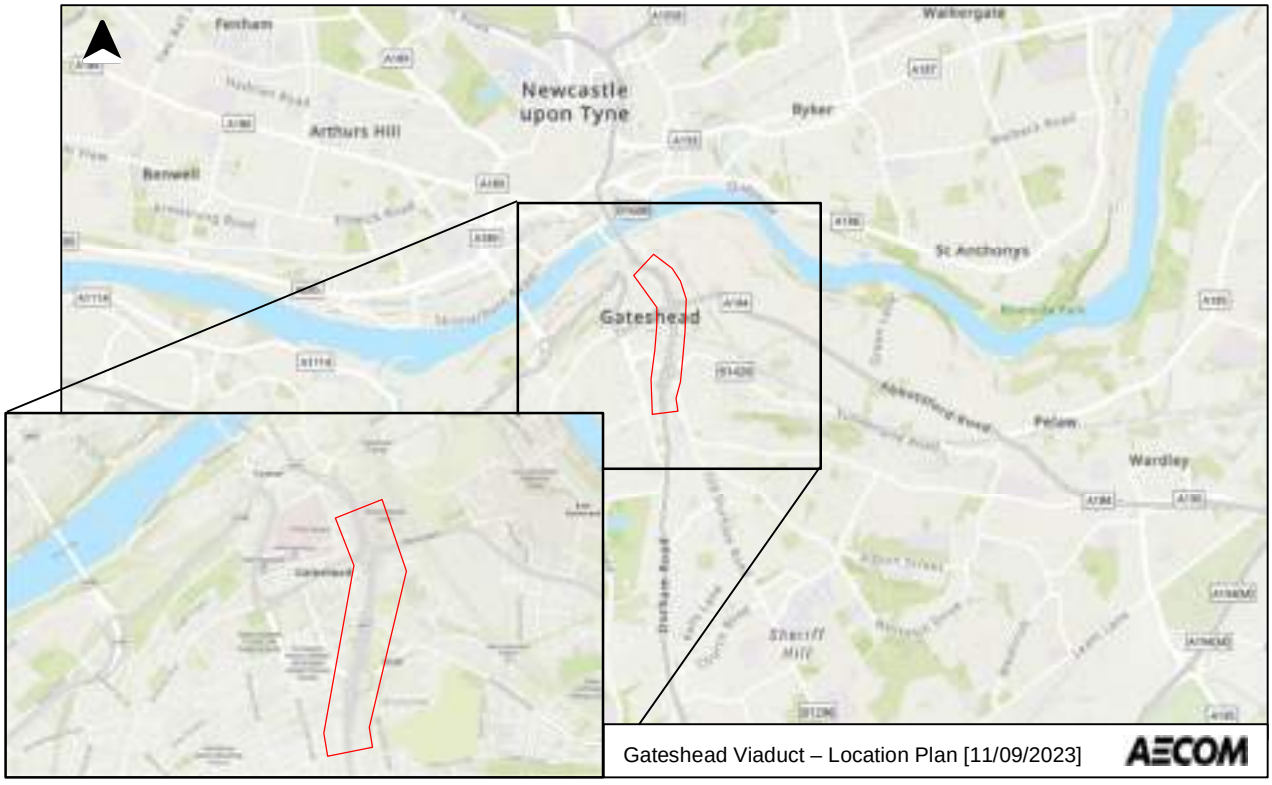


Figure 1: Location Plan

5. Findings of Inspection

5.1 General

Photographs taken during the Principal Inspection are contained in Section 5 of this report and are referenced in text in brackets, thus (x). For precise locations of defects please refer to the Defect Drawings in Appendix B.

For the purpose of this report the structure is assumed to be spanning in a north-south direction.

The voids within the deck on each span have been named A – K as per the archive information. The names of the deck voids can be found on the general arrangement drawing 60713768-ACM-XX-DR-CE-000002.

The access hatches and manholes on each span are named after the deck void they are associated with and then numbered 1 or 2 with 1 always being the northerly most. The location and types of access hatch/manhole can be found on the general arrangement drawing 60713768-ACM-XX-DR-CE-000002.

The cross section of the main body of the viaduct (i.e. Spans 4 – 27) varies throughout from an 18.7m wide, 5no. deck void section to a 36m wide, 11 deck void cross section. The 5 centre deck voids (Deck Voids A – C) are consistent throughout Spans 4-27. Any part of the cross section other then the consistent centre section (i.e. the on/off ramps and associated transitions) have been referred to as either the east or west ramps.

Only the concrete caps of the transverse post tensioning anchorage blocks are visible on the soffit of the structure and the general arrangement of these elements vary throughout the structure. The naming convention used for recording defects to these anchorage block concrete caps can be found in Appendix D.

Whilst carrying out the inspection AECOM experienced so much delaminated concrete which was subsequently removed from the bridge during the inspection, that it was hindering the inspection and would likely have prevented the completion of the inspection to programme. As such AECOM contacted the Council to request that a minor works team be sent out to remove the delaminated concrete to allow the inspection to proceed, which was agreed by the Council. As such, any such areas of delaminated concrete which AECOM recommend that the Council remove is highlighted blue in the text of the report and on the drawings.

5.2 Substructure

5.2.1 Abutments

5.2.1.1 North East Abutment (East Ramp)

5.2.1.1.1 West Wingwall

On the east ramp, north abutment west wingwall face, there is a 200mm by 2000mm area of delamination adjacent to the abutment face wall **(See North Abutment - East Ramp Defect; Photo 1)**

On the east ramp, north abutment west wingwall face, there is a 2000mm by 2000mm area of graffiti adjacent to the abutment face wall **(See North Abutment - East Ramp Defect; Photo 2)**

On the east ramp, north abutment west wingwall face, there is a 7500mm by 400mm area of delamination located 20m from the abutment face **(See North Abutment - East Ramp Defect; Photo 3)**

On the east ramp, north abutment west wingwall face, there is a 2000mm by 300mm area of spalling with exposed rebar located 20m from the abutment face **(See North Abutment - East Ramp Defect; Photo 4)**

On the east ramp, north abutment west wingwall face, there is a 500mm by 150mm area of delamination located 17.5m from the abutment face **(See North Abutment - East Ramp Defect; Photo 5)**

On the east ramp, north abutment west wingwall face, there is a 400mm by 400mm area of delamination located 15m from the abutment face **(See North Abutment - East Ramp Defect; Photo 6)**

On the east ramp, north abutment west wingwall face, there is a 700mm by 400mm area of delamination located 15m from the abutment face **(See North Abutment - East Ramp Defect; Photo 7)**

On the east ramp, north abutment west wingwall face, there is a 3000mm by 300mm area of spalling with exposed rebar located 12.5m from the abutment face **(See North Abutment - East Ramp Defect; Photo 8)**

On the east ramp, north abutment west wingwall face, there is a 3000mm by 400mm area of 50mm spalling with exposed rebar and delamination located 10.0m from the abutment face **(See North Abutment - East Ramp Defect; Photo 9)**

On the east ramp, north abutment west approach wall precast facia panels, there is a 100mm by full height area of full depth spalling with exposed rebar to isolated panel edges throughout the wingwall **(See North Abutment - East Ramp Defect; Photo 10)**

On the east ramp, north abutment west wingwall precast facia panels, there is a bottom quarter of a facia panel is missing located 50m from the abutment face **(See North Abutment - East Ramp Defect; Photo 11)**

On the east ramp, north abutment west wingwall, there are isolated edges and bottom corners of the facia panels missing sporadically throughout the wingwall **(See North Abutment - East Ramp Defect; Photo 12 - Photo 14)**

On the east ramp, north abutment west wingwall precast facia panels, there is a bottom half of a facia panel is missing adjacent to the abutment face **(See North Abutment - East Ramp Defect; Photo 15)**

5.2.1.1.2 East Wingwall

On the east ramp, north abutment east approach wall precast facia panels, there is a 100mm long, 1mm wide vertical crack at the north end of the approach **(See North Abutment - East Ramp Defect; Photo 16)**

On the east ramp, north abutment east approach wall precast facia panels, minor algae staining throughout the east wingwall **(See North Abutment - East Ramp Defect; Photo 17)**

On the east ramp, north abutment east wingwall precast facia panels, there is a 2000mm by 500mm area of 30mm spalling with exposed rebar over 2No. facia panels located 70m from the abutment face **(See North Abutment - East Ramp Defect; Photo 18)**

On the east ramp, north abutment east wingwall precast facia panels, the edges of the facia panel are missing sporadically throughout **(See North Abutment - East Ramp Defect; Photo 19)**

On the east ramp, north abutment east approach wall precast facia panels, there are sporadic hollow sounding panels throughout the wing wall with areas of delamination up to 1500mm by 500mm area of delamination **(See North Abutment - East Ramp Defect; Photo 19)**

On the east ramp, north abutment east wingwall precast facia panels, several isolated bottom halves of the facia panels are missing sporadically throughout the span **(See North Abutment - East Ramp Defect; Photo 20)**

On the east ramp, north abutment east wingwall face, there is a 1000mm by 400mm area of delamination located 40m from the abutment face **(See North Abutment - East Ramp Defect; Photo 21)**

On the east ramp, north abutment east wingwall face, there is a 1000mm by 400mm area of delamination located 35m from the abutment face **(See North Abutment - East Ramp Defect; Photo 22)**

On the east ramp, north abutment east wingwall face, there is a 700mm by 300mm area of delamination located 30m from the abutment face **(See North Abutment - East Ramp Defect; Photo 23)**

On the east ramp, north abutment east wingwall face, there is a 700mm by 400mm area of 50mm spalling with exposed rebar located 24m from the abutment face **(See North Abutment - East Ramp Defect; Photo 24)**

On the east ramp, north abutment east wingwall face, there is a 700mm by 400mm area of delamination located 24m from the abutment face **(See North Abutment - East Ramp Defect; Photo 25)**

On the east ramp, north abutment east wingwall face, there is a 15000mm by 500mm area of delamination located 10m from the abutment face **(See North Abutment - East Ramp Defect; Photo 26)**

On the east ramp, north abutment east wingwall face, there is a 7500mm by 500mm area of graffiti located 15m from the abutment face **(See North Abutment - East Ramp Defect; Photo 27)**

On the east ramp, north abutment east wingwall face, there is a 5000mm by 1000mm area of graffiti located 3m from the abutment face **(See North Abutment - East Ramp Defect; Photo 28)**

On the east ramp, north abutment east wingwall face, there is missing sealant in a construction over a height of 200mm located 7m from the abutment face **(See North Abutment - East Ramp Defect; Photo 29)**

On the east ramp, north abutment east wingwall face, there is a 4000mm by 1500mm area of delamination located 7m from the abutment face **(See North Abutment - East Ramp Defect; Photo 30)**

On the east ramp, north abutment east wingwall face, there is a 3000mm by 1500mm area of delamination located 2m from the abutment face **(See North Abutment - East Ramp Defect; Photo 31)**

5.2.1.1.3 Abutment Face

On the east ramp, north abutment face, there is graffiti throughout the abutment surface **(See North Abutment - East Ramp Defect; Photo 32)**

On the east ramp, north abutment face, there is water egress with sediment from the service door **(See North Abutment - East Ramp Defect; Photo 33)**

On the east ramp, north abutment face, there is a 100mm by 2000mm area of delamination on the left hand edge of the abutment **(See North Abutment - East Ramp Defect; Photo 34 - Delamination)**

North Abutment East Ramp General Photographs



North Abutment - East Ramp General; Photo 1 – West Wingwall Looking North



North Abutment - East Ramp General; Photo 2 – East Wingwall Looking North



North Abutment - East Ramp General; Photo 3 – Abutment Face

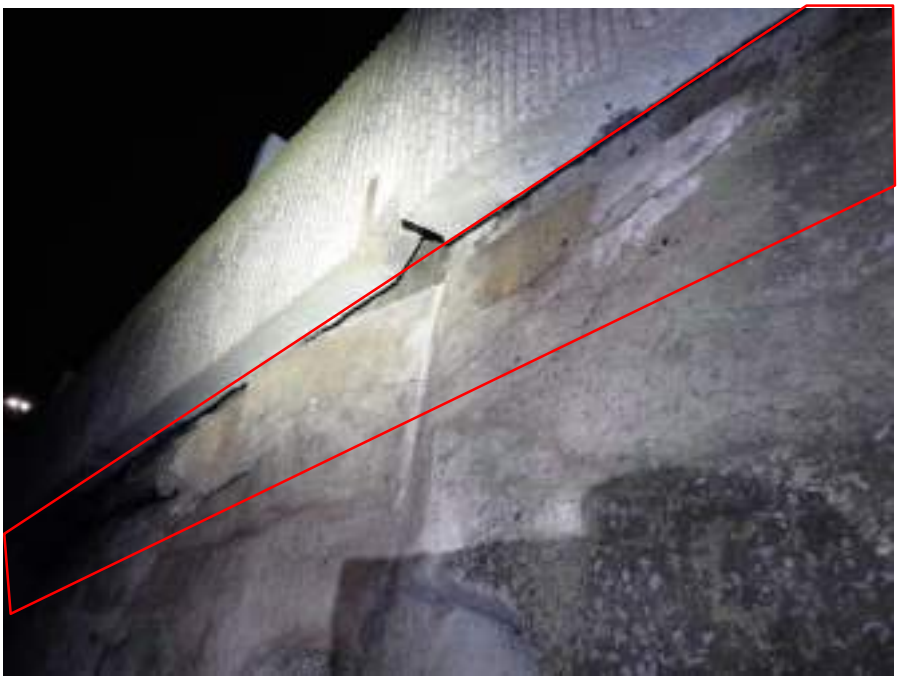
North Abutment East Ramp Defect Photogrpahs



North Abutment - East Ramp Defect; Photo 1 - Delamination



North Abutment - East Ramp Defect; Photo 2 – Graffiti



North Abutment - East Ramp Defect; Photo 3 - Delamination



North Abutment - East Ramp Defect; Photo 4 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 5 - Delamination



North Abutment - East Ramp Defect; Photo 6 - Delamination



North Abutment - East Ramp Defect; Photo 7 - Delamination



North Abutment - East Ramp Defect; Photo 8 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 9 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 10 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 11 - Spalling



North Abutment - East Ramp Defect; Photo 12 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 13 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 14 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 15 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 16 - Vertical Crack



North Abutment - East Ramp Defect; Photo 17 - Vegetation Growth



North Abutment - East Ramp Defect; Photo 18 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 19 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 20 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 21 - Delamination



North Abutment - East Ramp Defect; Photo 22 - Delamination



North Abutment - East Ramp Defect; Photo 23 - Delamination



North Abutment - East Ramp Defect; Photo 24 - Spalling With Exposed Rebar



North Abutment - East Ramp Defect; Photo 25 - Delamination



North Abutment - East Ramp Defect; Photo 26 - Delamination



North Abutment - East Ramp Defect; Photo 27 - Graffiti



North Abutment - East Ramp Defect; Photo 28 - Graffiti



North Abutment - East Ramp Defect; Photo 29 - Missing Sealant



North Abutment - East Ramp Defect; Photo 30 - Delamination



North Abutment - East Ramp Defect; Photo 31 - Delamination



North Abutment - East Ramp Defect; Photo 32 - Graffiti



North Abutment - East Ramp Defect; Photo 33 - Water Egress



North Abutment - East Ramp Defect; Photo 34 - Delamination

5.2.1.2 North West Abutment (West Ramp)

5.2.1.2.1 West Wingwall Face

On the west ramp, north abutment west approach wall facia panels, there are 6No. isolated areas of spalling up to 4mm deep over 50mm by 100mm to a facia panel located 66m from the abutment face **(See North Abutment - West Ramp Defect; Photo 1)**

On the west ramp, north abutment west approach wall facia panels, there is a 50mm by 150mm area of 40mm spalling with exposed rebar located 63.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 2)**

On the west ramp, north abutment west wingwall face, there is a 100mm by 100mm area of 5mm spalling with exposed rebar located 56.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 3)**

On the west ramp, north abutment west approach wall facia panels, there is a 200mm by 200mm area of rust staining located 56.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 4)**

On the west ramp, north abutment west approach wall facia panels, there is a 50mm by 100mm area of 1mm spalling with exposed rebar located 56.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 5)**

On the west ramp, north abutment west approach wall facia panels, there is a 700mm by 500mm area of 5mm spalling with exposed rebar located 51.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 6)**

On the west ramp, north abutment west approach wall facia panels, there are 2No. 50mm by 200mm areas of 6mm spalling with exposed rebar located 51.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 7)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 50mm by 50mm area of 50mm spalling with exposed rebar located 49.5m from the abutment face**(See North Abutment - West Ramp Defect; Photo 8)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 250mm by 250mm, 1mm wide diagonal crack located 40.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 9)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 50 by 50mm area of 30mm spalling located 37.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 10)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 300mm by 300mm, 1mm wide diagonal crack located 34.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 11)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 100mm by 100mm, Hairline diagonal crack located 34.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 12)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 800mm by 100mm area of full depth spalling located 22.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 13)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 100mm by 50mm area of delamination to the soffit of the panel located 21.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 14)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 100mm by 50mm, 1mm wide diagonal crack located 19.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 15)**

On the west ramp, north abutment west wingwall precast facia panels, there is a bottom right corner of the facia panel is missing located19.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 16)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 400mm, Hairline vertical crack located 19.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 17)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 300mm by 50mm, 2mm wide diagonal crack located 17.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 18)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 1500mm long, 3mm wide longitudinal crack located 13.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 19)**

On the west ramp, north abutment west wingwall precast facia panels, there is a bottom right corner of the facia panel is missing located 8.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 20)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 500mm by 100mm area of 100mm spalling to the base of the panel located 6.5m from the abutment face located **(See North Abutment - West Ramp Defect; Photo 21)**

On the west ramp, north abutment west wingwall precast facia panels, there is a 1500mm long, Hairline longitudinal crack on the soffit of the panel located 1.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 22)**

5.2.1.2.2 East Wingwall Face

On the west ramp, north abutment east wingwall face, there is a 100mm by 3000mm area of delamination adjacent to the abutment face **(See North Abutment - West Ramp Defect; Photo 23)**

On the west ramp, north abutment east wingwall face, there is a 500mm by 500mm area of drummyness located 3m from the abutment face **(See North Abutment - West Ramp Defect; Photo 24)**

On the west ramp, north abutment east wingwall face, there is a 700mm by 300mm area of delamination located 3m from the abutment face **(See North Abutment - West Ramp Defect; Photo 25)**

On the west ramp, north abutment east wingwall face, there is a 1000mm by 500mm area of 50mm spalling with exposed rebar located 4m from the abutment face **(See North Abutment - West Ramp Defect; Photo 26)**

On the west ramp, north abutment east wingwall face, there is sapling growth throughout the verge **(See North Abutment - West Ramp Defect; Photo 27)**

On the west ramp, north abutment east wingwall face, there is a 300mm by 300mm area of 40mm spalling with exposed rebar located 6m from the abutment face **(See North Abutment - West Ramp Defect; Photo 28)**

On the west ramp, north abutment east wingwall face, there is a 500mm by 200mm area of 20mm spalling located 10m from the abutment face **(See North Abutment - West Ramp Defect; Photo 29)**

On the west ramp, north abutment east wingwall face, there is minor vegetation vegetation growth of saplings over the verge located 12.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 30)**

On the west ramp, north abutment east wingwall face, there is a 300mm by 300mm area of honeycombing located 20m from the abutment face **(See North Abutment - West Ramp Defect; Photo 31)**

On the west ramp, north abutment east wingwall face, there is a 1000mm by 300mm area of spalling with exposed rebar located 30.0m from the abutment face **(See North Abutment - West Ramp Defect; Photo 32)**

On the west ramp, north abutment east wingwall face, there is a 100mm by 100mm area of water egress located 35m from the abutment face **(See North Abutment - West Ramp Defect; Photo 33)**

On the west ramp, north abutment east wingwall face, there is a 800mm by 500mm area of water egress with leachate located 40m from the abutment face **(See North Abutment - West Ramp Defect; Photo 34)**

On the west ramp, north abutment east wingwall face, there is a 1000mm by 700mm area of drummyness located 45m from the abutment face **(See North Abutment - West Ramp Defect; Photo 35)**

On the west ramp, north abutment east approach wall face, there is a 1000mm by 300mm area of full depth spalling with exposed rebar located 47m from the abutment face **(See North Abutment - West Ramp Defect; Photo 36)**

On the west ramp, north abutment east wingwall face, there is a 1000mm by full height area of water egress located at the north end of the wingwall **(See North Abutment - West Ramp Defect; Photo 37)**

On the west ramp, north abutment east wingwall precast facia panels, there are sporadic missing edges of the facia panels throughout the wing wall **(See North Abutment - West Ramp Defect; Photo 38)**

On the west ramp, north abutment east wingwall precast facia panels, there is a 500mm by 500mm area of full depth spalling with exposed rebar located 45m from the abutment face, the spalling has undermined the parapet baseplate exposing the anchoring bolts **(See North Abutment - West Ramp Defect; Photo 39)**

On the west ramp, north abutment east wingwall precast facia panels, there is a bottom left corner of the facia panel is missing 40m from the abutment face **(See North Abutment - West Ramp Defect; Photo 40)**

On the west ramp, north abutment east wingwall precast facia panels, there is a bottom right corner of the facia panel is missing located 37.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 41)**

On the west ramp, north abutment east wingwall precast facia panels, there is a bottom quarter of the facia panel is missing 25m from the abutment face **(See North Abutment - West Ramp Defect; Photo 42)**

On the west ramp, north abutment east wingwall precast facia panels, there are sporadic bottom corners of the facia panels missing throughout a 15m length starting from 5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 43)**

On the west ramp, north abutment east wingwall precast facia panels, the bottom quarter of the facias panel are missing over a 4m length located 3.5m from the abutment face **(See North Abutment - West Ramp Defect; Photo 44)**

5.2.1.2.3 Abutment Face

On the North abutment face there is graffiti cover throughout the east half of the abutment face, and over up to 1m^2 of the west half of the face **(See North Abutment - West Ramp Defect; Photo 45)**

North Abutment West Ramp General Photographs



North Abutment - West Ramp General; Photo 1 – East Wingwall Looking North



North Abutment - West Ramp General; Photo 45 – West Wingwall Looking North



North Abutment - West Ramp General; Photo 3 – Abutment Face

North Abutment West Ramp Defect Photohraphs



North Abutment - West Ramp Defect; Photo 1 - 6no. Isolated Spalls Throughout Panel



North Abutment - West Ramp Defect; Photo 2 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 3 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 4 - Rust Staining



North Abutment - West Ramp Defect; Photo 5 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 6 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 7 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 8 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 9 - Diagonal Crack



North Abutment - West Ramp Defect; Photo 10 - Spalling



North Abutment - West Ramp Defect; Photo 11 - Diagonal Crack



North Abutment - West Ramp Defect; Photo 12 - Diagonal Crack



North Abutment - West Ramp Defect; Photo 13 - Spalling



North Abutment - West Ramp Defect; Photo 14 - Delamination



North Abutment - West Ramp Defect; Photo 15 - Diagonal Crack



North Abutment - West Ramp Defect; Photo 16 - Spalling



North Abutment - West Ramp Defect; Photo 17 - Vertical Crack



North Abutment - West Ramp Defect; Photo 18 - Diagonal Crack



North Abutment - West Ramp Defect; Photo 19 - Longitudinal Crack



North Abutment - West Ramp Defect; Photo 20 - Spalling



North Abutment - West Ramp Defect; Photo 21 - Spalling



North Abutment - West Ramp Defect; Photo 22 - Longitudinal Crack



North Abutment - West Ramp Defect; Photo 23 - Delamination



North Abutment - West Ramp Defect; Photo 24 - Drummyness



North Abutment - West Ramp Defect; Photo 25 - Delamination



North Abutment - West Ramp Defect; Photo 26 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 27 - Vegetation Growth



North Abutment - West Ramp Defect; Photo 28 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 29 - Spalling



North Abutment - West Ramp Defect; Photo 30 - Vegetation Growth



North Abutment - West Ramp Defect; Photo 31 - Honeycombing



North Abutment - West Ramp Defect; Photo 32 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 33 - Water Egress



North Abutment - West Ramp Defect; Photo 34 - Water Egress



North Abutment - West Ramp Defect; Photo 35 - Drummyness



North Abutment - West Ramp Defect; Photo 36 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 37 - Water Egress



North Abutment - West Ramp Defect; Photo 38 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 39 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 40 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 41 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 42- Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 43 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 44 - Spalling With Exposed Rebar



North Abutment - West Ramp Defect; Photo 44 - Spalling With Exposed Rebar

5.2.1.3 Centre East Abutment (East Ramp)

5.2.1.3.1 West Wingwall Face

On the east ramp, centre abutment west wingwall face, there is a 2000mm by 200mm area of drummyness located 2m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 1)**

On the east ramp, centre abutment west wingwall face, there is a 500mm by 500mm area of 20mm spalling located 7m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 2)**

On the east ramp, centre abutment west wingwall face, there is a 3000mm by 2000mm area of drummyness located 15m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 3)**

On the east ramp, centre abutment west wingwall face, there is a 500mm by 500mm area of 30mm spalling with exposed rebar located 17.5m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 4)**

On the east ramp, centre abutment west wingwall face, there is a 3000mm by 500mm area of drummyness located 20m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 5)**

On the east ramp, centre abutment west wingwall precast facia panels, there is a bottom right corner of the facia panel is missing 20m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 6)**

On the east ramp, centre abutment west wingwall precast facia panels, there is a bottom right corner of the facia panel is missing 24m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 7)**

On the east ramp, centre abutment west wingwall precast facia panels, there is a bottom left corner of the facia panel is missing 30m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 8)**

On the east ramp, centre abutment west wingwall face, there is a 1000mm by 500mm area of drummyness located 34m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 9)**

On the east ramp, centre abutment west wingwall precast facia panels, there is a left edge of the facia panel is missing 40m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 10)**

5.2.1.3.2 East Wingwall Face

On the east ramp, centre abutment east wingwall face, there are sporadic areas of graffiti throughout the surface **(See Centre Abutment - East Ramp Defects; Photo 11)**

On the east ramp, centre abutment east wingwall face, there is a 50mm by 800mm area of 20mm spalling with exposed rebar located 9m from the face of the abutment **(See Centre Abutment - East Ramp Defects; Photo 12)**

On the east ramp, centre abutment east wingwall face, there is a 100mm by full height area of honeycombing located at a construction joint 9m from the face of the abutment **(See Centre Abutment - East Ramp Defects; Photo 13)**

On the east ramp, centre abutment east wingwall precast facia panels, there is a bottom left corner of the facia panel is missing 13m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 14)**

On the east ramp, centre abutment east wingwall precast facia panels, there is a bottom right corner of the facia panel is missing 15m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 15)**

On the east ramp, centre abutment east wingwall precast facia panels, there is a bottom quarter of the facia panel is missing 21m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 16)**

On the east ramp, centre abutment east wingwall precast facia panels, there is a bottom left corner of the facia panel is missing 23m from the abutment face **(See Centre Abutment - East Ramp Defects; Photo 17)**

5.2.1.3.3 Abutment Face

On the east ramp, centre abutment face, there is a 1500mm by 500mm area of 50mm spalling with exposed rebar at ground level on the right hand side of the abutment **(See Centre Abutment - East Ramp Defects; Photo 18)**

On the east ramp, centre abutment face, there are 2No. areas of 30mm spalling with exposed rebar 100mm by 200mm and 100mm by 100mm located 1m above ground level at the right hand side of the abutment **(See Centre Abutment – East Ramp Defects; Photo 19)**

There is graffiti throughout the east ramp centre abutment face **(See Centre Abutment - East Ramp Defects; Photo 20)**

On the east ramp, centre abutment face, there is a 2000mm by 500mm area of 30mm spalling located at ground level 2m from the left hand edge of the face **(See Centre Abutment - East Ramp Defects; Photo 21)**

On the east ramp, centre abutment face, there is a 100mm by 50mm area of 30mm spalling with exposed rebar at the left hand side of the element 3m above ground level **(See Centre Abutment - East Ramp Defects; Photo 24)**

Centre Abutment East Ramp General Photographs



Centre Abutment - East Ramp General; Photo 1 – West Wingwall Looking North



Centre Abutment - East Ramp General; Photo 2 – East Wingwall Looing South



Centre Abutment - East Ramp General; Photo 3 – Abutment Face

Centre Abutment East Ramp Defect Photographs



Centre Abutment - East Ramp Defects; Photo 1 - Drummyness



Centre Abutment - East Ramp Defects; Photo 2 - Spalling



Centre Abutment - East Ramp Defects; Photo 3 - Drummyness



Centre Abutment - East Ramp Defects; Photo 4 - Spalling With Exposed Rebar



Centre Abutment - East Ramp Defects; Photo 5 - Drummyness



Centre Abutment - East Ramp Defects; Photo 6 - Spalling



Centre Abutment - East Ramp Defects; Photo 7 - Spalling



Centre Abutment - East Ramp Defects; Photo 8 - Spalling



Centre Abutment - East Ramp Defects; Photo 9 - Drummyness



Centre Abutment - East Ramp Defects; Photo 10 - Spalling With Exposed Rebar



Centre Abutment - East Ramp Defects; Photo 11 - Graffiti



Centre Abutment - East Ramp Defects; Photo 12 - Spalling With Exposed Rebar



Centre Abutment - East Ramp Defects; Photo 13 - Honeycombing



Centre Abutment - East Ramp Defects; Photo 14 - Spalling



Centre Abutment - East Ramp Defects; Photo 15 - Spalling



Centre Abutment - East Ramp Defects; Photo 16 - Spalling With Exposed Rebar



Centre Abutment - East Ramp Defects; Photo 17 - Spalling



Centre Abutment - East Ramp Defects; Photo 18 - Spalling With Exposed Rebar



Centre Abutment - East Ramp Defects; Photo 19 - Spalling With Exposed Rebar



Centre Abutment - East Ramp Defects; Photo 20 - Graffiti



Centre Abutment - East Ramp Defects; Photo 21 - Spalling



Centre Abutment - East Ramp Defects; Photo 24 - Spalling With Exposed Rebar

5.2.1.4 Centre West Abutment

5.2.1.4.1 West Wingwall Face

On the west ramp, centre abutment west wingwall face, there is a 150mm by 150mm area of 50mm spalling with exposed rebar adjacent to the abutment face **(See Centre Abutment - West Ramp Defects; Photo 1)**

On the west ramp, centre abutment west wingwall face, there is a 100mm by 100mm area of 30mm spalling with exposed rebar located 3m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 2)**

On the west ramp, centre abutment west wingwall face, there is a there is sporadic areas of graffiti present throughout the span **(See Centre Abutment - West Ramp Defects; Photo 3)**

On the west ramp, centre abutment west wingwall precast facia panels, to the internal face there is a 1000mm by 100mm area of 50mm spalling with exposed rebar located 15m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 4)**

On the west ramp, centre abutment west wingwall precast facia panels, there is a 150mm by 500mm area of 50mm spalling with exposed rebar located 16m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 5)**

On the west ramp, centre abutment west wingwall precast facia panels, there is a bottom left corner of the facia panel is missing 18m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 6)**

On the west ramp, centre abutment west wingwall precast facia panels, there is a bottom left corner of the facia panel missing 22m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 7)**

On the west ramp, centre abutment west wingwall precast facia panels, there is a bottom left corner of the facia panel missing 31m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 8)**

On the west ramp, centre abutment west wingwall precast facia panels, there is a bottom left corner of the facia panel missing located 35m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 9)**

On the west ramp, centre abutment west wingwall precast facia panels, there is a bottom quarter of the facia panel missing located 37m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 10)**

5.2.1.4.2 East Wingwall Face

On the west ramp, centre abutment east wingwall face, there is a 300mm by 300mm area of 30mm spalling located 37m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 11)**

On the west ramp, centre abutment east wingwall face, there is a 1000mm by 1000mm area of drummyness located 35m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 12)**

On the west ramp, centre abutment east wingwall face, there is a 1000mm by 500mm area of drummyness located 33m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 13)**

On the west ramp, centre abutment east wingwall face, there is a 500mm by 500mm area of 20mm spalling located 29m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 14)**

On the west ramp, centre abutment east wingwall face, there is a 300mm by 100mm area of 20mm spalling located 28m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 15)**

On the west ramp, centre abutment east wingwall face, there is a 300mm by 300mm area of 20mm spalling located 25.5m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 16)**

On the west ramp, centre abutment east wingwall face, there is a 1000mm by 200mm area of 20mm spalling located 25.5m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 17)**

On the west ramp, centre abutment east wingwall face, there is a 150mm by 150mm area of 20mm spalling located 24m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 18)**

On the west ramp, centre abutment east wingwall face, there is a 1000mm by 1000mm area of drummyness located 24m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 19)**

On the west ramp, centre abutment east wingwall face, there is a 300mm by 300mm area of 20mm spalling located 23m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 20)**

On the west ramp, centre abutment east wingwall precast facia panels, there is a bottom right corner of the facia panel is missing 2m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 21)**

On the west ramp, centre abutment east wingwall precast facia panels, there is a bottom right corner of the facia panel is missing 11m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 22)**

On the west ramp, centre abutment east wingwall precast facia panels, there is a bottom right corner of the facia panel is missing 14m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 23)**

On the west ramp, centre abutment east wingwall precast facia panels, there is a bottom quarter of the facia panel is missing 21m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 24)**

On the west ramp, centre abutment east wingwall precast facia panels, there is a bottom left corner of the facia panel is missing 22.5m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 25)**

On the west ramp, centre abutment east wingwall precast facia panels, there is a bottom right corner of the facia panel is missing 28m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 26)**

On the west ramp, centre abutment east wingwall precast facia panels, there are 2No 200mm by 50mm areas of full depth spalling with exposed rebar located 32m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 27)**

On the west ramp, centre abutment east wingwall precast facia panels, both bottom corners of the facia panel are delaminated with hairline cracking around the edges 35m from the abutment face **(See Centre Abutment - West Ramp Defects; Photo 28)**

5.2.1.4.3 Abutment Face

On the west ramp, centre abutment face, there is a 150mm by 150mm area of 30mm spalling with exposed rebar located at the right hand side of the abutment, 2m above ground level **(See Centre Abutment - West Ramp Defects; Photo 29)**

On the west ramp, centre abutment face, there is a 150mm by 100mm area of 30mm spalling with exposed rebar located 5m from the left hand edge of the abutment and 0.5m above ground level **(See Centre Abutment - West Ramp Defects; Photo 30)**

On the west ramp, centre abutment face, there is a 500mm by 300mm area of 30mm spalling located 4m from the left hand edge of the abutment and at the bottom of the abutment **(See Centre Abutment - West Ramp Defects; Photo 31)**

On the west ramp, centre abutment face, there is a 1000mm by 2000mm area of honeycombing located 2m from the left hand edge of the element and 2m above ground level **(See Centre Abutment - West Ramp Defects; Photo 32)**

On the west ramp, centre abutment face, there is a 3000mm by full height area of graffiti at the right hand edge of the abutment face **(See Centre Abutment - West Ramp Defects; Photo 34)**

Centre Abutment – West Ramp General Photographs



Centre Abutment - West Ramp General; Photo 1 – West Wingwall Looking North



Centre Abutment - West Ramp General; Photo 2 – Abutment Face

Centre Abutment – West Ramp Defect Photographs



Centre Abutment - West Ramp Defects; Photo 1 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 2 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 3 - Graffiti



Centre Abutment - West Ramp Defects; Photo 4 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 5 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 6 - Spalling



Centre Abutment - West Ramp Defects; Photo 7 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 8 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 9 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 10 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 11 - Spalling



Centre Abutment - West Ramp Defects; Photo 12 - Drummyness



Centre Abutment - West Ramp Defects; Photo 13 - Drummyness



Centre Abutment - West Ramp Defects; Photo 14 - Spalling



Centre Abutment - West Ramp Defects; Photo 15 - Spalling



Centre Abutment - West Ramp Defects; Photo 16 - Spalling



Centre Abutment - West Ramp Defects; Photo 17 - Spalling



Centre Abutment - West Ramp Defects; Photo 18 - Spalling



Centre Abutment - West Ramp Defects; Photo 19 - Drummyness



Centre Abutment - West Ramp Defects; Photo 20 - Spalling



Centre Abutment - West Ramp Defects; Photo 21 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 22 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 23 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 24 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 25 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 26 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 27 – Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 28 – Delamination with Hairline Cracking



Centre Abutment - West Ramp Defects; Photo 29 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 30 - Spalling With Exposed Rebar



Centre Abutment - West Ramp Defects; Photo 31 - Spalling



Centre Abutment - West Ramp Defects; Photo 32 - Honeycombing



Centre Abutment - West Ramp Defects; Photo 33 - Graffiti

5.2.1.5 South Abutment

5.2.1.5.1 West Wingwall Face

On the south abutment, west wingwall face, there is vegetation growth partially obscuring several parts of the surface throughout the length of the wingwall **(See South Abutment Defects; Photo 1)**

South abutment west wingwall precast facia panels, there is a 100mm by 50mm area of 50mm spalling with exposed rebar on the internal face of the panel located 107.5m from the abutment face **(See South Abutment Defects; Photo 2)**

On the south abutment, west wingwall precast facia panels, there is a 300mm long, 2mm wide longitudinal crack located 109.5m from the abutment face **(See South Abutment Defects; Photo 3)**

On the south abutment, west wingwall precast facia panels, there is a 50mm by 100mm, hairline diagonal crack located 64m from the abutment face over the soffit and external face **(See South Abutment Defects; Photo 4)**

On the south abutment, west wingwall precast facia panels, there is a 300mm by 300mm area of 30mm spalling with exposed rebar located 61m from the abutment face **(See South Abutment Defects; Photo 5)**

On the south abutment, west wingwall precast facia panels, there is a 300mm long, 1mm wide longitudinal crack located 60m from the abutment face **(See South Abutment Defects; Photo 6)**

On the south abutment, west wingwall precast facia panels, there is a 400mm long, 1mm wide longitudinal crack located 59.5m from the abutment face **(See South Abutment Defects; Photo 7)**

On the south abutment, west wingwall precast facia panels, there is a 400mm long, 2mm wide vertical crack located 59.5m from the abutment face **(See South Abutment Defects; Photo 8)** 355

On the south abutment, west wingwall precast facia panels, there is a 250mm by 250mm, 1mm wide diagonal crack located 59.5m from the abutment face **(See South Abutment Defects; Photo 9)**

On the south abutment, west wingwall precast facia panels, there is a 300mm by 300mm, 2mm wide diagonal crack located 57m from the abutment face **(See South Abutment Defects; Photo 10)**

On the south abutment, west wingwall precast facia panels, there is a 500mm by 50mm area of 50mm spalling with exposed rebar located 44.5m from the abutment **(See South Abutment Defects; Photo 11)**

On the south abutment, west wingwall precast facia panels, there is a 300mm by 300mm, 1mm wide diagonal crack located 43m from the abutment face **(See South Abutment Defects; Photo 12)**

On the south abutment, west wingwall precast facia panels, there is a 80mm by 100mm, 2mm wide diagonal crack located 41.5m from the abutment face **(See South Abutment Defects; Photo 13)**

On the south abutment, west wingwall precast facia panels, there is a 150mm, 2mm wide longitudinal crack located 40m from the abutment face **(See South Abutment Defects; Photo 14)**

On the south abutment, west wingwall precast facia panels, there is a 200mm by 50mm, 2mm wide diagonal crack located 38.5m from the abutment face **(See South Abutment Defects; Photo 15)**

On the south abutment, west wingwall precast facia panels, there is a 200mm long, 1mm wide longitudinal crack located 38m from the abutment face **(See South Abutment Defects; Photo 16)**

On the south abutment, west wingwall precast facia panels, there are several 500mm long, hairline longitudinal cracks located 39m from the abutment face **(See South Abutment Defects; Photo 17)**

On the south abutment, west wingwall precast facia panels, there is a 200mm, 1mm wide vertical crack located 34m from the abutment face **(See South Abutment Defects; Photo 18)**

On the south abutment, west wingwall precast facia panels, there is a 300mm long, 1mm wide vertical crack to the elevation and soffit of the panel located 32.5m from the abutment face **(See South Abutment Defects; Photo 19)**

On the south abutment, west wingwall precast facia panels, there is a 500mm by 300mm, up to 4mm wide diagonal crack on the soffit and elevation of the panel located 29.5m from the abutment face **(See South Abutment Defects; Photo 20)**

On the south abutment, west wingwall precast facia panels, there is a length of 24m from the face of the abutment of which up to 20% of the length has intermittent longitudinal cacking present which is open 1mm over the bases the facia panels longitudinal crack **(See South Abutment Defects; Photo 21)**

On the south abutment, west wingwall precast facia panels, there is a 150mm by 100mm area of full depth spalling with exposed rebar located 5.5m from the face of the abutment **(See South Abutment Defects; Photo 22)**

On the south abutment, west wingwall face, there is a 500mm by 1500mm area of 30mm spalling with exposed rebar adjacent to the abutment face **(See South Abutment Defects; Photo 23)**

5.2.1.5.2 East Wingwall Face

On the south abutment, east wingwall face, there is a 5000mm long, 1mm wide vertical crack emanating from a weep pipe located 26m from the abutment face **(See South Abutment Defects; Photo 24)**

On the south abutment, east wingwall face, there is a 5000mm long, 1mm wide vertical crack with leachate emanating from a weep pipe located 20m from the abutment face. The weep pipe is also blocked **(See South Abutment Defects; Photo 25)**

On the south abutment, east wingwall face, there is a 5000mm by 2000mm area of graffiti located 15m from the abutment face **(See South Abutment Defects; Photo 26)**

On the south abutment, east wingwall face, there is a 10000mm by 2000mm area of graffiti located 30m from the abutment face **(See South Abutment Defects; Photo 27)**

On the south abutment, east wingwall face, there is a 300mm by 500mm area of water egress located 36m from the abutment face **(See South Abutment Defects; Photo 28**)

On the south abutment, east wingwall face, there is a 5000mm long, 1mm wide vertical crack located 38m from the abutment face **(See South Abutment Defects; Photo 29)**

On the south abutment, east wingwall face, there is a 1000mm by 100mm area of water egress located 40m from the abutment face **(See South Abutment Defects; Photo 30)**

On the south abutment, east wingwall face, 3000mm length of cracked joint sealant located 56m from the abutment face **(See South Abutment Defects; Photo 31)**

On the south abutment, east wingwall face, there is a 2000mm by 1000mm area of drummyness located 58m from the abutment face **(See South Abutment Defects; Photo 32)**

On the south abutment, east wingwall face, there is a 1500mm by 500mm area of drummyness located 60m from the abutment face **(See South Abutment Defects; Photo 33)**

On the south abutment, east wingwall face, there is a 5000mm by 200mm area of 40mm spalling with exposed rebar located 105m from the abutment face **(See South Abutment Defects; Photo 34)**

The prohibition signage on the south abutment east wingwall face has been defaced with graffiti **(See South Abutment Defects; Photo 35)**

On the south abutment, east wingwall precast facia panels, there is a left edge of the facia panel is missing 110m from the abutment face **(See South Abutment Defects; Photo 36)**

On the south abutment, east wingwall precast facia panels, there is a bottom left corner of the facia panel is missing at the far south edge of the wingwall **(See South Abutment Defects; Photo 37)**

On the south abutment, east wingwall face, there is a 200mm by 200mm area of water egress with rust staining emanating from a construction below the facia panels located 5m from the abutment face **(See South Abutment Defects; Photo 38)**

On the south abutment, east wingwall face, there is a 150mm by 100mm area of 20mm spalling with exposed rebar located 10m from the abutment face **(See South Abutment Defects; Photo 39)**

5.2.1.5.3 Abutment Face

On the south abutment face, there is a 200mm by 200mm area of 30mm spalling with exposed rebar located at the right hand edge of the abutment 3m above ground level **(See South Abutment Defects; Photo 40)**

On the south abutment face, there is a 50mm by 50mm area of 30mm spalling with exposed rebar located 15m from the left hand edge of the abutment at ground level **(See South Abutment Defects; Photo 41)**

On the south abutment face, there are 2No. areas of 5mm spalling with exposed rebar present up to 30mm by 300mm area located 15m from the left hand edge of the abutment and 2m above ground level **(See South Abutment Defects; Photo 42)**

On the south abutment face, there is a 400mm by 400mm area of drummyness located 11.5m from the left hand edge of the abutment at ground level **(See South Abutment Defects; Photo 43)**

On the south abutment face, there are 2No. areas 5mm spalling with exposed rebar present up to 20mm by 500mm located 9m from the left hand edge of the abutment and 1.8m above ground level **(See South Abutment Defects; Photo 44)**

On the south abutment face, there is a 30mm by 30mm area of 5mm spalling with exposed rebar located 8.5m from the left hand edge of the element and 2m above ground level **(See South Abutment Defects; Photo 45)**

On the south abutment face, there are 2No.areas of 5mm spalling with exposed rebar present up to 30mm by 50mm located 7m from the left hand edge of the abutment and 2m above ground level **(See South Abutment Defects; Photo 46)**

On the south abutment face, there is a 200mm by 200mm area of delamination located 7m from the left hand edge of the abutment at ground level **(See South Abutment Defects; Photo 47)**

On the south abutment face, there is a 50mm by 200mm area of 5mm spalling with exposed rebar located 3m from the left hand edge of the abutment face and 1.5m above ground level **(See South Abutment Defects; Photo 48)**

On the south abutment face, there is a 50mm by 80mm area of 5mm spalling with exposed rebar located 2.5m from the left hand edge of the element and 1.5m above ground level**(See South Abutment Defects; Photo 49)**

On the south abutment face, there is a 100mm by 200mm area of 5mm spalling with exposed rebar located 2.5m from the left hand edge of the abutment face and 0.7m above ground level **(See South Abutment Defects; Photo 50)**

On the south abutment face, there is a 20mm by 20mm area of 5mm spalling with exposed rebar located 12.5m from the left hand edge of the abutment face and 2.5m above ground level **(See South Abutment Defects; Photo 51)**

On the south abutment face, there is a 100mm by 100mm area of 20mm spalling with exposed rebar located 2m from the left hand edge of the abutment at the top of the face **(See South Abutment Defects; Photo 52)**

On the south abutment face, there is a 1000mm by 500mm area of 50mm spalling with exposed rebar located 3m from the left hand edge of the abutment face and 3m above ground level **(See South Abutment Defects; Photo 53)**

South Abutment General Photographs



South Abutment General; Photo 1 – West Wingwall Looking South



South Abutment General; Photo 2 – East Wingwall Looking South West



South Abutment Defects; Photo 3 – Abutment Face



South Abutment General; Photo 4 – West Bearing



South Abutment General; Photo 5 – East Bearing

South Abutment Defect Photographs



South Abutment Defects; Photo 1 - Vegetation Growth



South Abutment Defects; Photo 2p - Spalling With Exposed Rebar



South Abutment Defects; Photo 3 - Longitudinal Crack



South Abutment Defects; Photo 4 - Diagonal Crack



South Abutment Defects; Photo 5 - Spalling With Exposed Rebar



South Abutment Defects; Photo 6 - Longitudinal Crack



South Abutment Defects; Photo 7 - Longitudinal Crack



South Abutment Defects; Photo 8 - Vertical Crack



South Abutment Defects; Photo 9 - Diagonal Crack



South Abutment Defects; Photo 10 - Diagonal Crack



South Abutment Defects; Photo 11 - Spalling With Exposed Rebar



South Abutment Defects; Photo 12 - Diagonal Crack



South Abutment Defects; Photo 13 - Diagonal Crack



South Abutment Defects; Photo 14 - Longitudinal Crack



South Abutment Defects; Photo 15 - Diagonal Crack



South Abutment Defects; Photo 16 - Longitudinal Crack



South Abutment Defects; Photo 17 - Longitudinal Crack



South Abutment Defects; Photo 18 - Vertical Crack



South Abutment Defects; Photo 19 - Vertical Crack



South Abutment Defects; Photo 20 - Diagonal Crack



South Abutment Defects; Photo 21 – Typical Longitudinal Crack



South Abutment Defects; Photo 22 - Spalling With Exposed Rebar



South Abutment Defects; Photo 23 - Spalling With Exposed Rebar

East Wingwall



South Abutment Defects; Photo 24 - Vertical Crack



South Abutment Defects; Photo 25 - Vertical Crack



South Abutment Defects; Photo 26 - Graffiti



South Abutment Defects; Photo 27 - Graffiti



South Abutment Defects; Photo 28 - Water Egress



South Abutment Defects; Photo 29 - Vertical Crack



South Abutment Defects; Photo 30 - Water Egress



South Abutment Defects; Photo 31 - Cracked Joint Sealant



South Abutment Defects; Photo 32 - Drummyness



South Abutment Defects; Photo 33 - Drummyness



South Abutment Defects; Photo 34 - Spalling With Exposed Rebar



South Abutment Defects; Photo 35 – Defaced Signage



South Abutment Defects; Photo 36 - Spalling With Exposed Rebar



South Abutment Defects; Photo 37 - Spalling With Exposed Rebar



South Abutment Defects; Photo 38 - Water Egress



South Abutment Defects; Photo 39 - Spalling With Exposed Rebar



South Abutment Defects; Photo 40 - Spalling With Exposed Rebar



South Abutment Defects; Photo 41 - Spalling With Exposed Rebar



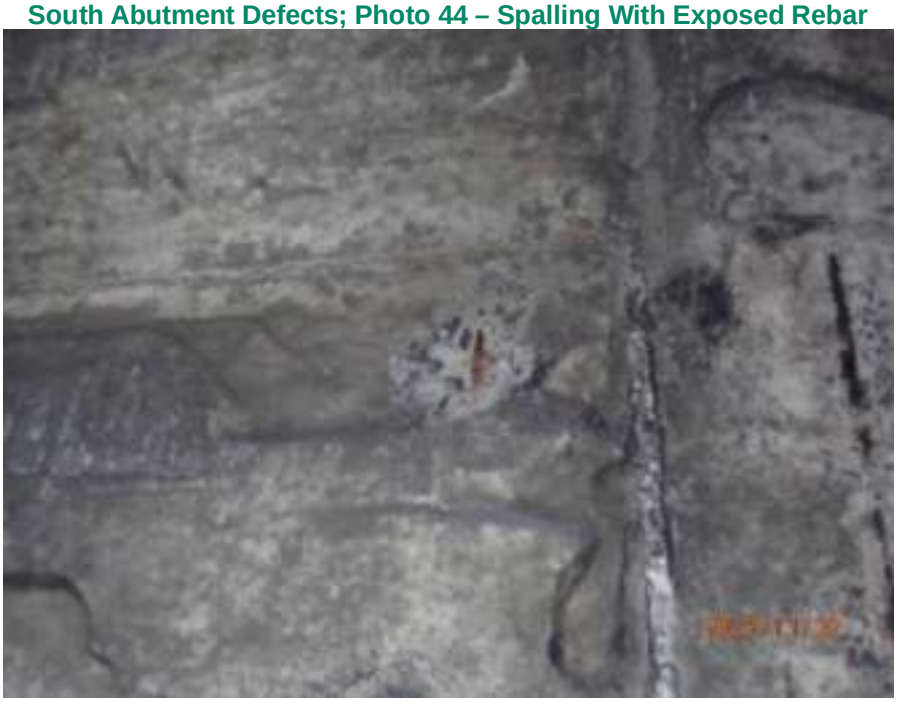
South Abutment Defects; Photo 42 - Spalling With Exposed Rebar



South Abutment Defects; Photo 43 - Drummyness



South Abutment Defects; Photo 44 – Spalling With Exposed Rebar



South Abutment Defects; Photo 45 - Spalling With Exposed Rebar



South Abutment Defects; Photo 46 - Spalling With Exposed Rebar



South Abutment Defects; Photo 47 - Delamination



South Abutment Defects; Photo 48 - Spalling With Exposed Rebar



South Abutment Defects; Photo 49 - Spalling With Exposed Rebar



South Abutment Defects; Photo 50 - Spalling With Exposed Rebar



South Abutment Defects; Photo 51 - Spalling With Exposed Rebar



South Abutment Defects; Photo 52 - Spalling With Exposed Rebar



South Abutment Defects; Photo 53 - Spalling With Exposed Rebar

5.2.2 Piers

General Comments:

- Throughout all piers the metallic bearings have signs of minor surface corrosion (up to 1mm pitting) to the exposed surfaces, general photographs showing this typical defect are included per span below.

5.2.2.1 Pier 1 East

On the north west face of the east pier of Pier 1 there is a 1000mm by 2000mm area of graffiti **(See Pier 1 East Defects; Photo 1)**

On the east face of the east pier of Pier 1 there is a 1000mm by 2500mm area of graffiti **(See Pier 1 East General; Photo 1)**

Pier 1 East General Photographs



Pier 1 East General; Photo 1 – East Elevation (Note Graffiti)



Pier 1 East General; Photo 2 – Bearing

Pier 1 East Defect Photographs



Pier 1 East Defects; Photo 1 - Graffiti

5.2.2.2 Pier 1 West

On the east face of the west pier of Pier 1 there is a 500mm by 500mm area of graffiti **(See Pier 1 West Defects; Photo 1)**

Pier 1 West General Photographs



Pier 1 West General; Photo 1 – South Elevation



Pier 1 West General; Photo 2 - Bearing

Pier 1 West Defect Photographs



Pier 1 West Defects; Photo 1 – Graffiti

5.2.2.3 Pier 2 East

On the north east face of the east pier of Pier 2 there is a 50mm by 100mm area of with visible metal ties **(See Pier 2 East Defects; Photo 1)**

Pier 2 East General Photographs



Pier 2 East General; Photo 1 – South Elevation



Pier 2 East General; Photo 2 - Bearing

Pier 2 East Defect Photographs



Pier 2 East Defects; Photo 1 - Rusting Metal Tie

5.2.2.4 Pier 2 West

On the east face of the west pier of Pier 2 there is a 500mm by 500mm area of drummyness with spalling at the base of the pier **(See Pier 2 West Defects; Photo 1)**

On the south east face of the west pier of Pier 2 there is a 500mm by 500mm area of drummyness at the base of the pier**(See Pier 2; Photo 7)**

Pier 2 West General Photographs



Pier 2 West General; Photo 1 – South Elevation



Pier 2 West General; Photo 2 - Bearing

Pier 2 West Defect Photographs



Pier 2 West Defects; Photo 1 - Drummyness



Pier 2 West Defects; Photo 2 – Drummyness

5.2.2.5 Pier 3 East

Pier 3 East General Photographs



Pier 3 East General; Photo 1 – South Elevation



Pier 3 East General; Photo 2 – Bearing

5.2.2.6 Pier 3 Centre

On the north west face of the east column of the centre pier of Pier 3 there is a 1000mm by 3000mm area of water staining with algae cover to 50% of the face. **(See Pier 3 Centre Defects; Photo 1-2)**

On the east face of the east column of the centre pier of Pier 3 there is a 500mm by 300mm area of delamination with spalling. **(See Pier 3 Centre Defects; Photo 3)**

On the south west face of the east column of the centre pier of Pier 3 there is a 200mm by 1500mm area of water egress which is coincidental with a 200x1500mm area of water egress on the south east face of the west column **(See Pier 3 Centre Defects; Photo 4)**

On the west face of the west column of the centre pier of Pier 3 there is a full width by full height area of water staining **(See Pier 3 Centre Defects; Photo 5)**

On the east face of the west column of the centre pier of Pier 3 there is a 1000mm by Full height area of water egress which appears to be emanating from a drainage hopper built into the top of the pier **(See Pier 3 Centre Defects; Photo 6)**

Pier 3 Centre General Photographs



Pier 3 Centre General; Photo 1 – South Elevation

Pier 3 Centre Defect Photographs



Pier 3 Centre Defects; Photo 1 - Water Staining with Algae



Pier 3 Centre Defects; Photo 2 - Water Staining with Algae



Pier 3 Centre Defects; Photo 3 -Delamination with Spalling



Pier 3 Centre Defects; Photo 4 - Water Egress



Pier 3; Photo 5 - Water Staining



Pier 3 Centre Defects; Photo 6 - Water Egress

5.2.2.7 Pier 3 West

On the south east face of the west pier of Pier 3 there is a 500mm by 400mm area of delamination at the base of the pier **(See Pier 3 West Defects; Photo 1)**

Pier 3 West General Photographs



Pier 3 West General; Photo 9 – South Elevation

Pier 3 West Defect Photographs



Pier 3; Photo 8 - Delamination

5.2.2.8 Pier 4 East

On the south east face of the east pier of Pier 4 there is a 20mm by 10mm area of 5mm spalling 0.5m above ground level**(See Pier 4 East Defects; Photo 1)**

On the east face of the east pier of Pier 4 there is a 50mm by 100mm area of 50mm spalling at the top of the pier **(See Pier 4 East Defects; Photo 2)**

Pier 4 East General Photographs



Pier 4 East General; Photo 1 – North Elevation

Pier 4 East Defect Photographs



Pier 4 East Defects; Photo 1 - Spalling



Pier 4; Photo 2 - Spalling

5.2.2.9 Pier 4 Centre

On the east face of the east column of the centre pier of Pier 4 there is a 100mm by 200mm area of 40mm spalling **(See Pier 4 Centre Defects; Photo 1)**

On the north east face of the east column of the centre pier of Pier 4 there is a 200mm by 200mm area of delamination **(See Pier 4 Centre Defects; Photo 2)**

On the north east face of the west column of the centre pier of Pier 4 there is a 200mm by 400mm area of delamination **(See Pier 4 Centre Defects; Photo 3)**

On the north west face of the west column of the centre pier of Pier 4 there is a 100mm by 400mm area of delamination **(See Pier 4 Centre Defects; Photo 4)**

On the west face of the west column of the centre pier of Pier 4 there is a 300mm by 200mm area of delamination **(See Pier 4 Centre Defects; Photo 5)**

On the north west face of the west column of the centre pier of Pier 4 there is a 400mm by 200mm area of delamination at the base of the pier with isolated spalling up to 30mm deep **(See Pier 4 Centre Defects; Photo 6)**

Pier 4 Centre General Photographs



Pier 4 Centre General; Photo 1 – North Elevation

Pier 4 Centre Defect Photographs



Pier 4 Centre Defects; Photo 1 - Spalling



Pier 4 Centre Defects; Photo 2 - Delamination



Pier 4 Centre Defects; Photo 3 - Delamination



Pier 4 Centre Defects; Photo 4 - Delamination



Pier 4 Centre Defects; Photo 5 - Delamination



Pier 4 Centre Defects; Photo 6 - Delamination

5.2.2.10 Pier 4 West

Pier 4 West General Photographs



Pier 4 West General; Photo 1 – East Elevation

5.2.2.11 Pier 5 East

Pier 5 East General Photographs



Pier 5 East General; Photo 1 – East Elevation



Pier 5 East General; Photo 2 - Bearing

5.2.2.12 Pier 5 Centre

On the north corner of the east column of the centre pier of Pier 5 there is a 400mm by 500mm area of 100mm spalling at the base of the pier **(See Pier 5 Centre Defects; Photo 1)**

On the north west face of the east column of the centre pier of Pier 5 there is a 400mm by 500mm area of delamination at the base of the pier **(See Pier 5 Centre Defects; Photo 2)**

On the south west face of the east column of the centre pier of Pier 5 there is a Full Width by 500mm area of drummyness at the base of the pier **(See Pier 5 Centre Defects; Photo 3)**

On the south corner of the east column of the centre pier of Pier 5 there is a 400mm by 500mm area of drummyness at the base of the pier **(See Pier 5 Centre Defects; Photo 4)**

On the south east corner of the east column of the centre pier of Pier 5 there is a 400mm by 500mm area of drummyness at the base of the pier **(See Pier 5 Centre Defects; Photo 5)**

On the east face of the east column of the centre pier of Pier 5 there is a full width by 300mm area of drummyness at the base of the pier **(See Pier 5 Centre Defects; Photo 6)**

On the north east corner of the east column of the centre pier of Pier 5 there is a 700mm by 500mm area of drummyness **(See Pier 5 Centre Defects; Photo 7)**

On the north corner of the west column of the centre pier of Pier 5 there is a 500mm, 1mm wide vertical crack at the base of the pier. The crack is to an area which has been previously repaired and is now drummy **(See Pier 5 Centre Defects; Photo 8)**

On the north west corner of the west column of the centre pier of Pier 5 there is a 400mm by 1000mm area of 100mm spalling at the base of the pier **(See Pier 5 Centre Defects; Photo 9)**

On the west face of the west column of the centre pier of Pier 5 there is a full width by 500mm area of drummyness at the base of the pier **(See Pier 5 Centre Defects; Photo 10)**

On the south west corner of the west column of the centre pier of Pier 5 there is a 400mm by 500mm area of drummyness over a previous repair at the base of the pier **(See Pier 5 Centre Defects; Photo 11)**

On the south corner of the west column of the centre pier of Pier 5 there is a 500mm by 700mm area of drummyness at the base of the pier over an area previously repaired **(See Pier 5 Centre Defects; Photo 12)**

Pier 5 Centre General Photographs



Pier 5 Centre General; Photo 1 – East Elevation



Pier 5 Centre General; Photo 1 - Bearings

Pier 5 Centre Defect Photographs



Pier 5 Centre Defects; Photo 1 - Spalling



Pier 5 Centre Defects; Photo 2 - Delamination



Pier 5 Centre Defects; Photo 3 - Drummyness



Pier 5 Centre Defects; Photo 4 - Drummyness



Pier 5 Centre Defects; Photo 5 - Drummyness



Pier 5 Centre Defects; Photo 6 - Drummyness



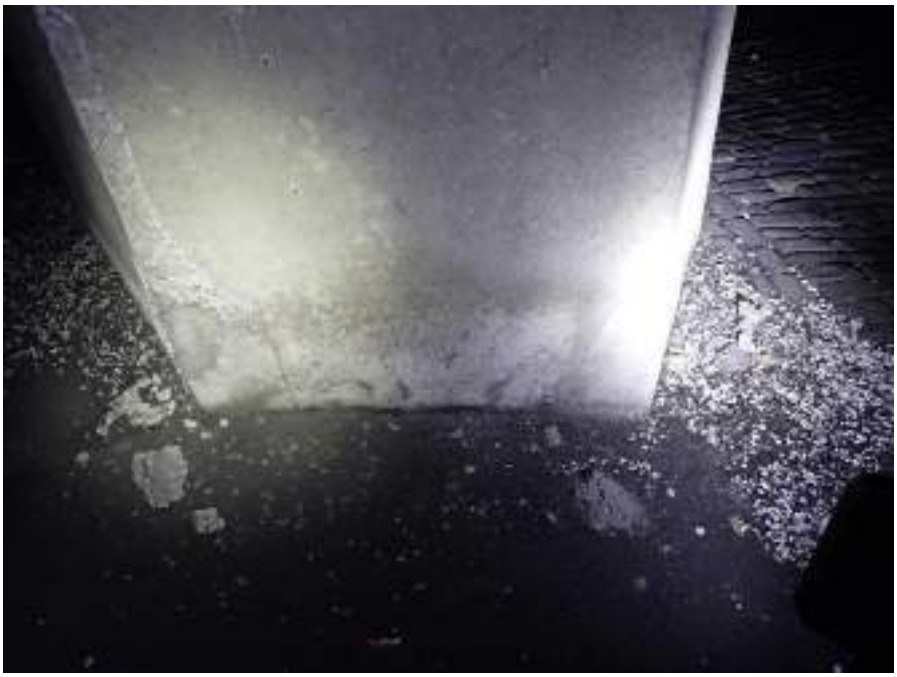
Pier 5 Centre Defects; Photo 7 - Drummyness



Pier 5 Centre Defects; Photo 8 - Vertical Crack to Historic Repair, Area also Drummy



Pier 5 Centre Defects; Photo 9 - Spalling



Pier 5 Centre Defects; Photo 10 - Drummyness



Pier 5 Centre Defects; Photo 11 - Drummyness



Pier 5 Centre Defects; Photo 12 - Drummyness

5.2.2.13 Pier 5 West

Pier 5 West General Photographs



Pier 5 West General; Photo 1 – East Elevation



Pier 5 West General; Photo 2 - Bearing

5.2.2.14 Pier 6 Centre

On the north east face of the east column of the centre pier of Pier 6 there is a 50mm by 50mm area of exposed tie wire **(See Pier 6 Centre Defects; Photo 1)**

On the north east face of the east column of the centre pier of Pier 6 there is a 200mm by 200mm area of 10mm spalling at the base of the pier **(See Pier 6 Centre Defects; Photo 2)**

On the south west face of the east column of the centre pier of Pier 6 there is a 600mm by 700mm area of 10mm drummyness at the base of the pier **(See Pier 6 Centre Defects; Photo 3)**

On the south east face of the east column of the centre pier of Pier 6 there is a 400mm by 600mm area of drummyness at the base of the pier **(See Pier 6 Centre Defects; Photo 4)**

On the south east face of the east column of the centre pier of Pier 6 there is a 1000mm, 8mm wide vertical crack with water staining **(See Pier 6 Centre Defects; Photo 5)**

On the north west face of the west column of the centre pier of Pier 6 there is a 800mm, 5mm wide vertical crack at the base of the pier **(See Pier 6 Centre Defects; Photo 6)**

On the north east face of the west column of the centre pier of Pier 6 there is a 800mm, 5mm wide vertical crack at the base of the pier **(See Pier 6 Centre Defects; Photo 11)**

On the west face of the west column of the centre pier of Pier 6 there is a 400mm by 700mm area of drummyness with a 300mm vertical crack with intermittent spalling up to 20mm deep at the base of the pier **(See Pier 6 Centre Defects; Photo 7)**

On the south west face of the west column of the centre pier of Pier 6 there is a 100mm by 500mm area of drummy concrete with vertical cracking open up to 5mm for a height of 400mm from the base of the pier **(See Pier 6 Centre Defects; Photo 8)**

On the south west face of the west column of the centre pier of Pier 6 there is a 800mm, 5mm wide vertical crack at the base of the pier **(See Pier 6 Centre Defects; Photo 9)**

On the south east face of the west column of the centre pier of Pier 6 there is a 600mm by 400mm area of Defective concrete repair **(See Pier 6 Centre Defects; Photo 10)**

On the north west face of the west column of the centre of Pier 6 there is a 200mm by 800mm area of drummyness **(See Pier 6 Centre Defects; Photo 11)**

On the south west face of the west column of the centre 6 there is a 400mm by 500mm area of Defective concrete repair at the base of the pier **(See Pier 6 West Defects; Photo 12)**

Pier 6 Centre General Photographs



Pier 6 Centre General; Photo 1 - South Elevation

Pier 6 Centre Defect Photographs



Pier 6 Centre Defects; Photo 1 – Exposed Tie Wire



Pier 6 Centre Defects; Photo 2 - Spalling



Pier 6 Centre Defects; Photo 3 - Drummyness



Pier 6 Centre Defects; Photo 4 - Drummyness



Pier 6 Centre Defects; Photo 5 - Vertical Crack



Pier 6 Centre Defects; Photo 6 - Vertical Crack



Pier 6 Centre Defects; Photo 7 – Drummyness with Vertical Cracking and Intermittent Spalls



Pier 6 Centre Defects; Photo 8 – Drummyness with Vertical Cracking



Pier 6 Centre Defects; Photo 9 - Vertical Crack



Pier 6 Centre Defects; Photo 10 - Defective Concrete Repair



Pier 6 Centre Defects; Photo 11 – Drummyness with Vertical Cracking



Pier 6 Centre Defects; Photo 12 - Defective Concrete Repair

5.2.2.15 Pier 7 Centre

On the south west face of the east column of the centre pier of Pier 7 there is a 1500mm, 5mm wide vertical crack located 0.3m above ground level **(See Pier 7 Centre Defects; Photo 1)**

On the south west face of the east column of the centre pier of Pier 7 there is a 200mm by 600mm area of drummyness located 0.9m above ground level **(See Pier 7 Centre Defects; Photo 2)**

On the south east face of the east column of the centre pier of Pier 7 there is a 300mm by 500mm area of drummyness at the bottom of the pier **(See Pier 7 Centre Defects; Photo 3)**

On the south east face of the east column of the centre pier of Pier 7 there is a 300mm by 500mm area of drummyness at the base of the pier **(See Pier 7 Centre Defects; Photo 4)**

On the south east face of the east column of the centre pier of Pier 7 there is a 200mm by 600mm area of drummyness and is cracked open up to 10mm over a height of 400mm located 0.9m above ground level **(See Pier 7 Centre Defects; Photo 5)**

On the east face of the east column of the centre pier of Pier 7 there is a 600mm, 5mm wide vertical crack at the base of the pier **(See Pier 7 Centre Defects; Photo 6)**

On the east face of the east column of the centre pier of Pier 7 there is a 100mm by 500mm area of drummyness at the base of the pier with vertical cracking over 500mm long open up to 3mm **(See Pier 7 Centre Defects; Photo 7).**

On the north east face of the east column of the centre pier of Pier 7 there is a 100mm by 500mm area of drummyness at the base of the pier with vertical cracking over 500mm long open up to 3mm **(See Pier 7 Centre Defects; Photo 8)**.

On the north east face of the east column of the centre pier of Pier 7 there is a 200mm by 500mm area of drummyness at the base of the pier **(See Pier 7 Centre Defects; Photo 9)**

On the north east face of the east column of the centre pier of Pier 7 there is a 300mm, 2mm wide vertical crack at the base of the pier **(See Pier 7 Centre Defects; Photo 10)**

On the north east face of the west column of the centre pier of Pier 7 there is a 200mm, 2mm wide vertical crack at the base of the pier **(See Pier 7 Centre Defects; Photo 11)**

On the north west face of the west column of the centre pier of Pier 7 there is a 200mm by 700mm area of drummyness with a vertical crack open 10mm over a length of 700mm at the base of the pier **(See Pier 7 Centre Defects; Photo 12)**

On the west face of the west column of the centre pier of Pier 7 there is a 500mm by 300mm area of drummyness enclosing a previous patch repair with area of 250x250mm **(See Pier 7 Centre Defects; Photo 13)**

On the west face of the west column of the centre pier of Pier 7 there is a 200mm by 400mm area of drummyness with a 600mm, 10mm wide vertical crack at the base of the pier **(See Pier 7 Centre Defects; Photo 14)**

On the south west face of the west column of the centre pier of Pier 7 there is a 400mm by 400mm area of drummyness at the base of the pier **(See Pier 7 Centre Defects; Photo 15)**

On the south west corner of the west column of the centre pier of Pier 7 there is a 400mm, 1mm wide vertical crack at the base of the pier **(See Pier 7 Centre Deck; Photo 16)**

On the south west corner of the west column of the centre pier of Pier 7 there is a 200mm by 700mm area of drummyness with a 1500mm, 10mm wide vertical crack at the base of the pier **(See Pier 7 Centre Defects; Photo 17)**

On the south east face of the west column of the centre pier of Pier 7 there is a 300mm by 700mm area of drummyness **(See Pier 7 Centre Defects; Photo 18)**

Pier 7 Centre General Photographs



Pier 7 Centre General; Photo 1 – East Elevation

Pier 7 Centre Defect Photographs



Pier 7 Centre Defects; Photo 1 - Vertical Crack



Pier 7 Centre Defects; Photo 2 – Drummyness



Pier 7 Centre Defects; Photo 3 - Drummyness



Pier 7 Centre Defects; Photo 4 – Drummyness



Pier 7 Centre Defects; Photo 5 – Drummyness with Vertical Cracking



Pier 7 Centre Defects; Photo 6 - Vertical Crack



Pier 7 Centre Defects; Photo 7 – Drummyness With Cracking



Pier 7 Centre Defect; Photo 8 – Drummyness with Cracking



Pier 7 Centre Defects; Photo 9 - Drummyness



Pier 7; Photo 10 - Vertical Crack



Pier 7 Centre Defects; Photo 11 - Vertical Crack



Pier 7 Centre Defects; Photo 12 – Drummyness with Cracking



Pier 7 Centre Defects; Photo 13 – Drummyness Surrounding Patch Repair



Pier 7 Centre Defects; Photo 14 – Drummyness with Vertical Cracking



Pier 7 Centre Defects; Photo 15 - Drummyness



Pier 7 Centre Defects; Photo 16 - Vertical Crack



Pier 7 Centre Defects; Photo 17 – Drummyness with Vertical Cracking



Pier 7 Centre Defects; Photo 18 - Drummyness

5.2.2.16 Pier 8 Centre

On the south west face of the east column of the centre pier of Pier 8 there is a 500mm by 600mm area of drummyness at the base of the pier **(See Pier 8 Centre Defects; Photo 1)**

On the south east face of the east column of the centre pier of Pier 8 there is a 300mm by 600mm area of drummyness with a vertical crack open up to 8mm over a height of 600mm and isolated spalling up to 20mm deep at the base of the pier **(See Pier 8 Centre Defects; Photo 2)**

On the south east face of the east column of the centre pier of Pier 8 there is a 300mm by 600mm area of drummyness at the base of the pier **(See Pier 8 Centre Defects; Photo 3)**

On the south east face of the east column of the centre pier of Pier 8 there is a 100mm by 200mm area of 20mm spalling **(See Pier 8 Centre Defects; Photo 4)**

On the east face of the east column of the centre pier of Pier 8 there is a 600mm, 10mm wide vertical crack at the base of the pier **(See Pier 8 Centre Defects; Photo 5)**

On the east face of the east column of the centre pier of Pier 8 there are 3No areas of drummyness at the base of the pier ; 1000mm by 300mm, 200mm by 300mm and 300mm by 1000mm **(See Pier 8 Centre Defects; Photo 6)**

On the north east face of the east column of the centre pier of Pier 8 there is a 300mm by 500mm area of 100mm spalling with exposed rebar at the base of the pier **(See Pier 8 Centre Defects; Photo 7)**

On the north east face of the east column of the centre pier of Pier 8 there is a 300mm by 500mm area of drummyness with vertical cracking open up to 5mm over a height of 500mm at the base of the pier **(See Pier 8 Centre Defects; Photo 8)**

On the north west face of the east column of the centre pier of Pier 8 there is a 200mm by 500mm area of drummyness at the base of the pier **(See Pier 8 Centre Defects; Photo 9)**

The bearing on the west column of the centre pier of Pier 8 has corrosion up to 1mm **(See Pier 8 Centre Defects; Photo 10)**

On the north east face of the west column of the centre pier of Pier 8 there is a 500mm by 300mm area of drummyness at the base of the pier **(See Pier 8 Centre Defects; Photo 11)**

On the north east face of the west column of the centre pier of Pier 8 there is a 300mm, 2mm wide vertical crack at the base of the pier **(See Pier 8 Centre Defects; Photo 12)**

On the west face of the west column of the centre pier of Pier 8 there is a 300mm by 800mm area of 50mm spalling over a previous patch repair, which the remainder is drummy **(See Pier 8 Centre Defects; Photo 13)**

On the west face of the west column of the centre pier of Pier 8 there is a 200mm by 300mm area of drummyness at the base of the pier **(See Pier 8 Centre Defects; Photo 14)**

On the west face of the west column of the centre pier of Pier 8 there is a 200mm by 600mm area of drummyness with a vertical crack open up to 8mm over a height of 600mm at the base of the pier **(See Pier 8 Centre Defects; Photo 15)**

On the south west face of the west column of the centre pier of Pier 8 there is a 400mm by 600mm area of drummyness at the base of the pier **(See Pier 8 Centre Defects; Photo 16)**

On the south west face of the west column of the centre pier of Pier 8 there is a 400mm by 600mm area of drummyness **(See Pier 8 Centre Defects; Photo 17)**

On the south east face of the west column of the centre pier of Pier 8 there is a 400mm by 600mm area of 100mm spalling with exposed rebar with **(See Pier 8 Centre Defects; Photo 18)**

Pier 8 Centre General Photographs



Pier 8 Centre General; Photo 1 – North Elevation

Pier 8 Centre Defect Photographs



Pier 8 Centre Defects; Photo 1 - Drummyness



Pier 8 Centre Defects; Photo 2 – Drummyness with Cracking and Isolated Spalls



Pier 8 Centre Defects; Photo 3 - Drummyness



Pier 8 Centre Defects; Photo 4 – Spalling



Pier 8 Centre Defects; Photo 5 - Vertical Crack



Pier 8 Centre Defects; Photo 6 - Drummyness



Pier 8 Centre Defects; Photo 7 - Spalling With Exposed Rebar



Pier 8 Centre Defects; Photo 8 – Drummyness with Vertical Cracking



Pier 8 Centre Defects; Photo 9 – Drummyness



Pier 8 Centre Defects; Photo 10 - Corrosion



Pier 8 Centre Defects; Photo 11 - Drummyness



Pier 8; Photo 12 - Vertical Crack



Pier 8 Centre Defects; Photo 13 – Spalling Over Patch Repair with Drummyness to Remainder



Pier 8 Centre Defects; Photo 14 - Drummyness



Pier 8 Centre Defects; Photo 15 – Drummyness with Vertical Cracking



Pier 8 Centre Defects; Photo 16 - Drummyness



Pier 8 Centre Defects; Photo 17 - Drummyness



Pier 8; Photo 18 - Spalling With Exposed Rebar

5.2.2.17 Pier 9 Centre

On the south west face of the east column of the centre pier of Pier 9 there is a 300mm by 1500mm area of water staining at the base of the pier **(See Pier 9 Centre Defects; Photo 1)**

On the west face of the east column of the centre pier of Pier 9 there is a full width by full height area of drummyness **(See Pier 9 Centre Defects; Photo 2)**

On the south west face of the east column of the centre pier of Pier 9 there is a 400mm by 700mm area of drummyness located 1m above ground level **(See Pier 9 Centre Defects; Photo 3)**

On the south east face of the east column of the centre pier of Pier 9 there is a 300mm, 2mm wide vertical crack at the base of the pier **(See Pier 9 Centre Defects; Photo 4)**

On the south east face of the east column of the centre pier of Pier 9 there is a 200mm by 800mm area of drummyness with a vertical crack open up to 5mm over a height of of 800mm starting 300mm above ground level **(See Pier 9 Centre Defects; Photo 5)**

The bearing on the east column of the centre pier of Pier 9 has corrosion up to 3mm **(See Pier 9 Centre Defects; Photo 6)**

On the north east face of the east column of the centre pier of Pier 9 there is a full height, 3mm wide vertical crack with leachate **(See Pier 9 Centre Defects; Photo 7)**

On the north elevation of the centre pier of Pier 9 there is a 300mm by 1500mm area of water staining to both the east and west columns at the base of the pier **(See Pier 9 Centre Defects; Photo 8)**

On the east face of the east column of the centre pier of Pier 9 there is a 500mm by 50mm area of 50mm spalling to the grout bed at the top of the pier **(See Pier 9 Centre Defects 9; Photo 9)**

On the north west face of the east column of the centre pier of Pier 9 there is a 4000mm long, vertical crack open 15mm located 1.5m above the base of the pier. Isolated spalls are present along the length of the cracking up to a depth of 20mm **(See Pier 9 Centre Defects; Photo 10)**

On the east face of the east column of the centre pier of Pier 9 there is a 1000mm by 50mm area of water staining at the base of the pier **(See Pier 9 Centre Defects; Photo 11)**

On the east face of the east column of the centre pier of Pier 9 there is a 200mm by 500mm area of drummyness with a vertical crack present open 2mm over a height of 500mm at the base of the pier **(See Pier 9 Centre Defects; Photo 12)**

On the east face of the east column of the centre pier of Pier 9 there is a 1000mm by 3000mm area of 50mm spalling with exposed rebar at the top of the pier, with delamination to the concrete below the bearing which is likely to become undermined. it is recommended that Gateshead Council arrange for the removal of the damaged or loose material (**See Pier 9 Centre Defects; Photo 13)**

On the north east face of the west column of the centre pier of Pier 9 there is a 150mm by 500mm area of drummyness located at the base of the pier **(See Pier 9 Centre Defects; Photo 14)**

On the north west face of the west column of the centre pier of Pier 9 there is a 1000mm long, 2mm wide vertical crack at the base of the pier **(See Pier 9 Centre Defects; Photo 15)**

On the west face of the west column of the centre pier of Pier 9 there is a 1000mm by full height area of water staining which appears to be being caused by a damaged drain pipe **(See Pier 9 Centre Defects; Photo 16)**

On the south west face of the west column of the centre pier of Pier 9 there is a 1000mm long, 1mm wide vertical crack at the base of the pier **(See Pier 9 Centre Defects; Photo 17)**

On the south east face of the west column of the centre pier of Pier 9 there is a 600mm long, 1mm wide vertical crack 0.5m above the base of the pier **(See Pier 9 Centre Defects; Photo 1)**

On the south east face of the west column of the centre pier of Pier 9 there is a 300mm by 1500mm area of water staining at the base of the pier **(See Pier 9 Centre Defects; Photo 1)**

On the south east face of the west column of the centre pier of Pier 9 there is a 4000mm long, 8mm wide vertical crack with leachate located 1.5m above ground level **(See Pier 9 Centre Pier; Photo 18**)

On the east face of the west column of the centre pier of Pier 9 there is a full width by full height area of drummyness **(See Pier 9 Centre Defects; Photo 19)**

Pier 9 Centre General Photographs



Pier 9 Centre General; Photo 1 –South Elevation

Pier 9 Centre Defect Photographs



Pier 9 Centre Defects; Photo 1 - Water Staining (East Column) and Cracking (West Column)



Pier 9 Centre Defects; Photo 2 - Drummyness



Pier 9 Centre Defects; Photo 3 - Drummyness



Pier 9 Centre Defects; Photo 4 - Vertical Crack



Pier 9 Centre Defects; Photo 5 – Drummyness with Cracking



Pier 9 Centre Defects; Photo 6 - Corrosion



Pier 9 Centre Defects; Photo 7 - Vertical Crack



Pier 9 Centre Defects; Photo 8 - Water Staining



Pier 9 Centre Defects; Photo 9 - Spalling



Pier 9 Centre Defects; Photo 10 - Vertical Crack with Isolated Spalling Areas



Pier 9 Centre Defects; Photo 11 - Water Staining



Pier 9 Centre Defects; Photo 12 – Drummyness with Cracking



Pier 9 Centre Defects; Photo 13 - Spalling With Exposed Rebar and Delamination Below Bearing Area



Pier 9 Centre Defects; Photo 14 - Drummyness



Pier 9 Centre Defects; Photo 15 - Vertical Crack



Pier 9 Centre Defects; Photo 16 - Water Staining



Pier 9 Centre Defects; Photo 17- Vertical Crack



Pier 9; Photo 18 - Vertical Crack



Pier 9 Centre Defects; Photo 19 - Drummyness

5.2.2.18 Pier 10 Centre

On the south west face of the east column of the centre pier of Pier 10 there is a 100mm by 200mm area of 20mm spalling located 0.3m above ground level **(See Pier 10 Centre Defects; Photo 1)**

On the south west face of the east column of the centre pier of Pier 10 there is a 300mm long, 2mm wide vertical crack located 0.4m above ground level **(See Pier 10 Centre Defects; Photo 2)**

On the south east face of the east column of the centre pier of Pier 10 there is a 300mm by 700mm area of drummyness with spalling up to 20mm deep over a 200mm by 400mm area at the base of the pier **(See Pier 10 Centre Defects; Photo 2)**

On the east face of the east column of the centre pier of Pier 10 there is a 200mm by 400mm area of 20mm spalling at the base of the pier with an adjacent area of 600mm by 400mm drummyness **(See Pier 10 Centre Defects; Photo 3)**

On the north east face of the east column of the centre pier of Pier 10 there is a 800mm by 400mm area of drummyness covering a pre-existing concrete repair. **(See Pier 10 Centre Defects; Photo 4)**

On the north west face of the east column of the centre pier of Pier 10 there is a 150mm by 300mm area of drummyness with vertical cracking open up to 1mm over a height of 300mm at the base of the pier **(See Pier 10 Centre Defects; Photo 5)**

On the north west face of the west column of the centre pier of Pier 10 there is a 300mm by 500mm area of 60mm spalling at the base of the pier **(See Pier 10 Centre Defects; Photo 6)**

On the west face of the west column of the centre pier of Pier 10 there is a 600mm by 500mm area of drummyness around a previous repair at the base of the pier **(See Pier 10 Centre Defects; Photo 7)**

On the west face of the west column of the centre pier of Pier 10 there is a 100mm by 1000mm area of drummyness with a vertical crack over 1000mm long open up to 5mm at the base of the pier **(See Pier 10 Centre Defects; Photo 8)**

On the south west face of the west column of the centre pier of Pier 10 there is a 400mm by 1000mm area of drummyness with spalling up to 15mm within the area located at the base of the pier **(See Pier 10 Centre Defects; Photo 9)**

The bearing on the west column of the centre pier of Pier 10 has corrosion up to 1mm **(See Pier 10 Centre Defects; Photo 10)**

On the south west face of the west column of the centre pier of Pier 10 there is a 300mm by 1000mm area of drummyness at the base of the pier surrounding a previous patch repair **(See Pier 10 Centre Defects; Photo 11)**

On the south east corner of the west column of the centre pier of Pier 10 there is a 200mm by 1000mm area of drummyness with vertical cracking open up to 3mm over a 1000mm height from the base of the pier **(See Pier 10 Centre Defects; Photo 12)**

On the south east face of the west column of the centre pier of Pier 10 there is a 500mm by 300mm area of drummyness at the base of the pier **(See Pier 10 Centre Defects; Photo 13)**

Pier 10 Centre General Photographs



Pier 10 Centre General; Photo 1 – North Elevation

Pier 10 Centre Defect Photographs



Pier 10 Centre Defects; Photo 1 - Spalling



Pier 10 Centre Defects; Photo 2 - Vertical Crack with Spalling and Drummyness



Pier 10 Centre Defects; Photo 3 – Spalling with Drummyness



Pier 10 Centre Defects; Photo 4 - Drummyness



Pier 10 Centre Defects; Photo 5 – Drummyness with Cracking



Pier 10 Centre Defects; Photo 6 – Spalling



Pier 10 Centre Defects; Photo 7 - Drummyness



Pier 10 Centre Defects; Photo 8 - Drummyness



Pier 10 Centre Defects; Photo 9 - Drummyness



Pier 10 Centre Defects; Photo 10 – Corrosion to Bearing



Pier 10 Centre Defects; Photo 11 - Drummyness



Pier 10 Centre Defects; Photo 12 – Drummyness with Cracking



Pier 10 Centre Defects; Photo 13 - Drummyness

5.2.2.19 Pier 11 Centre

On the south west face of the east column of the centre pier of Pier 11 there is a full width by 500mm area of drummyness with spalling up to 20mm deep over a 200mm by 200mm area at the base of the pier **(See Pier 11 Centre Defects; Photo 1)**

On the south east face of the east column of the centre pier of Pier 11 there is a 400mm by 400mm area of drummyness at the base of the pier **(See Pier 11 Centre Defects; Photo 2)**

On the south east face of the east column of the centre pier of Pier 11 there is a 700mm, 3mm wide vertical crack at the base of the pier **(See Pier 11 Centre Defects; Photo 3)**

On the east face of the east column of the centre pier of Pier 11 there is a 500mm, 3mm wide vertical crack at the base of the pier **(See Pier 11 Centre Defects; Photo 4)**

On the east face of the east column of the centre pier of Pier 11 there is a 300mm by 500mm area of drummyness with spalling up to 20mm deep in an area 200mm by 300mm at the base of the pier **(See Pier 11 Centre Defects; Photo 5)**

On the north east face of the east column of the centre pier of Pier 11 there is a 200mm by 300mm area of drummyness with cracking around the surround open 1-2mm at the base of the pier **(See Pier 11 Centre Defects; Photo 6)**

On the north west face of the east column of the centre pier of Pier 11 there is a 200mm by 300mm area of drummyness at the base of the pier **(See Pier 11 Centre Defects; Photo 7)**

On the north east face of the west column of the centre pier of Pier 11 there is a full width by 700mm area of drummyness with spalling up to 20mm deep over an area of 300mm by 200mm at the base of the pier **(See Pier 11 Centre Defects; Photo 8)**

On the north west face of the west column of the centre pier of Pier 11 there is a 700mm by 400mm area of drummyness **(See Pier 11 Centre Defects; Photo 9)**

On the north west face of the west column of the centre pier of Pier 11 there is a 200mm by 300mm area of drummyness at the base of the pier **(See Pier 11 Centre Defects; Photo 10)**

On the west face of the west column of the centre pier of Pier 11 there is a full width by 500mm area of drummyness enclosing a concrete patch repair at the base of the pier **(See Pier 11 Centre Defects; Photo 11)**

On the west face of the west column of the centre pier of Pier 11 there is a 200mm by 600mm area of drummyness with vertical cracking open up to 5mm over a height of 600mm at the base of the pier **(See Pier 11 Centre Defects; Photo 12)**

On the south west face of the west column of the centre pier of Pier 11 there is a 700mm by 1500mm area of drummyness at the base of the pier **(See Pier 11 Centre Defects; Photo 13)**

On the south corner of the west column of the centre pier of Pier 11 there is a 1200mm long, 3mm wide vertical crack at the base of the pier **(See Pier 11 Centre Defects; Photo 14)**

On the south east face of the west column of the centre pier of Pier 11 there is a full width by 600mm area of drummyness with spalling up to 30mm deep over an area 200mm by 400mm at the base of the pier **(See Pier 11 Centre Defects; Photo 1)**

On the north east face of the west column of the centre pier of Pier 11 there is a 50mm by 50mm area of 10mm spalling located 4.5m above ground level **(See Pier 11 Centre Defects; Photo 15)**

Pier 11 Centre General Photographs



Pier 11 Centre General; Photo 1 – North Elevation



Pier 11 Centre General; Photo 2 - Bearing

Pier 11 Centre Defect Photographs



Pier 11 Centre Defects; Photo 1 - Drummyness



Pier 11 Centre Defects; Photo 2 - Drummyness



Pier 11 Centre Defects; Photo 3 - Vertical Crack



Pier 11 Centre Defects; Photo 4 - Vertical Crack



Pier 11 Centre Defects; Photo 5 - Drummyness



Pier 11 Centre Defects; Photo 6 – Drummyness With Cracking



Pier 11 Centre Defects; Photo 7 - Drummyness



Pier 11 Centre Defects; Photo 8 - Drummyness



Pier 11 Centre Defects; Photo 9 - Drummyness



Pier 11 Centre Defects; Photo 10 - Drummyness



Pier 11 Centre Defects; Photo 11 - Drummyness



Pier 11 Centre Defects; Photo 12 – Drummyness With Cracking



Pier 11 Centre Defects; Photo 13 - Drummyness



Pier 11 Centre Defects; Photo 14 - Vertical Crack



Pier 11 Centre Defects; Photo 15 - Spalling

5.2.2.20 Pier 12 Centre

On the south west face of the east column of the centre pier of Pier 12 there is a full width by 500mm area of drummyness at the base of the pier **(See Pier 12 Centre Defects; Photo 1)**

On the south east face of the east column of the centre pier of Pier 12 there is a 700mm by 500mm area of drummyness at the base of the pier **(See Pier 12 Centre Defects; Photo 2)**

On the south east face of the east column of the centre pier of Pier 12 there is a 400mm, 2mm wide vertical crack located 0.5m above ground level **(See Pier 12 Centre Defects; Photo 3)**

On the east face of the east column of the centre pier of Pier 12 there is a 1500mm by 500mm area of drummyness at the base of the pier including an area of concrete patch repair **(See Pier 12 Centre Defects; Photo 4)**

On the east face of the east column of the centre pier of Pier 12 there is a 300mm by 700mm area of 40mm spalling at the base of the pier **(See Pier 12 Centre Defects; Photo 5)**

On the north east face of the east column of the centre pier of Pier 12 there is a 300mm long, 2mm wide vertical crack at the base of the pier **(See Pier 12 Centre Defects; Photo 6)**

On the north east face of the east column of the centre pier of Pier 12 there is a 400mm by 400mm area of drummyness at the base of the pier **(See Pier 12 Centre Defects; Photo 7)**

On the north east face of the west column of the centre pier of Pier 12 there is a 200mm by 600mm area of drummyness with spalling up to 5mm deep over a area 100mm by 200mm, and vertical cracking present open 2mm over a length of 400mm located at the base of the pier **(See Pier 12 Centre Defects; Photo 8)**

On the north west face of the west column of the centre pier of Pier 12 there is a 300mm by 300mm area of drummyness at the base of the pier **(See Pier 12 Centre Defects; Photo 9)**

On the north west face of the west column of the centre pier of Pier 12 there is a 300mm by 400mm area of drummyness at the base of the pier **(See Pier 12 Centre Defects; Photo 10)**

On the west face of the west column of the centre pier of Pier 12 there is a 1500mm by 500mm area of drummyness with vertical cracking open up to 3mm over a length of 500mm at the base of the pier **(See Pier 12 Centre Defects; Photo 11)**

On the south west face of the west column of the centre pier of Pier 12 there is a full width by 500mm area of drummyness with vertical cracking open up to 3mm over a length of 500mm at the base of the pier **(See Pier 12 Centre Defects; Photo 12)**

On the south west face of the west column of the centre pier of Pier 12 there is a 400mm long, 1mm wide vertical crack at the base of the pier **(See Pier 12 Centre Defects; Photo 13)**

On the south east face of the west column of the centre pier of Pier 12 there is a 300mm by 500mm area of drummyness at the base of the pier **(See Pier 12 Centre Defects; Photo 14)**

Pier 12 Centre General Photographs



Pier 12 Centre General; Photo 1 – North Elevation

Pier 12 Centre Defect Photographs



Pier 12 Centre Defects; Photo 1 - Drummyness



Pier 12 Centre Defects; Photo 2 - Drummyness



Pier 12 Centre Defects; Photo 3 - Vertical Crack



Pier 12 Centre Defects; Photo 4 - Drummyness



Pier 12 Centre Defects; Photo 5 - Spalling



Pier 12 Centre Defects; Photo 6 - Vertical Crack



Pier 12 Centre Defects; Photo 7 - Drummyness



Pier 12 Centre Defects; Photo 8 – Drummynesswith Spalling and Cracking



Pier 12 Centre Defects; Photo 9 - Drummyness



Pier 12 Centre Defects; Photo 10 - Drummyness



Pier 12 Centre Defects; Photo 11 – Drummyness With Cracking



Pier 12 Centre Defects; Photo 12 – Drummyness With Cracking



Pier 12 Centre Defects; Photo 13 - Vertical Crack



Pier 12 Centre Defects; Photo 14 - Drummyness

5.2.2.21 Pier 13 East

On the north west face of the east pier of Pier 13 there is minor graffiti cover over the bottom 1500mm of the pier **(See Pier 13 East General; Photo 1)**

On the north west face of the east pier of Pier 13 there is a full width by 500mm area of drummyness with spalling up to 20mm deep over an area 600mm by 200mm at the base of the pier **(See Pier 13 East Defects; Photo 1)**

On the west face of the east pier of Pier 13 there is a full width by 400mm area of drummyness **(See Pier 13 East Defects; Photo 2)**

Pier 13 East General Photographs



Pier 13 East General; Photo 1 – North Elevation

Pier 13 East Defect Photographs



Pier 13 East Defects; Photo 1 - Drummyness



Pier 13 East Defects; Photo 2 - Drummyness

5.2.2.22 Pier 13 Centre

On the south west face of the east column of the centre pier of Pier 13 there is a 600mm by 500mm area of drummyness at the base of the pier **(See Pier 13 Centre Defects; Photo 1)**

On the south west face of the east column of the centre pier of Pier 13 there is a 400mm by 300mm area of 30mm spalling **(See Pier 13 Centre Defects; Photo 2)**

On the south east face of the east column of the centre pier of Pier 13 there is a 200mm by 600mm area of drummyness with vertical cracking open 1mm over a length of 500mm at the base of the pier **(See Pier 13 Centre Defects; Photo 3)**

On the east face of the east column of the centre pier of Pier 13 there is a full width by 600mm area of drummyness with vertical cracking open 5mm over a length of 600mm at the base of the pier **(See Pier 13 Centre Defects; Photo 4)**

On the north east face of the east column of the centre pier of Pier 13 there is a 800mm by 700mm area of drummyness with spalling 5mm deep over the bottom 300mm at the base of the pier **(See Pier 13 Centre Defects; Photo 5)**

On the north west face of the east column of the centre pier of Pier 13 there is a 600mm by 600mm area of drummyness with spalling 10mm deep over a 600mm by 200mm area at the base of the pier **(See Pier 13 Centre Defects; Photo 6)**

On the north east face of the west column of the centre pier of Pier 13 there is a 250mm by 300mm area of drummyness at the base of the pier **(See Pier 13 Centre Defects; Photo 7)**

On the north west face of the west column of the centre pier of Pier 13 there is a 400mm long, 1mm wide vertical crack at the base of the pier **(See Pier 13 Centre Defects; Photo 8)**

On the west face of the west column of the centre pier of Pier 13 there is a 800mm by 400mm area of drummyness at the base of the pier **(See Pier 13 Centre Defects; Photo 9)** 9

On the west face of the west column of the centre pier of Pier 13 there is a 400mm long, 1mm wide vertical crack at the base of the pier, on both the left and right edges of the pier face **(See Pier 13 Centre Defects; Photo 10 and Photo 11)**

On the south west face of the west column of the centre pier of Pier 13 there is a full width by 600mm area of drummyness with vertical cracking 500mm open 1mm over a length of 500mm at the base of the pier **(See Pier 13 Centre Defects; Photo 12)**

On the south east face of the west column of the centre pier of Pier 13 there is a 500mm by 700mm area of drummyness at the base of the pier **(See Pier 13 Centre Defects; Photo 13)**

On the south east face of the west column of the centre pier of Pier 13 there is a 300mm by 300mm area of 30mm spalling located 0.3m above the base of the pier, with drummyness to the area below **(See Pier 13 Centre Defects; Photo 14)**

Pier 13 Centre General Photographs



Pier 13 Centre General; Photo 1 – North Elevation

Pier 13 Centre Defect Photographs



Pier 13 Centre Defects; Photo 1 - Drummyness



Pier 13 Centre Defects; Photo 2 – Spalling



Pier 13 Centre Defects; Photo 3 - Drummyness



Pier 13 Centre Defects; Photo 4 – Drummyness With Vertical Cracking



Pier 13 Centre Defects; Photo 5 – Drummyness With Spalling



Pier 13 Centre Defects; Photo 6 – Drummyness With Spalling



Pier 13 Centre Defects; Photo 7 - Drummyness



Pier 13 Centre Defects; Photo 8 - Vertical Crack



Pier 13 Centre Defects; Photo 9 - Drummyness



Pier 13 Centre Defects; Photo 10 - Vertical Crack



Pier 13 Centre Defects; Photo 11 - Vertical Crack



Pier 13 Centre Defects; Photo 12 – Drummyness With Cracking



Pier 13 Centre Defects; Photo 13 - Drummyness



Pier 13 Centre Defects; Photo 14 - Spalling

5.2.2.23 Pier 13 West

On the south west face of the west pier of Pier 13 there is a full width by 600mm area of drummyness with vertical cracking open 1mm over a height of 600mm at the base of the pier **(See Pier 13 West Defects; Photo 1)**

On the south west face of the west pier of Pier 13 there is a 500mm by 400mm area of 40mm spalling located 0.6m above ground level. **(See Pier 13 West Defects; Photo 2)**

On the west face of the west pier of Pier 13 there is a 600mm long, 1mm wide vertical crack **(See Pier 13 West Defects; Photo 3)**

On the south east face of the west pier of Pier 13 there is a 500mm by 600mm area of drummyness **(See Pier 13 West Defects; Photo 4)**

On the south east face of the west pier of Pier 13 there is a 200mm by 800mm area of 20mm spalling at the base of the pier **(See Pier 13 West Defects; Photo 5)**

Pier 13 West General Photographs



Pier 13 West General; Photo 1 – North Elevation

Pier 13 West Defect Photographs



Pier 13 West Defects; Photo 1 - Drummyness



Pier 13 West Defects; Photo 2 - Spalling



Pier 13 West Defects; Photo 3 - Vertical Crack



Pier 13 West Defects; Photo 4 - Drummyness



Pier 13 West Defects; Photo 5 - Spalling

5.2.2.24 Pier 14 East

The bearing on the east pier of Pier 14 has corrosion up to 1mm **(See Pier 14 East General; Photo 2)**

Pier 14 East General Photographs



Pier 14 East General; Photo 1 – West Elevation



Pier 14 East General; Photo 2 – Bearing (Note Corrosion)

5.2.2.25 Pier 14 Centre

On the south west face of the east column of the centre pier of Pier 14 there is a full width by 700mm area of drummyness with vertical cracking open 7mm over a height of 500mm at the base of the pier **(See Pier 14 Centre Defects; Photo 1)**

On the south east face of the east column of the centre pier of Pier 14 there is a full width by 400mm area of drummyness with 2No concrete repairs present at either side which are showing signs of delamination at the base of the pier **(See Pier 14 Centre Defects; Photo 2)**

On the east face of the east column of the centre pier of Pier 14 there is a full width by 700mm area of drummyness with vertical cracking open 2mm over a height of 400mm at the base of the pier **(See Pier 14 Centre Defects; Photo 3)**

On the east face of the east column of the centre pier of Pier 14 there is a 200mm by 300mm area of 80mm spalling at the base of the pier **(See Pier 14 Centre Defects; Photo 4)**

On the east face of the east column of the centre pier of Pier 14 there is a 100mm by 200mm area of 40mm spalling located 0.4m above ground level **(See Pier 14 Centre Defects; Photo 5)**

On the north east face of the east column of the centre pier of Pier 14 there is a full width by 600mm area of drummyness **(See Pier 14 Centre Defects; Photo 6)**

On the north west face of the east column of the centre pier of Pier 14 there is a full width by 500mm area of drummyness with vertical cracking open 6mm over a height of 500mm at the base of the pier **(See Pier 14 Centre Defects; Photo 7)**

On the north east face of the west column of the centre pier of Pier 14 there is a full width by 500mm area of drummyness at the base of the pier **(See Pier 14 Centre Defects; Photo 8)**

On the north west face of the west column of the centre pier of Pier 14 there is a full width by 700mm area of drummyness with vertical cracking open 2mm over a height of 40mm present at the base of the pier **(See Pier 14 Centre Defects; Photo 9**)

On the west face of the west column of the centre pier of Pier 14 there is a 900mm by 800mm area of 100mm spalling with exposed rebar at the base of the pier **(See Pier 14 Centre Defects; Photo 10)**

On the west face of the west column of the centre pier of Pier 14 there is a 150mm by 700mm area of drummyness at the base of the pier **(See Pier 14 Centre Defects; Photo 11)**

On the south west face of the west column of the centre pier of Pier 14 there is a full width by 800mm area of drummyness with spalling 20mm deep over a 100mm by 150mm area and 2No. vertical cracks open 1mm over a height up to 500mm at the base of the pier **(See Pier 14 Centre Defects; Photo 12)**

On the south corner of the west column of the centre pier of Pier 14 there is a 800mm long, 5mm wide vertical crack at the base of the pier **(See Pier 14 Centre Defects; Photo 13)**

On the south east face of the west column of the centre pier of Pier 14 there is a full width by 800mm area of drummyness at the base of the pier **(See Pier 14 Centre Defects; Photo 14)**

On the south east corner of the west column of the centre pier of Pier 14 there is a 300mm long, 3mm wide vertical crack at the base of the pier **(See Pier 14 Centre Defects; Photo 15)**

On the south east face of the west column of the centre pier of Pier 14 there is a 500mm by 400mm area of 40mm spalling located 0.3m above the base of the pier **(See Pier 14 Centre Defects; Photo 16)**

On the north east face of the west column of the centre pier of Pier 14 there is a 200mm, 5mm wide vertical crack at the top of the pier **(See Pier 14 Centre Defects; Photo 17)**

Pier 14 Centre General Photographs



Pier 14 Centre General; Photo 1 – North Elevation

Pier 14 Centre Defect Photographs



Pier 14 Centre Defects; Photo 1 – Drummyness with vertical cracking



Pier 14 Centre Defects; Photo 2 – Drummyness With Delamination Around Repairs



Pier 14 Centre Defects; Photo 3 - Drummyness



Pier 14 Centre Defects; Photo 4 - Spalling



Pier 14 Centre Defects; Photo 5 - Spalling



Pier 14 Centre Defects; Photo 6 - Drummyness



Pier 14 Centre Defects; Photo 7 - Drummyness



Pier 14 Centre Defects; Photo 8 - Drummyness



Pier 14 Centre Defects; Photo 9 - Drummyness



Pier 14 Centre Defects; Photo 10 - Spalling With Exposed Rebar



Pier 14 Centre Defects; Photo 11 - Drummyness



Pier 14 Centre Defects; Photo 12 - Drummyness



Pier 14 Centre Defects; Photo 13 - Vertical Crack



Pier 14 Centre Defects; Photo 14 - Drummyness



Pier 14 Centre Defects; Photo 15 - Vertical Crack



Pier 14 Centre Defects; Photo 16 - Spalling



Pier 14 Centre Defects; Photo 17 - Vertical Crack

5.2.2.26 Pier 14 West

Pier 14 West General Photographs



Pier 14; Photo 1 – East Elevation

5.2.2.27 Pier 15 East

The east pier of Pier 15 has superficial scrape marks to the base of the column on the south west face **(See Pier 15 East Defects; Photo 1)**

Pier 15 East General Photographs



Pier 15 East General; Photo 1 – East Elevation

Pier 15 East Defect Photographs



Pier 15 East Defects; Photo 1 – Superficial Scrape Marks

5.2.2.28 Pier 15 Centre

On the south west face of the east column of the centre pier of Pier 15 there is a 200mm by 500mm area of drummyness located 0.8m above the base of the pier **(See Pier 15 Centre Defects; Photo 1)**

On the south west face of the east column of the centre pier of Pier 15 there is a 200mm by 500mm area of 30mm spalling with exposed rebar located 0.8m above the base of the pier **(See Pier 15 Centre Defects; Photo 1)**

On the south west face of the east column of the centre pier of Pier 15 there is a 300mm by 1500mm area of water staining at the base of the pier **(See Pier 15 Centre Defects; Photo 2)**

On the south west face of the east column of the centre pier of Pier 15 there is a 3000mm, 5mm wide vertical crack with leachate at the top of the pier **(See Pier 15 Centre Defects; Photo 3 and Photo 21)**

On the south east face of the east column of the centre pier of Pier 15 there is a 1500mm, 2mm wide vertical crack at the top of the pier **(See Pier 15 Centre Defects; Photo 4)**

On the east face of the east column of the centre pier of Pier 15 there is a 600mm by 400mm area of drummyness with spalling 3mm deep over an area of 100mm by 100mm located 2m above ground level **(See Pier 15 Centre Defects; Photo 5)**

On the east face of the east column of the centre pier of Pier 15 there is a 700mm by 400mm area of drummyness located 2m above ground level **(See Pier 15 Centre Defects; Photo 6)**

On the east face of the east column of the centre pier of Pier 15 there is a 150mm by 800mm area of drummyness with a vertical crack open 2mm over a height of 800mm located 2m above ground level **(See Pier 15 Centre Defects; Photo 7)**

On the east face of the east column of the centre pier of Pier 15 there is a 200mm by 900mm area of drummyness with a vertical crack open 1000mm over a height of 900mm at the bottom of the pier **(See Pier 15 Centre Defects; Photo 8)**

On the north east face of the east column of the centre pier of Pier 15 there is a 300mm by 600mm area of drummyness at the bottom of the pier **(See Pier 15 Centre Defects; Photo 9)**

On the north east face of the east column of the centre pier of Pier 15 there is a 1000mm long, 1mm wide vertical crack at the base of the pier **(See Pier 15 Centre Defects; Photo 10)**

On the north east face of the east column of the centre pier of Pier 15 there is a 200mm by 500mm area of drummyness located 1.5m above ground level **(See Pier 15 Centre Defects; Photo 11)**

On the north east face of the east column of the centre pier of Pier 15 there is a 600mm long, 1mm wide vertical crack with leachate located 1m above ground level **(See Pier 15 Centre Defects; Photo 12)**

On the north east face of the east column of the centre pier of Pier 15 there is a 300mm by 700mm area of drummyness located 2m above ground level **(See Pier 15 Centre Defects; Photo 13)**

On the north east face of the east column of the centre pier of Pier 15 there is a 700mm long , 1mm wide vertical crack with leachate located 1.5m above ground level **(See Pier 15 Centre Defects; Photo 14)**

On the north east face of the east column of the centre pier of Pier 15 there is a 3000mm long, 2mm wide vertical crack with leachate at the top of the pier **(See Pier 15 Centre Defects; Photo 15)**

On the north east face of the east column of the centre pier of Pier 15 there is a 100mm by 400mm area of 20mm spalling located 2m above ground level **(See Pier 15 Centre Defects; Photo 16)**

On the north east face of the east column of the centre pier of Pier 15 there is a full width by full height area of water staining **(See Pier 15 Centre Defects; Photo 17)**

On the north west face of the east column of the centre pier of Pier 15 there is a 300mm by 1500mm area of water staining at the base of the pier **(See Pier 15 Centre Defects; Photo 18)**

On the west face of the east column of the centre pier of Pier 15 there is a 1000mm by full height area of drummyness with water staining emanating from the expansion joint in the structure **(See Pier 15 Centre Defects; Photo 19)**

The bearing on the east column of the centre pier of Pier 15 has corrosion up to 1mm **(See Pier 15 Centre Defects; Photo 20)**

On the north east face of the west column of the centre pier of Pier 15 there is a 400mm by 700mm area of drummyness located 0.7m above the base of the pier **(See Pier 15 Centre Defects; Photo 22)**

On the north east face of the west column of the centre pier of Pier 15 there is a 200mm by 400mm area of drummyness at the base of the pier **(See Pier 15 Centre Defects; Photo 22)**

On the north east face of the west column of the centre pier of Pier 15 there is a 400mm by 800mm area of 40mm spalling with exposed rebar located 0.4m above the base of the pier **(See Pier 15 Centre Defects; Photo 23)**

On the north east face of the west column of the centre pier of Pier 15 there is a 300mm by 1500mm area of water staining at the base of the pier **(See Pier 15 Centre Defects; Photo 24)**

On the north east face of the west column of the centre pier of Pier 15 there is a 1000mm long, 4mm wide vertical crack with leachate at the top of the pier **(See Pier 15 Centre Defects; Photo 25)**

On the north east face of the west column of the centre pier of Pier 15 there is a 2000mm long, 4mm wide vertical crack at the top of the pier **(See Pier 15 Centre Defects; Photo 26)**

On the north west face of the west column of the centre pier of Pier 15 there is a 300mm long, 2mm wide vertical crack at the bottom of the pier **(See Pier 15 Centre Defects; Photo 27)**

On the north west face of the west column of the centre pier of Pier 15 there is a 1500mm long, 2mm wide vertical crack at the top of the pier **(See Pier 15 Centre Defects; Photo 28)**

On the north west corner of the west column of the centre pier of Pier 15 there is a 300mm by 700mm area of drummyness with cracking around the perimeter open 1mm located at the base of the pier **(See Pier 15 Centre Defects; Photo 29)**

On the west face of the west column of the centre pier of Pier 15 there is a 500mm by full height area of water staining and the drainage downpipe is missing **(See Pier 15 Centre Defects; Photo 30)**

On the north east face of the west column of the centre pier of Pier 15 there is a 200mm by 300mm area of 50mm spalling at the top of the pier **(See Pier 15 Centre Defects; Photo 31)**

On the west face of the west column of the centre pier of Pier 15 there is a full width by 2000mm area of honeycombing at the top of the pier with isolated areas of leachate throughout the top half **(See Pier 15 Centre Defects; Photo 32)**

On the south west face of the west column of the centre pier of Pier 15 there is a 400mm by 300mm area of drummyness with a vertical crack open 1mm over a height of 300mm at the bottom of the pier **(See Pier 15 Centre Defects; Photo 33)**

On the north corner of the west column of the centre pier of Pier 15 there is a 400mm by 1000mm area of 50mm spalling at the top of the pier with cracking extending an additional 1.5m below the spalled area, open 2-3mm **(See Pier 15 Centre Defects; Photo 34)**

On the south east face of the west column of the centre pier of Pier 15 there is a full width by 800mm area of drummyness, with 2No areas of spalling up to 20mm deep in areas 100mm by 300mm and 200mm by 300mm at the base of the pier **(See Pier 15 Centre Defects; Photo 35)**

On the south east face of the west column of the centre pier of Pier 15 there is a 300mm by 1500mm area of water staining at the base of the pier **(See Pier 15 Centre Defects; Photo 36)**

On the east face of the west column of the centre pier of Pier 15 there is a 1000mm by full height area of drummyness with water staining throughout, emanating from the expansion joint **(See Pier 15 Centre Defects; Photo 37)**

Pier 15 Centre General Photographs



Pier 15 Centre General; Photo 1 – North Elevation

Pier 15 Centre Defect Photographs



Pier 15 Centre Defects; Photo 1 – Drummyness With Spalling



Pier 15 Centre Defects; Photo 2 - Water Staining



Pier 15 Centre Defects; Photo 3 - Vertical Crack



Pier 15 Centre Defects; Photo 4 - Vertical Crack



Pier 15 Centre Defects; Photo 5 - Drummyness



Pier 15 Centre Defects; Photo 6 - Drummyness



Pier 15 Centre Defects; Photo 7 – Drummyness and Cracking



Pier 15 Centre Defects; Photo 8 – Drummyness and Cracking



Pier 15 Centre Defects; Photo 9 - Drummyness



Pier 15 Centre Defects; Photo 10 - Vertical Crack



Pier 15 Centre Defects; Photo 11 - Drummyness



Pier 15 Centre Defects; Photo 12 - Vertical Crack



Pier 15 Centre Defects; Photo 13 - Drummyness



Pier 15 Centre Defects; Photo 14 - Vertical Crack



Pier 15 Centre Defects; Photo 15 - Vertical Crack



Pier 15 Centre Defects; Photo 16 - Spalling



Pier 15 Centre Defects; Photo 17 - Water Staining



Pier 15 Centre Defects; Photo 18 - Water Staining



Pier 15 Centre Defects; Photo 19 – Drummyness With Water Staining



Pier 15 Centre Defects; Photo 20 – Corrosion of Bearing



Pier 15 Centre Defects; Photo 21 - Vertical Crack



Pier 15 Centre Defects; Photo 22 - Drummyness



Pier 15 Centre Defects; Photo 23 - Spalling With Exposed Rebar



Pier 15 Centre Defects; Photo 24 - Water Staining



Pier 15 Centre Defects; Photo 25 - Vertical Crack



Pier 15 Centre Defects; Photo 26 - Vertical Crack



Pier 15 Centre Defects; Photo 27 - Vertical Crack



Pier 15 Centre Defects; Photo 28 - Vertical Crack



Pier 15 Centre Defects; Photo 29 – Drummyness and Cracking



Pier 15 Centre Defects; Photo 30 - Water Staining and Missing Downpipe



Pier 15 Centre Defects; Photo 31 - Spalling



Pier 15 Centre Defects; Photo 32 - Honeycombing



Pier 15 Centre Defects; Photo 33 – Drummyness and Cracking



Pier 15 Centre Defects; Photo 33 - Spalling



Pier 15 Centre Defects; Photo 35 – Drummyness With Spalling



Pier 15 Centre Defects; Photo 36 - Water Staining



Pier 15 Centre Defects; Photo 37 – Drummyness With Water Staining

5.2.2.29 Pier 15 West

On the south east face of the west pier of Pier 15 there is a 500mm by 200mm area of drummyness at the base of the pier **(See Pier 15 West Defects; Photo 1)**

Pier 15 West General Photographs



Pier 15 West General; Photo 1 – West Elevation

Pier 15 West Defect Photographs



Pier 15 West Defects; Photo 1 - Drummyness

5.2.2.30 Pier 16 East

On the north west face of the east pier of pier 16 there is minor graffiti cover a 500mm by 500mm area **(See Pier 16 East General; Photo 1)**

On the west face of the east pier of Pier 16 there is a 700mm by 300mm area of drummyness at the base of the pier **(See Pier 16 East Defects; Photo 1)**

On the south west face of the east pier of Pier 16 there is a 150mm by 200mm area of drummyness at the base of the pier **(See Pier 16 East Defects; Photo 2)**

Pier 16 East General Photographs



Pier 16 East General; Photo 1 – North Elevation

Pier 16 East Defect Photographs



Pier 16 East Defects; Photo 1 - Drummyness



Pier 16 East Defects; Photo 2 - Drummyness

5.2.2.31 Pier 16 Centre

On the south west face of the east column of the centre pier of Pier 16 there is a Full Width by 500mm area of drummyness with a vertical crack open 5mm over a height of 300mm at the base of the pier **(See Pier 16 Centre Defects; Photo 1)**

On the south east face of the east column of the centre pier of Pier 16 there is a Full Width by 500mm area of drummyness at the base of the pier **(See Pier 16 Centre Defects; Photo 2)**

On the south east face of the east column of the centre pier of Pier 16 there is a 1000mm, 5mm wide vertical crack at the base of the pier **(See Pier 16 Centre Defects; Photo 3)**

On the east face of the east column of the centre pier of Pier 16 there is a 200mm by 900mm area of drummyness at the base of the pier **(See Pier 16 Centre Defects; Photo 4)**

On the east face of the east column of the centre pier of Pier 16 there is a 300mm by 400mm area of 30mm spalling at the base of the pier **(See Pier 16 Centre Defects; Photo 5)**

On the east face of the east column of the centre pier of Pier 16 there is a 600mm by 400mm area of drummyness with vertical cracking open 4mm over a height of 400mm at the base of the pier **(See Pier 16 Centre Defects; Photo 6)**

On the north east face of the east column of the centre pier of Pier 16 there is a Full Width by 400mm area of drummyness with 3No. vertical cracks open 1-2mm over a height of up to 400mm at the base of the pier **(See Pier 16 Centre Defects; Photo 7)**

On the north west face of the east column of the centre pier of Pier 16 there is a Full Width by 400mm area of drummyness with a previous patch repair which shows signs of delamination at the base of the pier **(See Pier 16 Centre Defects; Photo 8)**

The bearing on the east column of the centre pier of Pier 16 has corrosion up to 1mm **(See Pier 16 Centre Defects; Photo 9)**

On the north east face of the west column of the centre pier of Pier 16 there is a Full Width by 400mm area of drummyness at the base of the pier **(See Pier 16 Centre Defects; Photo 10)**

On the north east face of the west column of the centre pier of Pier 16 there is a 500mm by 200mm area of 40mm spalling located 0.3m above ground level **(See Pier 16 Centre Defects; Photo 11)**

On the north west face of the west column of the centre pier of Pier 16 there is a 400mm by 400mm area of drummyness with a vertical crack open 8mm over a height of 400mm at the base of the pier **(See Pier 16 Centre Defects; Photo 12)**

On the north west corner of the west column of the centre pier of Pier 16 there is a 200mm by 300mm area of drummyness with a vertical crack open 4mm over a height of 400mm at the base of the pier **(See Pier 16 Centre Defects; Photo 13)**

On the west face of the west column of the centre pier of Pier 16 there is a 200mm by 600mm area of drummyness with a vertical crack open 6mm over a height of 600mm at the base of the pier **(See Pier 16 Centre Defects; Photo 14)**

On the west face of the west column of the centre pier of Pier 16 there is a 500mm by 150mm area of drummyness at the base of the pier **(See Pier 16 Centre Defects; Photo 15)**

On the south west face of the west column of the centre pier of Pier 16 there is a 600mm by 400mm area of drummyness at the base of the pier **(See Pier 16 Centre Defects; Photo 16)**

On the south west face of the west column of the centre pier of Pier 16 there is a 400mm by 900mm area of drummyness with a vertical crack open 2mm over a height of 400mm at the base of the pier **(See Pier 16 Centre Defects; Photo 17)**

On the south east face of the west column of the centre pier of Pier 16 there is a 200mm by 1000mm area of drummyness with a previous patch repair showing signs of delamination (**See Pier 16 Centre Defects; Photo 18)**

On the south east face of the west column of the centre pier of Pier 16 there is a 700mm by 500mm area of drummyness **(See Pier 16 Centre Defects; Photo 19)**

On the south east face of the west column of the centre pier of Pier 16 there is a 100mm by 100mm area of 10mm spalling with exposed rebar located 4.5m above ground level **(See Pier 16 Centre Defects; Photo 20)**

The base of the centre pier over both columns is water stained over the bottom 1m and the central reserve is showing signs of deterioration due to water egress from the structure **See Pier 16 Centre Defects; Photo 21)**

Pier 16 Centre General Photographs



Pier 16 Centre General; Photo 1 – North

Pier 16 Centre Defect Photographs



Pier 16 Centre Defects; Photo 1 – Drummyness With Cracking



Pier 16 Centre Defects; Photo 2 – Drummyness



Pier 16 Centre Defects; Photo 3 – Vertical Crack



Pier 16 Centre Defects; Photo 4 – Drummyness



Pier 16 Centre Defects; Photo 5 – Spalling



Pier 16 Centre Defects; Photo 6 – Drummyness



Pier 16 Centre Defects; Photo 7 – Drummyness With Cracking



Pier 16 Centre Defects; Photo 8 – Drummyness With Delaminated Repair



Pier 16 Centre Defects; Photo 9 – Corrosion to Bearing



Pier 16 Centre Defects; Photo 10 – Drummyness



Pier 16 Centre Defects; Photo 11 – Spalling



Pier 16 Centre Defects; Photo 12 – Drummyness With Cracking



Pier 16 Centre Defects; Photo 13 – Drummyness With Cracking



Pier 16 Centre Defects; Photo 14 – Drummyness With Cracking



Pier 16 Centre Defects; Photo 15 – Drummyness



Pier 16 Centre Defects; Photo 16 – Drummyness



Pier 16 Centre Defects; Photo 17 – Drummyness With Cracking



Pier 16 Centre Defects; Photo 18 – Drummyness With Repair Delamination



Pier 16 Centre Defects; Photo 19 – Drummyness



Pier 16 Centre Defects; Photo 20 – Spalling With Exposed Rebar



Pier 16 Centre Defects; Photo 21 – Water Staining

5.2.2.32 Pier 16 West
Pier 16 East General Photographs



Pier 16 West General; Photo 1 – East Elevation

5.2.2.33 Pier 17 Centre

On the south west face of the east column of the centre pier of Pier 17 there is a 300mm by 800mm area of drummyness at the base of the pier **(See Pier 17 Centre Defects; Photo 1)**

On the south west face of the east column of the centre pier of Pier 17 there is a 200mm by 500mm area of 30mm spalling located 0.6m above ground level **(See Pier 17 Centre Defects; Photo 2)**

On the south west face of the east column of the centre pier of Pier 17 there is a 400mm by 300mm area of drummyness located 0.7m above ground level **(See Pier 17 Centre Defects; Photo 3)**

On the south east face of the east column of the centre pier of Pier 17 there is a Full Width by 600mm area of drummyness with a vertical crack open 6mm over a height of 600mm at the base of the pier **(See Pier 17 Centre Defects; Photo 4)**

On the east face of the east column of the centre pier of Pier 17 there is a Full Width by 700mm area of drummyness encompassing a series of previous patch repairs, spalling to a depth of 30mm is also present over an area of 150mm by 400mm at the base of the pier **(See Pier 17 Centre Defects; Photo 5)**

On the north east face of the east column of the centre pier of Pier 17 there is a Full Width by 700mm area of 100mm spalling with exposed rebar where previous patch repairs had been carried out at the base of the pier **(See Pier 17 Centre Defects; Photo 6)**

On the north west face of the east column of the centre pier of Pier 17 there is a Full Width by 500mm area of drummyness at the base of the pier with spalling to a depth of 30mm covering 50% of the area **(See Pier 17 Centre Defects; Photo 7)**

On the north east face of the west column of the centre pier of Pier 17 there is a Full Width by 500mm area of drummyness at the base of the pier **(See Pier 17 Centre Defects; Photo 8)**

On the north west face of the west column of the centre pier of Pier 17 there is a Full Width by 500mm area of drummyness at the base of the pier **(See Pier 17 Centre Defects; Photo 9)**

On the north west corner of the west column of the centre pier of Pier 17 there is a 400mm by 800mm area of 80mm spalling at the base of the pier **(See Pier 17 Centre Defects; Photo 10)**

On the west face of the west column of the centre pier of Pier 17 there is a 300mm by 500mm area of drummyness with a vertical crack open 6mm over a height of 500mm at the base of the pier **(See Pier 17 Centre Defects; Photo 11)**

On the south west face of the west column of the centre pier of Pier 17 there is a Full Width by 500mm area of drummyness at the base of the pier **(See Pier 17 Centre Defects; Photo 12)**

On the south west face of the west column of the centre pier of Pier 17 there is a 200mm by 900mm area of drummyness with a crack open 6mm over a height of 900mm at the base of the pier **(See Pier 17 Centre Defects; Photo 13)**

On the south east face of the west column of the centre pier of Pier 17 there is a Full Width by 1000mm area of drummyness with a vertical crack open 3mm over a height of 400mm at the base of the pier **(See Pier 17 Centre Defects; Photo 14)**

On the south east face of the west column of the centre pier of Pier 17 there is a 300mm by 900mm area of drummyness located 1m above ground level **(See Pier 17 Centre Defects; Photo 15)**

Pier 17 Centre General Photographs



Pier 17 Centre General; Photo 1 – North Elevation

Pier 17 Centre Defect Photographs



Pier 17 Centre Defects; Photo 1 - Drummyness



Pier 17 Centre Defects; Photo 2 - Spalling



Pier 17 Centre Defects; Photo 3 - Drummyness



Pier 17 Centre Defects; Photo 4 – Drummyness With Cracking



Pier 17 Centre Defects; Photo 5 – Drummyness With Spalling



Pier 17 Centre Defects; Photo 6 - Spalling With Exposed Rebar



Pier 17 Centre Defects; Photo 7 – Drummyness With Spalling



Pier 17 Centre Defects; Photo 8 - Drummyness



Pier 17 Centre Defects; Photo 9 - Drummyness



Pier 17 Centre Defects; Photo 10 - Spalling



Pier 17 Centre Defects; Photo 11 – Drummyness With Cracking



Pier 17 Centre Defects; Photo 12 - Drummyness



Pier 17 Centre Defects; Photo 13 – Drummyness With Cracking



Pier 17 Centre Defects; Photo 14 - Drummyness



Pier 17 Centre Defects; Photo 15 - Drummyness

5.2.2.34 Pier 18 Centre

On the south east face of the east column of the centre pier of Pier 18 there is a 100mm by 400mm area of drummyness with a vertical crack open 2mm over a height of 400mm at the base of the pier **(See Pier 18 Centre Defects; Photo 1)**

On the east face of the east column of the centre pier of Pier 18 there is a Full Width by 400mm area of drummyness at the base of the pier **(See Pier 18 Centre Defects; Photo 2)**

On the north east corner of the east column of the centre pier of Pier 18 there is a 200mm by 900mm area of 50mm spalling at the base of the pier **(See Pier 18 Centre Defects; Photo 3)**

On the north east face of the east column of the centre pier of Pier 18 there is a Full Width by 300mm area of drummyness with a vertical hairline crack over a height of 300mm at the base of the pier **(See Pier 18 Centre Defects; Photo 4)**

On the north west face of the east column of the centre pier of Pier 18 there is a 200mm by 400mm area of drummyness with a vertical crack open 3mm over a height of 400mm at the base of the pier **(See Pier 18 Centre Defects; Photo 5)**

On the north west face of the west column of the centre pier of Pier 18 there is a 400mm by 400mm area of drummyness at the base of the pier with 10mm spalling over a 50x50mm area **(See Pier 18 Centre Defects; Photo 6)**

On the north west corner of the west column of the centre pier of Pier 18 there is a 300mm by 700mm area of drummyness with 3No. vertical cracks open 3mm over a height of 700mm at the base of the pier **(See Pier 18 Centre Defects; Photo 7)**

On the west face of the west column of the centre pier of Pier 18 there is a 600mm by 300mm area of drummyness at the base of the pier **(See Pier 18 Centre Defects; Photo 8)**

On the west face of the west column of the centre pier of Pier 18 there is a 150mm by 500mm area of drummyness with a vertical crack open 2mm over a height of 250mm at the base of the pier **(See Pier 18 Centre Defects; Photo 9)**

On the south west face of the west column of the centre pier of Pier 18 there is a Full Width by 500mm area of drummyness at the base of the pier **(See Pier 18 Centre Defects; Photo 10)**

On the south west face of the west column of the centre pier of Pier 18 there is a 300mm by 500mm area of 30mm spalling at the base of the pier **(See Pier 18 Centre Defects; Photo 11)**

On the south corner of the west column of the centre pier of Pier 18 there is a 200mm by 1000mm area of 100mm spalling with exposed rebar at the base of the pier **(See Pier 18 Centre Defects; Photo 12)**

Pier 18 Centre General Photographs



Pier 18 Centre General; Photo 1 – North Elevation

Pier 19 Centre Defect Photographs



Pier 18 Centre Defects; Photo 1 – Drummyness With Cracking



Pier 18 Centre Defects; Photo 2 – Drummyness



Pier 18 Centre Defects; Photo 3 - Spalling



Pier 18 Centre Defects; Photo 4 – Drummyness With Cracking



Pier 18 Centre Defects; Photo 5 - Drummyness



Pier 18 Centre Defects; Photo 6 - Drummyness



Pier 18 Centre Defects; Photo 7 – Drummyness With Cracking



Pier 18 Centre Defects; Photo 8 - Drummyness



Pier 18 Centre Defects; Photo 9 - Drummyness



Pier 18 Centre Defects; Photo 10 - Drummyness



Pier 18 Centre Defects; Photo 11 - Spalling



Pier 18 Centre Defects; Photo 12 - Spalling With Exposed Rebar

5.2.2.35 Pier 19 Centre

On the south west face of the east column of the centre pier of Pier 19 there is a Full Width by 300mm area of drummyness at the base of the pier **(See Pier 19 Centre Defects; Photo 1)**

On the south corner of the east column of the centre pier of Pier 19 there is a 200mm by 500mm area of 80mm spalling at the base of the pier **(See Pier 19 Centre Defects; Photo 2)**

On the north corner of the east column of the centre pier of Pier 19 there is a 300mm by 500mm area of drummyness enclosing a concrete repair **(See Pier 19 Centre Defects; Photo 3)**

On the north west face of the east column of the centre pier of Pier 19 there is a Full Width by 400mm area of drummyness at the base of the pier **(See Pier 19 Centre Defects; Photo 4)**

On the north corner of the west column of the centre pier of Pier 19 there is a 300mm by 600mm area of 70mm spalling at the base of the pier **(See Pier 19 Centre Defects; Photo)**

On the north west face of the west column of the centre pier of Pier 19 there is a Full Width by 300mm area of drummyness at the base of the pier **(See Pier 19 Centre Defects; Photo 6)**

On the north west corner of the west column of the centre pier of Pier 19 there is a 200mm by 600mm area of drummyness with 2No. vertical cracks open 5mm over a height of 600mm at the base of the pier **(See Pier 19 Centre Defects; Photo 7)**

On the west face of the west column of the centre pier of Pier 19 there is a Full Width by 400mm area of drummyness with 2No. vertical cracks open 2mm over a height of up to 900mm and 600mm at the base of the pier **(See Pier 19 Centre Defects; Photo 8)**

On the south west face of the west column of the centre pier of Pier 19 there is a Full Width by 400mm area of drummyness with a minor spall 5mm deep over an area 50mm by 50mm at the base of the pier **(See Pier 19 Centre Defects; Photo 9)**

On the south east face of the west column of the centre pier of Pier 19 there is a 100mm by 400mm area of drummyness at the base of the pier **(See Pier 19 Centre Defects; Photo 10)**

Pier 19 Centre General Photographs



Pier 19 Centre General; Photo 1 – East Elevation

Pier 19 Centre Defect Photographs



Pier 19 Centre Defects; Photo 1 - Drummyness



Pier 19 Centre Defects; Photo 2 - Spalling



Pier 19 Centre Defects; Photo 3 - Drummyness



Pier 19 Centre Defects; Photo 4 - Drummyness



Pier 19 Centre Defects; Photo 5 - Spalling



Pier 19 Centre Defects; Photo 6 - Drummyness



Pier 19 Centre Defects; Photo 7 – Drummyness With Cracking



Pier 19 Centre Defects; Photo 8 – Drummyness With Cracking



Pier 19 Centre Defects; Photo 9 - Drummyness



Pier 19 Centre Defects; Photo 10 - Drummyness

5.2.2.36 Pier 20 Centre

On the south corner of the east column of the centre pier of Pier 20 there is a 400mm by 800mm area of drummyness at the base of the pier with cracking either side open 3-5mm over a height of 800mm **(See Pier 20 Centre Defects; Photo 1)**

On the north east face of the east column of the centre pier of Pier 20 there is a 600mm by 400mm area of drummyness at the base of the pier **(See Pier 20 Centre Defects; Photo 2)**

On the north west face of the east column of the centre pier of Pier 20 there is a 300mm by 300mm area of drummyness at the base of the pier **(See Pier 20 Centre Defects; Photo 3)**

On the north east face of the west column of the centre pier of Pier 20 there is a Full Width by 300mm area of drummyness at the base of the pier **(See Pier 20 Centre Defects; Photo 4)**

On the north corner of the west column of the centre pier of Pier 20 there is a 200mm by 700mm area of drummyness with a vertical crack open 2mm over a height of 400mm present at the base of the pier **(See Pier 20 Centre Defects; Photo 5)**

On the north west face of the west column of the centre pier of Pier 20 there is a Full Width by 300mm area of drummyness with a vertical crack open 1mm over a height of 350mm at the base of the pier **(See Pier 20 Centre Defects; Photo 6)**

On the north west face of the west column of the centre pier of Pier 20 there is a 150mm by 800mm area of drummyness with a vertical crack open 4mm over a height of 800mm at the base of the pier **(See Pier 20 Centre Defects; Photo 7)**

On the west face of the west column of the centre pier of Pier 20 there is a Full Width by 700mm area of drummyness at the base of the pier **(See Pier 20 Centre Defects; Photo 8)**

On the west face of the west column of the centre pier of Pier 20 there is a 800mm long, 3mm wide vertical crack at the base of the pier **(See Pier 20 Centre Defects; Photo 9)**

On the south west face of the west column of the centre pier of Pier 20 there is a Full Width by 600mm area of drummyness at the base of the pier **(See Pier 20 Centre Defects; Photo 10)**

On the south corner of the west column of the centre pier of Pier 20 there is a 300mm by 1000mm area of drummyness with 2No. vertical cracks open 2mm over a height of 600mm at the base of the pier **(See Pier 20 Centre Defects; Photo 11)**

On the south east face of the west column of the centre pier of Pier 20 there is a Full Width by 400mm area of drummyness with spalling up to 20mm deep over an area 300mm by 400mm at the base of the pier **(See Pier 20 Centre Defects; Photo 12)**

The bearing on the west column of the centre pier of Pier 20 has corrosion up to 1mm **(See Pier 20 Centre Defects; Photo 13)**

Pier 20 Centre General Photographs



Pier 20 Centre General; Photo 1 – East Elevation

Pier 20 Centre Defect Photographs



Pier 20 Centre Defects; Photo 1 – Drummyness With Cracking



Pier 20 Centre Defects; Photo 2 - Drummyness



Pier 20 Centre Defects; Photo 3 - Drummyness



Pier 20 Centre Defects; Photo 4 - Drummyness



Pier 20 Centre Defects; Photo 5 – Drummyness With Cracking



Pier 20 Centre Defects; Photo 6 – Drummyness With Cracking



Pier 20 Centre Defects; Photo 7 – Drummyness With Cracking



Pier 20 Centre Defects; Photo 8 - Drummyness



Pier 20 Centre Defects; Photo 9 - Vertical Crack



Pier 20 Centre Defects; Photo 10 - Drummyness



Pier 20 Centre Defects; Photo 11 – Drummyness With Cracking



Pier 20 Centre Defects; Photo 12 - Drummyness



Pier 20 Centre Defects; Photo 13 – Corrosion to Bearing

5.2.2.37 Pier 21 Centre

On the east face of the east column of the centre pier of Pier 21 there is a 800mm by 400mm area of drummyness at the base of the pier **(See Pier 21 Centre Defects; Photo 1)**

On the north east face of the east column of the centre pier of Pier 21 there is a 700mm by 500mm area of drummyness at the base of the pier **(See Pier 21 Centre Defects; Photo 2)**

On the north corner of the east column of the centre pier of Pier 21 there is a 300mm by 700mm area of spalling with drummyness to the surround at the base of the pier **(See Pier 21 Centre Defects; Photo 3)**

On the north corner of the west column of the centre pier of Pier 21 there is a 300mm by 800mm area of drummyness with vertical cracking open 1mm present over a height of 800mm at the base of the pier **(See Pier 21 Centre Defects; Photo 4)**

On the south west corner of the west column of the centre pier of Pier 21 there is a 400mm by 600mm area of drummyness at the base of the pier **(See Pier 21 Centre Defects; Photo 5)**

On the south corner of the west column of the centre pier of Pier 21 there is a 400mm by 600mm area of drummyness with spalling up to 20mm deep over an area 200mm by 400mm at the base of the pier **(See Pier 21 Centre Defects; Photo 6)**

On the west face of the west column of the centre pier of Pier 20 there is a 1000mm by 400mm area of drummyness at the base of the pier **(See Pier 21 Centre Defects; Photo 7)**

Pier 21 Centre General Photographs



Pier 21 Centre General; Photo 1 – East Elevation

Pier 21 Centre Defect Photographs



Pier 21 Centre Defects; Photo 1 - Drummyness



Pier 21 Centre Defects; Photo 2 - Drummyness



Pier 21 Centre Defects; Photo 3 - Spalling



Pier 21 Centre Defects; Photo 4 - Drummyness



Pier 21 Centre Defects; Photo 5 - Drummyness



Pier 21 Centre Defects; Photo 6 - Drummyness



Pier 21 Centre Defects; Photo 7 - Drummyness

5.2.2.38 Pier 22 Centre

On the south west face of the east column of the centre pier of Pier 22 there is a 150mm by 300mm area of drummyness at the base of the pier **(See Pier 22 Centre Defects; Photo 1)**

On the north corner of the east column of the centre pier of Pier 22 there is a 300mm by 500mm area of 100mm spalling with exposed rebar with drummyness to the surrounding area at the base of the pier **(See Pier 22 Centre Defects; Photo 2)**

The bearing on the east column of the centre pier of Pier 22 has corrosion up to 1mm **(See Pier 22 Centre Defects; Photo 3)**

On the north east face of the west column of the centre pier of Pier 22 there is a 200mm by 300mm area of drummyness at the base of the pier **(See Pier 22 Centre Defects; Photo 4)**

On the north west face of the west column of the centre pier of Pier 22 there is a 300mm by 300mm area of drummyness at the base of the pier **(See Pier 22 Centre Defects; Photo 5)**

On the north west face of the west column of the centre pier of Pier 22 there is a 200mm by 200mm area of drummyness at the base of the pier **(See Pier 22 Centre Defects; Photo 6)**

On the north west face of the west column of the centre pier of Pier 22 there is a 500mm, 1mm wide vertical crack at the base of the pier **(See Pier 22 Centre Defects; Photo 7)**

On the west face of the west column of the centre pier of Pier 22 there is a Full Width by 400mm area of drummyness at the base of the pier **(See Pier 22 Centre Defects; Photo 8)**

On the south corner of the west column of the centre pier of Pier 22 there is a 100mm by 500mm area of drummyness with a vertical crack open 2mm over a height of 500mm at the base of the pier **(See Pier 22 Centre Defects; Photo 9)**

On the south west face of the west column of the centre pier of Pier 22 there is a 500mm by 600mm area of drummyness with a vertical crack open 1mm over a height of 600mm at the base of the pier **(See Pier 22 Centre Defects; Photo 10)**

On the south east face of the west column of the centre pier of Pier 22 there is a Full Width by 800mm area of drummyness with 10mm deep spalling in a 20mm band to the surround of the area at the base of the pier **(See Pier 22 Centre Defects; Photo 11)**

The bearing on the west column of the centre pier of Pier 22 has corrosion up to 1mm **(See Pier 22 Centre Defects; Photo 12)**

Pier 22 Centre General Photographs



Pier 7 Centre General; Photo 1 – North Elevation

Pier 22 Centre Defect Photographs



Pier 22 Centre Defects; Photo 1 - Drummyness



Pier 22 Centre Defects; Photo 2 - Spalling With Exposed Rebar



Pier 22 Centre Defects; Photo 3 – Corrosion to Bearing



Pier 22 Centre Defects; Photo 4 - Drummyness



Pier 22 Centre Defects; Photo 5 - Drummyness



Pier 22 Centre Defects; Photo 6 - Drummyness



Pier 22 Centre Defects; Photo 7 - Vertical Crack



Pier 22 Centre Defects; Photo 8 - Drummyness



Pier 22 Centre Defects; Photo 9 – Drummyness With Cracking



Pier 22 Centre Defects; Photo 10 – Drummyness With Cracking



Pier 22 Centre Defects; Photo 11 – Drummyness With Spalling



Pier 22 Centre Defects; Photo 12 – Corrosion to Bearing

5.2.2.39 Pier 23 Centre

On the north west face of the east column of the centre pier of Pier 23 there is a Full Width by 500mm area of delamination at the base of the pier **(See Pier 23 Centre Defects; Photo 1)**

On the north east face of the east column of the centre pier of Pier 23 there is a 100mm by 500mm area of delamination at the base of the pier **(See Pier 23 Centre Defects; Photo 2)**

On the south east face of the west column of the centre pier of Pier 23 there is a 200mm by 300mm area of 50mm spalling with exposed rebar at the base of the pier **(See Pier 23 Centre Defects; Photo 3)**

On the south west face of the west column of the centre pier of Pier 23 there is a 100mm by 300mm area of 50mm spalling with exposed rebar at the base of the pier **(See Pier 23 Centre Defects; Photo 4)**

On the west face of the west column of the centre pier of Pier 23 there is a 750mm max by 700mm max area of delamination at the base of the pier **(See Pier 23 Centre Defects; Photo 5)**

On the north west face of the west column of the centre pier of Pier 23 there is a Full Width by 500mm area of delamination at the base of the pier **(See Pier 23 Centre Defects; Photo 6)**

On the north east corner of the west column of the centre pier of Pier 23 there is a 300mm by 500mm area of delamination at the base of the pier **(See Pier 23 Centre Defects; Photo 7)**

There is drug paraphernalia present at the base of Pier 23 **(See Pier 23 Centre Defects; Photo 8)**

Pier 23 Centre General Photographs



Pier 23 Centre General; Photo 1 – North Elevation

Pier 23 Centre Defect Photographs



Pier 23 Centre Defects; Photo 1 - Delamination



Pier 23 Centre Defects; Photo 2 - Delamination



Pier 23 Centre Defects; Photo 3 - Spalling With Exposed Rebar



Pier 23 Centre Defects; Photo 4 - Spalling With Exposed Rebar



Pier 23 Centre Defects; Photo 5 - Delamination



Pier 23 Centre Defects; Photo 6 - Delamination



Pier 23 Centre Defects; Photo 7 - Delamination



Pier 23 Centre Defects; Photo 8 – Drug Paraphernalia

5.2.2.40 Pier 24 Centre

Graffiti is present throughout both columns of Pier 24 **(See Pier 24 Centre Defects; Photo 1)**

On the south corner of the west column of the centre pier of Pier 24 there is a 400mm by 200mm area of 20mm spalling at the base of the pier **(See Pier 24 Centre Defects; Photo 2)**

Pier 24 Centre General Photographs



Pier 24 Centre General; Photo 1 – South Elevation



Pier 24 Centre General; Photo 2 – West Bearing



Pier 24 Centre General; Photo 3 – East Bearing

Pier 24 Centre Defect Photographs



Pier 24 Centre Defects; Photo 1 - Graffiti



Pier 24 Centre Defects; Photo 2 - Spalling

5.2.2.41 Pier 25 Centre

Graffiti is present throughout both columns of Pier 25 **(See Pier 25 Centre Defects; Photo 1)**

On the north west face of the east column of the centre pier of Pier 25 there is a 300mm by 400mm area of 10mm spalling at the base of the pier **(See Pier 25 Centre Defects; Photo 2)**

Pier 25 Centre General Photographs



Pier 25 Centre General; Photo 1 – North Elevation



Pier 25 Centre General; Photo 2 – West Bearing



Pier 25 Centre General; Photo 3 – East Bearing

Pier 25 Centre Defect Photographs



Pier 25 Centre Defects; Photo 1 - Graffiti



Pier 25 Centre Defects; Photo 2 - Spalling

5.2.2.42 Pier 26 Centre

Graffiti is present throughout both columns of Pier 26 **(See Pier 26 Centre General; Photo 1)**

On the south west face of the east column of the centre pier of Pier 26 there is a 400mm by 400mm area of 70mm spalling with exposed rebar at the base of the pier **(See Pier 26 Centre Defects; Photo 1)**

The bearing on the east column of the centre pier of Pier 26 has corrosion up to 1mm **(See Pier 26 Centre Defects; Photo 2)**

On the north west face of the east column of the centre pier of Pier 26 there is a 700mm by 400mm area of delamination at the base of the pier **(See Pier 26 Centre Defects; Photo 3)**

On the south west face of the east column of the centre pier of Pier 26 there is a full width by 400mm area of drummyness at the base of the pier **(See Pier 26 Centre Defects; Photo 4)**

The bearing on the west column of the centre pier of Pier 26 has corrosion up to 1mm **(See Pier 26 Centre Defects; Photo 5)**

On the south east face of the west column of the centre pier of Pier 26 there is a 400mm by 500mm area of 50mm spalling with exposed rebar at the base of the pier **(See Pier 26 Centre Defects; Photo 6)**

Pier 26 Centre General Photographs



Pier 26 Centre General; Photo 1 – South Elevation

Pier 26 Centre Defect Photographs



Pier 26 Centre Defects; Photo 1 - Spalling With Exposed Rebar



Pier 26 Centre Defects; Photo 2 – Corrosion to Bearing



Pier 26 Centre Defects; Photo 3 - Delamination



Pier 26 Centre Defects; Photo 4 - Drummyness



Pier 26 Centre Defects; Photo 5 – Corrosion to Bearing



Pier 26 Centre Defects; Photo 6 - Spalling With Exposed Rebar

5.3 Superstructure

5.3.1 Underside Internal (Deck Voids Accessed from the Underside of the Bridge)

The internal voids of each span shall be referenced as per those given in Archive Drawing 817-001 Access Details. For the sake of clarity, the voids shall be reported in alphabetical order as opposed to actual order, due to the complexities of naming convention. The GA of the voids for each span can be found on each drawing for clarity. There are generally 2 access hatches per void and the access hatch naming convention uses the void letter followed by a 1 or 2, with 1 being the northern most hatch and 2 being the southernmost.

The central voids in Spans 4-27 are accessed from manholes in the topside, these voids are all covered in Section 5.3.2 Topside Internal. All other accessible voids are accessed via hatches in the soffit which are covered in this section of the report.

All voids with access hatches on the underside were inspected using a remote-controlled inspection vehicle equipped with 360-degree cameras. These vehicles were generally driven throughout the span to inspect the full length of all faces.

It was not possible to use the 360-degree vehicles in the centre void (it was attempted but the vehicle became stuck fast amongst the services within the centre void and had to be abandoned and left there) and as such these voids were inspected using 360-degree cameras on camera poles at the man hole locations only.

Note that defect drawings have only been prepared for accessible deck voids, which can be found in Appendix A. No drawings were produced for inaccessible voids with no access hatches.

Access hatch numbers are labelled in accordance with the void labelling system adopted in archive drawing “Gateshead Viaduct Access Details” (E/159/817/001) (lettered void letttes A to K) with the northernmost hatch labelled as number 1 (e.g. A1) and the southernmost hatch as number 2 (e.g. A2).

5.3.1.1 General Defects

All underside internal spans were found to be in generally fair condition with some areas of deterioration. The following defects have been identified throughout the spans:

- Poor finishing to all internal surfaces with uneven surfacing throughout **(See Underside Internal General Defects; Photo 1 and Underside Internal General Defects; Photo 2).**
- Areas of excessive formwork cover throughout **(See Underside Internal General Defects; Photo 3, Underside Internal General Defects; Photo 4, Underside Internal General Defects; Photo 5, Underside Internal General Defects; Photo 6 and Underside Internal General Defects; Photo 7).**
- Minor rust staining and tie wires throughout soffit **(See Underside Internal General Defects; Photo 8, Underside Internal General Defects; Photo 9, Underside Internal General Defects; Photo 10, Underside Internal General Defects; Photo 11, Underside Internal General Defects; Photo 12, Underside Internal General Defects; Photo 13).**
- Spalling around formwork holes throughout soffit **(See Underside Internal General Defects; Photo 14).**

Any general defects listed above will not be commented on in span specific sections of the report or drawings.



Underside Internal General Defects; Photo 1 – Poor Surface Finishing (Span 9 Void B)



Underside Internal General Defects; Photo 2 – Poor Surface Finishing (Span 23 Void D)



Underside Internal General Defects; Photo 3 – Excessive Formwork Cover (Span 5 Void F)



Underside Internal General Defects; Photo 4 – Excessive Formwork Cover (Span 6 Void B)



Underside Internal General Defects; Photo 5 – Excessive Formwork Cover (Span 7 Void D)



Underside Internal General Defects; Photo 6 – Excessive Formwork Cover (Span 7 Void F)



Underside Internal General Defects; Photo 7 – Excessive Formwork Over (Span 10 Void B)



Underside Internal General Defects; Photo 8 – Rusty Tie Wires (Span 4 Void K)



Underside Internal General Defects; Photo 9 – Rusty Tie Wires (Span 5 Void K)



Underside Internal General Defects; Photo 10 – Rusty Tie Wires (Span 6 Void I)



Underside Internal General Defects; Photo 11 – Rusty Tie Wires (Span 6 Void I)



Underside Internal General Defects; Photo 12 – Rusty Tie Wires (Span 9 Void A)



Underside Internal General Defects; Photo 13 – Rusty Tie Wires (Span 9 Void B)



Underside Internal General Defects; Photo 14 – Spalling (Span 14 Void F)

The following sections will detail specific defects which have been identified during the inspection.

Defect drawings can be found in Appendix A

5.3.1.2 Span 1

Span 1 was inaccessible for the Principal Inspection. The west ramp access hatch is closed with permanent fixings and the access hatches in Spans 2 and 3 on both ramps are out of range from the inspection equipment to reach Span 1.

It should be noted that all deck voids were continuous between Spans 1-3 a as such there was no visual indications of where the piers were and where each span started and finished. As such all span locations had to be estimated and all defect locations are indicative.

5.3.1.3 Span 2

Void F

Access not possible to Void F as no access hatches exist.

Void G

Access not possible to Void G as no access hatches exist.

Void I

Access was not possible to Void I as the access hatches were inaccessible as they were above a carriageway which it was not possible to close.

Void J

Access was not possible to Void J as no access hatches exist.

Void H

- A 500mm by 1000mm area of honeycombing with exposed rebar to soffit in void H **(See Underside Internal Span 2 Defects; Photo 1).**
- A 800mm by full width area of 10-20mm isolated spalling and dampness to floor in void H **(See Underside Internal Span 2 Defects; Photo 2).**
- 300mm by full height and 1000mm by full height areas of dampness to West wall in void H **(See Underside Internal Span 2 Defects; Photo 3).**
- A 1000mm by full width area of delamination and dampness to floor in void H with water staining to the west wall **(See Underside Internal Span 2 Defects; Photo 4).**

Void K

- A 2000mm by full width area of excessive guano cover and delamination to floor in void K **(See Underside Internal Span 2 Defects; Photo 5).**
- A 2000mm by full width area of excessive formwork cover to soffit in void K **(See Underside Internal Span 2 Defects; Photo 5).**
- A 1000mm by full height area of excessive formwork cover to East wall in void K **(See Underside Internal Span 2 Defects; Photo 6).**



Underside Internal Span 2 Defects; Photo 1 – Honeycombing With Exposed Rebar



Underside Internal Span 2 Defects; Photo 2 – Spalling With Dampness



Underside Internal Span 2 Defects; Photo 3 –Dampness



Underside Internal Span 2 Defects; Photo 4 – Delamination



Underside Internal Span 2 Defects; Photo 5 – Excessive Guano Cover, Delamination And Excessive Formwork Cover



Underside Internal Span 2 Defects; Photo 6 - Excessive Formwork Cover

5.3.1.4 Span 3

Void F

Access not possible to Void F as no access hatches exist.

Void G

Access not possible to Void G as no access hatches exist.

Void I

Access was not possible to Void I as the access hatches were inaccessible as they were above a carriageway which it was not possible to close.

Void J

Access was not possible to Void J as no access hatches exist.

Void H

- A 1500mm long, 2-3mm wide longitudinal crack to East wall in void H **(See Underside Internal Span 3 Defects; Photo 1).**
- Dampness due to condensation and water staining throughout soffit in void H **(See Underside Internal Span 3 Defects; Photo 2).**
- A 3000mm by full width area of delamination to floor in void H **(See Underside Internal Span 3 Defects; Photo 3).**
- A 500x500mm area of honeycombing on the soffit of the ceiling with a 100x10mm area of exposed rebar **(See Underside Internal Span 3 Defects; Photo 4)**

- **Void K**

No access hatches were present for Void K on Span 3.



Underside Internal Span 3 Defects; Photo 1 – Cracking



Underside Internal Span 3 Defects; Photo 2 – Dampness With Water Staining



Underside Internal Span 3 Defects; Photo 3 – Delamination



Underside Internal Span 3 Defects; Photo 4 – Honeycombing with Exposed Rebar

5.3.1.5 Span 4

Void A

No defects were noted to void A other than generic defects listed in Section 5.3.1.1 in this report.

Void B

Access to Void B was not possible as there are no access hatches.

Void C

Inspected from topside (see Section 5.3.2)

Void D

Access to Void D was not possible as there are no access hatches.

Void E

- A 2000mm by full height area of leachate staining present on the East wall of Void E **(Underside Internal Span 4 Defects; Photo 1)**
- Rust staining present throughout the North end wall **(Underside Internal Span 4 Defects; Photo 2)**

Void F

- A 500mm by 500mm area of 50mm spalling with exposed rebar to soffit in void F **(See Underside Internal Span 4 Defects; Photo 3).**
- A 1000mm by 1000mm area of water staining with a 500mm by 500mm area of leachate to soffit in void F **(See Underside Internal Span 4 Defects; Photo 4).**
- A 250mm by 250mm area of spalling to soffit in void F **(See Underside Internal Span 4 Defects; Photo 5).**

Void G

Access to Void G was not possible as there are no access hatches.

Void H

Access to Void H was not possible as there are no access hatches.

Void I

Access to Void I was not possible as there are no access hatches.

Void J

Access to Void J was not possible as there are no access hatches.

Void K

- 2No. displaced drainage kerbs in void K **(See Underside Internal Span 4 Defects; Photo 6 and Underside Internal Span 4 Defects; Photo 7).**



Underside Internal Span 4 Defects; Photo 1 – Leachate



Underside Internal Span 4 Defects; Photo 2 – Rust Staining



Underside Internal Span 4 Defects; Photo 3 – Spalling With Exposed Rebar



Underside Internal Span 4 Defects; Photo 4 – Water Staining With Leachate



Underside Internal Span 4 Defects; Photo 5 – Spalling



Underside Internal Span 4 Defects; Photo 6 – Displaced Drainage Kerb



Underside Internal Span 4 Defects; Photo 7 – Displaced Drainage Kerb

5.3.1.6 Span 5

Void A

Access to Void A was not possible as there are no access hatches.

Void B

Access to Void B was not possible as there are no access hatches.

Void C

Inspected from topside (see Section 5.3.2).

Void D

Access to Void D was not possible as there are no access hatches.

Void E

Access to Void E was not possible as there are no access hatches.

Void F

No defects were noted other than the generic defects covered in Section 5.3.1.1 of this report.

Void G

Access to Void G was not possible as there are no access hatches.

Void H

Access to Void H was not possible as there are no access hatches.

Void I

Access to Void I was not possible as there are no access hatches.

Void J

Access to Void J was not possible as there are no access hatches.

Void K

No defects were noted other than the generic defects covered in Section 5.3.1.1 of this report.

5.3.1.7 Span 6

Void A
Access to Void A was not possible as there are no access hatches

Void B
There is excessive debris cover to the floor throughout Void B **(See Underside Internal Span 6 Defects; Photo 1)**

Void C
Inspected from topside (see Section 5.3.2).

Void D
Rebar protruding from East wall in void D **(See Underside Internal Span 6 Defects; Photo 2).**

Void E
Access to Void E was not possible as there are no access hatches

Void F
Access to Void F was not possible as there are no access hatches

Void G
Access to Void G was not possible as there are no access hatches

Void H
Access to Void H was not possible as there are no access hatches

Void I
Note that Void I was only inspected over approximately 75% of the length of the span due to spalled concrete preventing the inspection vehicle from continuing.

- A 100mm by 100mm area of rust staining to East wall bottom haunch in void I **(See Underside Internal Span 6 Defects; Photo 3).**
- A 100mm by 100mm area of rust staining to East wall bottom haunch in void I **(See Underside Internal Span 6 Defects; Photo 4).**
- A 100mm by 300mm area of 10mm spalling with rust staining to East wall bottom haunch in void I **(See Underside Internal Span 6 Defects; Photo 5).**
- Approximately 50% of the floor was heavily delaminated due to dampness from leaking drain pipes within the void throughout the full length of the inspected area of the void **(See Underside Internal Span 6 Defects; Photo 6, to Underside Internal Span 6 Defects; Photo 9).**
- Sporadic rust staining is present to the bottom 150mm and the bottom haunch of the east wall throughout the inspected length, likely caused by leaking drainage pipes and subsequent dampness **(See** Error! Reference source not found. **to Underside Internal Span 6 Defects; Photo 13).**
- Degradation to drain pipe visible in void I **(See Underside Internal Span 6 Defects; Photo 14).**

- A 400mm diameter area of honeycombing to soffit in void I **(See Underside Internal Span 6 Defects; Photo 15).**



Underside Internal Span 6 Defects; Photo 1 – Excessive Formwork and Debris



Underside Internal Span 6 Defects; Photo 2 – Rust Staining



Underside Internal Span 6 Defects; Photo 3 – Exposed Rebar And Spalling



Underside Internal Span 6 Defects; Photo 4 – Rust Staining



Underside Internal Span 6 Defects; Photo 5 – Spalling With Rust Staining



Underside Internal Span 6 Defects; Photo 6 – Spalling



Underside Internal Span 6 Defects; Photo 7 – Spalling



Underside Internal Span 6 Defects; Photo 8 – Spalling



Underside Internal Span 6 Defects; Photo 9 – Spalling



Underside Internal Span 6 Defects; Photo 10 – Rust Staining



Underside Internal Span 6 Defects; Photo 11 – Rust Staining



Underside Internal Span 6 Defects; Photo 12 – Rust Staining



Underside Internal Span 6 Defects; Photo 13 – Rust Staining



Underside Internal Span 6 Defects; Photo 14 – Drain Pipe Degradation



Underside Internal Span 6 Defects; Photo 15 – Honeycombing

5.3.1.8 Span 7

Void A

Access to Void A was not possible as there are no access hatches.

Void B

- A full width by up to 250mm area of leachate to top of North end wall in void B **(See Underside Internal Span 7 Defects; Photo 1).**
- A 100mm by 20mm area of rust staining to West wall in void B **(See Underside Internal Span 7 Defects; Photo 2)**
- A 1000mm by 50m area of rust staining to West wall in void B **(See Underside Internal Span 7 Defects; Photo 3).**
- A 300mm by 50mm area of rust staining to East wall in void B **(See Underside Internal Span 7 Defects; Photo 4).**
- Leachate and rust staining throughout South end wall in void B2 **(See Underside Internal Span 7 Defects; Photo 5).**

Void D

- Leachate and rust staining throughout North end wall in void D **(See Underside Internal Span 7 Defects; Photo 6).**
- A 100mm by 100mm area of rust staining to soffit in void D **(See Underside Internal Span 7 Defects; Photo 7).**
- A 200mm by 50mm area of rust staining to West wall in void D **(See Underside Internal Span 7 Defects; Photo 8)**
- A 500mm by 500mm area of rust staining to West wall in void D **(See Underside Internal Span 7 Defects; Photo 9)**
- A 1500mm by 500mm area of rust staining to West wall in void D **(See Underside Internal Span 7 Defects; Photo 10).**
- A 100mm by 10mm area of rust staining to East wall in void D **(See Underside Internal Span 7 Defects; Photo 11).**
- Rust staining throughout South end wall in void D **(See Underside Internal Span 7 Defects; Photo 12).**

Void E

Access to Void E was not possible as there are no access hatches.

Void F

- Leachate and rust staining throughout South end wall in void F **(See Underside Internal Span 7 Defects; Photo 13).**
- A 200mm by 200mm area of 50mm spalling to soffit in void F **(See Underside Internal Span 7 Defects; Photo 14).**
- Leachate and rust staining throughout North end wall in void F**(See Underside Internal Span 7 Defects; Photo 15).**

Void G

- 2No. 500mm by half width areas of water ingress, from leaking drainage pipe, to floor in void G **(See Underside Internal Span 7 Defects; Photo 16 and Underside Internal Span 7 Defects; Photo 17).**



Underside Internal Span 7 Defects; Photo 1 – Leachate



Underside Internal Span 7 Defects; Photo 2 – Rust Staining



Underside Internal Span 7 Defects; Photo 3 – Rust Staining



Underside Internal Span 7 Defects; Photo 4 – Rust Staining



Underside Internal Span 7 Defects; Photo 5 – Leachate And Rust Staining



Underside Internal Span 7 Defects; Photo 6 – Leachate And Rust Staining



Underside Internal Span 7 Defects; Photo 7 – Rust Staining



Underside Internal Span 7 Defects; Photo 8 – Rust Staining



Underside Internal Span 7 Defects; Photo 9 – Rust Staining



Underside Internal Span 7 Defects; Photo 10 – Rust Staining



Underside Internal Span 7 Defects; Photo 11 – Rust Staining



Underside Internal Span 7 Defects; Photo 12 – Rust Staining



Underside Internal Span 7 Defects; Photo 13 – Leachate and Rust Staining



Underside Internal Span 7 Defects; Photo 14 – Spalling



Underside Internal Span 7 Defects; Photo 15 – Leachate And Rust Staining



Underside Internal Span 7 Defects; Photo 16 – Water Ingress



Underside Internal Span 7 Defects; Photo 17 – Water Ingress

5.3.1.9 Span 8

Void A

No defects were noted to Void A other than generic defects listed in Section 5.3.1.1 in this report.

Void B

No defects were noted to Void B other than generic defects listed in Section 5.3.1.1 in this report.

Void C

Inspected from topside (see Section 5.3.2).

Void D

- Dampness to floor and standing water throughout North end of span in void D **(See Underside Internal Span 8 Defects; Photo 1).**

Void E

- A 50mm by 50mm void, 50mm deep, to floor due to poor finishing in void E **(See Underside Internal Span 8 Defects; Photo 2).**
- A 500mm by half width area of water ingress, from leaking drainage pipe, to floor in void E **(See Underside Internal Span 8 Defects; Photo 3)**
- A 750mm by half width area of water ingress, from leaking drainage pipe, to floor in void E **(See Underside Internal Span 8 Defects; Photo 4).**
- Widespread delamination to floor in void E **(See Underside Internal Span 8 Defects; Photo 5, Underside Internal Span 8 Defects; Photo 6 and Underside Internal Span 8 Defects; Photo 7).**
- Horizontal cracking to access hatch wall at hatch E2 **(See Underside Internal Span 8 Defects; Photo 8).**
- Rusting to drainage pipe bracket at North end in void E **(See Underside Internal Span 8 Defects; Photo 9).**
- Leachate to drainage block in void E **(See Underside Internal Span 8 Defects; Photo 10).**
- A 50mm by 150mm area of honeycombing with exposed rebar with rusting to North end wall in void E **(See Underside Internal Span 8 Defects; Photo 11).**



Underside Internal Span 8 Defects; Photo 1 – Dampness And Standing Water



Underside Internal Span 8 Defects; Photo 2 – Void



Underside Internal Span 8 Defects; Photo 3 – Water Ingress



Underside Internal Span 8 Defects; Photo 4 – Water Ingress



Underside Internal Span 8 Defects; Photo 5 – Delamination



Underside Internal Span 8 Defects; Photo 6 – Delamination



Underside Internal Span 8 Defects; Photo 7 – Delamination



Underside Internal Span 8 Defects; Photo 8 – Horizontal Cracking



Underside Internal Span 8 Defects; Photo 9 – Rusting



Underside Internal Span 8 Defects; Photo 10 – Leachate



Underside Internal Span 8 Defects; Photo 11 – Exposed Rebar With Rusting

5.3.1.10 Span 9

Void A

- Leachate and rust staining throughout North end wall in void A **(See Underside Internal Span 9 Defects; Photo 1).**
- A 5000mm by full height area of rust staining to West wall in void A **(See Underside Internal Span 9 Defects; Photo 2).**
- A 5000mm by 100mm area of metal ties protruding from West wall in void A **(See Underside Internal Span 9 Defects; Photo 3).**

Void B

- A 1000mm by 1000mm area of delamination with to floor in void B **(See Underside Internal Span 9 Defects; Photo 4).**
- A 1500mm by full width area of dampness to floor at North end in void B **(See Underside Internal Span 9 Defects; Photo 5).**
- Rust staining throughout the east wall, north anchorage block **(See Underside Internal Span 9 Defects; Photo 6)**
- Rust staining throughout North end wall in void B **(See Underside Internal Span 9 Defects; Photo 5).**
- Excessive exposed tie wires with rust staining to the soffit of the ceiling adjacent to the North end wall **(Underside Internal Span 9 Defects; Photo 7).**
- A 200mm long by full height area of rust staining to East wall bottom haunch in void B **(See Underside Internal Span 9 Defects; Photo 8).**
- A 50mm by 50mm area of rust staining the to concrete repair at West wall in void B **(See Underside Internal Span 9 Defects; Photo 9).**
- Excessive rust staining over 300mm by800mm to the West wall above the concrete haunch in void B **(See Underside Internal Span 9 Defects; Photo 9).**
- A 50mm by 100mm area of dampness to West wall bottom haunch in void B **(See Underside Internal Span 9 Defects; Photo 10).**
- A 1000mm by 250mm area of rust staining with metal ties protruding from East wall in void B **(See Underside Internal Span 9 Defects; Photo 11).**
- A 1000mm by 250mm area of metal ties protruding from West wall in void B **(See Underside Internal Span 9 Defects; Photo 12).**

Void D

- Rust staining throughout North end wall in void D **(See Underside Internal Span 9 Defects; Photo 13).**
- A 100mm by 200mm area of rust staining at West wall, North anchorage block in void D **(See Underside Internal Span 9 Defects; Photo 14).**
- Leachate throughout South end wall in void D **(See Underside Internal Span 9 Defects; Photo 15).**

Void E

- A 3000mm by full width area of water ingress, to floor at North end in void E **(See Underside Internal Span 9 Defects; Photo 16).**
- A 200mm by 400mm area of exposed rebar with rusting at East wall top haunch in void E **(See Underside Internal Span 9 Defects; Photo 17).**
- Area of rust staining at West wall, South anchorage block in void E **(See Underside Internal Span 9 Defects; Photo 18).**



Underside Internal Span 9 Defects; Photo 1 – Leachate And Rust Staining



Underside Internal Span 9 Defects; Photo 2 – Rust Staining



Underside Internal Span 9 Defects; Photo 3 – Protruding Ties



Underside Internal Span 9 Defects; Photo 4 – Delamination



Underside Internal Span 9 Defects; Photo 5 – Dampness And Rust Staining



Underside Internal Span 9 Defects; Photo 6 – Rust Staining



Underside Internal Span 9 Defects; Photo 7 – Excessive Tie Wires with Rust Staining



Underside Internal Span 9 Defects; Photo 8 – Rust Staining



Underside Internal Span 9 Defects; Photo 9 – Rust Staining



Underside Internal Span 9 Defects; Photo 10 – Dampness



Underside Internal Span 9 Defects; Photo 11 – Rust Staining Protruding Ties



Underside Internal Span 9 Defects; Photo 12 – Protruding Ties



Underside Internal Span 9 Defects; Photo 13 – Rust Staining



Underside Internal Span 9 Defects; Photo 14 – Rust Staining



Underside Internal Span 9 Defects; Photo 15 – Leachate



Underside Internal Span 9 Defects; Photo 16 – Water Ingress



Underside Internal Span 9 Defects; Photo 17 – Exposed Rebar With Rusting



Underside Internal Span 9 Defects; Photo 18 – Rust Staining

5.3.1.11 Span 10

Void A

No defects were noted to void A other than generic defects listed in Section 5.3.1.1 in this report.

Void B

- There is rust staining present throughout both the South anchorage blocks **(Underside Internal Span 10 Defects; Photo 1 and Underside Internal Span 10 Defects; Photo 2)**
- Isolated areas of rust staining to bottom of East Wall throughout the length from the north access hatch to the north end wall **(See Underside Internal Span 10 Defects; Photo 1 and Underside Internal Span 10 Defects; Photo 2).**
- An open core hole to East wall bottom haunch in void B **(See Underside Internal Span 10 Defects; Photo 2).**
- Dampness to floor at North end of span in void B **(See Underside Internal Span 10 Defects; Photo 3).**
- A 50mm by 50mm area of dampness and rust staining to East wall in void B **(See Underside Internal Span 10 Defects; Photo 4).**
- Area of rust staining to West wall of access hatch B **(See Underside Internal Span 10 Defects; Photo 5).**
- A 200mm by 50mm area of 20mm spalling with exposed rebar to soffit above West wall in void B **(See Underside Internal Span 10 Defects; Photo 6).**
- A 50mm by 250mm area of rust staining to West wall in void B **(See Underside Internal Span 10 Defects; Photo 7).**
- A 10mm by 100mm area of exposed rebar to East wall in void B **(See Underside Internal Span 10 Defects; Photo 8).**

Void D

- A 500mm by 10mm area of rust staining to East wall bottom haunch in void D **(See Underside Internal Span 10 Defects; Photo 9).**
- A 500mm by full height area of water and rust staining to East wall in void D **(See Underside Internal Span 10 Defects; Photo 9).**
- A 6000mm by 100mm area of rust staining to West wall in void D **(See Underside Internal Span 10 Defects; Photo 10, Underside Internal Span 10 Defects; Photo 11 and Underside Internal Span 10 Defects; Photo 12).**
- 2No. 10mm by 100mm areas of exposed rebar to West wall in void D **(See Underside Internal Span 10 Defects; Photo 13).**
- A 10mm by 100mm area of exposed rebar to South end wall in void D **(See Underside Internal Span 10 Defects; Photo 14).**
- Minor rust staining throughout South end wall **(See Underside Internal Span 10 Defects; Photo 14).**

Void E

- A 500mm by 250mm area of delamination to floor in void E **(See Underside Internal Span 10 Defects; Photo 15).**
- A 3000mm by half width area of water ingress, from leaking drainage pipe, to floor in void E **(See Underside Internal Span 10 Defects; Photo 16).**
- Rusting to drain bracket in void E **(See Underside Internal Span 10 Defects; Photo 17).**
- A 250mm by 250mm area of rust staining to East wall in void E **(See Underside Internal Span 10 Defects; Photo 18).**



Underside Internal Span 10 Defects; Photo 1 – Rust Staining



Underside Internal Span 10 Defects; Photo 2 – Rust Staining



Underside Internal Span 10 Defects; Photo 1 – Rust Staining



Underside Internal Span 10 Defects; Photo 2 – Rust Staining And Open Core Hole



Underside Internal Span 10 Defects; Photo 3 – Dampness



Underside Internal Span 10 Defects; Photo 4 – Dampness And Rust Staining



Underside Internal Span 10 Defects; Photo 5 – Rust Staining



Underside Internal Span 10 Defects; Photo 6 – Exposed Rebar



Underside Internal Span 10 Defects; Photo 7 – Rust Staining



Underside Internal Span 10 Defects; Photo 8 – Exposed Rebar



Underside Internal Span 10 Defects; Photo 9 – Rust Staining and Water



Underside Internal Span 10 Defects; Photo 10 – Rust Staining



Underside Internal Span 10 Defects; Photo 11 – Rust Staining And Protruding Ties



Underside Internal Span 10 Defects; Photo 12 – Rust Staining And Protruding Ties



Underside Internal Span 10 Defects; Photo 13 – Exposed Rebar



Underside Internal Span 10 Defects; Photo 14 – Exposed Rebar



Underside Internal Span 10 Defects; Photo 15 – Lamination



Underside Internal Span 10 Defects; Photo 16 – Water Ingress



Underside Internal Span 10 Defects; Photo 17 – Rusting



Underside Internal Span 10 Defects; Photo 18 – Rust Staining

5.3.1.12 Span 11

Void A

- No defects were noted to void A other than generic defects listed in section 5.3.1.1 in this report

Void B

- Standing water to North end of span in void B likely backed up from Void C through the interconnecting drainage channels in the north end **(See Underside Internal Span 11 Defects; Photo 1).**
- A 2000mm by 1000mm area of dampness in leachate to the West wall **(See Underside Internal Span 11 Defects; Photo 2).**
- Dampness throughout the bottom haunch between the North access hatch and North end wall **(See Underside Internal Span 11 Defects; Photo 2)**.
- Dampness and water staining throughout North end wall in void B **(See Underside Internal Span 11 Defects; Photo 3).**
- Dampness and water staining to bottom 100mm and full height of bottom haunch of East wall in void B, at North end of span between the North access hatch and end wall **(See Underside Internal Span 11 Defects; Photo 4)**
- Dampness to both East and West walls between south access hatch and south end wall **(See Underside Internal Span 11 Defects; Photo 5).**
- A 2000mm by full width area of dampness to soffit in void B **(See Underside Internal Span 11 Defects; Photo 6).**
- A full width by half height area of dampness to top of South end wall in void B **(Underside Internal Span 11 Defects; Photo 6 and Underside Internal Span 11 Defects; Photo 7).**
- Rust staining throughout South end wall in void B **(See Underside Internal Span 11 Defects; Photo 7**Error! Reference source not found.**).**

Void D

- Dampness and standing water to floor at North end of span in void D likely backed up from Void C through the interconnecting drainage channels at the north end. **(See Underside Internal Span 11 Defects; Photo 8).**
- A 1000mm by full height area of salt staining to East wall bottom haunch in void D **(See Underside Internal Span 11 Defects; Photo 9).**
- A 100mm by 20mm area of exposed rebar to West wall in void D **(See Underside Internal Span 11 Defects; Photo 10).**
- A 1000mm by 250mm area of dampness to floor adjacent to East wall in void D **(See Underside Internal Span 11 Defects; Photo 11).**
- Protruding reinforcement at floor in void D **(See Underside Internal Span 11 Defects; Photo 12).**
- Rust staining throughout South end wall in void D **(See Underside Internal Span 11 Defects; Photo 13).**

Void E

- A 1000mm by half width area of delamination to floor throughout the length of void E **(See Underside Internal Span 11 Defects; Photo 14).**



Underside Internal Span 11 Defects; Photo 1 – Standing Water



Underside Internal Span 11 Defects; Photo 2 – Water Seepage And Leachate



Underside Internal Span 11 Defects; Photo 3 – Dampness



Underside Internal Span 11 Defects; Photo 4 – Dampness



Underside Internal Span 11 Defects; Photo 5 – Dampness



Underside Internal Span 11 Defects; Photo 6 – Dampness



Underside Internal Span 11 Defects; Photo 7 – Dampness With Rust Staining



Underside Internal Span 11 Defects; Photo 8 – Dampness and Standing Water



Underside Internal Span 11 Defects; Photo 9 – Salt Staining



Underside Internal Span 11 Defects; Photo 10 – Exposed Rebar



Underside Internal Span 11 Defects; Photo 11 – Dampness



Underside Internal Span 11 Defects; Photo 12 – Protruding Rebar



Underside Internal Span 11 Defects; Photo 13 – Rust Staining



Underside Internal Span 11 Defects; Photo 14 – Delamination

5.3.1.13 Span 12

Void A

- Access to Void A was not possible as there are no access hatches.

Void B

- A 250mm by 500mm area of dampness and rust staining to East wall in void B **(See Underside Internal Span 12 Defects; Photo 1)**
- A 3000mm by full height area of dampness and rust staining to East wall bottom haunch in void B **(See Underside Internal Span 12 Defects; Photo 2).**
- A 1000mm by full height area of dampness to West wall bottom haunch in void B **(See Underside Internal Span 12 Defects; Photo 3).**
- A 1000mm by full width area of dampness and rust staining and delamination to floor in void B **(See Underside Internal Span 12 Defects; Photo 4).**
- A 100mm by 200mm area of rust staining to West wall in void B **(See Underside Internal Span 12 Defects; Photo 5).**
- Dampness and rust staining throughout North end wall in void B **(See Underside Internal Span 12 Defects; Photo 6).**
- Dampness to the top of both walls and soffit throughout span in void B **(See Underside Internal Span 12 Defects; Photo 7).**
- 2No. 1000mm by 1000mm areas, 2No. 250mm by 750mm areas and a 250mm by 500mm area of honeycombing with exposed rebar to soffit in void B **(See Underside Internal Span 12 Defects; Photo 8, Underside Internal Span 12 Defects; Photo 9, Underside Internal Span 12 Defects; Photo 10, Underside Internal Span 12 Defects; Photo 11 and Underside Internal Span 12 Defects; Photo 12).**
- A 1000mm by full height area of dampness to East wall bottom haunch and floor in void B **(See Underside Internal Span 12 Defects; Photo 13)**
- A 1500mm by full height area of dampness to West wall top haunch in void B **(See Underside Internal Span 12 Defects; Photo 14).**
- A 250mm by full height area of water seepage with heavy leachate to West wall in void B **(See Underside Internal Span 12 Defects; Photo 15).**
- A 500mm by 500mm area of dampness to East wall in void B **(See Underside Internal Span 12 Defects; Photo 16).**
- Metal protruding from West wall in void B **(See Underside Internal Span 12 Defects; Photo 17).**
- Rusting pattress plate visible at West wall in void B **(See Underside Internal Span 12 Defects; Photo 17).**
- A 250mm by 250mm area of spalling to West wall in void B **(See Underside Internal Span 12 Defects; Photo 18).**
- A 500mm by 500mm area of rust staining to West wall in void B **(See Underside Internal Span 12 Defects; Photo 19).**
- A 2000mm by full width area of dampness and rust staining to soffit in void B **(See Underside Internal Span 12 Defects; Photo 20).**
- Rust staining throughout South end wall and at interface between South end wall and West wall in void B **(See Underside Internal Span 12 Defects; Photo 21).**

Void D

- A 2000mm by 100mm area of dampness to top of West wall in void D **(See Underside Internal Span 12 Defects; Photo 22).**
- Dampness to soffit between the north access hatch and the north end wall in void D **(See Underside Internal Span 12 Defects; Photo 22).**
- A 750mm by full height area of dampness to East wall bottom haunch in void D **(See Underside Internal Span 12 Defects; Photo 23).**
- A 2000mm by full height area of dampness to East wall top haunch in void D **(See Underside Internal Span 12 Defects; Photo 24).**
- Rust staining to North end wall in void D **(See Underside Internal Span 12 Defects; Photo 25).**
- A 100mm by 100mm area of rust staining to East wall bottom haunch in void D **(See Underside Internal Span 12 Defects; Photo 26)**
- A 5000mm by 250mm area of rust staining with an open core hole to East wall in void D **(See Underside Internal Span 12 Defects; Photo 27)**
- A 1000mm by 250mm area of rust staining with leachate emanating from an open core hole to East wall in void D **(See Underside Internal Span 12 Defects; Photo 27 and Underside Internal Span 12 Defects; Photo 28).**
- A 100mm by 500mm area of honeycombing with exposed rebar to soffit in void D **(See Underside Internal Span 12 Defects; Photo 29).**
- A 1000mm by 1000mm area of honeycombing with exposed rebar to soffit in void D **(See Underside Internal Span 12 Defects; Photo 29).**
- A 500mm by 1000mm area of honeycombing with exposed rebar to soffit in void D **(See Underside Internal Span 12 Defects; Photo 30).**
- A 250mm by 500mm area of honeycombing with exposed rebar to soffit in void D **(See Underside Internal Span 12 Defects; Photo 31).**
- A 100mm by 250mm area of dampness with leachate to West wall in void D **(See Underside Internal Span 12 Defects; Photo 32).**
- A 1000mm by 1000mm area of rust staining to West wall in void D possibly the result of saw cutting steel at construction **(See Underside Internal Span 12 Defects; Photo 33).**
- A 750mm by 750mm area of rust staining to West wall, South anchorage block in void D **(See Underside Internal Span 12 Defects; Photo 34).**
- A 600mm by 200mm area of spalling with exposed rebar to soffit in void D **(See Underside Internal Span 12 Defects; Photo 35).**
- A 400mm by 100mm area and a 250mm by 100mm area of honeycombing with exposed rebar to West wall in void D **(See Underside Internal Span 12 Defects; Photo 36).**
- Rust staining throughout South end wall in void D **(See Underside Internal Span 12 Defects; Photo 37).**

Void F

- Rusting to edges of access hatch F1 **(See Underside Internal Span 12 Defects; Photo 38).**
- 3No. areas of leakage from drainage and the East wall in void F **(See Underside Internal Span 12 Defects; Photo 39 and Underside Internal Span 12 Defects; Photo 40).**
- A 250mm by full width area of leachate to floor in void F **(See Underside Internal Span 12 Defects; Photo 41).**

- A 500mm by full height area of honeycombing to West wall in void F **(See Underside Internal Span 12 Defects; Photo 42).**
- A 2000mm length with sporadic rust staining to the West wall bottom haunch in void F **(See Underside Internal Span 12 Defects; Photo 43, Underside Internal Span 12 Defects; Photo 44, Underside Internal Span 12 Defects; Photo 45 and Underside Internal Span 12 Defects; Photo 46).**
- A 100mm by 100mm area of rust staining to floor in void F **(See Underside Internal Span 12 Defects; Photo 45).**
- A 500mm by 250mm area of rust staining to floor in void F**(See Underside Internal Span 12 Defects; Photo 47).**
- Rusting to drainage pipe bracket in void F **(See Underside Internal Span 12 Defects; Photo 48).**
- A 250mm by full width area of dampness with rust staining to floor in void F **(See Underside Internal Span 12 Defects; Photo 49).**

Void G

- Dampness and rust staining with sporadic delamination throughout majority of floor in void G **(See Underside Internal Span 12 Defects; Photo 50, Underside Internal Span 12 Defects; Photo 51, Underside Internal Span 12 Defects; Photo 53, Underside Internal Span 12 Defects; Photo 54, Underside Internal Span 12 Defects; Photo 55 and Underside Internal Span 12 Defects; Photo 57).**
- Dampness and rust staining throughout majority of East wall and East wall South anchorage block in void G **(See Underside Internal Span 12 Defects; Photo 50, Underside Internal Span 12 Defects; Photo 52 and Underside Internal Span 12 Defects; Photo 53, Underside Internal Span 12 Defects; Photo 55, Underside Internal Span 12 Defects; Photo 56 and Underside Internal Span 12 Defects; Photo 58).**
- Rusty drainage bracket in void G **(See Underside Internal Span 12 Defects; Photo 59).**



Underside Internal Span 12 Defects; Photo 1 – Dampness And Rust Staining



Underside Internal Span 12 Defects; Photo 2 – Dampness And Rust Staining



Underside Internal Span 12 Defects; Photo 3 – Dampness



Underside Internal Span 12 Defects; Photo 4 – Delamination And Rust Staining



Underside Internal Span 12 Defects; Photo 5 – Rust Staining



Underside Internal Span 12 Defects; Photo 6 – Dampness And Rust Staining



Underside Internal Span 12 Defects; Photo 7 – Dampness



Underside Internal Span 12 Defects; Photo 8 – Honeycombing With Exposed Rebar



Underside Internal Span 12 Defects; Photo 9 – Honeycombing With Exposed Rebar



Underside Internal Span 12 Defects; Photo 10 – Honeycombing With Exposed Rebar



Underside Internal Span 12 Defects; Photo 11 – Honeycombing



Underside Internal Span 12 Defects; Photo 12 – Honeycombing



Underside Internal Span 12 Defects; Photo 13 – Dampness



Underside Internal Span 12 Defects; Photo 14 – Dampness



Underside Internal Span 12 Defects; Photo 15 – Water Seepage With Heavy Leachate



Underside Internal Span 12 Defects; Photo 16 – Dampness And Spalling



Underside Internal Span 12 Defects; Photo 17 – Protruding Metal and Rusting Patress Plate



Underside Internal Span 12 Defects; Photo 18 – Spalling



Underside Internal Span 12 Defects; Photo 19 – Rust Staining



Underside Internal Span 12 Defects; Photo 20 – Rust Staining And Dampness



Underside Internal Span 12 Defects; Photo 21 – Rust Staining



Underside Internal Span 12 Defects; Photo 22 – Dampness



Underside Internal Span 12 Defects; Photo 23 – Dampness



Underside Internal Span 12 Defects; Photo 24 – Dampness



Underside Internal Span 12 Defects; Photo 25 – Rust Staining



Underside Internal Span 12 Defects; Photo 26 – Rust Staining



Underside Internal Span 12 Defects; Photo 27 – Rust Staining With Open Corehole



Underside Internal Span 12 Defects; Photo 28 – Rust Staining With Leachate



Underside Internal Span 12 Defects; Photo 29 – Honeycombing With Exposed Rebar



Underside Internal Span 12 Defects; Photo 30 – Honeycombing With Exposed Rebar



Underside Internal Span 12 Defects; Photo 31 – Honeycombing With Exposed Rebar



Underside Internal Span 12 Defects; Photo 32 – Dampness With Leachate



Underside Internal Span 12 Defects; Photo 33 – Rust Staining



Underside Internal Span 12 Defects; Photo 34 – Rust Staining



Underside Internal Span 12 Defects; Photo 35 – Spalling With Exposed Rebar



Underside Internal Span 12 Defects; Photo 36 – Honeycombing With Exposed Rebar



Underside Internal Span 12 Defects; Photo 37 – Rust Staining



Underside Internal Span 12 Defects; Photo 38 – Rusting



Underside Internal Span 12 Defects; Photo 39 – Drainage Pipe Leakage



Underside Internal Span 12 Defects; Photo 40 – Drainage Pipe Leakage



Underside Internal Span 12 Defects; Photo 41 – Leachate



Underside Internal Span 12 Defects; Photo 42 – Honeycombing



Underside Internal Span 12 Defects; Photo 43 – Rust Staining



Underside Internal Span 12 Defects; Photo 44 – Rust Staining



Underside Internal Span 12 Defects; Photo 45 – Rust Staining



Underside Internal Span 12 Defects; Photo 46 – Rust Staining



Underside Internal Span 12 Defects; Photo 47 – Rust Staining



Underside Internal Span 12 Defects; Photo 48 – Rusty Drainage Bracket



Underside Internal Span 12 Defects; Photo 49 – Dampness With Rust Staining



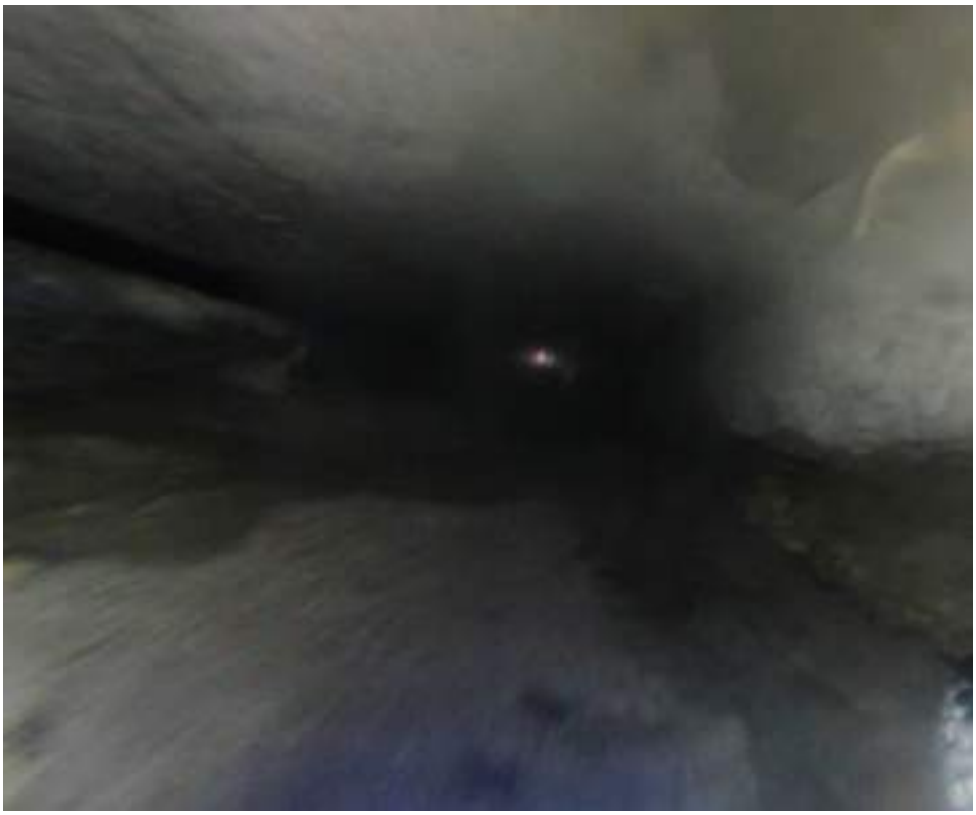
Underside Internal Span 12 Defects; Photo 50 – Dampness



Underside Internal Span 12 Defects; Photo 51 – Dampness



Underside Internal Span 12 Defects; Photo 52 – Dampness And Rust Staining



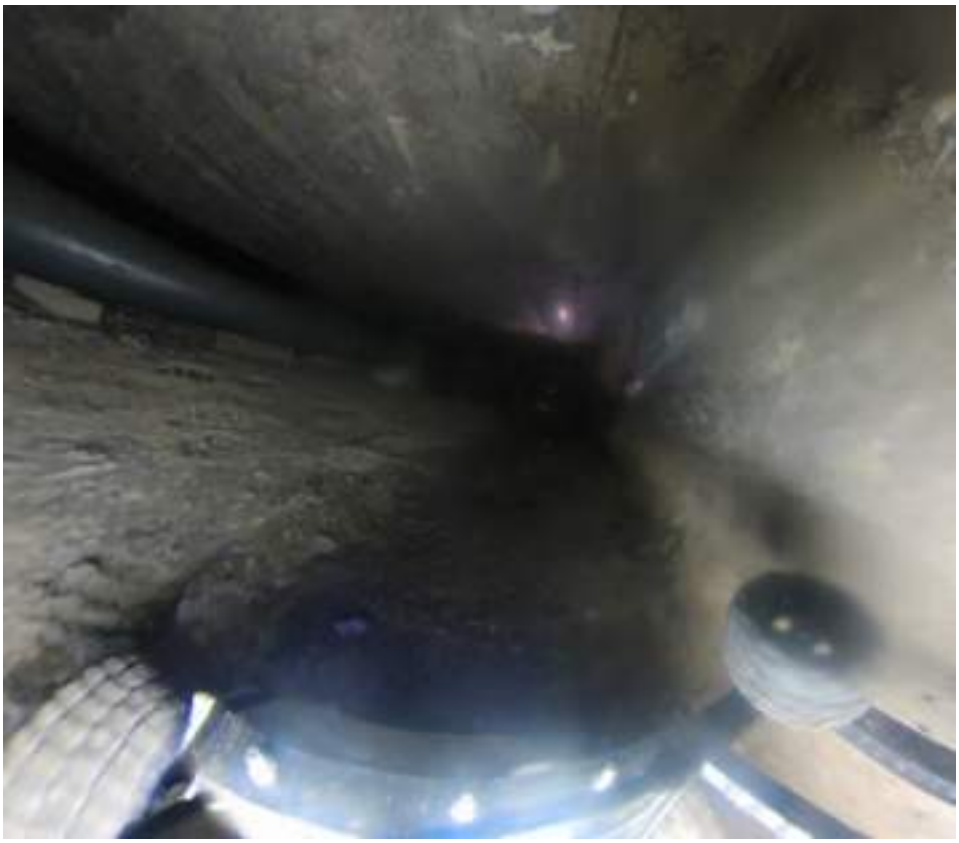
Underside Internal Span 12 Defects; Photo 53 – Dampness



Underside Internal Span 12 Defects; Photo 54 – Delamination And Rust Staining



Underside Internal Span 12 Defects; Photo 55 – Dampness And Rust Staining



Underside Internal Span 12 Defects; Photo 56 – Dampness And Rust Staining



Underside Internal Span 12 Defects; Photo 57 – Dampness



Underside Internal Span 12 Defects; Photo 58 – Rust Staining



Underside Internal Span 12 Defects; Photo 59 – Rusty Drainage Bracket

5.3.1.14 Span 13

Void B

- A 500mm by 250mm area of rust staining to floor in void B **(See Underside Internal Span 13 Defects; Photo 1).**
- Standing water, delamination, dampness and debris at North end of span up to the access hatch in void B likely due to water backing up from Void C through the adjoining drainage channels at the north end of the voids **(See Underside Internal Span 13 Defects; Photo 2).**
- A 500mm by full height area of rust staining to West wall bottom haunch in void B **(See Underside Internal Span 13 Defects; Photo 2)**
- Rust staining throughout North end wall in void B **(See Underside Internal Span 13 Defects; Photo 3).**
- Water staining to cold joint at North end wall in void B **(See Underside Internal Span 13 Defects; Photo 3).**
- A 4000mm by full height area of rust staining to East wall bottom haunch in void B **(See Underside Internal Span 13 Defects; Photo 4)**
- A 5000mm by 250mm area of rust staining to East wall in void B **(See Underside Internal Span 13 Defects; Photo 5).**
- Blowhole with water seepage to soffit in void B **(See Underside Internal Span 13 Defects; Photo 6).**
- Dampness to soffit throughout span in void B **(See Underside Internal Span 13 Defects; Photo 7).**
- Sporadic areas of dampness to both walls throughout void B **(See Underside Internal Span 13 Defects; Photo 8).**
- Rust staining and leachate throughout with 20mm diameter hole at bottom of South end wall in void B **(See Underside Internal Span 13 Defects; Photo 9).**

Void D

- A 100mm by 100mm area of rust staining to West wall in void D **(See Underside Internal Span 13 Defects; Photo 10).**
- A 250mm by full height area of rust staining to West wall bottom haunch in void D **(See Underside Internal Span 13 Defects; Photo 11).**
- A 7000mm by 250mm area of rust staining to West wall in void D **and (See Underside Internal Span 13 Defects; Photo 12).**
- A 5000mm by full width area of excessive formwork cover to soffit in void D **(See Underside Internal Span 13 Defects; Photo 13).**
- A 5000mm by 250mm area of rust staining to East wall in void D **(See Underside Internal Span 13 Defects; Photo 14).**
- Dampness throughout soffit in void D **(See Underside Internal Span 13 Defects; Photo 15).**

Void F

- Isolated areas of dampness throughout floor and bottom of West wall in void F **(See Underside Internal Span 13 Defects; Photo 16, Underside Internal Span 13 Defects; Photo 17, Underside Internal Span 13 Defects; Photo 18 and Underside Internal Span 13 Defects; Photo 19).**
- A 1500mm by 500mm area of rust staining to soffit in void F **(See Underside Internal Span 13 Defects; Photo 19).**

- 200mm by full width area of 10-20mm deep spalling to floor in void F **(See Underside Internal Span 13 Defects; Photo 20).**
- Delamination is present to the west half of the floor throughout Void F**(See Underside Internal Span 13 Defects; Photo 21 and Underside Internal Span 13 Defects; Photo 22).**
- A 750mm by full width area of extensive leachate to floor in void F **(See Underside Internal Span 13 Defects; Photo 23).**
- A 100mm by 100mm area of rust staining to West wall in void F **(See Underside Internal Span 13 Defects; Photo 23).**
- Large areas of dampness and delamination throughout West wall bottom haunch in void F **(See Underside Internal Span 13 Defects; Photo 24).**
- A 1500mm by 500mm area of rust staining to floor in void F **(See Underside Internal Span 13 Defects; Photo 25).**

Void K

- A full length by half width area of dampness to floor in void K **(See Underside Internal Span 13 Defects; Photo 26).**
- A 1000mm by 250mm area of rust staining to East wall in void K **(See Underside Internal Span 13 Defects; Photo 27).**
- Sporadic areas of rust staining to East wall bottom haunch in void K **and Underside Internal Span 13 Defects; Photo 28).**
- A 5000mm by half width area of delamination and leachate to floor in void K **(See Underside Internal Span 13 Defects; Photo 29 and Underside Internal Span 13 Defects; Photo 30).**



Underside Internal Span 13 Defects; Photo 1 – Rust Staining



Underside Internal Span 13 Defects; Photo 2 – Standing Water And Rust Staining



Underside Internal Span 13 Defects; Photo 3 – Water Staining



Underside Internal Span 13 Defects; Photo 4 – Rust Staining



Underside Internal Span 13 Defects; Photo 5 – Rust Staining



Underside Internal Span 13 Defects; Photo 6 – Blowout With Water Seepage



Underside Internal Span 13 Defects; Photo 7 – Dampness



Underside Internal Span 13 Defects; Photo 8 – Dampness



Underside Internal Span 13 Defects; Photo 9 – Rust Staining, Leachate And Hole



Underside Internal Span 13 Defects; Photo 10 – Rust Staining



Underside Internal Span 13 Defects; Photo 11 – Rust Staining



Underside Internal Span 13 Defects; Photo 12 – Rust Staining



Underside Internal Span 13 Defects; Photo 13 – Excessive Formwork Cover



Underside Internal Span 13 Defects; Photo 14 – Rust Staining



Underside Internal Span 13 Defects; Photo 15 – Dampness



Underside Internal Span 13 Defects; Photo 16 – Dampness



Underside Internal Span 13 Defects; Photo 17 – Dampness



Underside Internal Span 13 Defects; Photo 18 – Dampness



Underside Internal Span 13 Defects; Photo 19 – Dampness And Rust Staining



Underside Internal Span 13 Defects; Photo 20 – Spalling



Underside Internal Span 13 Defects; Photo 21 – Delamination



Underside Internal Span 13 Defects; Photo 22 – Delamination



Underside Internal Span 13 Defects; Photo 23 – Leachate And Rust Staining



Underside Internal Span 13 Defects; Photo 24 – Dampness With Delamination



Underside Internal Span 13 Defects; Photo 25 – Rust Staining



Underside Internal Span 13 Defects; Photo 26 – Dampness



Underside Internal Span 13 Defects; Photo 27 – Rust Staining



Underside Internal Span 13 Defects; Photo 28 – Dampness With Rust Staining



Underside Internal Span 13 Defects; Photo 29 – Delamination



Underside Internal Span 13 Defects; Photo 30 – Leachate

5.3.1.15 Span 14

Void B

- Dampness to soffit throughout span in void B **(See Underside Internal Span 14 Defects; Photo 1 and Underside Internal Span 14 Defects; Photo 2).**
- Large area of rust staining to West wall bottom haunch in void B **(See Underside Internal Span 14 Defects; Photo 3 and Underside Internal Span 14 Defects; Photo 4).**
- A 2000mm by 500mm area of dampness to floor in void B **(See Underside Internal Span 14 Defects; Photo 5).**
- A 2000mm by 250mm area of dampness to West wall in void B **(See Underside Internal Span 14 Defects; Photo 6).**
- A 300mm by 300mm area of honeycombing with exposed rebar to East wall in void B **(See Underside Internal Span 14 Defects; Photo 7).**

Void D

- Areas of excessive formwork cover throughout the span in void D **(See Underside Internal Span 14 Defects; Photo 8 and Underside Internal Span 14 Defects; Photo 9).**
- A 750mm by 500mm area of rust staining to West wall, North anchorage block in void D **(See Underside Internal Span 14 Defects; Photo 10).**
- A full width by a third height area of delamination to bottom of North end wall and rust staining throughout in void D **(See Underside Internal Span 14 Defects; Photo 11).**
- A 750mm by 500mm area of rust staining to East wall, North anchorage block in void D **(See Underside Internal Span 14 Defects; Photo 12).**
- Dampness throughout soffit and both walls in void D **(See Underside Internal Span 14 Defects; Photo 13).**
- A 500mm by full height area of dampness and leachate to East wall bottom haunch in void D **(See Underside Internal Span 14 Defects; Photo 14).**
- Rust staining and leachate throughout South end wall in void D **(See Underside Internal Span 14 Defects; Photo 15).**
- A 500mm by full width area of rust staining to soffit in void D **(See Underside Internal Span 14 Defects; Photo 16).**

Void F

- Cracking to access hatch F1 **(See Underside Internal Span 14 Defects; Photo** 17**).**
- Delamination throughout North end wall in void F **(See Underside Internal Span 14 Defects; Photo 18).**
- Half width area of delamination to floor throughout the north half of the span in void F **(See Underside Internal Span 14 Defects; Photo 19 to Underside Internal Span 14 Defects; Photo 21).**
- Large isolated areas of dampness to floor in void F **(See Underside Internal Span 14 Defects; Photo 20, Underside Internal Span 14 Defects; Photo 22 and Underside Internal Span 14 Defects; Photo 23).**
- A 500mm long, 2mm wide longitudinal crack to West wall in void F **(See Underside Internal Span 14 Defects; Photo 24).**
- A 50mm by 250mm area of exposed rebar with rusting in void F **(See Underside Internal Span 14 Defects; Photo 25).**
- Various isolated areas of rust staining, at worst 1000mm by 250mm area, throughout West wall in void F **(See Underside Internal Span 14 Defects; Photo 26, Underside Internal**

Span 14 Defects; Photo 27, Underside Internal Span 14 Defects; Photo 28, Underside Internal Span 14 Defects; Photo 29 and Underside Internal Span 14 Defects; Photo 30).

- Rust staining to the West wall, North anchorage block **(See Underside Internal Span 14 Defects; Photo 36)**

Void K

- A 250mm by 250mm area of rust staining to soffit in void K **(See Underside Internal Span 14 Defects; Photo 31).**
- 2No. 1000mm by 250mm areas of rust staining to East wall in void K **(See Underside Internal Span 14 Defects; Photo 32 and Underside Internal Span 14 Defects; Photo 33).**
- A 250mm by full height area of rust staining to East wall bottom haunch in void K **(See Underside Internal Span 14 Defects; Photo 34).**
- Dampness and delamination to floor at North end of span in void K **(See Underside Internal Span 14 Defects; Photo 35).**



Underside Internal Span 14 Defects; Photo 1 – Dampness



Underside Internal Span 14 Defects; Photo 2 – Dampness



Underside Internal Span 14 Defects; Photo 3 – Rust Staining



Underside Internal Span 14 Defects; Photo 4 – Rust Staining



Underside Internal Span 14 Defects; Photo 5 – Dampness



Underside Internal Span 14 Defects; Photo 6 – Dampness



Underside Internal Span 14 Defects; Photo 7 – Honeycombing With Exposed Rebar



Underside Internal Span 14 Defects; Photo 8 – Excessive Formwork Cover



Underside Internal Span 14 Defects; Photo 9 – Excessive Formwork Cover



Underside Internal Span 14 Defects; Photo 10 – Rust Staining



Underside Internal Span 14 Defects; Photo 11 – Delamination



Underside Internal Span 14 Defects; Photo 12 – Rust Staining



Underside Internal Span 14 Defects; Photo 13 – Dampness



Underside Internal Span 14 Defects; Photo 14 – Dampness And Leachate



Underside Internal Span 14 Defects; Photo 15 – Rust Staining and Leachate



Underside Internal Span 14 Defects; Photo 16 – Rust Staining



Underside Internal Span 14 Defects; Photo 17 – Cracking



Underside Internal Span 14 Defects; Photo 18 – Delamination



Underside Internal Span 14 Defects; Photo 19 – Delamination



Underside Internal Span 14 Defects; Photo 20 – Delamination With Rust Staining And Dampness



Underside Internal Span 14 Defects; Photo 21 – Delamination



Underside Internal Span 14 Defects; Photo 22 – Dampness



Underside Internal Span 14 Defects; Photo 23 – Dampness With Leachate And Rust Staining



Underside Internal Span 14 Defects; Photo 24 – Cracking



Underside Internal Span 14 Defects; Photo 25 – Exposed Rebar With Rusting



Underside Internal Span 14 Defects; Photo 26 – Rust Staining



Underside Internal Span 14 Defects; Photo 27 – Rust Staining



Underside Internal Span 14 Defects; Photo 28 – Rust Staining



Underside Internal Span 14 Defects; Photo 29 – Rust Staining With Leachate



Underside Internal Span 14 Defects; Photo 30 – Rust Staining



Underside Internal Span 14 Defects; Photo 31 – Rust Staining



Underside Internal Span 14 Defects; Photo 32 – Rust Staining



Underside Internal Span 14 Defects; Photo 33 – Rust Staining



Underside Internal Span 14 Defects; Photo 34 – Rust Staining



Underside Internal Span 14 Defects; Photo 35 – Delamination And Dampness



Underside Internal Span 14 Defects; Photo 36 – Rust Staining

5.3.1.16 Span 15

Void A

- A 2000mm by full height area of rust staining to East wall in void A **(See Underside Internal Span 15 Defects; Photo 1).**
- 5000mm area of rust staining to East wall in void A **(See Underside Internal Span 15 Defects; Photo 2).**
- Sporadic rust staining throughout the floor in void A **(See Underside Internal Span 15 Defects; Photo 3 and Underside Internal Span 15 Defects; Photo 4).**
- Excessive formwork cover towards North end of span in void A **(See Underside Internal Span 15 Defects; Photo 5).**
- A 500mm x 500mm area of spalling to the East wall **(See Underside Internal Span 15 Defects; Photo 6)**.

Void B

- A 2000mm by full height area of dampness to West wall top haunch in void B **(See Underside Internal Span 15 Defects; Photo 7).**
- Rust staining throughout North end wall in void B **(See Underside Internal Span 15 Defects; Photo 8).**
- A 5000mm by 200mm area of rust staining to the base of the East wall in void B **(See Underside Internal Span 15 Defects; Photo 9).**
- A 5000mm long area of sporadic rust staining to the base of the West wall in void B **(See Underside Internal Span 15 Defects; Photo 10).**
- A 2500mm by 250mm area of rust staining to West wall, including bottom haunch, in void B **(See Underside Internal Span 15 Defects; Photo 11).**
- Sporadic areas of dampness to both walls at South end of span in void B **(See Underside Internal Span 15 Defects; Photo 12 and Underside Internal Span 15 Defects; Photo 13).**
- A 2000mm long area of rust staining to West wall and North anchorage block **(See Underside Internal Span 15 Defects; Photo 14).**

Void D

- Sporadic areas of dampness to East wall and soffit at North end of span in void D **(See Underside Internal Span 15 Defects; Photo 15).**
- Rust staining throughout North end wall in void D **(See Underside Internal Span 15 Defects; Photo 16).**
- A 500mm by 100mm area of dampness to floor in void D **(See Underside Internal Span 15 Defects; Photo 17).**
- A 7000mm long area of sporadic rust staining to the base of the West wall in void D **(See Underside Internal Span 15 Defects; Photo 18).**
- A 100mm by 20mm area of exposed rebar to West wall in void D **(See Underside Internal Span 15 Defects; Photo 19).**
- A 150mm diameter area of 20-30mm deep spalling to West wall in void D **(See Underside Internal Span 15 Defects; Photo 20).**
- A large area of sporadic rust staining to the base of the East wall in void D **(See Underside Internal Span 15 Defects; Photo 21).**
- Unfinished areas to both walls, particularly at South end of span in void D **(See Underside Internal Span 15 Defects; Photo 22 and Underside Internal Span 15 Defects; Photo 23).**

- A 100mm by full width area of honeycombing with exposed rebar to soffit in void D **(See Underside Internal Span 15 Defects; Photo 24).**
- A 400mm by 400mm area of 40mm deep spalling to floor in void D **(See Underside Internal Span 15 Defects; Photo 25).**
- Rust staining to West wall North anchorage block **(See Underside Internal Span 15 Defects; Photo 26)**.

Void E

- 2No. 1000mm by full height areas of rust staining to East wall in void E1 **(See Underside Internal Span 15 Defects; Photo 27 and Underside Internal Span 15 Defects; Photo 28).**
- A 400mm x 400mm area of rust staining to soffit in void E **(See Underside Internal Span 15 Defects; Photo 29).**
- Excessive formwork cover throughout all surfaces at North end of span in void E **(See Underside Internal Span 15 Defects; Photo 30).**

Void F

- Dampness to edge of floor adjacent to West wall throughout most of span in void F **(See Underside Internal Span 15 Defects; Photo 31).**
- A 10m by full width area of delamination to floor in void F **(See Underside Internal Span 15 Defects; Photo 32).**
- A 200x50mm area of rust staining to West wall in void F **(See Underside Internal Span 15 Defects; Photo 33).**

Void K

- Rust staining throughout South end wall in void K **(See Underside Internal Span 15 Defects; Photo 34).**
- 5No. areas of sporadic rust staining to East wall, notably to bottom haunch, in void K **(See Underside Internal Span 15 Defects; Photo 35, Underside Internal Span 15 Defects; Photo 36, Underside Internal Span 15 Defects; Photo 37 and Underside Internal Span 15 Defects; Photo 38).**
- A full width by 8000mm area of dampness to floor in void K **(See Underside Internal Span 15 Defects; Photo 39 and Underside Internal Span 15 Defects; Photo 40).**
- Sporadic dampness and delamination to the floor adjacent to the East wall throughout span in void K **(See Underside Internal Span 15 Defects; Photo 41).**
- Cracking to walls of access hatch K1 **(See Underside Internal Span 15 Defects; Photo 42).**
- Rust staining to wall of access hatch K1 **(See Underside Internal Span 15 Defects; Photo 43).**
- Rust staining to the floor in the north east corner of the void **(See Underside Internal Span 15 Defects; Photo 44).**



Underside Internal Span 15 Defects; Photo 1 – Rust Staining



Underside Internal Span 15 Defects; Photo 2 – Rust Staining



Underside Internal Span 15 Defects; Photo 3 – Rust Staining



Underside Internal Span 15 Defects; Photo 4 – Rust Staining



Underside Internal Span 15 Defects; Photo 5 – Excessive Formwork Cover



Underside Internal Span 15 Defects; Photo 6 – Spalling



Underside Internal Span 15 Defects; Photo 7 – Dampness And Rust Staining



Underside Internal Span 15 Defects; Photo 8 – Rust Staining



Underside Internal Span 15 Defects; Photo 9 – Rust Staining



Underside Internal Span 15 Defects; Photo 10 – Rust Staining



Underside Internal Span 15 Defects; Photo 11 – Rust Staining and Dampness



Underside Internal Span 15 Defects; Photo 12 – Dampness



Underside Internal Span 15 Defects; Photo 13 – Dampness



Underside Internal Span 15 Defects; Photo 14 – Rust Staining



Underside Internal Span 15 Defects; Photo 15 – Dampness



Underside Internal Span 15 Defects; Photo 16 – Rust Staining



Underside Internal Span 15 Defects; Photo 17 – Dampness



Underside Internal Span 15 Defects; Photo 18 – Rust Staining



Underside Internal Span 15 Defects; Photo 19 – Exposed Rebar



Underside Internal Span 15 Defects; Photo 20 – Spalling



Underside Internal Span 15 Defects; Photo 21 – Rust Staining



Underside Internal Span 15 Defects; Photo 22 – Unfinished Surfacing



Underside Internal Span 15 Defects; Photo 23 – Unfinished Surfacing



Underside Internal Span 15 Defects; Photo 24 – Honeycombing With Exposed Rebar



Underside Internal Span 15 Defects; Photo 25 – Spalling



Underside Internal Span 15 Defects; Photo 26 – Rust Staining



Underside Internal Span 15 Defects; Photo 27 – Rust Staining



Underside Internal Span 15 Defects; Photo 28 – Rust Staining



Underside Internal Span 15 Defects; Photo 29 – Rust Staining



Underside Internal Span 15 Defects; Photo 30 – Excessive Formwork Cover



Underside Internal Span 15 Defects; Photo 31 – Dampness



Underside Internal Span 15 Defects; Photo 32 – Delamination



Underside Internal Span 15 Defects; Photo 33 – Rust Staining



Underside Internal Span 15 Defects; Photo 34 – Rust Staining



Underside Internal Span 15 Defects; Photo 35 – Rust Staining



Underside Internal Span 15 Defects; Photo 36 – Rust Staining



Underside Internal Span 15 Defects; Photo 37 – Rust Staining



Underside Internal Span 15 Defects; Photo 38 – Rust Staining



Underside Internal Span 15 Defects; Photo 39 – Dampness



Underside Internal Span 15 Defects; Photo 40 – Dampness



Underside Internal Span 15 Defects; Photo 41 – Delamination



Underside Internal Span 15 Defects; Photo 42 – Cracking



Underside Internal Span 15 Defects; Photo 43 – Rust Staining



Underside Internal Span 15 Defects; Photo 44 – Rust Staining

5.3.1.17 Span 16

Void A

- Sporadic surface cracking to floor throughout span in void A **(See Underside Internal Span 16 Defects; Photo 1).**
- A 3000mm by 500mm area of rust staining to West wall in void A **(See Underside Internal Span 16 Defects; Photo 2).**

Void B

- An area of delamination to floor between the access hatch and the North end wall in void B **(See Underside Internal Span 16 Defects; Photo 3).**
- Sporadic areas of rust staining to East wall at North half of span in void B **(See Underside Internal Span 16 Defects; Photo 4, Underside Internal Span 16 Defects; Photo 5, Underside Internal Span 16 Defects; Photo 6 and Underside Internal Span 16 Defects; Photo 7).**
- Dampness to floor and bottom of both walls at North end of span in void B **(See Underside Internal Span 16 Defects; Photo 8).**
- Standing water to North end of span in void B **(See Underside Internal Span 16 Defects; Photo 9).**
- Wetness throughout the North end wall in void B **(See Underside Internal Span 16 Defects; Photo 9).**
- A 300mm by half width area of leachate to floor and evidence of water seepage through a construction joint in the ceiling in void B **(See Underside Internal Span 16 Defects; Photo 10).**

Void D

- Dampness to floor and bottom of both walls at North end of span in void D **(See Underside Internal Span 16 Defects; Photo 11).**
- A 500mm by 100mm area and a 100mm by 100mm area of rust staining to West wall in void D **(See Underside Internal Span 16 Defects; Photo 12).**
- A 2000mm by 1000mm area of delamination to floor in void D **(See Underside Internal Span 16 Defects; Photo 13).**
- Standing water to North end of span in void D **(See Underside Internal Span 16 Defects; Photo 14).**
- A 500mm by full height area of rust staining and delamination to East wall bottom haunch in void D **(See Underside Internal Span 16 Defects; Photo 15).**
- Excessive formwork cover and wetness to North end wall in void D **(See Underside Internal Span 16 Defects; Photo 16).**
- Sporadic rust staining throughout West wall between hatches in void D **(See Underside Internal Span 16 Defects; Photo 17).**
- A 3000mm by half height area of dampness to East wall in void D **(See Underside Internal Span 16 Defects; Photo 18).**

Void E

- Cracking, spalling with exposed rebar and rust staining to walls of access hatch E1 **(See Underside Internal Span 16 Defects; Photo 19).**
- A 2000mm by full height area of rust staining to East wall bottom haunch in void E **(See Underside Internal Span 16 Defects; Photo 20).**
- A full length by 1000mm wide area and a full length by full height area of wetness to floor and bottom haunch of East wall in void E **(See Underside Internal Span 16 Defects; Photo 21 and Underside Internal Span 16 Defects; Photo 22).**
- Isolated areas of rust staining, dampness and leachate throughout East wall in void E **(See Underside Internal Span 16 Defects; Photo 23, Underside Internal Span 16 Defects;**

Photo 24, Underside Internal Span 16 Defects; Photo 25 and Underside Internal Span 16 Defects; Photo 26).

- Spalling with severe rust staining to south anchorage block **(See Underside Internal Span 16 Defects; Photo 27 and Underside Internal Span 16 Defects; Photo 28)**
- A 50mm by 300mm area of spalling with exposed rebar to East wall in void E **(See Underside Internal Span 16 Defects; Photo 27 and Underside Internal Span 16 Defects; Photo 28).**
- A 1000mm by full width area of wetness and leachate to floor from leaking drainage pipe in void E **(See Underside Internal Span 16 Defects; Photo 29).**
- 2No. areas of leaking drainage pipe in void E **(See Underside Internal Span 16 Defects; Photo 30 and Underside Internal Span 16 Defects; Photo 31).**
- A 300mm by 250mm area of delamination to floor in void E **(See Underside Internal Span 16 Defects; Photo 31).**
- Spare section of pipe obscuring view of East wall in void E **(See Underside Internal Span 16 Defects; Photo 32).**
- A 300mm by full height area of rusting and delamination to East wall bottom haunch in void E **(See Underside Internal Span 16 Defects; Photo 33).**
- A 500mm by half width area of delamination to floor in void E **(See Underside Internal Span 16 Defects; Photo 33).**

Void F
Access not possible to Void F as no access hatches exist.

Void G
Access not possible to Void F as no access hatches exist.

Void H
Access not possible to Void F as no access hatches exist.

Void I
Access not possible to Void F as no access hatches exist.

Void J
Access not possible to Void F as no access hatches exist.

Void K
Access not possible to Void F as no access hatches exist.



Underside Internal Span 16 Defects; Photo 1 – Surface Cracking



Underside Internal Span 16 Defects; Photo 2 – Rust Staining



Underside Internal Span 16 Defects; Photo 3 – Delamination



Underside Internal Span 16 Defects; Photo 4 – Rust Staining



Underside Internal Span 16 Defects; Photo 5 – Rust Staining



Underside Internal Span 16 Defects; Photo 6 – Rust Staining



Underside Internal Span 16 Defects; Photo 7 – Rust Staining



Underside Internal Span 16 Defects; Photo 8 – Dampness



Underside Internal Span 16 Defects; Photo 9 – Standing Water And Wetness



Underside Internal Span 16 Defects; Photo 10 – Leachate and Water Seepage



Underside Internal Span 16 Defects; Photo 11 – Dampness



Underside Internal Span 16 Defects; Photo 12 – Rust Staining



Underside Internal Span 16 Defects; Photo 13 – Delamination



Underside Internal Span 16 Defects; Photo 14 – Standing Water



Underside Internal Span 16 Defects; Photo 15 – Rust Staining And Delamination



Underside Internal Span 16 Defects; Photo 16 – Excessive Formwork Cover



Underside Internal Span 16 Defects; Photo 17 – Rust Staining



Underside Internal Span 16 Defects; Photo 18 – Dampness



Underside Internal Span 16 Defects; Photo 19 – Cracking, Spalling With Exposed Rebar And Rust Staining



Underside Internal Span 16 Defects; Photo 20 – Rust Staining



Underside Internal Span 16 Defects; Photo 21 – Wetness



Underside Internal Span 16 Defects; Photo 22 – Wetness



Underside Internal Span 16 Defects; Photo 23 – Rust Staining



Underside Internal Span 16 Defects; Photo 24 – Dampness, Rust Staining And Delamination



Underside Internal Span 16 Defects; Photo 25 – Dampness, Rust Staining And Delamination



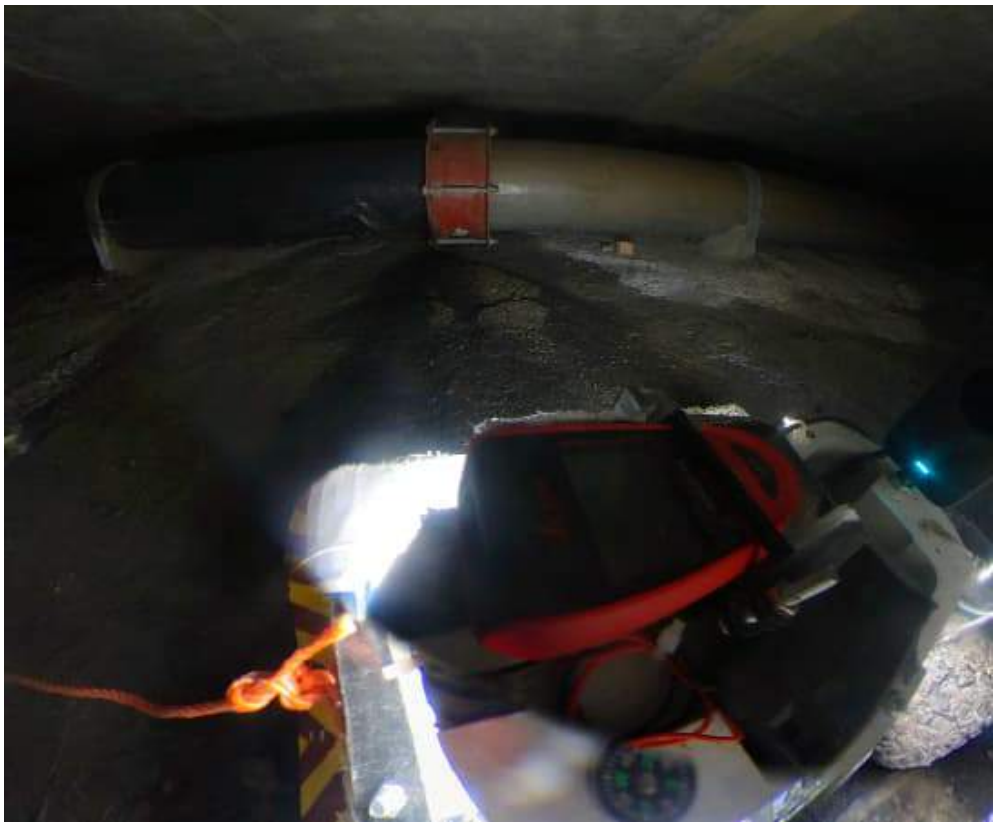
Underside Internal Span 16 Defects; Photo 26 – Rust Staining And Leachate



Underside Internal Span 16 Defects; Photo 27 – Spalling With Exposed Rusting Rebar



Underside Internal Span 16 Defects; Photo 28 – Spalling With Exposed Rusting Rebar And Dampness With Rust Staining



Underside Internal Span 16 Defects; Photo 29 – Wetness And Leachate



Underside Internal Span 16 Defects; Photo 30 – Rusting And Leaking Drainage Pipe



Underside Internal Span 16 Defects; Photo 31 – Rusting And Leaking Drainage Pipe



Underside Internal Span 16 Defects; Photo 32 – Spare Pipe Obscuring Wall



Underside Internal Span 16 Defects; Photo 33 – Rust Staining And Delamination

5.3.1.18 Span 17

Void A

- An approximately 17m long by 150mm area of wetness with sporadic delamination 10mm deep spalling to floor in void A **(See Underside Internal Span 17 Defects; Photo 1).**
- A 100mm by 100mm area of spalling with exposed rusting rebar to West wall in void A **(See Underside Internal Span 17 Defects; Photo 2).**
- A 4000mm by 2000mm area of delamination to floor in void A **(See Underside Internal Span 17 Defects; Photo 3).**
- A 6000mm by full height area of rusting and delamination to West wall bottom haunch in void A **(See Underside Internal Span 17 Defects; Photo 4).**
- A 300mm by 300mm area and a 100mm by 100mm area of rust staining to floor in void A **(See Underside Internal Span 17 Defects; Photo 5 and Underside Internal Span 17 Defects; Photo 6).**
- A 2000mm by full width area of wetness to floor from leaking drainage pipe in void A **(See Underside Internal Span 17 Defects; Photo 7).**

Void B

- Rust staining and cracking to North wall of access hatch B1 **(See Underside Internal Span 17 Defects; Photo 8).**
- A 1000mm by 50mm area of rust staining to East wall in void B **(See Underside Internal Span 17 Defects; Photo 9).**
- A 3000mm by full width area of wetness and standing water to floor in void B **(See Underside Internal Span 17 Defects; Photo 10).**
- A 3000mm by full height area of wetness to bottom haunch of both walls void B **(See Underside Internal Span 17 Defects; Photo 10).**
- A 500mm by 250mm area and a 500mm by 500mm area of honeycombing to soffit in void B **(See Underside Internal Span 17 Defects; Photo 11).**
- A 250mm by full height area of dampness to East wall bottom haunch in void B **(See Underside Internal Span 17 Defects; Photo 12).**
- A 250mm by 100mm area of dampness to floor in void B **(See Underside Internal Span 17 Defects; Photo 12).**
- Rust staining and leachate throughout South end wall in void B **(See Underside Internal Span 17 Defects; Photo 13).**

Void D

- Wetness and rust staining to floor and bottom of both walls at North end of span in void D **(See Underside Internal Span 17 Defects; Photo 14).**
- A 200mm by 200mm area of dampness to West wall in void D **(See Underside Internal Span 17 Defects; Photo 15).**
- A 100mm by 200mm area of dampness to East wall in void D **(See Underside Internal Span 17 Defects; Photo 16).**
- Rust staining and leachate throughout South end wall in void D **(See Underside Internal Span 17 Defects; Photo 17).**
- Cracking with rust staining to the access hatch walls of hatch D1 **(See Internal Span 17 Defects; Photo 18)**

Void E

- Cracking, rust staining and leachate to all walls of access hatch E1 **(See Underside Internal Span 17 Defects; Photo 19).**
- Wetness to floor, East wall bottom haunch and soffit at North end of span in void E **(See Underside Internal Span 17 Defects; Photo 20).**
- A 500mm by 50mm area, a 50mm by 50mm and a 75mm by 75mm area of rust staining to East wall in void E **(See Underside Internal Span 17 Defects; Photo 21, Underside Internal Span 17 Defects; Photo 22 and Underside Internal Span 17 Defects; Photo 23).**
- A 500mm by 450mm and a 1000mm by 200mm area of 40mm deep spalling with exposed rusting rebar to East wall in void E **(See Underside Internal Span 17 Defects; Photo 24 and Underside Internal Span 17 Defects; Photo 25).**
- Wetness and sporadic delamination to floor in void E **(See Underside Internal Span 17 Defects; Photo 26).**
- A 1000mm by full height area of dampness, rust staining and delamination to East wall bottom haunch in void E **(See Underside Internal Span 17 Defects; Photo 27).**
- A 750mm by half width area of leachate to floor due to leaking drainage pipe in void E **(See Underside Internal Span 17 Defects; Photo 28).**
- A 100mm by 100mm area and a 50mm by 50mm area of rust staining to floor in void E **(See Underside Internal Span 17 Defects; Photo 29 and Underside Internal Span 17 Defects; Photo 30).**
- A 1000 x 1000mm area of dampness and delamination to the north end wall **(See Underside Internal Span 17 Defects; Photo 31).**

Void F

- Access not possible to Void F as no access hatches exist.

Void G

- Access not possible to Void F as no access hatches exist.

Void H

- Access not possible to Void F as no access hatches exist.

Void I

- Access not possible to Void F as no access hatches exist.

Void J

- Access not possible to Void F as no access hatches exist.

Void K

- Access not possible to Void F as no access hatches exist.



Underside Internal Span 17 Defects; Photo 1 – Wetness With Spalling



Underside Internal Span 17 Defects; Photo 2 – Spalling With Exposed Rusting Rebar



Underside Internal Span 17 Defects; Photo 3 – Delamination



Underside Internal Span 17 Defects; Photo 4 – Rust Staining And Delamination



Underside Internal Span 17 Defects; Photo 5 – Rust Staining



Underside Internal Span 17 Defects; Photo 6 – Rust Staining



Underside Internal Span 17 Defects; Photo 7 – Wetness



Underside Internal Span 17 Defects; Photo 8 – Cracking And Rust Staining



Underside Internal Span 17 Defects; Photo 9 – Rust Staining



Underside Internal Span 17 Defects; Photo 10 – Wetness



Underside Internal Span 17 Defects; Photo 11 – Honeycombing



Underside Internal Span 17 Defects; Photo 12 – Dampness



Underside Internal Span 17 Defects; Photo 13 – Rust Staining And Leachate



Underside Internal Span 17 Defects; Photo 14 – Wetness And Rust Staining



Underside Internal Span 17 Defects; Photo 15 – Dampness



Underside Internal Span 17 Defects; Photo 16 – Dampness



Underside Internal Span 17 Defects; Photo 17 – Rust Staining And Leachate



Underside Internal Span 17 Defects; Photo 18 – Cracking and Rust Staining



Underside Internal Span 17 Defects; Photo 19 – Cracking, Rust Staining And Leachate



Underside Internal Span 17 Defects; Photo 20 – Wetness



Underside Internal Span 17 Defects; Photo 21 – Rust Staining



Underside Internal Span 17 Defects; Photo 22 – Rust Staining



Underside Internal Span 17 Defects; Photo 23 – Rust Staining



Underside Internal Span 17 Defects; Photo 24 – Spalling With Exposed Rusting Rebar



Underside Internal Span 17 Defects; Photo 25 – Spalling With Exposed Rusting Rebar And Cracking



Underside Internal Span 17 Defects; Photo 26 – Wetness and Delamination



Underside Internal Span 17 Defects; Photo 27 – Rust Staining And Delamination



Underside Internal Span 17 Defects; Photo 28 – Leachate



Underside Internal Span 17 Defects; Photo 29 – Rust Staining



Underside Internal Span 17 Defects; Photo 30 – Rust Staining



Underside Internal Span 17 Defects; Photo 31 – Dampness and Delamination

5.3.1.19 Span 18

Void A

- A 250mm by 500mm area of leachate to floor in void A **(See Underside Internal Span 18 Defects; Photo 1).**
- A 6000mm by full width area of delamination to floor in void A **(See Underside Internal Span 18 Defects; Photo 1 and Underside Internal Span 18 Defects; Photo 2).**
- Sporadic areas of rust staining to the bottom haunch and bottom 200mm of the West wall throughout the wet area (North half of the span) in void A **(See Underside Internal Span 18 Defects; Photo 3, Underside Internal Span 18 Defects; Photo 4 and Underside Internal Span 18 Defects; Photo 5).**
- Large area of dampness to floor in void A **(See Underside Internal Span 18 Defects; Photo 6).**
- A 1000mm by half width area of wetness with leachate to floor from leaking drainage pipe in void A **(See Underside Internal Span 18 Defects; Photo 7).**
- There is an approximately 8000mm long area of full height extensive delamination to the West wall with areas of severe rust staining to the base of the wall. This defect corresponds with a similar defect on the opposite side of the wall in Void B. it is recommended that this defect be further investigated **(See Underside Internal Span 18; Photo 8)**.

Void B

- 4No. isolated areas of rust staining to East wall in void B **(See Underside Internal Span 18 Defects; Photo 9, Underside Internal Span 18 Defects; Photo 10, Underside Internal Span 18 Defects; Photo 11 and Underside Internal Span 18 Defects; Photo 12).**
- A 1000mm by 1000mm area of honeycombing to East wall in void B **(See Underside Internal Span 18 Defects; Photo 13).**
- Sporadic areas of delamination to the floor between access hatch and the North end wall in void B **(See Underside Internal Span 18 Defects; Photo 14 and Underside Internal Span 18 Defects; Photo 15).**
- A 4000mm long by half width area of extensive delamination to the floor. This defect corresponds with the extensive area of delamination to the east wall and appears to be caused by water seepage emanating from the wall. It is recommended that this defect be investigated further **(See Underside Internal Span 18 Defects; Photo 16).**
- A 4000mm by full height area of water seepage and extensive delamination with rust staining to East wall of Void B. This defect corresponds with the adjoining area of extensive delamination to the floor and similar defect on the opposite side of the wall in Void A. It is recommended that this defect be investigated further **(See Underside Internal Span 18 Defects; Photo 17).**
- A 100mm by 250mm area of rust staining to floor in void B **(See Underside Internal Span 18 Defects; Photo 18).**
- Leachate and rust staining throughout North end wall in void B **(See Underside Internal Span 18 Defects; Photo 19).**
- A 500mm by 250mm area of dampness to East wall in void B **(See Underside Internal Span 18 Defects; Photo 20).**
- A 500mm by full width area of dampness to floor in void B **(See Underside Internal Span 18 Defects; Photo 20).**
- Rust staining throughout South end wall in void B **(See Underside Internal Span 18 Defects; Photo 20).**
- Rust staining and cracking to access hatch wall **(See Underside Internal Span 18 Defects; Photo 21)**

Void D

- A 1000mm by 1000mm area of honeycombing to soffit in void D **(See Underside Internal Span 18 Defects; Photo 22).**
- A 250mm by 500mm area of honeycombing with exposed rebar to soffit in void D **(See Underside Internal Span 18 Defects; Photo 23).**
- A 1000mm by 200mm area of rust staining to West wall in void D **(See Underside Internal Span 18 Defects; Photo 24).**
- A 4000mm by 250mm area of rust staining to West wall in void D **(See Underside Internal Span 18 Defects; Photo 25).**
- Rust staining throughout North end wall in void D **(See Underside Internal Span 18 Defects; Photo 26).**
- A 500mm by 500mm area of dampness to floor, continuing 100mm up North end wall, in void D **(See Underside Internal Span 18 Defects; Photo 26).**
- A 10mm by 100mm area of exposed rusting rebar to West wall in void D **(See Underside Internal Span 18 Defects; Photo 27).**
- Rust staining and leachate staining throughout South end wall in void D **(See Underside Internal Span 18 Defects; Photo 28).**
- A 100mm by full height area of dampness to East and West wall bottom haunches in void D **(See Underside Internal Span 18 Defects; Photo 28).**

Void E

- Cracking and rust staining to wall of access hatch E1 **(See Underside Internal Span 18 Defects; Photo 29).**
- A 500mm by 250mm area of 10mm deep spalling with rust staining to East wall in void E **(See Underside Internal Span 18 Defects; Photo 30).**
- A 100mm by 250mm area of rust staining to East wall South anchorage block in void E **(See Underside Internal Span 18 Defects; Photo 31).**
- A 1000mm by half width area of delamination to floor in void E **(See Underside Internal Span 18 Defects; Photo 32).**
- A 100mm by 250mm area of wetness to floor from leaking drainage pipe in void E **(See Underside Internal Span 18 Defects; Photo 33).**



Underside Internal Span 18 Defects; Photo 1 – Leachate And Delamination



Underside Internal Span 18 Defects; Photo 2 – Delamination



Underside Internal Span 18 Defects; Photo 3 – Rust Staining



Underside Internal Span 18 Defects; Photo 4 – Rust Staining



Underside Internal Span 18 Defects; Photo 5 – Rust Staining



Underside Internal Span 18 Defects; Photo 6 – Dampness



Underside Internal Span 18 Defects; Photo 7 – Wetness With Leachate



Underside Internal Span 18 Defects; Photo 8 – Extensive Delamination



Underside Internal Span 18 Defects; Photo 9 – Rust Staining



Underside Internal Span 18 Defects; Photo 10 – Rust Staining



Underside Internal Span 18 Defects; Photo 11 – Rust Staining



Underside Internal Span 18 Defects; Photo 12 – Rust Staining



Underside Internal Span 18 Defects; Photo 13 – Honeycombing



Underside Internal Span 18 Defects; Photo 14 – Delamination



Underside Internal Span 18 Defects; Photo 15 – Delamination



Underside Internal Span 18 Defects; Photo 16 – Delamination



Underside Internal Span 18 Defects; Photo 17 – Delamination



Underside Internal Span 18 Defects; Photo 18 – Rust Staining



Underside Internal Span 18 Defects; Photo 19 – Leachate And Rust Staining



Underside Internal Span 18 Defects; Photo 20 – Dampness And Rust Staining



Underside Internal Span 18 Defects; Photo 21 – Rust Staining and Cracking



Underside Internal Span 18 Defects; Photo 22 – Honeycombing



Underside Internal Span 18 Defects; Photo 23 – Honeycombing With Exposed Rebar



Underside Internal Span 18 Defects; Photo 24 – Rust Staining



Underside Internal Span 18 Defects; Photo 25 – Rust Staining



Underside Internal Span 18 Defects; Photo 26 – Rust Staining And Dampness



Underside Internal Span 18 Defects; Photo 27 – Exposed Rusting Rebar



Underside Internal Span 18 Defects; Photo 28 – Rusting Staining, Leachate And Dampness



Underside Internal Span 18 Defects; Photo 29 – Cracking And Rust Staining



Underside Internal Span 18 Defects; Photo 30 – Spalling With Rust Staining



Underside Internal Span 18 Defects; Photo 31 – Rust Staining



Underside Internal Span 18 Defects; Photo 32 – Delamination



Underside Internal Span 18 Defects; Photo 33 – Wetness

5.3.1.20 Span 19

Void A

- Cracking to wall of access hatch A1 **(See Underside Internal Span 19 Defects; Photo 1).**
- Large area of dampness and delamination to floor in void A **(See Underside Internal Span 19 Defects; Photo 2 and Underside Internal Span 19 Defects; Photo 3).**
- A 200mm by 20mm area of exposed rebar to West wall in void A **(See Underside Internal Span 19 Defects; Photo 4).**
- A 5000mm x full height area of cracking and delamination to the West wall in void A **(See Underside Internal Span 19 Defects; Photo 5, Underside Internal Span 19 Defects; Photo 6 and Underside Internal Span 19 Defects; Photo 7).**
- A 3000mm by 100mm area of rust staining and dampness to West wall and floor in void A **(See Underside Internal Span 19 Defects; Photo 8).**
- Evidence of dampness to base of West wall throughout span in void A **(See Underside Internal Span 19 Defects; Photo 9).**

Void B

- Dampness and delamination to the floor is present from the access hatch to the north end wall in void B **(See Underside Internal Span 19 Defects; Photo 10 and Underside Internal Span 19 Defects; Photo 11).**
- Wetness to floor and bottom of both walls at North end of span in void B **(See Underside Internal Span 19 Defects; Photo 12).**
- A 250mm by full height of the bottom haunch and a 250mm by 100mm area of rust staining both the to West wall and floor in void B **(Underside Internal Span 19 Defects; Photo 13).**
- Standing water at North end of span in void B **(See Underside Internal Span 19 Defects; Photo 14).**
- A 1000mm by 100mm area of rust staining with cracking and delamination to the base of the wall at the North end of the void **(See Underside Internal Span 19 Defects; Photo 15)**
- 2No. 250mm by 100mm areas and a 1000mm by 100mm area of rust staining to East wall in void B **(See Underside Internal Span 19 Defects; Photo 16).**
- Sporadic areas of dampness to the South end of the East wall bottom haunch in void B **(See Underside Internal Span 19 Defects; Photo 16 and Underside Internal Span 19 Defects; Photo 17).**
- Rust and leachate staining throughout South end wall in void B **(See Underside Internal Span 19 Defects; Photo 18).**

Void D

- Dampness and delamination to the north end of the void between the access hatch and North end wall in void D **(See Underside Internal Span 19 Defects; Photo 20).**
- Wetness to floor and bottom of both walls at North end of span in void D **(See Underside Internal Span 19 Defects; Photo 21).**
- A 1500mm by full height area of dampness sporadic areas of severe rust staining to the base of the North end of the West wall in void D **(See Underside Internal Span 19 Defects; Photo 22 and Underside Internal Span 19 Defects; Photo 23).**
- A 750mm by 250mm area of rust staining to West wall in void D **(See Underside Internal Span 19 Defects; Photo 24).**
- A 500mm by full height area of dampness to West wall bottom haunch in void D **(See Underside Internal Span 19 Defects; Photo 24).**

- Dampness to soffit throughout span in void D **(See Underside Internal Span 19 Defects; Photo 25).**
- A 1000mm by 250mm area of severe rust staining and leachate to East wall in void D **(See Underside Internal Span 19 Defects; Photo 26).**
- A 300mm by 1000mm area of honeycombing to soffit in void D **(See Underside Internal Span 19 Defects; Photo 27).**
- Rust staining and leachate to South end wall in void D **(See Underside Internal Span 19 Defects; Photo 28).**

Void E

- Large area of delamination to floor in void E **(See Underside Internal Span 19 Defects; Photo 29 and Underside Internal Span 19 Defects; Photo 30).**
- A 1000mm by full width and 500mm by half width area with a 3000mm by 200mm area of wetness to floor adjacent to the East wall in void E **(See Underside Internal Span 19 Defects; Photo 31 and Underside Internal Span 19 Defects; Photo 32).**
- A 2000mm by 300mm area of cracking and delamination including a 300mm by 150mm area of 40mm deep spalling with exposed rebar to East wall in void E **(See Underside Internal Span 19 Defects; Photo 33).**
- 2No. 1000mm by 250mm areas of delamination to East wall in void E **(See Underside Internal Span 19 Defects; Photo 34 and Underside Internal Span 19 Defects; Photo 35).**
- A 250mm by 100mm area of rust staining to East wall in void E **(See Underside Internal Span 19 Defects; Photo 36).**
- Rust staining and leachate throughout South end wall in void E **(See Underside Internal Span 19 Defects; Photo 37).**
- Access hatch E1 is detached and not secure **(See Underside Internal Span 19 Defects; Photo 38)**



Underside Internal Span 19 Defects; Photo 1 – Cracking



Underside Internal Span 19 Defects; Photo 2 – Delamination



Underside Internal Span 19 Defects; Photo 3 – Delamination And Dampness



Underside Internal Span 19 Defects; Photo 4 – Exposed Rebar



Underside Internal Span 19 Defects; Photo 5 – Cracking With Delamination



Underside Internal Span 19 Defects; Photo 6 – Cracking and Delamination



Underside Internal Span 19 Defects; Photo 7 – Cracking



Underside Internal Span 19 Defects; Photo 8 – Rust Staining



Underside Internal Span 19 Defects; Photo 9 – Evidence of Dampness



Underside Internal Span 19 Defects; Photo 10 – Delamination



Underside Internal Span 19 Defects; Photo 11 – Delamination



Underside Internal Span 19 Defects; Photo 12 – Wetness



Underside Internal Span 19 Defects; Photo 13 – Rust Staining



Underside Internal Span 19 Defects; Photo 14 – Standing Water



Underside Internal Span 19 Defects; Photo 15 – Rust Staining



Underside Internal Span 19 Defects; Photo 16 – Rust Staining And Dampness



Underside Internal Span 19 Defects; Photo 17 – Dampness



Underside Internal Span 19 Defects; Photo 18 – Rust And Leachate Staining



Underside Internal Span 19 Defects; Photo 19 – Cracking



Underside Internal Span 19 Defects; Photo 20 – Delamination



Underside Internal Span 19 Defects; Photo 21 – Wetness



Underside Internal Span 19 Defects; Photo 22 – Dampness And Rust Staining



Underside Internal Span 19 Defects; Photo 23 – Rust Staining And Dampness



Underside Internal Span 19 Defects; Photo 24 – Rust Staining And Dampness



Underside Internal Span 19 Defects; Photo 25 – Dampness



Underside Internal Span 19 Defects; Photo 26 – Rust Staining and Leachate



Underside Internal Span 19 Defects; Photo 27 – Honeycombing



Underside Internal Span 19 Defects; Photo 28 – Rust Staining and Leachate



Underside Internal Span 19 Defects; Photo 29 – Delamination



Underside Internal Span 19 Defects; Photo 30 – Delamination



Underside Internal Span 19 Defects; Photo 31 – Wetness



Underside Internal Span 19 Defects; Photo 32 – Wetness



Underside Internal Span 19 Defects; Photo 33 – Spalling With Exposed Rebar



Underside Internal Span 19 Defects; Photo 34 – Delamination



Underside Internal Span 19 Defects; Photo 35 – Delamination



Underside Internal Span 19 Defects; Photo 36 – Rust Staining



Underside Internal Span 19 Defects; Photo 37 – Rust Staining and Leachate



Underside Internal Span 19 Defects; Photo 38 – Damaged Access Hatch

5.3.1.21 Span 20

Void A

- Cracking and rust staining with leachate to walls of access hatch A1 **(See Underside Internal Span 20 Defects; Photo 1 and Underside Internal Span 20 Defects; Photo 2).**
- A 3000mm by full width area of dampness to floor from leaking drainage pipe in void A **(See Underside Internal Span 20 Defects; Photo 3).**
- A 200mm by 200mm area of dampness to floor from leaking drainage pipe in void A **(See Underside Internal Span 20 Defects; Photo 4).**
- A 150mm by 150mm area of dampness to adjacent to South anchorage block in void A **(See Underside Internal Span 20 Defects; Photo 5).**
- A 2000mm by 100mm area and a 1000mm by 100mm area of sporadic rust staining to West wall in void A **(See Underside Internal Span 20 Defects; Photo 3 and Underside Internal Span 20 Defects; Photo 6).**
- Cracking to drainage pipe support in void A **(See Underside Internal Span 20 Defects; Photo 7).**
- Large area of delamination to floor in void A **(See Underside Internal Span 20 Defects; Photo 8).**
- A 1000mm by full width area of rust staining to soffit in void A **(See Underside Internal Span 20 Defects; Photo 9).**

Void B

- Dampness to floor and bottom of both walls at North end of span in void B **(See Underside Internal Span 20 Defects; Photo 10 and Underside Internal Span 20 Defects; Photo 13).**
- Sporadic delamination throughout north end of Void B **(See Underside Internal Span 20 Defects; Photo 11).**
- A 500mm by full width area of standing water at North end of span in void B **(See Underside Internal Span 20 Defects; Photo 12 and Underside Internal Span 20 Defects; Photo 14).**
- A 1000mm by 300mm area of 40mm deep spalling with exposed rebar to West wall in void B **(See Underside Internal Span 20 Defects; Photo 13).**
- Rust staining and leachate throughout North end wall in void B **(See Underside Internal Span 20 Defects; Photo 14).**
- Various areas of rust staining to East wall in void B **(See Underside Internal Span 20 Defects; Photo 15 and Underside Internal Span 20 Defects; Photo 16).**
- Dampness throughout majority of soffit in void B **(See Underside Internal Span 20 Defects; Photo 17).**
- A 1000mm by 500mm area of rust staining to West wall in void B **(See Underside Internal Span 20 Defects; Photo 18).**
- 2No. areas of dampness to East wall in void B1 **(See Underside Internal Span 20 Defects; Photo 19).**
- Rust staining to soffit at South end of span in void B **(See Underside Internal Span 20 Defects; Photo 20).**
- Rust staining and leachate throughout South end wall in void B **(See Underside Internal Span 20 Defects; Photo 21).**

Void D

- Dampness to floor and bottom of both walls at North end of span in void D **(See Underside Internal Span 20 Defects; Photo 22).**
- A 500mm by 1000mm area of rusting and delamination to floor in void D **(See Underside Internal Span 20 Defects; Photo 23).**
- Standing water to North end of span in void D **(See Underside Internal Span 20 Defects; Photo 24).**
- Rust staining and leachate throughout North end wall in void D **(See Underside Internal Span 20 Defects; Photo 24).**
- Dampness to majority of West wall bottom haunch in void D **(See Underside Internal Span 20 Defects; Photo 25 and Underside Internal Span 20 Defects; Photo 26).**
- A 3000mm by 500mm area of rust staining to West wall in void D **(See Underside Internal Span 20 Defects; Photo 26).**
- A 3000mm by 150mm area and a 3000mm by 250mm area of rust staining to East wall in void D **(See Underside Internal Span 20 Defects; Photo 27 and Underside Internal Span 20 Defects; Photo 28).**
- Dampness to majority of East wall bottom haunch in void D **(See Underside Internal Span 20 Defects; Photo 27 and Underside Internal Span 20 Defects; Photo 28).**
- Rust staining and leachate throughout South end wall in void D **(See Underside Internal Span 20 Defects; Photo 29).**
- Dampness to soffit throughout span in void D **(See Underside Internal Span 20 Defects; Photo 30).**

Void E

Inspection of Void E was not possible as the inspection vehicle could not enter/operate inside of the void due to the amount of standing water. Water was dripping from the access hatches at the time of the inspections.



Underside Internal Span 20 Defects; Photo 1 – Cracking With Rust Staining And Leachate



Underside Internal Span 20 Defects; Photo 2 – Cracking With Rust Staining And Leachate



Underside Internal Span 20 Defects; Photo 3 – Dampness And Rust Staining



Underside Internal Span 20 Defects; Photo 4 – Dampness



Underside Internal Span 20 Defects; Photo 5 – Dampness



Underside Internal Span 20 Defects; Photo 6 – Rust Staining



Underside Internal Span 20 Defects; Photo 7 – Cracking



Underside Internal Span 20 Defects; Photo 8 – Delamination



Underside Internal Span 20 Defects; Photo 9 – Rust Staining



Underside Internal Span 20 Defects; Photo 10 – Dampness



Underside Internal Span 20 Defects; Photo 11 – Delamination



Underside Internal Span 20 Defects; Photo 12 – Standing Water



Underside Internal Span 20 Defects; Photo 13 – Spalling With Exposed Rebar And Dampness



Underside Internal Span 20 Defects; Photo 14 – Standing Water And Rust Staining



Underside Internal Span 20 Defects; Photo 15 – Rust Staining



Underside Internal Span 20 Defects; Photo 16 – Rust Staining



Underside Internal Span 20 Defects; Photo 17 – Dampness



Underside Internal Span 20 Defects; Photo 18 – Rust Staining



Underside Internal Span 20 Defects; Photo 19 – Dampness



Underside Internal Span 20 Defects; Photo 20 – Rust Staining



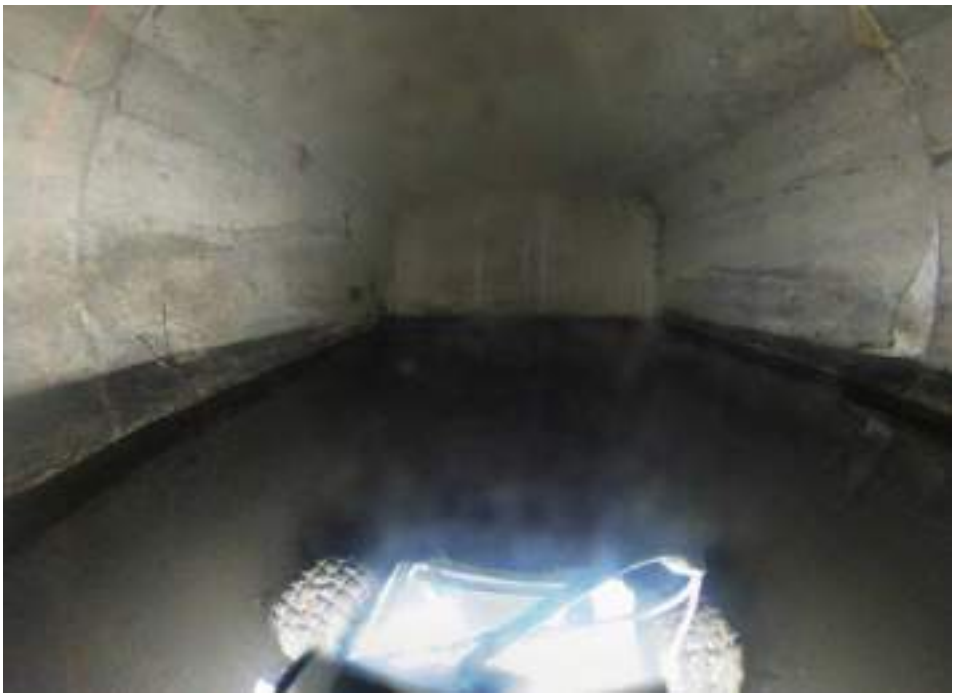
Underside Internal Span 20 Defects; Photo 21 – Rust Staining and Leachate



Underside Internal Span 20 Defects; Photo 22 – Dampness



Underside Internal Span 20 Defects; Photo 23 – Rust Staining And Delamination



Underside Internal Span 20 Defects; Photo 24 – Standing Water And Rust Staining



Underside Internal Span 20 Defects; Photo 25 – Dampness



Underside Internal Span 20 Defects; Photo 26 – Dampness And Rust Staining



Underside Internal Span 20 Defects; Photo 27 – Rust Staining And Dampness



Underside Internal Span 20 Defects; Photo 28 – Rust Staining And Dampness



Underside Internal Span 20 Defects; Photo 29 – Rust Staining And Leachate



Underside Internal Span 20 Defects; Photo 30 – Dampness

5.3.1.22 Span 21

Void A

- Rust staining and leachate throughout North end wall in void A **(See Underside Internal Span 21 Defects; Photo 1).**
- A 3000mm by full height area of dampness to West wall bottom haunch in void A **(See Underside Internal Span 21 Defects; Photo 2).**
- A 3000mm by 100mm area of dampness to floor in void A **(See Underside Internal Span 21 Defects; Photo 2).**
- A 10m by half width area of delamination to floor in void A **(See Underside Internal Span 21 Defects; Photo 3 and Underside Internal Span 21 Defects; Photo 4).**
- A 1000mm by full height area of rust staining to West wall bottom haunch in void A **(See Underside Internal Span 21 Defects; Photo 5).**
- A 1500mm by 400mm area of rust staining to West wall in void A **(See Underside Internal Span 21 Defects; Photo 6).**
- A 1000mm by full height area of rust staining to West wall in void A **(See Underside Internal Span 21 Defects; Photo 7).**
- A 500mm by half width area of water ingress to floor from leaking drainage pipe in void A **(See Underside Internal Span 21 Defects; Photo 8).**
- A 2000mm by full width area of water ingress with rust staining in void A **(See Underside Internal Span 21 Defects; Photo 9).**

Void B

- Area of dampness to floor and bottom of both walls at North end of span in void B **(See Underside Internal Span 21 Defects; Photo 10).**
- A 2000mm by full width rea of delamination to floor in void B **(See Underside Internal Span 21 Defects; Photo 11).**
- Rust staining and leachate throughout North end wall in void B **(See Underside Internal Span 21 Defects; Photo 12).**
- Rust staining to bottom half of East wall throughout majority of span in void B **(See Underside Internal Span 21 Defects; Photo 13).**
- A 100mm by full height area of rust staining to West wall bottom haunch in void B **(See Underside Internal Span 21 Defects; Photo 14).**
- Rust staining throughout South end wall in void B **(See Underside Internal Span 21 Defects; Photo 14).**

Void D

- Rust staining and leachate throughout North end wall in void D **(See Underside Internal Span 21 Defects; Photo 15).**
- A 1500mm by 500mm area of dampness to soffit in void D **(See Underside Internal Span 21 Defects; Photo 16).**
- A 250mm by full height area of dampness to West wall bottom haunch in void D **(See Underside Internal Span 21 Defects; Photo 17).**
- Rust staining throughout South end wall in void D **(See Underside Internal Span 21 Defects; Photo 18).**

Void E

- Rust staining throughout South end wall in void E **(See Underside Internal Span 21 Defects; Photo 19).**
- Dampness to floor throughout span in void E **(See Underside Internal Span 21 Defects; Photo 20).**
- A 500mm by half width area of wetness to floor from leaking drainage pipe in void E **(See Underside Internal Span 21 Defects; Photo 21).**

- A 2000mm by half width area of leachate and rust staining to floor from leaking drainage pipe in void E **(See Underside Internal Span 21 Defects; Photo 22).**
- A 2000mm by full height area of rust staining to East wall bottom haunch in void E **(See Underside Internal Span 21 Defects; Photo 22).**
- A 3000mm by 1000mm area of delamination to floor in void E **(See Underside Internal Span 21 Defects; Photo 23).**
- A 250mm by 250mm area of dampness and delamination to floor in void E **(See Underside Internal Span 21 Defects; Photo 24).**
- A 100mm by 50mm area of rust staining to floor in void E **(See Underside Internal Span 21 Defects; Photo 25).**
- Rust staining and leachate throughout the North end wall in Void E **(See Underside Internal Span 21 Defects; Photo 26).**



Underside Internal Span 21 Defects; Photo 1 – Rust Staining And Leachate



Underside Internal Span 21 Defects; Photo 2 – Dampness And Spalling



Underside Internal Span 21 Defects; Photo 3 – Delamination



Underside Internal Span 21 Defects; Photo 4 – Delamination



Underside Internal Span 21 Defects; Photo 5 – Rust Staining



Underside Internal Span 21 Defects; Photo 6 – Rust Staining



Underside Internal Span 21 Defects; Photo 7 – Rust Staining



Underside Internal Span 21 Defects; Photo 8 – Water Ingress



Underside Internal Span 21 Defects; Photo 9 – Rust Staining



Underside Internal Span 21 Defects; Photo 10 – Dampness



Underside Internal Span 21 Defects; Photo 11 – Delamination



Underside Internal Span 21 Defects; Photo 12 – Rust Staining And Leachate



Underside Internal Span 21 Defects; Photo 13 – Rust Staining



Underside Internal Span 21 Defects; Photo 14 – Rust Staining



Underside Internal Span 21 Defects; Photo 15 – Rust Staining And Leachate



Underside Internal Span 21 Defects; Photo 16 – Dampness



Underside Internal Span 21 Defects; Photo 17 – Dampness



Underside Internal Span 21 Defects; Photo 18 – Rust Staining



Underside Internal Span 21 Defects; Photo 19 – Rust Staining



Underside Internal Span 21 Defects; Photo 20 – Dampness



Underside Internal Span 21 Defects; Photo 21 – Wetness



Underside Internal Span 21 Defects; Photo 22 – Leachate And Rust Staining



Underside Internal Span 21 Defects; Photo 23 – Delamination



Underside Internal Span 21 Defects; Photo 24 – Delamination



Underside Internal Span 21 Defects; Photo 25 – Rust Staining



Underside Internal Span 21 Defects; Photo 26 – Rust Staining and Leachate

5.3.1.23 Span 22

Void A

Void A was only partially inspected at the access hatch as there was too much standing water to allow use of the inspection vehicle.

- There is a 250-300mm wide area of standing water throughout the visible area of the void from the access hatch to the North wall on the floor in Void A **(See Underside Internal Span 22 Defects; Photo 1).**
- A 2000mm long, 5mm wide longitudinal crack with rust staining to West wall bottom haunch in void A **(See Underside Internal Span 22 Defects; Photo 1).**
- A 2000mm by full width area of rust staining and delamination to floor in void A **(See Underside Internal Span 22 Defects; Photo 1).**

Void B

- Wetness and damp staining to floor and bottom of both walls at North end of span in void B **(See Underside Internal Span 22 Defects; Photo 2).**
- A 250mm by full height area of rust staining to West wall in void B **(See Underside Internal Span 22 Defects; Photo 3).**
- A 100mm by 100mm area of rust staining to West wall in void B **(See Underside Internal Span 22 Defects; Photo 4).**
- Standing water to North end of span in void B **(See Underside Internal Span 22 Defects; Photo 5).**
- A 4000mm by full width area of rust staining and delamination to floor in void B **(See Underside Internal Span 22 Defects; Photo 5).**
- A 100mm by 50mm area of rust staining to East wall in void B **(See Underside Internal Span 22 Defects; Photo 5).**
- A 2500mm by 250mm area of rust staining to East wall in void B **(See Underside Internal Span 22 Defects; Photo 6).**
- A 2000mm by half height area of rust staining to East wall in void B **(See Underside Internal Span 22 Defects; Photo 7).**
- A 7000mm by full width area of pigeon guano to floor in void B **(See Underside Internal Span 22 Defects; Photo 8).**
- Dampness to both bottom haunches and floor throughout the span in void B **(See Underside Internal Span 22 Defects; Photo 9 and See Underside Internal Span 22 Defects; Photo 6).**
- Leachate and rust staining throughout South end wall in void B **(See Underside Internal Span 22 Defects; Photo 9).**

Void D

- Large area of rust staining to West wall in void D **(See Underside Internal Span 22 Defects; Photo 10 and Underside Internal Span 22 Defects; Photo 11).**
- Rust staining and dampness throughout North end wall in void D **(See Underside Internal Span 22 Defects; Photo 12).**
- A 50mm by full height area of leachate to West wall in void D **(See Underside Internal Span 22 Defects; Photo 12).**
- Dampness to soffit throughout span in void D **(See Underside Internal Span 22 Defects; Photo 13).**

- A 100mm by 50mm area of dampness to East wall bottom haunch in void D **(See Underside Internal Span 22 Defects; Photo 14).**
- A 500mm by 100mm area of dampness to West wall bottom haunch in void D **(See Underside Internal Span 22 Defects; Photo 15).**
- Pigeon guano to floor at South end of span in void D **(See Underside Internal Span 22 Defects; Photo 16).**
- A 1000mm by 1000mm area of dampness to East wall in void D **(See Underside Internal Span 22 Defects; Photo 17).**
- Rust staining throughout South end wall in void D **(See Underside Internal Span 22 Defects; Photo 18).**
- A 250mm by 100mm area of honeycombing to soffit in void D **(See Underside Internal Span 22 Defects; Photo 19).**

Void E

- Rust staining and leachate throughout South end wall in void E **(See Underside Internal Span 22 Defects; Photo 20).**
- Large area of delamination throughout the floor in void E **(See Underside Internal Span 22 Defects; Photo 21 and Underside Internal Span 22 Defects; Photo 22).**
- Sporadic areas of rust staining to the base of the East wall and bottom haunch throughout the length of the span in void E **(See Underside Internal Span 22 Defects; Photo 23).**
- A 250mm by 100mm area of leachate to floor in void E **(See Underside Internal Span 22 Defects; Photo 24).**
- A 20mm by 30mm area of exposed rebar to floor in void E **(See Underside Internal Span 22 Defects; Photo 25).**
- A large area of rust staining to floor adjacent to East wall in void E **(See Underside Internal Span 22 Defects; Photo 26).**
- A 3000mm by 200mm area of 20mm deep spalling to floor in void E **(See Underside Internal Span 22 Defects; Photo 26).**



Underside Internal Span 22 Defects; Photo 1 - Standing Water, Cracking With Rust Staining And Rust Staining And Delamination



Underside Internal Span 22 Defects; Photo 2 – Wetness And Damp Staining



Underside Internal Span 22 Defects; Photo 3 – Rust Staining



Underside Internal Span 22 Defects; Photo 4 – Rust Staining



Underside Internal Span 22 Defects; Photo 5 – Wetness, Rust Staining And Delamination



Underside Internal Span 22 Defects; Photo 6 – Rust Staining



Underside Internal Span 22 Defects; Photo 7 – Rust Staining



Underside Internal Span 22 Defects; Photo 8 – Pigeon Guano



Underside Internal Span 22 Defects; Photo 9 – Dampness, Leachate And Rust Staining



Underside Internal Span 22 Defects; Photo 10 – Rust Staining



Underside Internal Span 22 Defects; Photo 11 – Rust Staining



Underside Internal Span 22 Defects; Photo 12 – Rust Staining, Dampness And Leachate



Underside Internal Span 22 Defects; Photo 13 – Dampness



Underside Internal Span 22 Defects; Photo 14 – Dampness



Underside Internal Span 22 Defects; Photo 15 – Dampness



Underside Internal Span 22 Defects; Photo 16 – Pigeon Guano



Underside Internal Span 22 Defects; Photo 17 – Dampness



Underside Internal Span 22 Defects; Photo 18 – Rust Staining



Underside Internal Span 22 Defects; Photo 19 – Honeycombing With Exposed Rebar



Underside Internal Span 22 Defects; Photo 20 – Rust Staining And Leachate



Underside Internal Span 22 Defects; Photo 21 – Delamination



Underside Internal Span 22 Defects; Photo 22 – Delamination



Underside Internal Span 22 Defects; Photo 23 – Rust Staining



Underside Internal Span 22 Defects; Photo 24 – Leachate



Underside Internal Span 22 Defects; Photo 25 – Exposed Rebar



Underside Internal Span 22 Defects; Photo 26 – Rust Staining And Spalling

5.3.1.24 Span 23

Void A

- Rust staining and leachate throughout South end wall in void A **(See Underside Internal Span 23 Defects; Photo 1).**
- A 2000mm by full width area of excessive guano cover to floor in void A **(See Underside Internal Span 23 Defects; Photo 2).**
- A 500mm wide and a 3000mm wide area of wetness to the floor possibly due to a leaking pipe void A **(See Underside Internal Span 23 Defects; Photo 3 and Underside Internal Span 23 Defects; Photo 4).**
- Dampness to West wall bottom haunch throughout the north half of the span in void A **(See Underside Internal Span 23 Defects; Photo 3).**
- Delamination to floor between drainage pipe and West wall throughout the North half of the span in void A **(See Underside Internal Span 23 Defects; Photo 5 and Underside Internal Span 23 Defects; Photo 6).**
- A 200mm band of 20mm deep spalling to majority of floor in void A **(See Underside Internal Span 23 Defects; Photo 7).**
- Sporadic areas of rust staining to the base of the West wall and bottom haunch throughout the North half of the span in void A **(See Underside Internal Span 23 Defects; Photo 7 and Underside Internal Span 23 Defects; Photo 8).**
- Section of heavy corrosion to pipe in void A **(See Underside Internal Span 23 Defects; Photo 9).**

Void B

- A large area of rust staining to East wall in void B **(See Underside Internal Span 23 Defects; Photo 10).**
- A 500-1000mm by full width area of dampness and rust staining to floor at North end in void B **(See Underside Internal Span 23 Defects; Photo 11).**
- Rust staining throughout North end wall in void B **(See Underside Internal Span 23 Defects; Photo 12).**
- A 1000mm by full height area of rust staining to West wall in void B **(See Underside Internal Span 23 Defects; Photo 13).**
- Rust staining and leachate throughout South end wall in void B **(See Underside Internal Span 23 Defects; Photo 14).**

Void D

- A 5000mm by half height area of rust staining to East wall in void D **(See Underside Internal Span 23 Defects; Photo 15).**
- A 30000mm by 200mm area of rust staining to West wall in void D **(See Underside Internal Span 23 Defects; Photo 16).**
- Rust staining and leachate throughout South end wall in void D **(See Underside Internal Span 23 Defects; Photo 17).**

Void E

- Rust staining and leachate throughout South end wall in void E **(See Underside Internal Span 23 Defects; Photo 18).**
- 2No. 5000mm by half width areas of delamination to floor in void E **(See Underside Internal Span 23 Defects; Photo 19 and Underside Internal Span 23 Defects; Photo 20).**
- A 3000mm by full width and height area of excessive formwork cover to soffit and East wall in void E **(See Underside Internal Span 23 Defects; Photo 19).**

- Evidence of water seepage to floor in void E **(See Underside Internal Span 23 Defects; Photo 20).**
- A 500mm by 250mm area of rust staining to East wall in void E **(See Underside Internal Span 23 Defects; Photo 21).**
- A 1500mm by 250mm area of rust staining to East wall in void E **(See Underside Internal Span 23 Defects; Photo 22).**
- A 500mm by full height area of rust staining to East wall in void E **(See Underside Internal Span 23 Defects; Photo 23).**



Underside Internal Span 23 Defects; Photo 1 – Rust Staining And Leachate



Underside Internal Span 23 Defects; Photo 2 – Pigeon Guano



Underside Internal Span 23 Defects; Photo 3 – Water Ingress And Dampness



Underside Internal Span 23 Defects; Photo 4 – Water Ingress



Underside Internal Span 23 Defects; Photo 5 – Delamination



Underside Internal Span 23 Defects; Photo 6 – Delamination



Underside Internal Span 23 Defects; Photo 7 – Rust Staining And Spalling



Underside Internal Span 23 Defects; Photo 8 – Rust Staining And Leachate



Underside Internal Span 23 Defects; Photo 9 – Corroded Pipe



Underside Internal Span 23 Defects; Photo 10 – Rust Staining



Underside Internal Span 23 Defects; Photo 11 – Dampness And Rust Staining



Underside Internal Span 23 Defects; Photo 12 – Rust Staining



Underside Internal Span 23 Defects; Photo 13 – Rust Staining



Underside Internal Span 23 Defects; Photo 14 – Rust Staining And Leachate



Underside Internal Span 23 Defects; Photo 15 – Rust Staining



Underside Internal Span 23 Defects; Photo 16 – Rust Staining



Underside Internal Span 23 Defects; Photo 17 – Rust Staining And Leachate



Underside Internal Span 23 Defects; Photo 18 - Rust Staining And Leachate



Underside Internal Span 23 Defects; Photo 19 – Delamination And Excessive Formwork Cover



Underside Internal Span 23 Defects; Photo 20 – Delamination And Water Seepage Evidence



Underside Internal Span 23 Defects; Photo 21 – Rust Staining



Underside Internal Span 23 Defects; Photo 22 – Rust Staining



Underside Internal Span 23 Defects; Photo 23 – Rust Staining

5.3.1.25 Span 24

Void A

- Delamination to floor throughout span in void A **(See Underside Internal Span 24 Defects; Photo 1).**
- A 300mm by half width area of dampness to floor in void A **(See Underside Internal Span 24 Defects; Photo 2).**
- A 50mm by 50mm area of leachate to soffit in void A **(See Underside Internal Span 24 Defects; Photo 3).**
- A large area of water ingress to floor from leaking drainage pipe in void A **(See Underside Internal Span 24 Defects; Photo 4).**
- A 1000mm by full height area of rust staining to West wall bottom haunch in void A **(See Underside Internal Span 24 Defects; Photo 5).**
- A 50mm by 100mm area of rust staining to West wall North anchorage block in void A **(See Underside Internal Span 24 Defects; Photo 6).**
- Rust staining and leachate throughout the South end wall **(See Underside Internal Span 24 Defects; Photo 7).**
- Leachate throughout the North end wall **(See Underside Internal Span 24 Defects; Photo 8).**

Void E

- Rust staining and leachate throughout South end wall in void E **(See Underside Internal Span 24 Defects; Photo 9).**
- A 5000mm by half width area of delamination to floor in void E **(See Underside Internal Span 24 Defects; Photo 10).**
- A 3000mm by half width area of delamination to floor in void E **,See Underside Internal Span 24 Defects; Photo 11).**
- A 1000mm by half width area of delamination to floor in void E **(See Underside Internal Span 24 Defects; Photo 12).**
- A 50mm by 100mm area of rust staining to floor in void E **(See Underside Internal Span 24 Defects; Photo 13).**
- A 1000mm by 150mm area of rust staining to floor in void E **(See Underside Internal Span 24 Defects; Photo 14).**
- A 1000mm by half width area of wetness and leachate to floor in void E **(See Underside Internal Span 24 Defects; Photo 14).**
- 150mm by half width area of wetness and leachate to floor in void E **(See Underside Internal Span 24 Defects; Photo 15).**
- A 500mm by 250mm area of dampness to East wall in void E **(See Underside Internal Span 24 Defects; Photo 16).**
- A 500mm by full height area of rust staining to East wall bottom haunch in void E **(See Underside Internal Span 24 Defects; Photo 17).**
- A 1500mm by half width area of wetness to floor at North end of span in void E **(See Underside Internal Span 24 Defects; Photo 18).**



Underside Internal Span 24 Defects; Photo 1 – Delamination



Underside Internal Span 24 Defects; Photo 2 – Dampness



Underside Internal Span 24 Defects; Photo 3 – Leachate



Underside Internal Span 24 Defects; Photo 4 – Water Ingress And Dampness



Underside Internal Span 24 Defects; Photo 5 – Rust Staining



Underside Internal Span 24 Defects; Photo 6 – Rust Staining



Underside Internal Span 24 Defects; Photo 7 – Leachate and Rust Staining



Underside Internal Span 24 Defects; Photo 8 – Leachate



Underside Internal Span 24 Defects; Photo 9 – Rust Staining And Leachate



Underside Internal Span 24 Defects; Photo 10 – Delamination



Underside Internal Span 24 Defects; Photo 11 – Delamination



Underside Internal Span 24 Defects; Photo 12 – Delamination



Underside Internal Span 24 Defects; Photo 13 – Rust Staining



Underside Internal Span 24 Defects; Photo 14 – Wetness With Leachate And Rust Staining



Underside Internal Span 24 Defects; Photo 15 – Wetness With Leachate



Underside Internal Span 24 Defects; Photo 16 – Dampness



Underside Internal Span 24 Defects; Photo 17 – Rust Staining



Underside Internal Span 24 Defects; Photo 18 – Wetness

5.3.1.26 Span 25

Void A

- Rust staining throughout South end wall in void A **(See Underside Internal Span 25 Defects; Photo 1).**
- A 250mm by full height area of dampness to West wall bottom haunch in void A **(See Underside Internal Span 25 Defects; Photo 2).**
- A large area of dampness to floor in void A **(See Underside Internal Span 25 Defects; Photo 3).**
- Several areas of rust staining throughout West wall in void A **(See Underside Internal Span 25 Defects; Photo 4, Underside Internal Span 25 Defects; Photo 5, Underside Internal Span 25 Defects; Photo 6 and Underside Internal Span 25 Defects; Photo 7).**
- A 200mm by 200mm area of leachate to floor in void A **(See Underside Internal Span 25 Defects; Photo 8).**
- A 1000mm by 100mm area of leachate to floor in void A **(See Underside Internal Span 25 Defects; Photo 9).**
- A 500mm by 200mm area of standing water and rust staining to floor in void A **(See Underside Internal Span 25 Defects; Photo 10).**
- A 1000mm length with 3No. areas of spalling with exposed rusting rebar to West wall bottom haunch in void A **(See Underside Internal Span 25 Defects; Photo 11).**

Void B

- Rust staining and leachate throughout South end wall in void B **(See Underside Internal Span 25 Defects; Photo 12).**
- A 100mm by 100mm area and a 50mm by 250mm area of rust staining to West wall in void B **(See Underside Internal Span 25 Defects; Photo 13 and Underside Internal Span 25 Defects; Photo 14).**
- A 1000mm by 300mm area of dampness to East wall in void B **(See Underside Internal Span 25 Defects; Photo 15).**
- A 3000mm by full width area of wetness to floor at North end of span in void B **(See Underside Internal Span 25 Defects; Photo 16).**
- A 2000mm by full width area of delamination to floor at North end of span in void B **(See Underside Internal Span 25 Defects; Photo 17).**
- A 300mm by 300mm area of leachate to floor at North end of span in void B **(See Underside Internal Span 25 Defects; Photo 18).**
- A 300mm by full height area of leachate to West wall in void B **(See Underside Internal Span 25 Defects; Photo 18).**
- A 1500mm by 250mm area of leachate to East wall in void B **(See Underside Internal Span 25 Defects; Photo 19).**
- Cracking, delamination, rust staining and leachate to North end wall in void B **(See Underside Internal Span 25 Defects; Photo 18 and Underside Internal Span 25 Defects; Photo 20).**

Void D

- Rust staining and leachate throughout South end wall in void D **(See Underside Internal Span 25 Defects; Photo 21).**
- A 500mm by 300mm area and a 1000mm by 150mm area of dampness to West wall in void D2 **(See Underside Internal Span 25 Defects; Photo 22 and Underside Internal Span 25 Defects; Photo 23).**

- A 300mm by 300mm area of minor graffiti to soffit in void D **(See Underside Internal Span 25 Defects; Photo 24).**
- A 100mm by 20mm area of exposed rebar to soffit in void D **(See Underside Internal Span 25 Defects; Photo 24).**
- A 2000mm length of dampness to the base of the west wall in Void D **(See Underside Internal Span 25 Defects; Photo 25).**
- A 1000mm by full width L-shaped area of dampness and delamination to floor at North end of span in void D **(See Underside Internal Span 25 Defects; Photo 25).**
- A 500mm by 150mm area of dampness to East wall in void D **(See Underside Internal Span 25 Defects; Photo 26).**
- Salt staining to base of North end wall in void D **(See Underside Internal Span 25 Defects; Photo 27).**
- Rust staining and leachate throughout North end wall in void D **(See Underside Internal Span 25 Defects; Photo 27).**

Void E

- A 200mm band of wetness to large area floor in void E **(See Underside Internal Span 25 Defects; Photo 28).**
- A 9000mm by 200mm area of delamination to floor in void E to remaining **(See Underside Internal Span 25 Defects; Photo 29).**
- A 2000mm by 300mm area of honeycombing with sporadic rust staining to East wall in void E **(See Underside Internal Span 25 Defects; Photo 30).**
- 2No. 8000mm by half width areas of dampness and delamination to floor in void E **(See Underside Internal Span 25 Defects; Photo 31, Underside Internal Span 25 Defects; Photo 32, Underside Internal Span 25 Defects; Photo 33 and Underside Internal Span 25 Defects; Photo 34).**
- There is 5-10mm wide cracking to the elevation and end face of the North anchorage block on the East wall in void E **(See Underside Internal Span 25 Defects; Photo 35 and Underside Internal Span 25 Defects; Photo 36).**
- A 400mm diameter area of wetness to soffit adjacent to East wall in void E **(See Underside Internal Span 25 Defects; Photo 37).**



Underside Internal Span 25 Defects; Photo 1 – Rust Staining



Underside Internal Span 25 Defects; Photo 2 – Dampness



Underside Internal Span 25 Defects; Photo 3 – Dampness



Underside Internal Span 25 Defects; Photo 4 – Rust Staining



Underside Internal Span 25 Defects; Photo 5 – Rust Staining



Underside Internal Span 25 Defects; Photo 6 – Rust Staining



Underside Internal Span 25 Defects; Photo 7 – Rust Staining With Leachate



Underside Internal Span 25 Defects; Photo 8 – Leachate



Underside Internal Span 25 Defects; Photo 9 – Leachate



Underside Internal Span 25 Defects; Photo 10 – Standing Water With Rust Staining



Underside Internal Span 25 Defects; Photo 11 – Spalling With Exposed Rusting Rebar



Underside Internal Span 25 Defects; Photo 12 – Rust Staining And Leachate



Underside Internal Span 25 Defects; Photo 13 – Rust Staining



Underside Internal Span 25 Defects; Photo 14 – Rust Staining



Underside Internal Span 25 Defects; Photo 15 – Dampness



Underside Internal Span 25 Defects; Photo 16 – Wetness



Underside Internal Span 25 Defects; Photo 17 – Delamination



Underside Internal Span 25 Defects; Photo 18 – Leachate And Rust Staining



Underside Internal Span 25 Defects; Photo 19 – Leachate



Underside Internal Span 25 Defects; Photo 20 – Rust Staining And Leachate With Delamination And Cracking



Underside Internal Span 25 Defects; Photo 21 – Rust Staining And Leachate



Underside Internal Span 25 Defects; Photo 22 – Dampness



Underside Internal Span 25 Defects; Photo 23 – Dampness



Underside Internal Span 25 Defects; Photo 24 – Minor Graffiti And Spalling



Underside Internal Span 25 Defects; Photo 25 – Dampness And Delamination



Underside Internal Span 25 Defects; Photo 26 – Dampness



Underside Internal Span 25 Defects; Photo 27 – Rust Staining, Leachate And Salt Staining



Underside Internal Span 25 Defects; Photo 28 – Wetness



Underside Internal Span 25 Defects; Photo 29 – Wetness With Delamination



Underside Internal Span 25 Defects; Photo 30 – Honeycombing and Rust Staining



Underside Internal Span 25 Defects; Photo 31 – Delamination



Underside Internal Span 25 Defects; Photo 32 – Delamination



Underside Internal Span 25 Defects; Photo 33 – Delamination



Underside Internal Span 25 Defects; Photo 34 – Wetness and Delamination



Underside Internal Span 25 Defects; Photo 35 – Cracking



Underside Internal Span 25 Defects; Photo 36 – Cracking



Underside Internal Span 25 Defects; Photo 37 – Wetness

5.3.1.27 Span 26

Void A

- A 10-20mm difference in floor level in void A this is assumed to be from construction **(See Underside Internal Span 26 Defects; Photo 1).**
- A 1000mm long, 3mm wide longitudinal crack with damp staining to West wall North anchorage block in void A **(See Underside Internal Span 26 Defects; Photo 2).**
- A 500mm by 300mm area of leachate staining to floor in void A **(See Underside Internal Span 26 Defects; Photo 3).**
- A 500mm by 1000mm area of wetness to soffit in void A **(See Underside Internal Span 26 Defects; Photo 4).**
- A 1000mm by 500mm area of delamination to floor in void A **(See Underside Internal Span 26 Defects; Photo 5).**
- A 1000mm by 1000mm area of rust staining and cracking to the floor in Void A **(See Underside Internal Span 26 Defects; Photo 6).**
- There is an open core hole in the West wall **(See Underside Internal Span 26 Defects; Photo 7).**
- A 1000mm long area of dampness, delamination and exposed rusting rebar to the bottom haunch of the West wall **(See Underside Internal Span 26 Defects; Photo 8).**

Void B

- Slight rust staining throughout North end wall in void B **(See Underside Internal Span 26 Defects; Photo 9).**
- Excessive formwork cover over 1000mm by full width to soffit and top haunches and over 2000mm by full height to West wall in void B **(See Underside Internal Span 26 Defects; Photo 9 and Underside Internal Span 26 Defects; Photo 10).**
- Slight water staining throughout South end wall in void B **(See Underside Internal Span 26 Defects; Photo 11).**
- Various open core holes in both walls **(See Underside Internal Span 26 Defects; Photo 12).**

Void D

- Slight rust staining throughout North end wall in void D **(See Underside Internal Span 26 Defects; Photo 13).**
- A 1000mm by 1000mm area of dampness to the floor and 400mm length of dampness to the north end of both bottom haunches **(See Underside Internal Span 26 Defects; Photo 14).**
- Rust staining throughout the south end wall **(See Underside Internal Span 26 Defects; Photo 15).**

Void E

- A 200mm by 200mm area of delamination to East wall in void E **(See Underside Internal Span 26 Defects; Photo 16).**
- Dampness and rust staining is present to the North end wall of the North anchorage block on the East wall in void E **(See Underside Internal Span 26 Defects; Photo 17).**
- 4No. 100mm by 100mm areas of rust staining to East wall in void E **(See Underside Internal Span 26 Defects; Photo 18).**
- A 5000mm by 700mm area of delamination with cracking to floor in void E **(See Underside Internal Span 26 Defects; Photo 19).**

- A 300mm by 800mm area and a 800mm by full width area of leachate to floor in void E **(See Underside Internal Span 26 Defects; Photo 20 and Underside Internal Span 26 Defects; Photo 21).**
- A 100mm by 100mm area of rust staining to East wall in void E **(See Underside Internal Span 26 Defects; Photo 22).**
- 7No. 100mm long by full height areas of rust staining to East wall bottom haunch in void E **(See Underside Internal Span 26 Defects; Photo 23 and Underside Internal Span 26 Defects; Photo 24).**
- A 1000mm by 1000mm area of delamination to floor in void E **(See Underside Internal Span 26 Defects; Photo 25).**



Underside Internal Span 26 Defects; Photo 1 – Change in Floor Level



Underside Internal Span 26 Defects; Photo 2 – Horizontal Cracking



Underside Internal Span 26 Defects; Photo 3 – Leachate



Underside Internal Span 26 Defects; Photo 4 – Wetness



Underside Internal Span 26 Defects; Photo 5 – Delamination



Underside Internal Span 26 Defects; Photo 6 – Rust Staining and Cracking



Underside Internal Span 26 Defects; Photo 7 – Open Core Hole



Underside Internal Span 26 Defects; Photo 8 – Dampness, Delamination and Exposed Rebar



Underside Internal Span 26 Defects; Photo 9 – Rust Staining And Excessive Formwork Cover



Underside Internal Span 26 Defects; Photo 10 – Excessive Formwork Cover



Underside Internal Span 26 Defects; Photo 11 – Water Staining



Underside Internal Span 26 Defects; Photo 12 – Open Core Holes



Underside Internal Span 26 Defects; Photo 13 – Rust Staining



Underside Internal Span 26 Defects; Photo 14 – Dampness



Underside Internal Span 26 Defects; Photo 15 – Rust Staining



Underside Internal Span 26 Defects; Photo 16 – Delamination



Underside Internal Span 26 Defects; Photo 17 – Dampness and Rust Staining



Underside Internal Span 26 Defects; Photo 18 – Rust Staining



Underside Internal Span 26 Defects; Photo 19 – Delamination With Cracking



Underside Internal Span 26 Defects; Photo 20 – Leachate



Underside Internal Span 26 Defects; Photo 21 – Leachate



Underside Internal Span 26 Defects; Photo 22 – Rust Staining



Underside Internal Span 26 Defects; Photo 23 – Rust Staining



Underside Internal Span 26 Defects; Photo 24 – Rust Staining



Underside Internal Span 26 Defects; Photo 25 – Delamination

5.3.1.28 Span 27

Void A

- A 1000mm by 1000mm area of delamination and a 3000mm by 3000mm area of wetness and salt staining to the floor in void A **(See Underside Internal Span 27 Defects; Photo 1).**
- A 200mm by full width area and a 2000mm by 500mm area of 10mm deep spalling to floor in void A **(See** Error! Reference source not found. **and Underside Internal Span 27 Defects; Photo 2).**
- A 2000mm by 1000mm area and a 3000mm by 1000mm area of wetness, delamination and spalling with rust staining and exposed rebar to the floor in void A **(See Underside Internal Span 27 Defects; Photo 3 and Underside Internal Span 27 Defects; Photo 4).**
- A 1500mm by full height area of exposed rebar with rust staining to West wall bottom haunch in void A **(See Underside Internal Span 27 Defects; Photo 5).**
- Cracking rust staining and wetness to the access hatch walls **(See Underside Internal Span 27 Defects; Photo 6).**
- A 2000mm length of water seepage, rust staining and algae to the East wall in Void A **(See Underside Internal Span 27 Defects; Photo 7).**
- Wetness, cracking and rust staining to access hatch walls in Void A **(See Underside Internal Span 27 Defects; Photo 8).**

Void B

- A 50mm band of dampness to bottom of East wall bottom haunch between hatches in void B **(See Underside Internal Span 27 Defects; Photo 9).**
- A 6000mm by full height area of water staining to West wall bottom haunch in void B **(See Underside Internal Span 27 Defects; Photo 10).**
- A 300mm by 200mm area of 20mm deep spalling to West wall bottom haunch in void B **(See Underside Internal Span 27 Defects; Photo 11).**

Void D

- A 150mm diameter area and a 1000mm by 200mm area of honeycombing at mid height of West wall in void D **(See Underside Internal Span 27 Defects; Photo 12 and Underside Internal Span 27 Defects; Photo 13).**
- Large are of rust staining to bottom half of West wall between midspan and hatch D2 in void D **(See Underside Internal Span 27 Defects; Photo 14).**
- A 2000mm by full height area of dampness and delamination to East wall bottom haunch in void D **(See Underside Internal Span 27 Defects; Photo 15).**
- A 800mm by 200mm area of honeycombing to East wall in void D **(See Underside Internal Span 27 Defects; Photo 16).**

Void E

A full inspection of Void E was not possible as there was too much standing water to allow for use of the inspection vehicle

- Delamination and dampness throughout visible area of floor in void E **(See Underside Internal Span 27 Defects; Photo 17).**
- 300-400mm wide band on standing water throughout visible area of floor in void E **(See Underside Internal Span 27 Defects; Photo 18).**
- Severe rust staining and wetness throughout visible area of East wall bottom haunch in void E **(See Underside Internal Span 27 Defects; Photo 18).**
- Wetness, cracking and rust staining to the access hatch walls **(See Underside Internal Span 27 Defects; Photo 19).**



Underside Internal Span 27 Defects; Photo 1 – Wetness And Delamination



Underside Internal Span 27 Defects; Photo 2 – Spalling



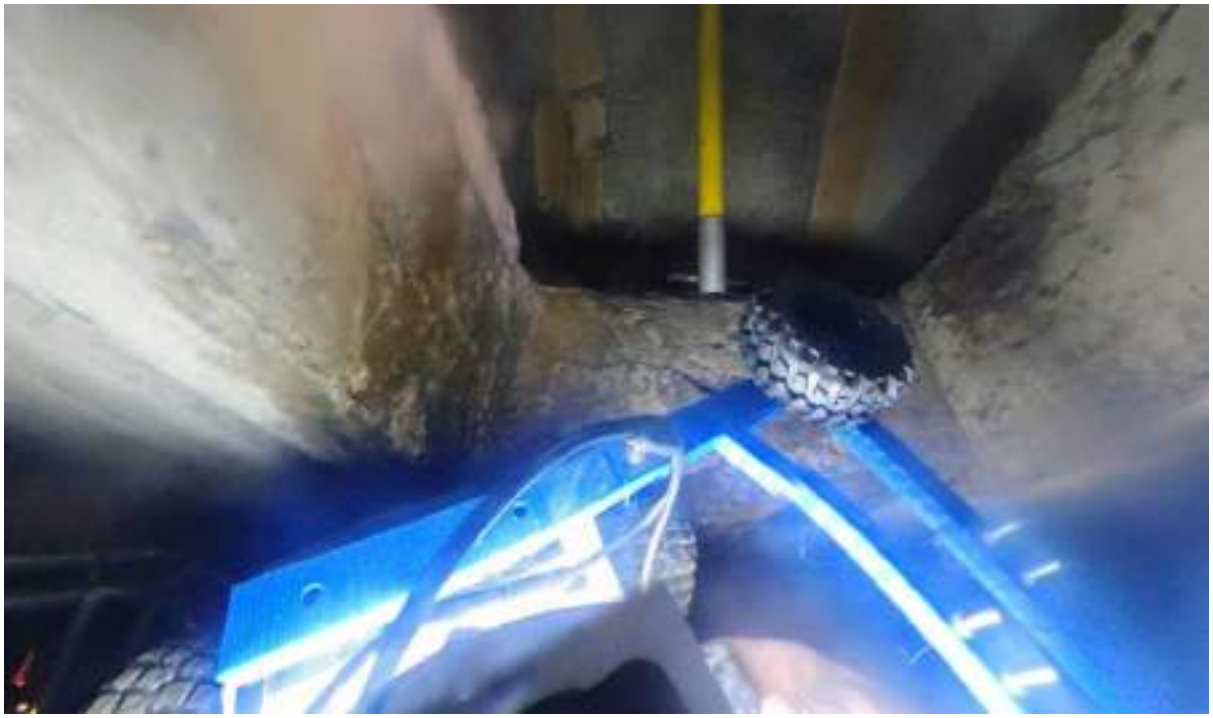
Underside Internal Span 27 Defects; Photo 3 – Delamination



Underside Internal Span 27 Defects; Photo 4 – Delamination



Underside Internal Span 27 Defects; Photo 5 – Exposed Rebar With Rust Staining



Underside Internal Span 27 Defects; Photo 6 – Cracking with Rust Staining



Underside Internal Span 27 Defects; Photo 7 – Seepage and Rust Staining



Underside Internal Span 27 Defects; Photo 8 – Water Seepage and Rust Stianing



Underside Internal Span 27 Defects; Photo 9 – Dampness



Underside Internal Span 27 Defects; Photo 10 – Water Staining



Underside Internal Span 27 Defects; Photo 11 – Spalling



Underside Internal Span 27 Defects; Photo 12 – Honeycombing



Underside Internal Span 27 Defects; Photo 13 – Honeycombing



Underside Internal Span 27 Defects; Photo 14 – Rust Staining



Underside Internal Span 27 Defects; Photo 15 – Dampness And Delamination



Underside Internal Span 27 Defects; Photo 16 – Honeycombing



Underside Internal Span 27 Defects; Photo 17 – Delamination With Dampness



Underside Internal Span 27 Defects; Photo 18 – Standing Water And Rust Staining With Dampness



Underside Internal Span 27 Defects; Photo 19 – Wetness, Cracking and Rust Staining

5.3.2 Topside Internal

General Comments:

- It should be noted that due to access constraints it was not possible to use the remote controlled inspection vehicles within the centre voids and as such the voids were only inspected using 360 degree cameras on poles at the manhole locations.
- Throughout the centre voids the end walls as well as the area surrounding the hatches are heavily covered with leachate and rust staining and stalactites are forming around the hatches photographs showing this typical defect are included per span below.
- The frame which supports the services is corroded around the areas directly below the access hatches throughout the structure, photographs showing this typical defect are included per span below.
- The floor surface is covered by sediment and is damp with areas of standing water in the areas below the hatches.
- In several voids there are visible condensation droplets on the ceiling of the void.
- The bottom 200mm of all surfaces within the void appears to be damp throughout.
- In general there is a large amount of water staining and associated dampness to all elements within the voids which suggests a large amount of water egress and that water is being partially retained within the centre void.

5.3.2.1 Span 4

- All visible areas of the deck void are damp throughout **(Topside Internal Span 4 Defects; Photo 2 - Photo 5).**
- Rust staining is present to the end 500mm of the north end of the west wall **(Topside Internal Span 4 Defects; Photo 3).**
- There is leachate present over the end 500mm of the east wall at the south end of the void **(Topside Internal Span 4 Defects; Photo 4).**
- Leachate and stalactites are present adjacent to service cables protruding through the soffit of the top surface approximately 3000mm from the north end of the void **(Topside Internal Span 4 Defects; Photo 6).**

Span 4 Defect Photographs



Topside Internal Span 4 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 4 Defects; Photo 2 – Damp East Wall (North)



Topside Internal Span 4 Defects; Photo 3 – Damp West Wall (North)



Topside Internal Span 4 Defects; Photo 4 – Typical Leachate and Rust Staining to Hatch Surround and End Wall and Leachate to End of West Wall (South)



Topside Internal Span 4 Defects; Photo 5 – Damp East Wall and Soffit (South)



Topside Internal Span 4 Defects; Photo 6 – Leachate and Stalactites Protruding From Soffit (North)

5.3.2.2 Span 5

- In the north wall there is spalling with exposed rebar to a depth of 20mm over an area of 200mm diameter **(Topside Internal Span 5 Defects; Photo 1).**
- There is spalling with exposed rebar present in 2No 1m long areas on the west wall at the north end of the void **(Topside Internal Span 5 Defects; Photo 2).**
- There is corrosion to the service duct at the north end of the west wall **(Topside Internal Span 5 Defects; Photo 2).**
- There is standing water present on the bottom of the void at the end 2m at both the north and south end **(Topside Internal Span 5 Defects; Photo 3 and Photo 6).**
- The west wall at the south end has leachate with rust staining over the end 200mm **(Topside Internal Span 5 Defects; Photo 5).**
- There is water seepage emanating from the interface between the west wall and the south end wall over of a height of approximately 600mm **(Topside Internal Span 5 Defects; Photo 5).**
- The weephole in the floor at the north end of the void is filled with standing water suggesting that it is blocked **(Topside Internal Span 5 Defects; Photo 6).**

Span 5 Defect Photographs



Topside Internal Span 5 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall and Spalling with Exposed Rebar (North)



Topside Internal Span 5 Defects; Photo 2 – Rust Staining and Spalling Exposing Rebar in West Wall (North)



Topside Internal Span 5 Defects; Photo 3 – Standing Water and Corrosion to Service Frame (North)



Topside Internal Span 5 Defects; Photo 4 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 5 Defects; Photo 5 – Leachate, Water Seepage and Rust Staining in West Wall (South)



Topside Internal Span 5 Defects; Photo 6 – Standing Water and Corrosion to Service Frame (South)



Topside Internal Span 5 Defects; Photo 7 – Standing Water in Weephole Inlet (North)

5.3.2.3 Span 6

- There is leachate staining present on the north wall in a 500mm band at the top of the wall **(Topside Internal Span 6 Defects; Photo 2).**
- There is standing water present over the end 2m of the south end of the void **(Topside Internal Span 6 Defects; Photo 4).**
- There is honeycombing surrounding the service ducts in the north and south end walls **(Topside Internal Span 6 Defects; Photo 1 and Photo 4).**
- The west weephole in the floor at the north end of the structure appears to be filled with standing water suggesting that it is blocked **(Topside Internal Span 6 Defects; Photo 1 and Photo 5).**

Span 6 Defect Photographs



Topside Internal Span 6 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 6 Defects; Photo 2 – Leachate over End Wall (North)



Topside Internal Span 6 Defects; Photo 3 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 6 Defects; Photo 4 – Standing Water and Corrosion to Service Frame (South)



Topside Internal Span 6 Defects; Photo 5 – Standing Water in Weephole Inlet (North)

5.3.2.4 Span 7

- There is honeycombing surrounding the service ducts in the north and south walls **(Topside Internal Span 7 Defects; Photo 1 and Photo 4).**
- The east wall is partially obscured by services but is damp where visible **(Topside Internal Span 7 Defects; Photo 2).**
- There is standing water present visible over the end 2m of the voids at both the north and south end of the voids **(Topside Internal Span 7 Defects; Photo 3 and Photo 5).**

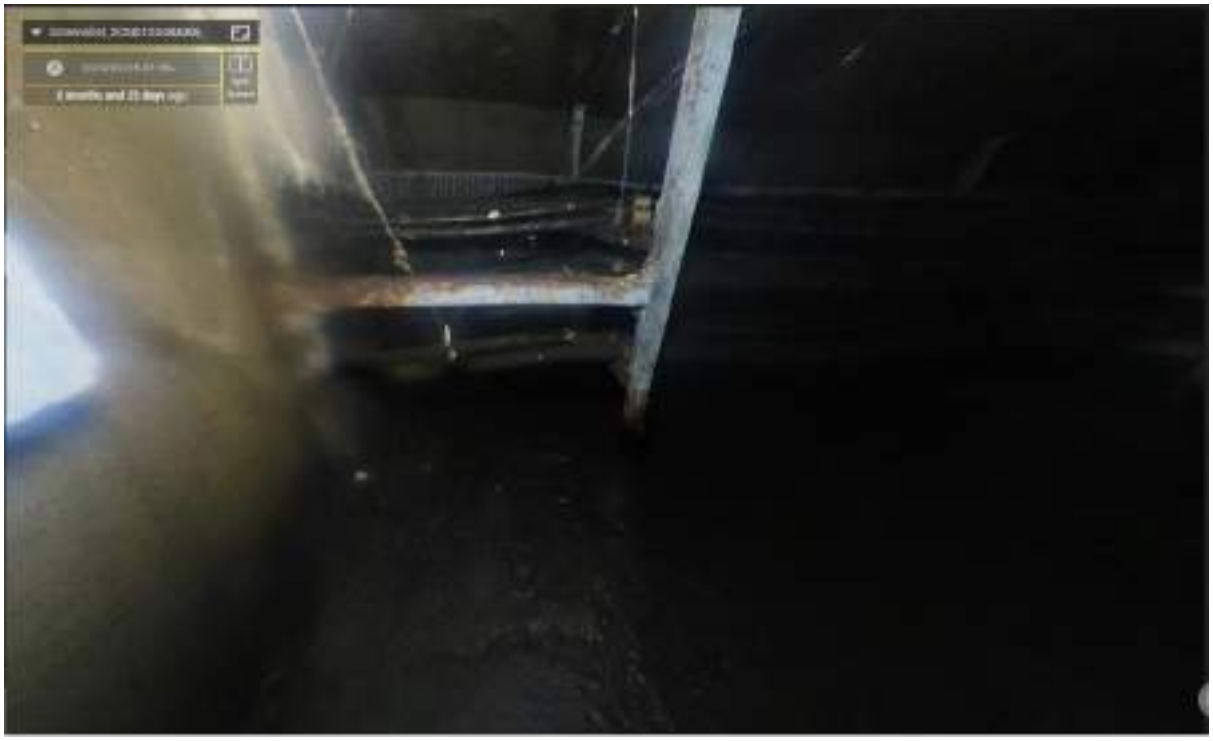
Span 7 Defect Photographs



Topside Internal Span 7 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 7 Defects; Photo 2 – East Wall Partially Obscured by Services (North)



Topside Internal Span 7 Defects; Photo 3 – Standing Water and Corrosion to Service Frame (North)



Topside Internal Span 7 Defects; Photo 4 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 7 Defects; Photo 5 – Standing Water and Corrosion to Service Frame (South)

5.3.2.5 Span 8

- There is an area of spalling up to 10mm deep in a 300mm diameter area in the top right corner of the north wall **(Topside Internal Span 8 Defects; Photo 1).**
- The east and west walls are damp where visible however the west wall is partially obscured by services **(Topside Internal Span 8 Defects; Photo 2,3 6 and 7).**
- There is corrosion to the service duct on the west wall over approximately 2500mm from the north end **(Topside Internal Span 8 Defects; Photo 2).**
- There is standing water present visible over the end 2m of the voids at both the north and south end of the voids **(Topside Internal Span 8 Defects; Photo 4 and Photo 8).**
- The service frame is severely corroded and torn/detached from the wall at both ends of the void **(Topside Internal Span 8 Defects; Photo 4 and Photo 8).**
- There is a 1000x500mm area of rust staining, cracking, delamination and leachate build up with stalactites to the soffit adjacent to the south manhole. **(Topside Internal Span 8 Defects; Photo 9).**

Span 8 Defect Photographs



Topside Internal Span 8 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall and Area of Spalling (North)



Topside Internal Span 8 Defects; Photo 2 – Dampness to West Wall (North)



Topside Internal Span 8 Defects; Photo 3 – East Wall Partially Obscured and Damp Where Visible (North)



Topside Internal Span 8 Defects; Photo 4 – Standing Water and Corrosion to Service Frame (North)



Topside Internal Span 8 Defects; Photo 5 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 8 Defects; Photo 6 – Dampness to West Wall (South)



Topside Internal Span 8 Defects; Photo 7 – East Wall Obscured by Services (South)



Topside Internal Span 8 Defects; Photo 8 – Standing Water and Corrosion to Service Frame (South)



Topside Internal Span 8 Defects; Photo 9 – Rust Staining Cracking and Delamination (South)

5.3.2.6 Span 9

- There is spalling present in the soffit of the void at the north end over a 200mm diameter area to a depth of 25mm **(Topside Internal Span 9 Defects; Photo 2).**
- The east wall is partially obscured by services but is damp where visible **(Topside Internal Span 9 Defects; Photo 2 and Photo 7).**
- There is spalling in the north wall at the interface with the cable troughing to a depth of 20mm over a 300x100mm area **(Topside Internal Span 9 Defects; Photo 3).**
- There is leachate staining over a 500mm band at the north and south ends of the west wall with dampness also present at the south **end (Topside Internal Span 9 Defects; Photo 3 and Photo 6).**
- The service frame is severely corroded and torn/detached from the wall at both ends of the void **(Topside Internal Span 9 Defects; Photo 4 and Photo 8).**
- There is spalling on the soffit of the void at the south end over a 100x100mm area do a depth of 20mm **(Topside Internal Span 9 Defects; Photo 7).**
- There is a 2000mm by full height area of dampness to the west wall approximately 2m from the south end **(Topside Internal Span 9 Defects; Photo 9).**
- There are 2No. 100x100mm areas of spalling with rusting rebar to the west wall at the north end **(Topside Internal Span 9 Defects; Photo 10).**

Span 9 Defect Photographs



Topside Internal Span 9 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 9 Defects; Photo 2 – East Wall Partially Obscured by Services and Spalling in Soffit (North)



Topside Internal Span 9 Defects; Photo 3 – Leachate in West Wall and Spalling to North Wall (North)



Topside Internal Span 9 Defects; Photo 4 – Corrosion to Service Frame (North)



Topside Internal Span 9 Defects; Photo 5 – Leachate in West Wall and Spalling to North Wall (South)



Topside Internal Span 9 Defects; Photo 6 – Leachate and Dampness on West Wall (South)



Topside Internal Span 9 Defects; Photo 7 – Spalling in Soffit and West Wall Partially Obscured (South)



Topside Internal Span 9 Defects; Photo 8 – Corrosion to Service Frame (South)



Topside Internal Span 9 Defects; Photo 9 – Spalling with Exposed Rebar in West Wall (North)

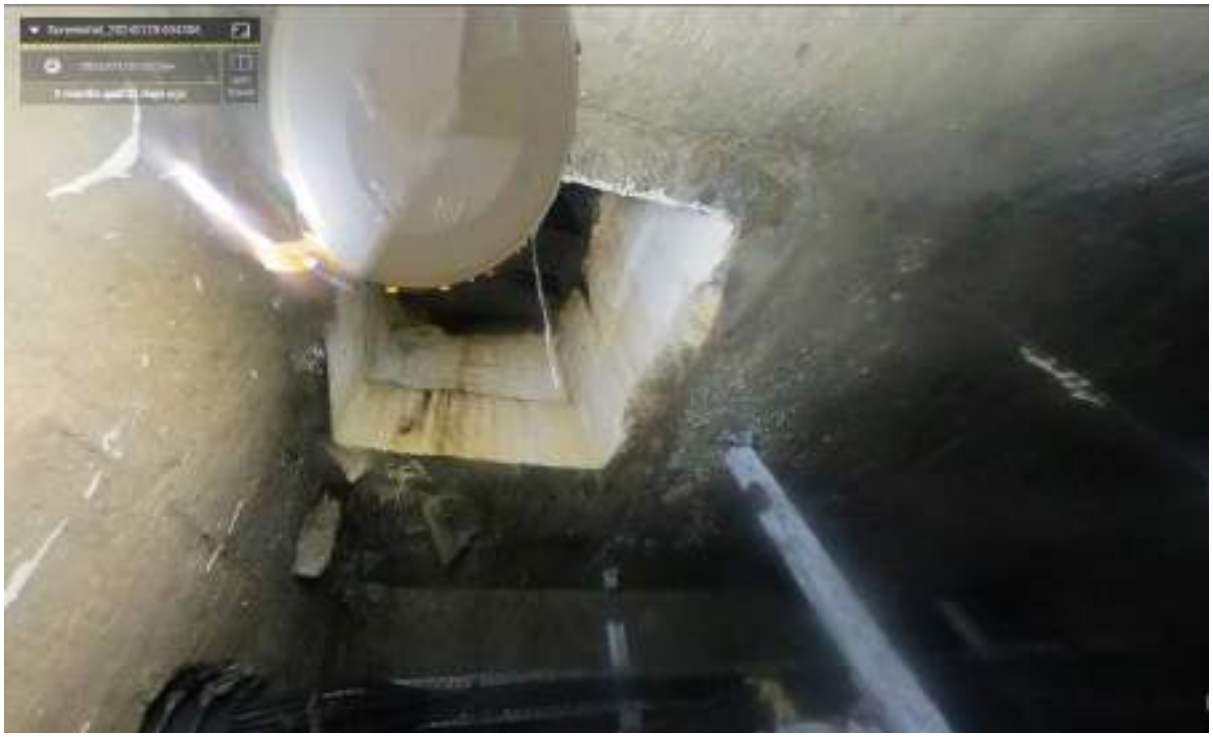


Topside Internal Span 9 Defects; Photo 8 – Dampness in West Wall (South)

5.3.2.7 Span 10

- The north wall has honeycombing surrounding the service ducts **(Topside Internal Span 10 Defects; Photo 2).**
- There is leachate staining present on the west wall over the end 500mm and dampness over the top third with corrosion to the service duct at the north end of the wall **(Topside Internal Span 10 Defects; Photo 3).**
- The east wall at the north end is partially obscured by services but damp where visible **(Topside Internal Span 10 Defects; Photo 4).**
- There is typical corrosion to the service frame visible at the north and south ends of the void **(Topside Internal Span 10 Defects; Photo 5 and Photo 9).**
- The south wall has spalling over a 300mm diameter area at the interface with a service bracket to a depth of 5mm **(Topside Internal Span 10 Defects; Photo 7).**
- There is rust staining present 400mm wide adjacent to a corroded cable trough in the south wall **(Topside Internal Span 10 Defects; Photo 7).**
- There is leachate present on the east wall at the south end of the void and severe corrosion to a cable trough over a length of 500mm **(Topside Internal Span 10 Defects; Photo 7).**
- The west wall at the south end has an area of rust staining over a diameter of 200mm **(Topside Internal Span 10 Defects; Photo 8).**
- There is standing water present at the south end of the void for a visible length of 2m **(Topside Internal Span 10 Defects; Photo 9).**
- There is a 100x200mm area of rust staining to the soffit at the interface with the north end wall **(Topside Internal Span 10 Defects; Photo 10).**

Span 10 Defect Photographs



Topside Internal Span 10 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 10 Defects; Photo 2 – Honeycombing surrounding service ducts (North)



Topside Internal Span 10 Defects; Photo 3 West Wall Damp With Leachate (North)



Topside Internal Span 10 Defects; Photo 4 – East Wall Damp (North)



Topside Internal Span 10 Defects; Photo 5 – Corroded Service Frame (North)



Topside Internal Span 10 Defects; Photo 6 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 10 Defects; Photo 7 – Leachate to East Wall and Spalling in South Wall (South)



Topside Internal Span 10 Defects; Photo 8 Rust Staining to West Wall (South)



Topside Internal Span 10 Defects; Photo 9 Standing Water and Corrosion to Service Frame (South)



Topside Internal Span 10 Defects; Photo 10 Rust Staining to Soffit (North)

5.3.2.8 Span 11

- There is a 200x100mm area of spalling with rusting rebar to the north end wall **(Topside Internal Span 11 Defects; Photo 2).**
- There is a 1000x500mm area of rusting and sporadic minor spalling with exposed rusting rebar to the soffit adjacent to the manhole chamber **(Topside Internal Span 11 Defects; Photo 2).**
- There is rust staining present over the end 500mm of the west wall at the north end of the void (**Topside Internal Span 11 Defects; Photo 3).**
- The service frame is severely corroded and missing the end 2m of the railings at both ends of the void **(Topside Internal Span 11 Defects; Photo 4 and Photo 7).**
- The leg of the service frame has disintegrated at the south end leaving the frame and all services most likely supported on the large diameter drainpipe **(Topside Internal Span 11 Defects; Photo 7).**
- The west wall at the south end has leachate over an 800mm length from the end of the void, with rust staining adjacent a severely corroded cable trough which is corroded and partially disintegrated over a 500mm length leaving the cables exposed **(Topside Internal Span 11 Defects; Photo 6).**
- There is dampness present to both the east and west walls at both ends of the void **(Topside Internal Span 11 Defects; Photo 3 and Photo 6).**

Span 11 Defect Photographs



Topside Internal Span 11 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 11 Defects; Photo 2 – Spalling to North Wall Rust Staining to Soffit of Top Slab (North)



Topside Internal Span 11 Defects; Photo 3 – Rust Staining to West Wall (North)



Topside Internal Span 11 Defects; Photo 4 – Corrosion to Service Frame (North)



Topside Internal Span 11 Defects; Photo 5 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 11 Defects; Photo 6 – Rust Staining and Leachate With Corroded Cable Trough against West Wall (South)



Topside Internal Span 11 Defects; Photo 7 – Corrosion to Service Frame (South)

5.3.2.9 Span 12

- The soffit and the west wall are partially obscured with formwork from construction. Rust staining is present on the formwork on the west upper haunch **(Topside Internal Span 12 Defects; Photo 1).**
- The service frame is severely corroded and missing the end 2m of the railings at both ends of the void **(Topside Internal Span 12 Defects; Photo 2 and Photo 6).**
- The east wall at the south end has rust staining over the end 300mm with 300mm x 300mm spalling with exposed rebar beneath the rusted area, **(Topside Internal Span 12 Defects; Photo 4).**
- The east wall at the south end has 4No areas of exposed rebar visible up to 30mm in diameter **(Topside Internal Span 12 Defects; Photo 4).**
- There is corrosion to the service duct on the south end wall adjacent to the west wall **(Topside Internal Span 12 Defects; Photo 5).**
- The west wall at the south end has leachate staining over a 500mm band at the end of the wall **(Topside Internal Span 12 Defects; Photo 5).**
- There is an area of spalling at the bottom corner of the south manhole chamber exposing rebar over the full length of the hatch to a depth of 100m **(Topside Internal Span 12 Defects; Photo 7).**
- There is an area of leachate staining to the north end of the east wall with corrosion to the service duct in the same area **(Topside Internal Span 12 Defects; Photo 8).**

Span 12 Defect Photographs



Topside Internal Span 12 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 12 Defects; Photo 2 – Corrosion to Service Frame (North)



Topside Internal Span 12 Defects; Photo 3 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 12 Defects; Photo 4 – Leachate and Exposed Rebar in East Wall (South)



Topside Internal Span 12 Defects; Photo 5 – Leachate Staining on West Wall (South)



Topside Internal Span 12 Defects; Photo 6 – Detached Service Frame and Corrosion (South)



Topside Internal Span 12 Defects; Photo 7 – Spalling With Exposed Rebar (South)



Topside Internal Span 12 Defects; Photo 8 – Leachate Staining to the East Wall (Nortj)

5.3.2.10 Span 13

- There is spalling and delamination at the interface with the service duct on the north wall over a 300x100mm area with corrosion to the service duct **(Topside Internal Span 13 Defects; Photo 3).**
- The west wall has leachate staining at both the north and south ends over 500mm with corrosion to the service duct within those areas **(Topside Internal Span 13 Defects; Photo 2 and Photo 7).**
- There is leachate staining to the floor of the void at the north end of the structure over a 1x1m area **(Topside Internal Span 13 Defects; Photo 4).**
- There is an area of 20mm spalling over a 100mm diameter area to the soffit of the top slab at the north end of the void from which there is a metal bar protruding **(Topside Internal Span 13 Defects; Photo 5).**
- There is corrosion to the service duct on the south wall with rust staining on the south wall at the interface with the cable troughing over a 500x200mm area which is originating from the cable trough **(Topside Internal Span 13 Defects; Photo 7).**
- Spalling up to 20mm deep over a 100mm diameter area is present located on the ceiling of the void at the south end of the span with leachate over a 1x1m area adjacent to the spalling **(Topside Internal Span 13 Defects; Photo 6).**
- There is an area of leachate deposits / stalagmites with localised standing water present on the south end of the void over a 500x100mm area **(Topside Internal Span 13 Defects; Photo 8).**

Span 13 Defect Photographs



Topside Internal Span 13 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 13 Defects; Photo 2 – Leachate and Dampness on West Wall (North)



Topside Internal Span 13 Defects; Photo 3 – Spalling and Delamination In North Wall and Corrosion to Service Frame (North)



Topside Internal Span 13 Defects; Photo 4 –Leachate on Floor (North)



Topside Internal Span 13 Defects; Photo 5 – Spalling and Dampness on Soffit (North)



Topside Internal Span 13 Defects; Photo 6 – Typical Leachate and Rust Staining to Hatch Surround with Spalling (South)



Topside Internal Span 13 Defects; Photo 7 – Rust Staining and Leachate on West Wall (South)



Topside Internal Span 13 Defects; Photo 8 – Localised Delamination with Standing Water and Corrosion to Service Frame (South)

5.3.2.11 Span 14

- The service frame is severely corroded and detached at the north end, and is collapsed at the south end of the void over a distance of 3m **(Topside Internal Span 14 Defects; Photo 2 and Photo 5).**
- There are 3No. isolated areas of 10-15mm spalling up to 100mm in diameter on the south wall **(Topside Internal Span 14 Defects; Photo 3).**
- On the west wall south end, there is leachate and rust with corrosion to the service duct present over 300mm band **(Topside Internal Span 14 Defects; Photo 4).**
- There is a 500x500mm area of rust staining to the top haunch of the east wall at the south end **(Topside Internal Span 14 Defects; Photo 6).**
- There is a 300mm wide area of leachate staining to the north end wall adjacent to the east wall **(Topside Internal Span 14 Defects; Photo 7).**

Span 14 Defect Photographs



Topside Internal Span 14 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 14 Defects; Photo 2 – Detached and Corroded Service Frame (North)



Topside Internal Span 14 Defects; Photo 3 – Typical Leachate and Rust Staining to Hatch Surround and End Wall With Spalling (South)



Topside Internal Span 14 Defects; Photo 4 – Leachate and Rust Staining on West Wall (South)



Topside Internal Span 14 Defects; Photo 5 – Standing Water and Collapsed Service Frame (South)



Topside Internal Span 14 Defects; Photo 6 – Rust Staining to East Wall (South)



Topside Internal Span 14 Defects; Photo 7 – Leachate to East Wall (North)

5.3.2.12 Span 15

- On the west wall at the north end of the void there is leachate staining over 500mm with corrosion to the service duct in the same area **(Topside Internal Span 15 Defects; Photo 2).**
- The service frame is severely corroded and detached at the north and south end of the void over a distance of 2-3m **(Topside Internal Span 15 Defects; Photo 3 and Photo 7).**
- At the south end of the void there is a 1mx1m area of delaminated concrete present to the soffit with an area of 10-20mm spalling with exposed rebar present over a 250x500mm area at the centre **(Topside Internal Span 15 Defects; Photo 5).**
- The west wall at the south end has spalling with exposed rebar present over a 300x50mm area **(Topside Internal Span 15 Defects; Photo 6).**

Span 15 Defect Photographs



Topside Internal Span 15 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 15 Defects; Photo 2 – Leachate Staining and Corrosion to Service Duct on West Wall (North)



Topside Internal Span 15 Defects; Photo 3 – Detached Service Frame With Corrosion (North)



Topside Internal Span 15 Defects; Photo 4 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 15 Defects; Photo 5 – Spalling with Exposed Rebar and Delamination in Ceiling (South)



Topside Internal Span 15 Defects; Photo 6 – Spalling with Exposed Rebar in West Wall (South)



Topside Internal Span 15 Defects; Photo 7 – Corrosion to Service Frame (South)

5.3.2.13 Span 16

- On the west wall at the north end there is an approximately 1m width of heavy leachate staining with 30mm spalling present over a 100x100mm area and a 200mm diameter area of delamination **(Topside Internal Span 16 Defects; Photo 2).**
- There is an approximately 100x100mm area of rusting with delamination to the concrete on the west wall adjacent to the north manhole **(Topside Internal Span 16 Defects; Photo 3).**
- There is sporadic rust staining present on the soffit of the top slab adjacent to the north manhole **(Topside Internal Span 16 Defects; Photo 4).**
- The east wall has leachate staining at both the north and south end of the void with corrosion to the service duct at the north end **(Topside Internal Span 16 Defects; Photo 5 and Photo 9).**
- The service frame is severely corroded and is collapsed where visible at the north and south end of the void for a length of 2-3m **(Topside Internal Span 16 Defects; Photo 6 and Photo 10).**
- There is standing water present at the north and south ends of the void over 2-3m **(Topside Internal Span 16 Defects; Photo 6 and Photo 10).**
- The west wall has an area of 10mm spalling over a 50x50mm area at the interface with the service support bracket at the south end of the void **(Topside Internal Span 16 Defects; Photo 8).**
- There are electrical distribution cabinets on the west wall which are exposed to water ingress and rusting **(Topside Internal Span 16 Defects; Photo 11).**
- There is a 300x100mm area of spalling rebar adjacent to the south manhole **(Topside Internal Span 16 Defects; Photo 12).**
- There is general dampness and condensation present to all elements at both ends of the void

Span 16 Defect Photographs



Topside Internal Span 16 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 16 Defects; Photo 2 – Leachate with Spalling to West Wall (North)



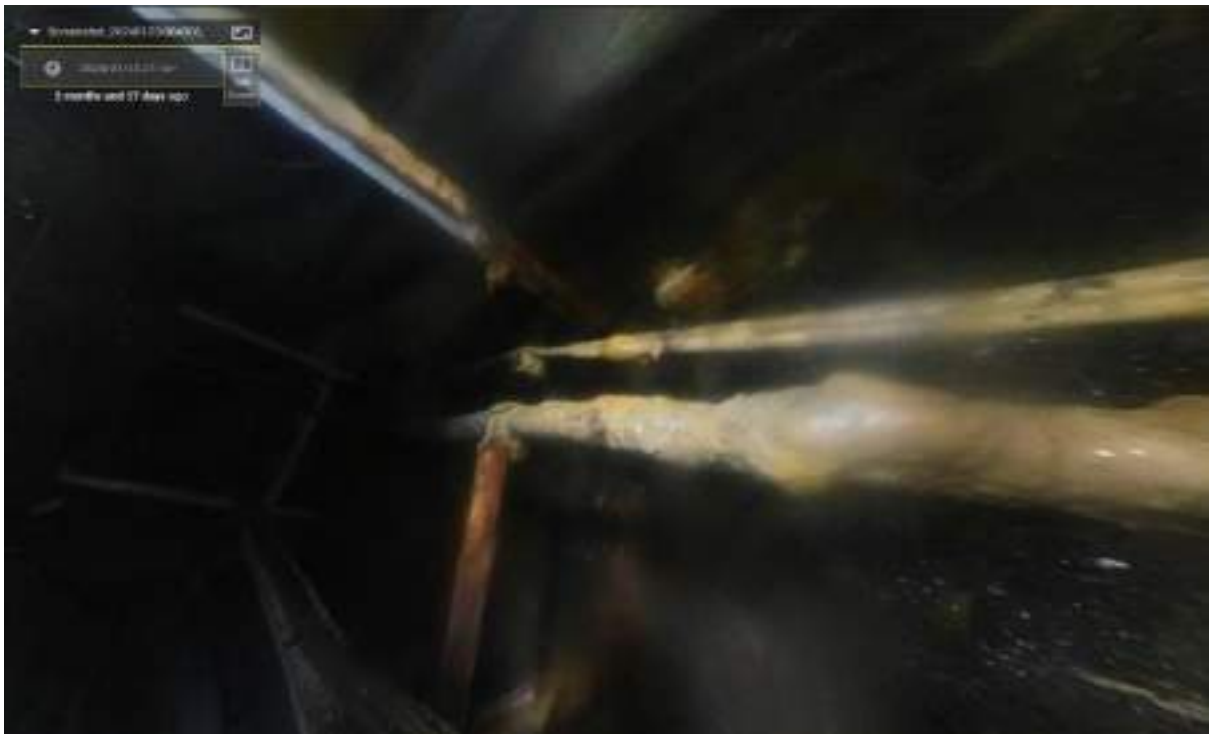
Topside Internal Span 16 Defects; Photo 3 – Rust Staining with Delamination Adjacent to Access Hatch (North)



Topside Internal Span 16 Defects; Photo 4 – Sporadic Rust Staining Adjacent Manhole (North)



Topside Internal Span 16 Defects; Photo 5 – Leachate to East Wall (North)



Topside Internal Span 16 Defects; Photo 6 – Corrosion to Service Frame with missing Elements and Standing Water (North)



Topside Internal Span 16 Defects; Photo 7 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 16 Defects; Photo 8 – Spalling and Dampness in West Wall (South)



Topside Internal Span 16 Defects; Photo 9 – Leachate on East Wall (South)



Topside Internal Span 16 Defects; Photo 10 – Collapsed Service Frame and Standing Water (South)



Topside Internal Span 16 Defects; Photo 11 – Rusting Electrical Services Exposed to Water Ingress (South)



Topside Internal Span 16 Defects; Photo 12 – Spalling with Exposed Rebar Adjacent to Manhole (South)

5.3.2.14 Span 17

- The east wall has leachate staining at the north and south end of the void **(Topside Internal Span 17 Defects; Photo 2 and photo 6).**
- The service frame is corroded with missing elements at the north and south end of the void **(Topside Internal Span 17 Defects; Photo 3 and Photo 7).**
- There is standing water present at both the north and south end of the void over a length of 2-3m **(Topside Internal Span 17 Defects; Photo 3 and Photo 7).**
- The west wall at the south end has leachate staining and has a cable trough which is fully corroded over a length of 500mm **(Topside Internal Span 17 Defects; Photo 5).**
- The south wall has bulging, cracking and delamination over a 500x300mm area **(Topside Internal Span 17 Defects; Photo 6).**
- There is a 100mm diameter spall up to 20mm deep in the ceiling of the void at the south end of the structure **(Topside Internal Span 17 Defects; Photo 4).**
- The weepholes in the floor at the north end of the structure appears to be filled with standing water suggesting that it is blocked **(Topside Internal Span 17 Defects; Photo 8).**
- There is a 500x500mm area of honeycombing to the north end wall **(Topside Internal Span 17 Defects; Photo 9).**
- There is a 100x100mm area of rust staining to the soffit at the south end adjacent to the west wall **(Topside Internal Span 17 Defects; Photo 4).**

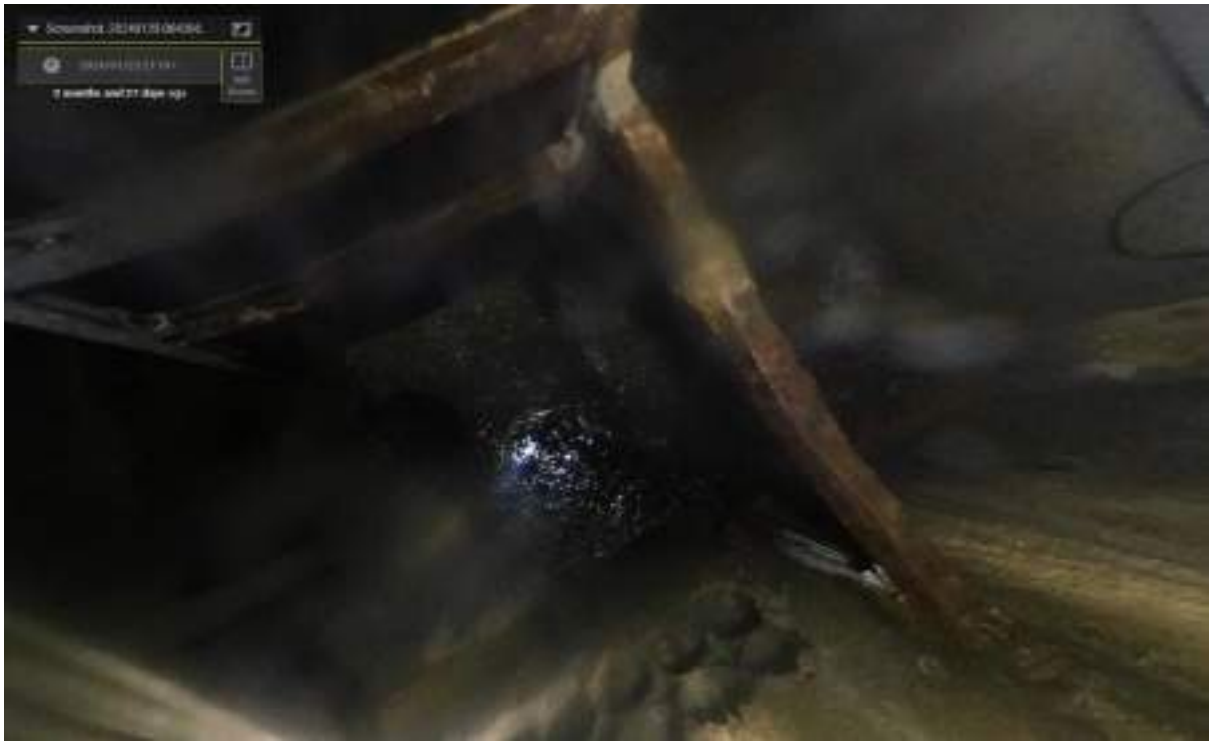
Span 17 Defect Photographs



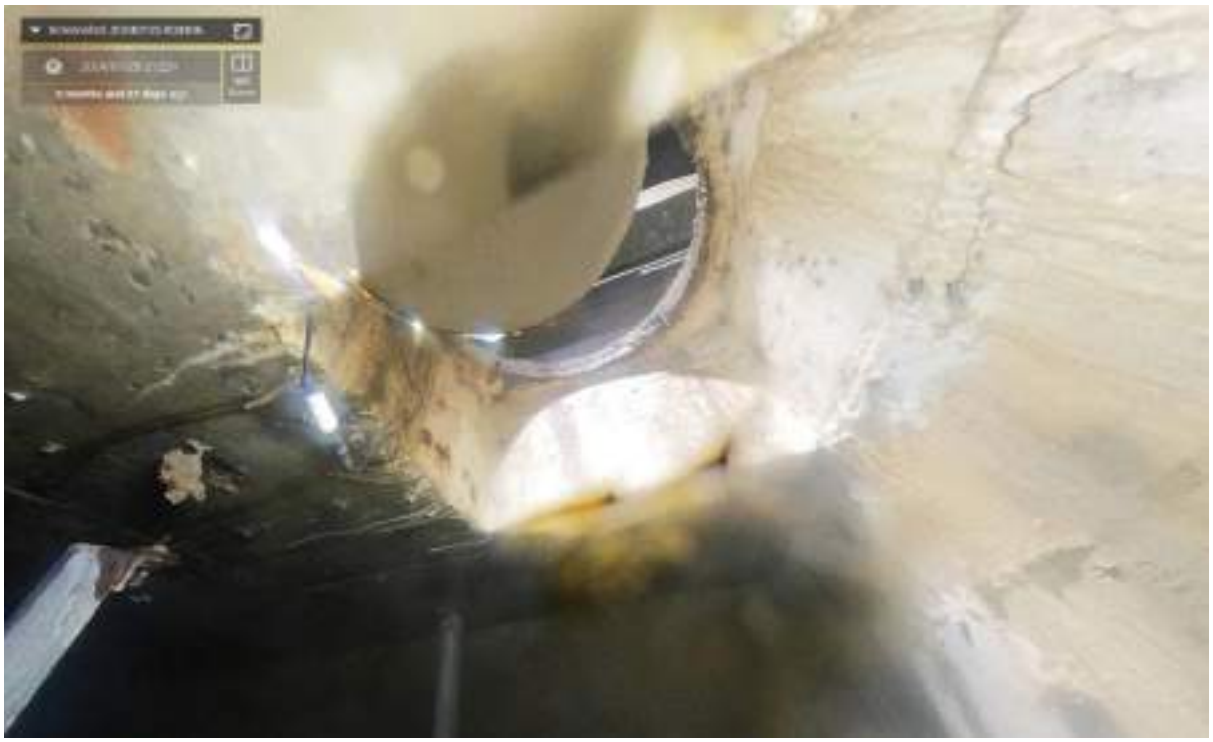
Topside Internal Span 17 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 17 Defects; Photo 2 – Leachate Staining on East Wall (North)



Topside Internal Span 17 Defects; Photo 3 – Standing Water and Service Frame Corrosion (North)



Topside Internal Span 17 Defects; Photo 4 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 17 Defects; Photo 5 – Leachate and Corroded Cable Trough on West Wall (South)



Topside Internal Span 17 Defects; Photo 6 – Leachate on East Wall with Delamination (South)



Topside Internal Span 17 Defects; Photo 7 – Corrosion to Service Frame and Standing Water (South)



Topside Internal Span 17 Defects; Photo 8 – Standing Water in Weephole Inlet (North)



Topside Internal Span 17 Defects; Photo 9 – Honeycombing to End Wall (North)

5.3.2.15 Span 18

- There is a 500x400mm area of delamination to the soffit of the top slab adjacent to the north manhole **(Topside Internal Span 18 Defects; Photo 1).**
- The service frame is corroded with missing elements at the north and south end of the void **(Topside Internal Span 18 Defects; Photo 2 and Photo 7).**
- There is standing water present at both the north and south end of the void over a length of 2-3m **(Topside Internal Span 18 Defects; Photo 2 and Photo 7).**
- At the south end of the void the east and west walls both have leachate staining present over the end 500mm with corrosion to the service duct in the same area on the west wall **(Topside Internal Span 18 Defects; Photo 4 and Photo 5).**
- On the south wall there is rust staining surrounding a service duct and 2No areas of 10-15mm spalling up to 50mm in diameter **(Topside Internal Span 18 Defects; Photo 6).**
- There is spalling with exposed rebar, leachate and rusting to the service duct on the west wall at the north end of the void over the end 500mm **(Topside Internal Span 18 Defects; Photo 8).**
- At the north end of the void on the soffit adjacent to the west wall there are 2no 200x100mm areas of spalling with exposed rebar, one of which is exhibiting heavy leachate deposits. There is an approximate 1m long, 150mm wide area between these areas of spalling which is exhibiting cracking and delamination. **(Topside Internal Span 18 Defects; Photo 9).**
- There is corrosion to the service duct at the north end of the west wall **(Topside Internal Span 18 Defects; Photo 9).**
- There is a 2000x1000mm area of sporadic rust staining got the soffit adjacent to the south manhole **(Topside Internal Span 18 Defects; Photo 10).**

Span 18 Defect Photographs



Topside Internal Span 18 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 18 Defects; Photo 2 – Corrosion to Service Frame and Standing Water (North)



Topside Internal Span 18 Defects; Photo 3 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 18 Defects; Photo 4 – Leachate on East Wall (South)



Topside Internal Span 18 Defects; Photo 5 – Leachate on West Wall (South)



Topside Internal Span 18 Defects; Photo 6 – Rust Staining and Spalling (South)



Topside Internal Span 18 Defects; Photo 7 – Service Frame Corrosion with Missing Elements and Standing Water (South)



Topside Internal Span 18 Defects; Photo 8 – Corrosion Rusting and Leachate to Service duct on West Wall (North)



Topside Internal Span 18 Defects; Photo 9 – Spalling with Exposed Rebar, Leachate and Corrosion to West Wall (North)



Topside Internal Span 18 Defects; Photo 9 – Sporadic Rust Staining to Soffit (South)

5.3.2.16 Span 19

- On both the east and west wall at the north end there is leachate staining and corrosion to the cable troughing over the end 500mm **(Topside Internal Span 19 Defects; Photo 2 and Photo 9).**
- At the north end of the void there is an area of 50mm diameter exposed rebar present in the ceiling adjacent to the west wall **(Topside Internal Span 19 Defects; Photo 3).**
- The service frame is corroded with missing elements at the north and south end of the void **(Topside Internal Span 19 Defects; Photo 4 and Photo 8).**
- There is standing water present at both the north and south end of the void over a length of 2-3m **(Topside Internal Span 19 Defects; Photo4 and Photo 8).**
- At the south end of the void, the east and west walls both have leachate staining present over the end 500mm and the cable trough on the west wall is fully corroded **(Topside Internal Span 19 Defects; Photo 6 and Photo 7).**

Span 19 Defect Photographs



Topside Internal Span 19 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 19 Defects; Photo 2 – Leachate Staining on West Wall (North)



Topside Internal Span 19 Defects; Photo 3 – Exposed Rebar (North)



Topside Internal Span 19 Defects; Photo 4 – Corrosion to Service Frame and Missing Elements with Standing Water (North)



Topside Internal Span 19 Defects; Photo 5 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 19 Defects; Photo 6 – Leachate Staining on East Wall (South)



Topside Internal Span 19 Defects; Photo 7 – Leachate Staining and Cable Trough Corrosion on West Wall (South)



Topside Internal Span 19 Defects; Photo 8 – Corrosion to Service Frame and Missing Elements with Standing Water (South)



Topside Internal Span 19 Defects; Photo 9 – Leachate Staining on East Wall (South)

5.3.2.17 Span 20

- The service frame is corroded with missing elements at the north and south end of the void **(Topside Internal Span 20 Defects; Photo 2 and Photo 6).**
- There is standing water present at both the north and south end of the void over a length of 2-3m **(Topside Internal Span 20 Defects; Photo 2 and Photo 6).**
- At the south end of the void, the east and west walls both have leachate staining present over the end 500mm **(Topside Internal Span 20 Defects; Photo 4 and Photo 5).**
- At the north end of the west wall there is severe corrosion and degradation to the service duct leaving the services exposed over a 200mm length **(Topside Internal Span 20 Defects; Photo 7).**
- On the west wall, approximately 4m from the south end of the void there is a 1m length x full height area of with leachate staining and corrosion to the service duct **(Topside Internal Span 20 Defects; Photo 8).**

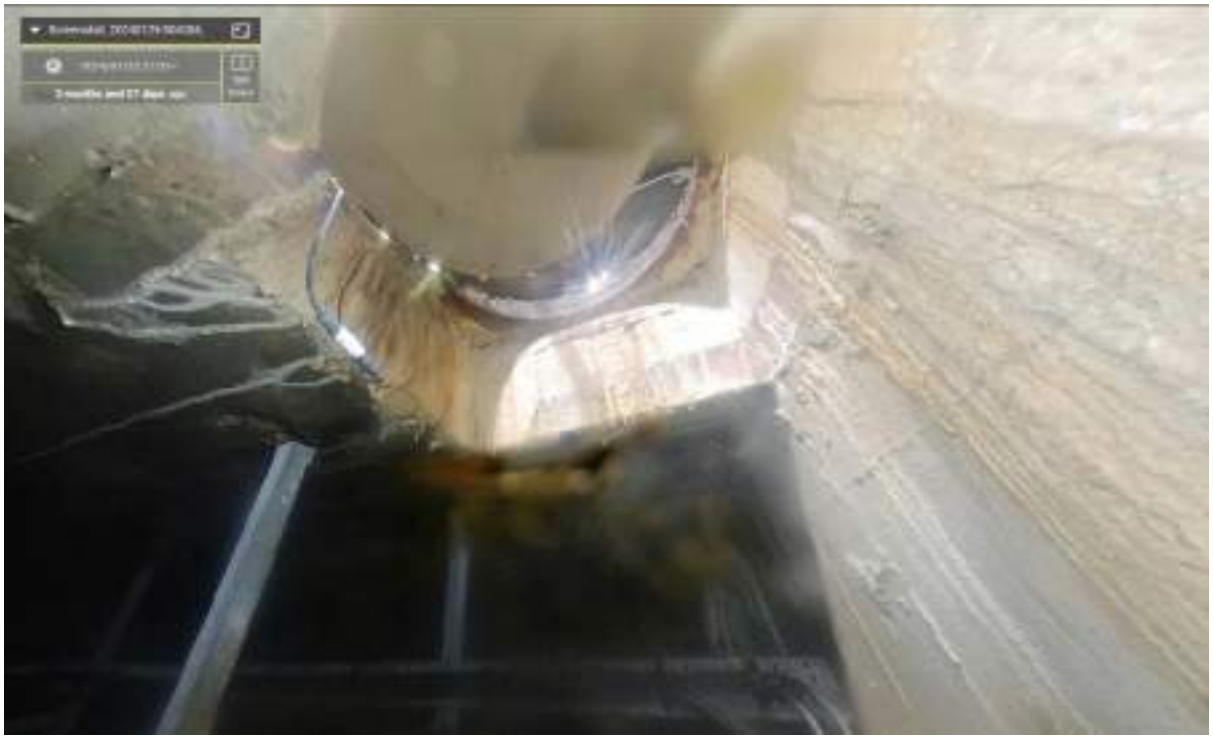
Span 20 Defect Photographs



Topside Internal Span 20 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 20 Defects; Photo 2 – Corrosion to Service Frame and Missing Elements with Standing Water (North)



Topside Internal Span 20 Defects; Photo 3 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (South)



Topside Internal Span 20 Defects; Photo 4 – Leachate on West Wall (South)



Topside Internal Span 20 Defects; Photo 5 – Leachate on East Wall (South)



Topside Internal Span 20 Defects; Photo 6 – Corrosion to Service Frame with Standing Water (South)



Topside Internal Span 20 Defects; Photo 7 – Corrosion to Service Duct on West Wall (North)



Topside Internal Span 20 Defects; Photo 8 – Water Staining on West Wall (South)

5.3.2.18 Span 21

- The west wall at the north end has spalling with exposed rebar up to 20mm deep over a length of 500mm, the surrounding area is honeycombed up to a height of 300mm over a 2m length **(Topside Internal Span 21 Defects; Photo 2).**
- The service frame is severely corroded at the north end and is detached from the wall **(Topside Internal Span 21 Defects; Photo 3).**
- There is standing water on the floor present over a 2m length at the north end of the void **(Topside Internal Span 21 Defects; Photo 3).**
- The east wall at the north end has leachate staining present over a 500mm width and a missing section of service duct **(Topside Internal Span 21 Defects; Photo 4).**
- The west wall at the south end has leachate staining over a 500mm width and rust staining adjacent to a corroded service duct **(Topside Internal Span 21 Defects; Photo 5).**
- Both the east and west wall at the south end has water staining throughout the top half **(Topside Internal Span 21 Defects; Photo 6).**
- On the west wall, approximately 4m from the south end of the void there is a 1m length x full height area of with leachate staining and corrosion to the service duct **(Topside Internal Span 21 Defects; Photo 7).**
- There is a 300mm x1000mm area of leachate staining and a heavy corrosion to a service duct in the same area on the south end wall adjacent to the west wall **(Topside Internal Span 21 Defects; Photo 8).**

Span 21 Defect Photographs



Topside Internal Span 21 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround and End Wall (North)



Topside Internal Span 21 Defects; Photo 2 Spalling With Exposed Rebar (North).



Topside Internal Span 21 Defects; Photo 3 – Standing Water and Detached Service Frame (North).



Topside Internal Span 21 Defects; Photo 4 – Leachate Staining (North).



Topside Internal Span 21 Defects; Photo 5 – Typical Leachate and Rust Staining to Hatch Surround (South)



Topside Internal Span 21 Defects; Photo 6 – Water Staining Throughout Wall Surface (South)



Topside Internal Span 21 Defects; Photo 7 – Leachate and Corrosion to West Wall (South)



Topside Internal Span 21 Defects; Photo 8 – Leachate and Corrosion to West Wall (South)

5.3.2.19 Span 22

- The service frame is severely corroded at both ends of the void and is partially collapsed at the south end **(Topside Internal Span 22 Defects; Photo 1 and Photo 4).**
- The north end wall and west wall at the north end are rust stained with leachate adjacent to a severely corroded cable trough. **(Topside Internal Span 22 Defects; Photo 2).**
- The east wall at the north end has leachate staining over the end 500mm and spalling 5-10mm deep **(Topside Internal Span 22 Defects; Photo 3).**
- Both east and west upper corners of the south end wall are protruding out by 20-30mm over a 500x500mm area. It is presumed that this is from construction. **(Topside Internal Span 22 Defects; Photo 5).**
- There is standing water on the floor present over a 2m length at the north and south end of the void **(Topside Internal Span 22 Defects; Photo 6).**
- At the south end of the west wall there is a 300mm length of corroded and missing service duct with exposed cables **(Topside Internal Span 22 Defects; Photo 7).**

Span 22 Defect Photographs



Topside Internal Span 22 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround (North)



Topside Internal Span 22 Defects; Photo 2 – Rust Staining Surrounding Corroded Service Trough (North)



Topside Internal Span 22 Defects; Photo 3 – Leachate With Spalling (North)



Topside Internal Span 22 Defects; Photo 4 – Typical Leachate and Rust Staining to Hatch Surround and Service Frame Corrosion (South)



Topside Internal Span 22 Defects; Photo 5 – Upper Corner Protruding in South Wall (South)



Topside Internal Span 22 Defects; Photo 6 – Standing Water and Corroded Service Frame (South)



Topside Internal Span 22 Defects; Photo 7 – Corrosion to Service Duct (South)

5.3.2.20 Span 23

- The west wall at the north end has leachate covering the end 500mm **(Topside Internal Span 23 Defects; Photo 2).**
- The north wall is leachate stained with rust staining present adjacent a corroded cable trough on the west edge of the wall **(Topside Internal Span 23 Defects; Photo 2).**
- Isolated areas of spot spalling are present up to 20mm in diameter and 5m deep over the top of the west wall at the north end **(Topside Internal Span 23 Defects; Photo 3).**
- The east wall at the north side has leachate covering the end 500mm with corrosion to the service duct **(Topside Internal Span 23 Defects; Photo 4).**
- The service frame is severely corroded at both ends of the void, and partially collapsed at the south side **(Topside Internal Span 23 Defects; Photo 5 and Photo 7).**
- There is standing water present in the end 2m of the void at both the north and south ends **(Topside Internal Span 23 Defects; Photo 5 and Photo 7).**
- There is leachate staining on the east wall over a 100x250mm area at the south end **(Topside Internal Span 23 Defects; Photo 7).**

Span 23 Defect Photographs



Topside Internal Span 23 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround (North)



Topside Internal Span 23 Defects; Photo 2 – Leachate and Rust Staining on West Wall (North)



Topside Internal Span 23 Defects; Photo 3 – Spot Spalling to West Wall (North)



Topside Internal Span 23 Defects; Photo 4 – Leachate on East Wall (North)



Topside Internal Span 23 Defects; Photo 5 – Standing Water and Corrosion to Service Frame (North)



Topside Internal Span 23 Defects; Photo 6 – Typical Leachate and Rust Staining to Hatch Surround (South)



Topside Internal Span 23 Defects; Photo 7 – Corrosion to Service Frame, Standing Water and Leachate on East Wall (South)

5.3.2.21 Span 24

- There is leachate staining present at the north end of the void on both the east and west walls **(Topside Internal Span 24 Defects; Photo 2 and Photo 3).**
- There is rust staining present on the north wall adjacent to the east and west walls where the cable trough has corroded **(Topside Internal Span 24 Defects; Photo 2 and Photo 3).**
- The service trough is severely corroded and the end 2m is missing at the north end **(Topside Internal Span 24 Defects; Photo 2, Photo 3, and Photo 4).**
- The floor is covered with leachate deposits throughout the end 2m at the north end of the void **(Topside Internal Span 24 Defects; Photo 4).**
- There is rust staining present on the south wall adjacent to the cable troughing **(Topside Internal Span 24 Defects; Photo 6).**
- The service frame at the south end of the void is severely corroded and detached from the south wall **(Topside Internal Span 24 Defects; Photo 7).**
- There is a 500mm width of corrosion to the service duct on the east wall at the south end of the void **(Topside Internal Span 24 Defects; Photo 8).**

Span 24 Defect Photographs



Topside Internal Span 24 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround (North)



Topside Internal Span 24 Defects; Photo 2 – Leachate and Rust Staining on West Wall (North)



Topside Internal Span 24 Defects; Photo 3 – Leachate and Rust Staining on East Wall (North)



Topside Internal Span 24 Defects; Photo 4 – Corrosion to Service Frame and Leachate Cover on Floor (North)



Topside Internal Span 24 Defects; Photo 5 – Typical Leachate and Rust Staining to Hatch Surround (South)



Topside Internal Span 24 Defects; Photo 6 – Rust Staining Adjacent to Cable Trough



Topside Internal Span 24 Defects; Photo 7 – Build up of Sediment and Corrosion to Service Frame



Topside Internal Span 24 Defects; Photo 8 – Corroded Service Duct on East Wall (South)

5.3.2.22 Span 25

- There is leachate staining present at the north end of the void on both the east and west walls **(Topside Internal Span 25 Defects; Photo 2 and Photo 3).**
- There is rust staining on the north wall adjacent to a severely corroded service trough which as totally corroded away over the end 600mm **(Topside Internal Span 25 Defects; Photo 2).**
- The service frame is corroded and detached from the northern wall at the north end **(Topside Internal Span 25 Defects; Photo 4).**
- There is dampness and standing water visible over the end 2m of the south end of the void **(Topside Internal Span 25 Defects; Photo 5 and Photo 6).**
- The service frame is corroded and the end 2m is missing at the south end of the void **(Topside Internal Span 25 Defects; Photo 5 and Photo 6).**

Span 25 Defect Photographs



Topside Internal Span 25 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround (North)



Topside Internal Span 25 Defects; Photo 2 – Leachate and Rust Staining on West Wall (North)



Topside Internal Span 25 Defects; Photo 3 – Leachate with Spalling on East Wall (North)



Topside Internal Span 25 Defects; Photo 4 – Corrosion to Service Frame and Detached from Wall (North)



Topside Internal Span 25 Defects; Photo 5 – Typical Leachate and Rust Staining to Hatch Surround (South)



Topside Internal Span 25 Defects; Photo 6 – Standing Water and Service Frame Corroded with Missing Elements (South)

5.3.2.23 Span 26

- There is leachate staining present at the north end of the void on both the east and west walls **(Topside Internal Span 26 Defects; Photo 2 and Photo 3).**
- There is rust staining on the north wall adjacent to a corroded cable trough on both edges of the trough. **(Topside Internal Span 26 Defects; Photo 2).**
- The service frame is corroded and has missing elements at the north end of the void **(Topside Internal Span 26 Defects; Photo 4).**
- There is standing water visible over the end 2m of both the north and south end of the void **(Topside Internal Span 26 Defects; Photo 4 and 7).**
- There is honeycombing present on the soffit of the void at the south end over a 2m length adjacent to the access hatch **(Topside Internal Span 26 Defects; Photo 5).**
- There is rust staining and dampness over the end 1.5m of the east wall at the south end of the void **(Topside Internal Span 26 Defects; Photo 6).**
- The service frame is severely corroded and the over 2m at the south end of the void **(Topside Internal Span 26 Defects; Photo 7).**
- There is dampness present to the end 2000mm of the east wall at the south end of the void **(Topside Internal Span 26 Defects; Photo 8).**

Span 26 Defect Photographs



Topside Internal Span 26 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround (North)



Topside Internal Span 26 Defects; Photo 2 – Leachate and Rust Staining on West Wall (North)



Topside Internal Span 26 Defects; Photo 3 – Leachate on East Wall (North)



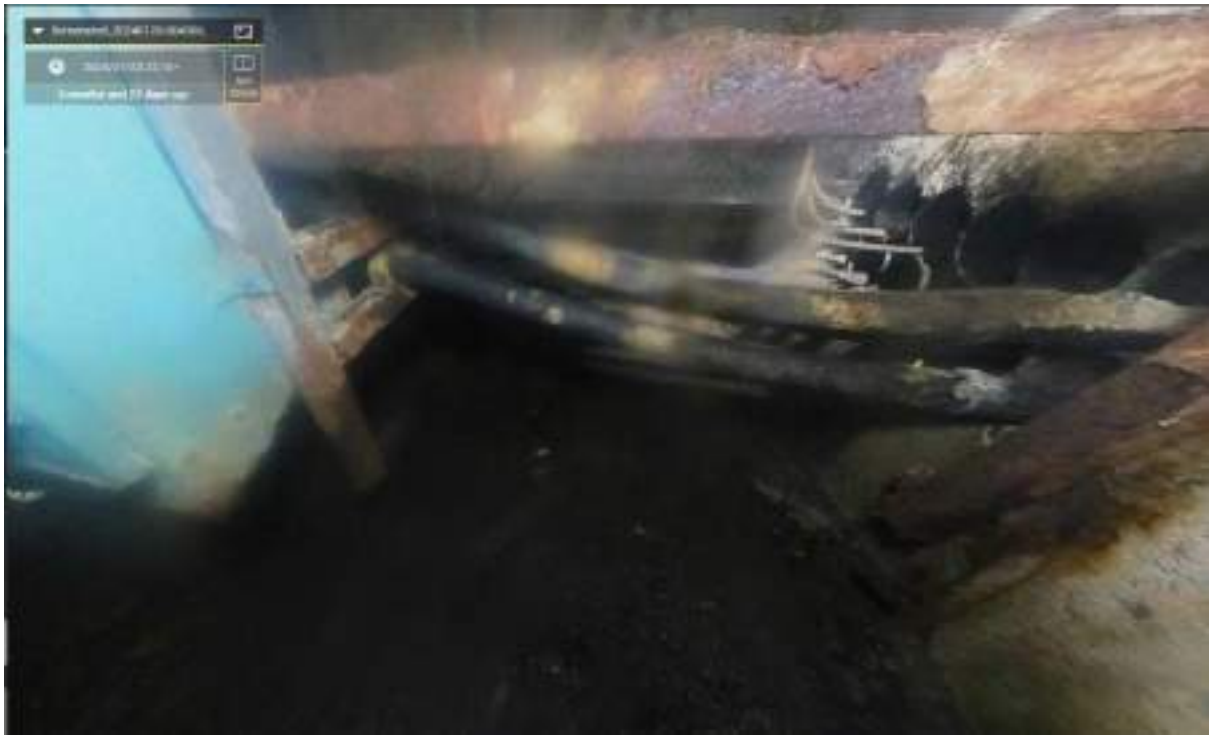
Topside Internal Span 26 Defects; Photo 4 – Standing Water and Missing Service Frame Elements (North)



Topside Internal Span 26 Defects; Photo 5 – Typical Leachate and Rust Staining to Hatch Surround and Honeycombing to Soffit (South)



Topside Internal Span 26 Defects; Photo 6 – Rust Staining and Dampness on East Wall (South)



Topside Internal Span 26 Defects; Photo 7 – Corrosion to Service Frame and standing Water (South)



Topside Internal Span 26 Defects; Photo 8 – Dampness to East Wall (South)

5.3.2.24 Span 27

- There is leachate staining present at the north end of the void on both the east and west walls **(Topside Internal Span 27 Defects; Photo 2 and Photo 3).**
- There is rust staining on the north wall adjacent to a corroded cable trough **Topside Internal Span 27 Defects; Photo 2).**
- The service frame is corroded and has missing elements over the end 2m at both the north and south end of the void **(Topside Internal Span 27 Defects; Photo 4 and Photo 8).**
- There is standing water visible over the end 2m of both the north and south end of the void **(Topside Internal Span 27 Defects; Photo 4 and 8).**
- There is a severely corroded cable trough on the west wall over a 1m length adjacent to the north wall **(Topside Internal Span 27 Defects; Photo 6).**
- An area of 20mm spalling with exposed rebar is present over a 500x500mm area in the bottom right-hand corner of the south wall **(Topside Internal Span 27 Defects; Photo 6).**
- A 300x300mm area of honeycombing is present in the top right-hand corner of the south wall **(Topside Internal Span 27 Defects; Photo 6).**
- There are 2No. areas leachate present on the east wall at the south end up to full height by 800mm and 1000mm wide **(Topside Internal Span 27 Defects; Photo 7).**
- There are 2No areas of leachate staining to the west wall located approximately 2m from the north end wall **(Topside Internal Span 27 Defects; Photo 9).**
- There is a 1500mm length of rust staining to the west wall at the north end of the void **(Topside Internal Span 27 Defects; Photo 9).**

Span 27 Defect Photographs



Topside Internal Span 27 Defects; Photo 1 – Typical Leachate and Rust Staining to Hatch Surround (North)



Topside Internal Span 27 Defects; Photo 2 – Leachate and Rust Staining on West Wall (North)



Topside Internal Span 27 Defects; Photo 3 – Leachate on East Wall (North)



Topside Internal Span 27 Defects; Photo 4 – Corrosion and Missing Elements of Service Frame (North)



Topside Internal Span 27 Defects; Photo 5 – Typical Leachate and Rust Staining to Hatch Surround (South)



Topside Internal Span 27 Defects; Photo 6 – Corrosion to Cable Trough, Spalling With Exposed Rebar and Honeycombing (South)



Topside Internal Span 27 Defects; Photo 7 – Leachate Cover on East Wall (South)



Topside Internal Span 27 Defects; Photo 8 – Corrosion and Missing Elements of Service Frame (South)



Topside Internal Span 27 Defects; Photo 9 – Leachate and Rust Staining to Base of West Wall (North)

5.3.3 Topside

General Comments:

- Throughout the topside of the structure all surface water drains are blocked by vegetation in all spans, general photographs showing this typical defect are included per span below.
- Throughout the topside of the structure the concrete verges are covered with light vegetation, general photographs showing this typical defect are included per span below.
- Between spans 4 to 27 in the central reserve, the footings of a previous crash barrier are visible and lightly spalled throughout most of the structure.
- All road markings are faded and worn

5.3.3.1 North Approach

East Ramp:

- The bottom railing of the east parapet on the east approach ramp has a disconnected joint at the stanchion **(North Approach Topside Defects; Photo 1).**
- The baseplates for the stanchions are typically corroded with up to 2-3mm section loss around the outer 30-50mm of the perimeter of the plate, throughout the north approach east parapet **(North Approach Topside Defects; Photo 2- 3).**
- The west parapet is missing a fixing at the connection to the concrete end post **(North Approach Topside Defects; Photo 4)**
- All of the verge drains are blocked with vegetation throughout the north approach **(North Approach Topside Defects; Photo 5).**
- Both verges have light vegetation cover throughout the north approach **(North Approach Topside Defects; Photo 6)**

West Ramp:

- The carriageway surface has a longitudinal crack, open 5mm over a length of 3m located 27m behind the abutment joint and 1m from the east parapet **(North Approach Topside Defects; Photo 7).**
- The carriageway has a transverse crack, open 5mm over a length of 6m located 15m from the abutment joint **(North Approach Topside Defects; Photo 8).**
- There is an area of subsidence in the carriageway over an area 1000mm long by 500mm wide to a depth of 10-20mm 4m from the abutment joint (**North Approach Topside Defects; Photo 9).**
- The carriageway surface has a transverse crack, open 20-30mm over 500mm to a depth of 10mm, located 1m from the abutment joint **(North Approach Topside Defects; Photo** North Approach Topside Defects; Photo 10 **10)**
- The “SLOW” markings on the northbound carriageway are faded **(North Approach Topside Defects; Photo 10)**
- There is a patch repair present on the carriageway surface over a 500x500mm area located 2m from the abutment joint **(North Approach Topside Defects; Photo 10)**
- All verge drainages are blocked with vegetation throughout the north approach **(North Approach Topside Defects; Photo 10)**

North Approach General Photographs



North Approach General; Photo1 - General view looking north over east ramp



North Approach General; Photo 2 - General view looking south over east ramp

North Approach Defect Photographs



North Approach Topside Defects; Photo 1 - Disconnected Joint



North Approach Topside Defects; Photo 2 - Typical Corrosion of Baseplates



North Approach Topside Defects; Photo 3 - Typical Corrosion of Baseplates



North Approach Topside Defects; Photo 4 - Missing Fixing



North Approach Topside Defects; Photo 5 - Typical Blocked Drains



North Approach Topside Defects; Photo 6 - Typical Vegetation Cover



North Approach Topside Defects; Photo 1 - Longitudinal Cracking



North Approach Topside Defects; Photo 8 - Transverse Cracking



North Approach Topside Defects; Photo 9 - Subsidence



North Approach Topside Defects; Photo 10 - Faded Road Markings With Patch Repairs And Cracking

5.3.3.2 Span 1

East Ramp:

- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 1 Topside Defects; Photo 2)**
- The north abutment expansion joint is missing a cover plate at the east verge **(See Span 1 Topside Defects; Photo 3)**
- There is a notch in the northern drain cover over a 100mm by 80mm area **(See Span 1 Topside Defects; Photo 4)**

West Ramp:

- The north abutment expansion joint is missing a cover plate at the west verge **(See Span 1 Topside Defects; Photo 7)**
- The north abutment expansion joint has a loose cover plate on the east verge **(See Span 1 Topside Defects; Photo 8)**

Span 1 Defect Photographs



Span 1 Topside Defects; Photo 1 - Typical Vegetation Cover Looking North (East Ramp)



Span 1 Topside Defects; Photo 2 - Typical Base Plate Corrosion (East Ramp)



Span 1 Topside Defects; Photo 3 – Expansion Joint Missing Cover Plate (East Ramp)



Span 1 Topside Defects; Photo 4 – Notched Drain Cover and Typical Blockage(East Ramp)



Span 1 Topside Defects; Photo 5 – Typical Vegetation Cover Looking South (West Ramp)



Span 1 Topside Defects; Photo 6 – Typical Blocked Drain (West Ramp)



Span 1 Topside Defects; Photo 7 – Missing Expansion Joint Cover Plate (West Ramp)



Span 1 Topside Defects; Photo 8 – Loose Expansion Joint Cover Plate (West Ramp)

5.3.3.3 Span 2

East Ramp:

- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 2 Topside Defects; Photo 2)**

West Ramp:

- The southern drain cover is detached and blocked **(See Span 2 Topside Defects; Photo 4)**

Span 2 Defect Photographs



Span 2 Topside Defects; Photo 1 – Typical Vegetation Cover and Blocked Drainage (East Ramp)



Span 2 Topside Defects; Photo 2 – Typical Corrosion to Baseplates (East Ramp)



Span 2 Topside Defects; Photo 3 – Typical Vegetation Cover (West Ramp)



Span 2 Topside Defects; Photo 4 – Detached Drain Cover and Typical Blockage (West Ramp)

5.3.3.4 Span 3

East Ramp:

- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 3 Topside Defects; Photo 2)**

West Ramp:

- There are 3No. missing bolts in the west parapet bottom railing located 14.2m from Pier 3 **(See Span 3 Topside Defects; Photo 4)**
- There are 3No. welded repairs in the parapet rails above Pier 3. The welds are in good condition with visible no signs of fatigue. **(See Span 3 Topside Defects; Photo 5)**
- The speed limit signage post is heavily corroded throughout with holing up to 90mm in diameter. **(See Span 3 Topside Defects; Photo 6)**

Span 3 Defect Photographs



Span 3 Topside Defects; Photo 1 – Typical Vegetation And Blocked Drains (East Ramp)



Span 3 Topside Defects; Photo 4 – Typical Corrosion to Base Plates (East Ramp)



Span 3 Topside Defects; Photo 3 – Typical Vegetation And Blocked Drains (West Ramp)



Span 3 Topside Defects; Photo 4 – Missing Bolts (West1 – Typical Vegetation And Blocked Drains (East Ramp)



Span 3 Topside Defects; Photo 5 – Welded Repairs in Parapet (West Ramp)



Span 3 Topside Defects; Photo 6 – Corroded Signage (West Ramp)

5.3.3.5 Span 4

- On the southbound lane the surface water drains adjacent the central reserve that are missing drain covers which are also filled with vegetation throughout the span **(See Span 4 Topside Defects; Photo 1)**
- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 4 Topside Defects; Photo 2)**
- On the southbound lane there are 2No 300mm by 300mm repaired potholes which are in fair condition **(See Span 4 Topside Defects; Photo 3 and Photo 4)**
- There is light vegetation cover throughout the central reserve in a 1-2m band surrounding the perimeter of the carriageways and central wall, a build-up of debris within the centre **(See Span 4 Topside Defects; Photo 5)**
- There is an area of bulging in the central reserve on the west side over a 1m by 1m area located 3m from the north face **(See Span 4 Topside Defects; Photo 6)**
- there is a 12m long hairline fracture with vegetation in the central reserve surface running longitudinally from Pier 4 adjacent to the northbound carriageway **(See Span 4 Topside Defects; Photo 7)**
- 2No areas of 50mm spalling are present on the centre wall over 100mm by 100mm areas **(See Span 4 Topside Defects; Photo 8)**
- There is a welded repair to the bottom rail of the west parapet over Pier 4 in fair condition **(See Span 4 Topside Defects; Photo 9)**
- The protective coating to the stanchion baseplates on the crash barrier of the central reserve has started to deteriorate and beginning to show signs of surface corrosion **(See Span 4 Topside Defects; Photo 10)**

Span 4 Defect Photographs



Span 4 Topside Defects; Photo 1 – Missing Drain Covers and Typical Blocked Drain



Span 4 Topside Defects; Photo 2 – Typical Corrosion to Base Plates



Span 4 Topside Defects; Photo 3 – Repaired Pothole



Span 4 Topside Defects; Photo 4 – Repaired Pothole



Span 4 Topside Defects; Photo 5 – Vegetation and Debris Looking South



Span 4 Topside Defects; Photo 6 – Bulging



Span 4 Topside Defects; Photo 7 – Cracking With Vegetation



Span 4 Topside Defects; Photo 8 – Spalling in Central Wall



Span 4 Topside Defects; Photo 9 – Weld in Parapet Rail



Span 4 Topside Defects; Photo 10 – Breakdown of Coating on Central Crash Barrier Baseplates

5.3.3.6 Span 5

- On the southbound lane the surface water drains adjacent the central reserve that are missing drain covers which are also filled with vegetation throughout the span **(See Span 5 Topside Defects; Photo 1)**
- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 5 Topside Defects; Photo 2)**
- There is light vegetation cover throughout the central reserve in a 1-2m band surrounding the perimeter of the carriageways and central wall, a build-up of debris within the centre **(See Span 5 Topside Defects; Photo 3)**
- The central wall is spalled up to 50mm deep over a 400mm by 100mm area **(See Span 5 Topside Defects; Photo 4)**
- There is a 20m long hairline fracture with vegetation in the central reserve surface running longitudinally from Pier 4 adjacent to the northbound carriageway **(See Span 5 Topside Defects; Photo 5)**
- The southern central void access hatch (C2) is missing and is replaced with a concrete block, the block does not fully cover the access **(See Span 5 Topside Defects; Photo 6)**
- 1No crash barrier on the northbound lane is deflected 30mm out of plumb adjacent to Pier 5 **(See Span 5 Topside Defects; Photo 7)**
- There is a 4m length over which 4No stanchions are deflected up to 100mm (typically 30mm) located 7.5m from Pier 5 **(See Span 5 Topside Defects; Photo 8 and Photo 9)**
- There are 2No welded joints to the bottom rail in the west parapet which exhibiting surface corrosion **(See Span 5 Topside Defects; Photo 10 and photo 11)**
- There are 2No. spalled footings on the west parapet which have rust staining present **(See Span 5 Topside Defects; Photo 12 and Photo 13)**

Span 5 Defect Photographs



Span 5 Topside Defects; Photo 1- Missing Drain Covers and Typical Blocked Drain



Span 5 Topside Defects; Photo 2- Typical Corroded Baseplates



Span 5 Topside Defects; Photo 3- Typical Vegetation Cover



Span 5 Topside Defects; Photo 4- Spalled Central Wall



Span 5 Topside Defects; Photo 5- Cracking With Vegetation



Span 5 Topside Defects; Photo 6- Missing Manhole Cover



Span 5 Topside Defects; Photo 7- Deflected Crash Barrier Stanchion



Span 5 Topside Defects; Photo 8- 4No Deflected Crash Barrier Stanchions



Span 5 Topside Defects; Photo 9- Crash Barrier Deflection



Span 5 Topside Defects; Photo 10- Welded joint



Span 5 Topside Defects; Photo 11- Welded joint



Span 5 Topside Defects; Photo 12- Spalled Parapet Footing



Span 5 Topside Defects; Photo 13- Spalled Parapet Footing

5.3.3.7 Span 6

- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 6 Topside Defects; Photo 2)**
- There is an area of 20mm spalling over a 100mm by 20mm area to the wall in the central reserve **(See Span 6 Topside Defects; Photo 3)**
- There is a piece of metal debris stuck in a joint in the crash barrier adjacent to the northbound lane **(See Span 6 Topside Defects; Photo 4)**
- The bottom railing of the parapet on the northbound lane is deflected up to 20mm between 2No stanchions located 6m from Pier 6 **(See Span 6 Topside Defects; Photo 5)**
- There is a 70mm by 70mm triangular notch in the drain cover at the south end of the span on the northbound carriageway **(See Span 6 Topside Defects; Photo 6)**
- 2No. The central reserve crash barrier stanchions adjacent to the northbound lane are up to 30mm deflected out of plumb **(See Span 6 Topside Defects; Photo 7)**
- There is a tear in the parapet bottom railing over a length of 200mm located on the southbound lane 8m from Pier 5 **(See Span 6 Topside Defects; Photo 8)**

Span 6 Defect Photographs



Span 6 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 6 Topside Defects; Photo 2- Typical Corroded Baseplates



Span 6 Topside Defects; Photo 3 – Spalling to Wall in Central Reserve



Span 6 Topside Defects; Photo 4 - Debris in Crash Barrier Joint



Span 6 Topside Defects; Photo 5- Deflection in Parapet Railing



Span 6 Topside Defects; Photo 6- Notch in Drain Cover



Span 6 Topside Defects; Photo 7- Deflected Crash Barriers



Span 6 Topside Defects; Photo 8- Tear in Parapet Rail

5.3.3.8 Span 7

- There is 1No drain cover which is detached at midspan of the northbound carriageway **(See Span 7 Topside Defects; Photo 2)**
- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 7 Topside Defects; Photo 3)**
- There is 1No. stanchion in the central reserve crash barrier which is deflected up to 50mm out of plumb at the north end of the structure, adjacent the northbound carriageway **(See Span 7 Topside Defects; Photo 4)**
- The corner of the central wall of the central reserve is spalled over a 200mm length and 50mm width adjacent to access hatch C1 **(See Span 7 Topside Defects; Photo 5)**

Span 7 Defect Photographs



Span 7 Topside Defects; Photo 1- Vegetation and Debris Build up in Central Reserve



Span 7 Topside Defects; Photo 2- Drain Cover Detached and Typical Blockage



Span 7 Topside Defects; Photo 3- Typical Corroded Baseplates



Span 7 Topside Defects; Photo 4- Deflected Crash Barrier Stanchion



Span 7 Topside Defects; Photo 5- Spalling to Wall in Central Reserve

5.3.3.9 Span 8

- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 7 Topside Defects; Photo 2)**
- There are the remains of redundant cycle route road markings present on the northbound lane **(See Span 8 Topside Defects; Photo 3)**
- The southern drain cover on the southbound lane is notched over 100mm by 100mm **(See Span 8 Topside Defects; Photo 4)**

Span 8 Defect Photographs



Span 8 Topside Defects; Photo 1 - Typical Blocked Drains and Vegetation



Span 8 Topside Defects; Photo 2- Typical Corrosion to Baseplates



Span 8 Topside Defects; Photo 3- Redundant Cycleway Markings



Span 8 Topside Defects; Photo 4 – Notched Drain Cover

5.3.3.10 Span 9

- There is corrosion present throughout the parapet stanchion base plates on the east parapet typically, 2-3mm section loss around the perimeter of all base plates **(See Span 9 Topside Defects; Photo 2)**
- The expansion joint cover plate over the west verge on the northbound carriageway is fully corroded over a 200mm by 300mm area, with a buildup of vegetation present in the joint **(See Span 9 Topside Defects; Photo 3)**
- The expansion joint cover plate over the west verge on the southbound carriageway is detached, with a buildup of vegetation present in the joint **(See Span 9 Topside Defects; Photo 4)**
- The expansion joint cover over the northbound lane has cracking and weathering along the ridges throughout the width of the entire joint **(See Span 9 Topside Defects; Photo 5)**
- There is 1No redundant signage post fixed to the parapet stanchion on the northbound lane at Pier 9 **(See Span 9 Topside Defects; Photo 6)**

Span 9 Defect Photographs



Span 9 Topside Defects; Photo 1 – Typical Blocked Drains and Vegetation



Span 9 Topside Defects; Photo 2- Typical Corrosion to Baseplates



Span 9 Topside Defects; Photo 3 – Corrosion to Expansion joint Cover Plate (Northbound)



Span 9 Topside Defects; Photo 4 – Corrosion to Expansion joint Cover Plate (Southbound)



Span 9 Topside Defects; Photo 5 – Cracking and Weathering to Expansion Joint Cover (Northbound)



Span 9 Topside Defects; Photo 6 – Redundant Signage Post

5.3.3.11 Span 10

- There are the remains of redundant cycle route road markings present on the northbound lane **(See Span 10 Topside Defects; Photo 2)**

Span 10 Defect Photographs



Span 10 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 10 Topside Defects; Photo 2- Redundant Cycleway Markings

5.3.3.12 Span 11

- There is a fractured and notched drain cover on the central reserve on the southbound carriageway **(See Span 11 Topside Defects; Photo 2)**

Span 11 Defect Photographs



Span 11 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 11 Topside Defects; Photo2- Notches to Drain Cover

5.3.3.13 Span 12

- There are the remains of redundant cycle route road markings present on the northbound lane **(See Span 12 Topside Defects; Photo 2)**
- There is a loose and cracked drain cover on the central reserve on the southbound carriageway **(See Span 12 Topside Defects; Photo 3)**

Span 12 Defect Photographs



Span 12 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 12 Topside Defects; Photo 2- Redundant Cycleway Markings



Span 12 Topside Defects; Photo 3- Cracked and Loose Drain Covering

5.3.3.14 Span 13

There are no defects present on Span 13 other than the general defects mentioned in Section 5.3.3 of this report

Span 13 Defect Photographs



Span 13 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation

5.3.3.15 Span 14

There are no defects present on Span 14 other than the general defects mentioned in Section 5.3.3 of this report

Span 14 Defect Photographs



Span 14 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation

5.3.3.16 Span 15

- There are the remains of redundant cycle route road markings present on the northbound lane **(See Span 15 Topside Defects; Photo 2)**
- There are 3No missing bolts in the parapet footings on the east parapet, and the expansion joint cover plate over the east verge is missing with only a rubber membrane present at pier 15 **(See Span 15 Topside Defects; Photo 3)**
- The east parapet has 2No tears in the top railings, each up to 50mm long at pier 15 **(See Span 15 Topside Defects; Photo 4)**
- The expansion joint covering is missing several of the top panels on the southbound carriageway at pier 15 **(See Span 15 Topside Defects; Photo 5)**
- The expansion joint cover plate is missing over the west verge at pier 15 **(See Span 15 Topside Defects; Photo 6)**
- The expansion joint is exhibiting signs of degradation and is missing several of the top panels on the northbound carriageway at pier 15 **(See Span 15 Topside Defects; Photo 7)**
- There is 1No friable parapet footing in which the concrete base is loose and friable located at pier 15 at in the central reserve **(See Span 15 Topside Defects; Photo 8)**
- The expansion joint cover plate is missing from the central reserve **(See Span 15 Topside Defects; Photo 9)**

Span 15 General Photographs



Span 15 Topside General; Photo 1- View North Over Span 15

Span 15 Defect Photographs



Span 15 Topside Defects; Photo 1- Typical Blocked Drain



Span 15 Topside Defects; Photo 2- Redundant Cycleway Markings



Span 15 Topside Defects; Photo 3- Missing Baseplate Bolts and Cover Plate



Span 15 Topside Defects; Photo 4- Torn Parapet Railing



Span 15 Topside Defects; Photo 5- Damaged Expansion Joint Cover (Southbound)



Span 15 Topside Defects; Photo 6- Missing Expansion Cover plate (West)



Span 15 Topside Defects; Photo 7- Damaged Cover Plate Joint (Northbound)



Span 15 Topside Defects; Photo 8- Friable Stanchion Footing



Span 15 Topside Defects; Photo 9 – Missing Expansion Joint Cover in Central Reserve

5.3.3.17 Span 16

There are no defects present on Span 16 other than the general defects mentioned in Section 5.3.3 of this report

Span 16 Defect Photographs



Span 16 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation

5.3.3.18 Span 17

There are no defects present on Span 17 other than the general defects mentioned in Section 5.3.3 of this report

Span 17 Defect Photographs



Span 17 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation

5.3.3.19 Span 18

- There are the remains of redundant cycle route road markings present on the northbound lane **(See Span 18 Topside Defects; Photo 2)**

Span 18 Defect Photographs



Span 18 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 18 Topside Defects; Photo 2- Redundant Road Markings

5.3.3.20 Span 19

- There is a 2m by 1m patch repair in the southbound carriageway surface which is in fair condition **(See Span 19 Topside Defects; Photo 2)**

Span 19 Defect Photographs



Span 19 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 19 Topside Defects; Photo 2- Southbound Patch Repair

5.3.3.21 Span 20

There are no defects present on Span 20 other than the general defects mentioned in Section 5.3.3 of this report

Span 20 Defect Photographs



Span 20 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation

5.3.3.22 Span 21

- There are the remains of redundant cycle route road markings present on the northbound lane **(See Span 21 Topside Defects; Photo 2)**

Span 21 Defect Photographs



Span 21 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 21 Topside Defects; Photo 2- Redundant Road Markings

5.3.3.23 Span 22

There are no defects present on Span 22 other than the general defects mentioned in Section 5.3.3 of this report

Span 22 Defect Photographs



Span 22 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation

5.3.3.24 Span 23

- There are the remains of redundant cycle route road markings present on the northbound lane **(See Span 23 Topside Defects; Photo 2)**

Span 23 Defect Photographs



Span 23 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 23 Topside Defects; Photo 2- Redundant Road Markings

5.3.3.25 Span 24

There are no defects present on Span 24 other than the general defects mentioned in Section 5.3.3 of this report

Span 24 Defect Photographs



Span 24 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation

5.3.3.26 Span 25

- The road markings on the southbound lane are faded **(See Span 25 Topside Defects; Photo 2)**
- There are the remains of redundant road markings present on the northbound lane **(See Span 25 Topside Defects; Photo 3)**

Span 25 Defect Photographs



Span 25 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 25 Topside Defects; Photo 2- Faded Road Markings

5.3.3.27 Span 26

- The road markings on the southbound lane are faded **(See Span 26 Topside Defects; Photo 2)**

Span 26 Defect Photographs



Span 26 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 26 Topside Defects; Photo 2- Faded Road Markings

5.3.3.28 Span 27

- There are the remains of redundant cycle route road markings present on the northbound lane **(See Span 27 Topside Defects; Photo 2)**
- The expansion joint cover at the south abutment over the southbound lane at has 2No areas with missing panelling up to 2m in length, with weathering throughout the remainder **(See Span 27 Topside Defects; Photo 3)**
- The expansion joint cover at the south abutment over the northbound lane at has 2No areas with missing panelling up to 3m in length, with weathering throughout the remainder **(See Span 27 Topside Defects; Photo 4)**
- the expansion joint cover plate at the south abutment over the central reserve adjacent to the southbound lane is loose and partially detached **(See Span 27 Topside Defects; Photo 5)**

Span 27 Defect Photographs



Span 27 Topside Defects; Photo 1- Typical Blocked Drains and Vegetation



Span 27 Topside Defects; Photo 2- Redundant Road Markings



Span 27 Topside Defects; Photo 3- Expansion Joint Missing Panelling and Weathering (Southbound)



Span 27 Topside Defects; Photo 4 - Expansion Joint Missing Panelling and Weathering (Northbound)



Span 27 Topside Defects; Photo 5 - Loose/partially Detached Expansion Joint Cover Plate

5.3.3.29 South Approach

- There is a damaged drain covering present on the southbound lane immediately south of the south abutment joint, missing an area of 230mm by 60mm. The drain is also blocked with vegetation as is typical throughout the structure **(See South Approach Topside Defects; Photo 1)**.
- The road markings on the southbound lane are faded **(See Span 25 Topside Defects; Photo 2)**
- The carriageway surface to the south of the expansion joint on both the northbound and southbound lanes is showing signs of cracking and degradation.

South Approach Defect Photographs



South Approach Topside General; Photo 1- View Looking North



South Approach Topside General; Photo 2- View Looking South

South Approach Defect Photographs



South Approach Topside Defects; Photo 1- Damaged Drain Covering and Typical Vegetation



South Approach Topside Defects; Photo 2- Faded Road Markings

5.3.4 Underside External Faces

General Comments:

- The facia panels fixed to the elevations of the structure are in poor condition throughout the structure but generally worse towards the north half of the bridge. In all spans there are areas of full depth spalling exposing reinforcement.
- There is evidence of water egress throughout multiple areas of the structure, and it is apparent that surface water is becoming trapped within the voids and not draining away as intended.
- The anchorage block caps visible on the soffit of the structure throughout all spans have hairline map cracking throughout the surface and are consistently drummy. Photographs of this typical defect are included per span in the condition summary below.
- There are large areas of delamination and spalling on the soffit of the structure which are susceptible to weathering and are likely to become worse over time. These areas have been highlighted per span as areas that require attention most urgently to prevent the risk of debris falling and causing damage or injury.

5.3.4.1 Span 1

East Ramp

A 500mm by 50mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the east ramp, east cantilever, 3.5m from the south pier **(See Span 1 Underside External Defects; Photo 1)**

A 500mm by 50mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the east ramp, east cantilever, 4.0m from the south pier **(See Span 1 Underside External Defects; Photo 2)**

On the facia panels of the east ramp, east cantilever, there are sporadic missing bottom corners on the facia panels throughout **(See Span 1 Underside External Defects; Photo 3)**

A full width by 100mm area of full depth spalling with exposed rebar is present on the facia panels of the east ramp, east cantilever, at the south pier **(See Span 1 Underside External Defects; Photo 4)**

A 500mm by 500mm area of 30mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 3.5m from the south pier **(See Span 1 Underside External Defects; Photo 5)**

A 900mm long, 1mm wide longitudinal crack is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 3.5m from the south pier **(See Span 1 Underside External Defects; Photo 6)**

A 800mm, 2mm wide longitudinal crack is present on the soffit of the east ramp span, west cantilever, at the west edge of the face, 24.0m from the south pier **(See Span 1 Underside External Defects; Photo 7)**

On the facia panels of the east ramp, west cantilever, there are sporadic missing bottom corners of the facia panels throughout **(See Span 1 Underside External Defects; Photo 9, 10, 11 & 14)**

A 50mm by 100mm area of 10mm spalling with exposed rebar is present on the facia panels of the east ramp, west cantilever, 18.0m from the south pier **(See Span 1 Underside External Defects; Photo 12)**

There is typically a 100mm high band of water staining present to the bottom of the facia panels of the east ramp, west cantilever, throughout the span **(See Span 1 Underside External Defects; Photo 13, 14 & 15)**

On the facia panels of the east ramp, west cantilever, the bottom left corner of the facia panel is missing 3.5m from the south pier **(See Span 1 Underside External Defects; Photo 14)**

On the facia panels of the east ramp, west cantilever, the bottom right corner of the facia panel is missing 3.5m from the south pier **(See Span 1 Underside External Defects; Photo 14)**

West Ramp

A 200mm by 50mm area of 50mm spalling is present on the facia panels of the west ramp, east cantilever, 20.0m from the south pier **(See Span 1 Underside External Defects; Photo 16)**

On the facia panels of the west ramp, east cantilever, the bottom half of the facia panel is missing 17.0m from the south pier **(See Span 1 Underside External Defects; Photo 17)**

A 200mm by 50mm area of delamination is present on the internal face of the facia panels of the west ramp, east cantilever, 15.0m from the south pier **(See Span 1 Underside External Defects; Photo 18)**

A 400mm by 100mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the west ramp, east cantilever, 14.0m from the south pier **(See Span 1 Underside External Defects; Photo 19)**

On the facia panels of the west ramp, east cantilever, there are sporadic missing bottom corners of the facia panels throughout **(See Span 1 Underside External Defects; Photo 20, 22 & 27)**

A 250mm by 100mm area of 30mm spalling with exposed rebar is present on the internal face of the facia panels of the west ramp, east cantilever, 12.0m from the south pier **(See Span 1 Underside External Defects; Photo 21)**

A 200mm by 50mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the west ramp, east cantilever, 9.0m from the south pier **(See Span 1 Underside External Defects; Photo 23)**

A 150mm by 50mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the west ramp, east cantilever, 9.0m from the south pier **(See Span 1 Underside External Defects; Photo 24)**

A 250mm, 1mm wide longitudinal crack is present on the soffit of the facia panels of the west ramp, east cantilever, 6.5m from the south pier **(See Span 1 Underside External Defects; Photo 25)**

A 300mm by 100mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the west ramp, east cantilever, 5.0m from the south pier **(See Span 1 Underside External Defects; Photo 26)**

The street lighting fixed to the soffit of the structure on the west ramp is not working throughout the span **(See Span 1 Underside External Defects; Photo 28)**

A 100mm by 300mm area of delamination is present on the soffit of the west ramp span, east cantilever, at the east side of the face, 23.0m from the south pier **(See Span 1 Underside External Defects; Photo 29)**

A 300mm by 50mm area of leachate is present on the soffit of the west ramp span, east cantilever, 1.5m from the east side of the face, 22.0m from the south pier **(See Span 1 Underside External Defects; Photo 30)**

There are 2No. areas of 30mm spalling present located the west ramp span, east cantilever, in areas 100mm by 100mm and 50mm by 100mm located 1.5m from the east side of the face, 20.0m from the south pier. Additionally there is a transverse crack present open 2mm over a length of 1500mm in the same location. **(See Span 1 Underside External Defects; Photo 31)**

A 50mm by 100mm area of Rust Staining is present on the soffit of the west ramp span, east cantilever, 6.0m from the south pier **(See Span 1 Underside External Defects; Photo 32**)

A 50mm by 50mm area of 20mm spalling with exposed rebar is present on the soffit of the west ramp span, east cantilever, at the east side of the face, 2m from the south pier **(See Span 1 Underside External Defects; Photo 33)**

A 50mm by 100mm area of leachate is present on the soffit of the west ramp, west cantilever, 24.0m from the south pier **(See Span 1 Underside External Defects; Photo 34)**

A 300mm by 300mm area of water staining is present on the facia panels of the west ramp, west cantilever, 23.0m from the south pier **(See Span 1 Underside External Defects; Photo 35)**

A 2000mm long, Hairline longitudinal crack is present on the facia panels of the west ramp, west cantilever, 22.0m from the south pier **(See Span 1 Underside External Defects; Photo 36)**

A 500mm by 100mm area of 100mm spalling with exposed rebar is present on the internal face of the facia panels of the west ramp, west cantilever, 22.0m from the south pier **(See Span 1 Underside External Defects; Photo 37)**

A 500mm by 200mm area of 100mm spalling with exposed rebar is present on the internal face of the facia panels of the west ramp, west cantilever, 10.0m from the south pier **(See Span 1 Underside External Defects; Photo 38)**

A 500mm by 200mm area of 100mm spalling with exposed rebar is present on internal face of the facia panels of the west ramp, west cantilever, 8.0m from the south pier **(See Span 1 Underside External Defects; Photo 39)**

A 5000mm by 50mm area of water staining is present on the facia panels of the west ramp, west cantilever, 5.0m from the south pier **(See Span 1 Underside External Defects; Photo 40)**

On the facia panels of the west ramp, west cantilever, both edges of the facia panel are missing 1.0m from the south pier **(See Span 1 Underside External Defects; Photo 41)**

Span 1 External Underside General Photographs



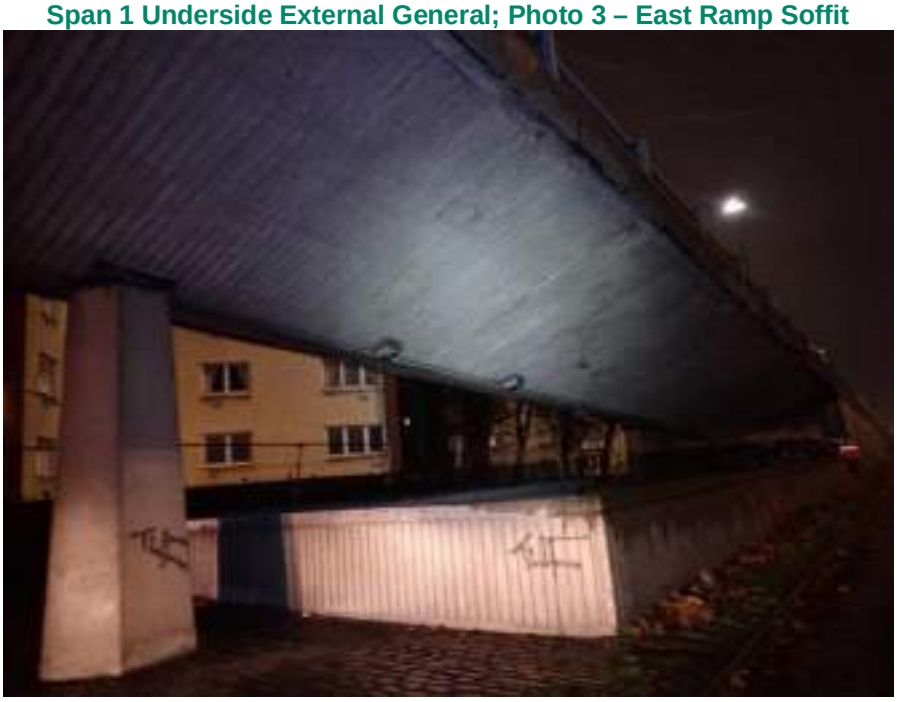
Span 1 Underside External General; Photo 1 – East Ramp West Elevation



Span 1 Underside External General; Photo 2 – East Ramp East Elevation



Span 1 Underside External General; Photo 3 – East Ramp Soffit



Span 1 Underside External General; Photo 4 – West Ramp East Elevation



Span 1 Underside External General; Photo 5 – West Ramp West Elevation



Span 1 Underside External General; Photo 6 – West Ramp Soffit

Span 1 External Underside Defect Photographs



Span 1 External Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 1 External Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 1 External Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 1 External Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 1 External Underside Defects; Photo 5 - Spalling With Exposed Rebar



Span 1 External Underside Defects; Photo 6 - Longitudinal Crack



Span 1 External Underside Defects; Photo 7 - Longitudinal Crack



Span 1 Underside External Defects; Photo 8 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 9 - Spalling



Span 1 Underside External Defects; Photo 10 - Spalling



Span 1 Underside External Defects; Photo 11 - Spalling



Span 1 Underside External Defects; Photo 12 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 13 - Water Staining



Span 1 Underside External Defects; Photo 14 - Spalling With Exposed Rebar and Typical Water Staining



Span 1 Underside External Defects; Photo 15 - Spalling With Exposed Rebar and Typical Water Staining



Span 1 Underside External Defects; Photo 16 - Spalling



Span 1 Underside External Defects; Photo 17 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 18 - Delamination



Span 1 Underside External Defects; Photo 19 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 20 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 21 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 22 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 23 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 24 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 25 – Longitudinal Cracking



Span 1 Underside External Defects; Photo 26 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 27 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 28 – Faulty Structure Lighting



Span 1 Underside External Defects; Photo 29 - Delamination



Span 1 Underside External Defects; Photo 30 - Leachate



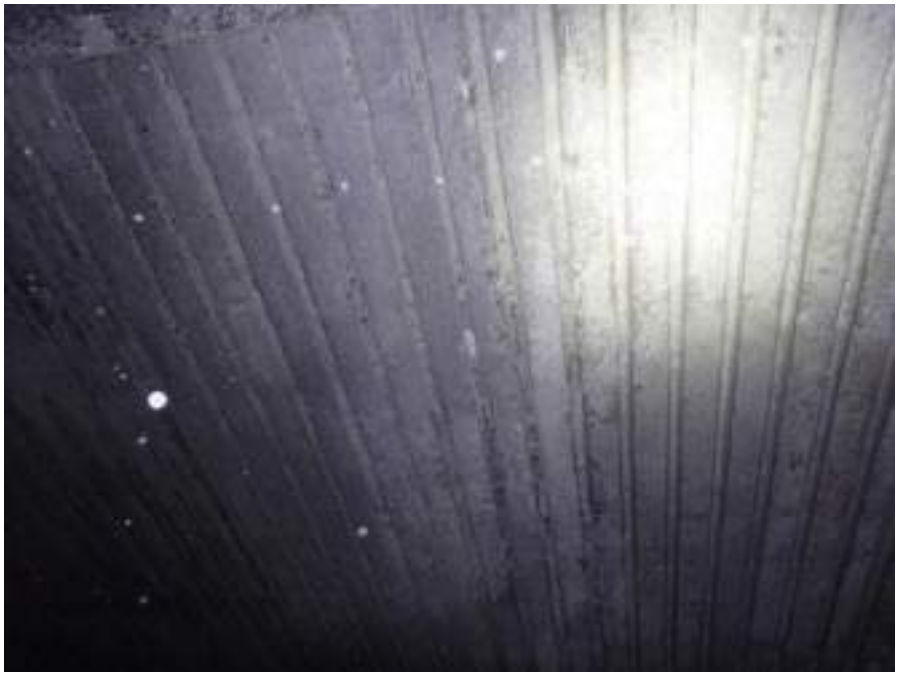
Span 1 Underside External Defects; Photo 31 - Spalling



Span 1 Underside External Defects; Photo 32 - Rust Staining



Span 1 Underside External Defects; Photo 33 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 34 - Leachate



Span 1 Underside External Defects; Photo 35 - Water Staining



Span 1 Underside External Defects; Photo 36 - Longitudinal Crack



Span 1 Underside External Defects; Photo 37 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 38 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 39 - Spalling With Exposed Rebar



Span 1 Underside External Defects; Photo 40 - Water Staining



Span 1 Underside External Defects; Photo 41 - Spalling With Exposed Rebar

5.3.4.2 Span 2

East Ramp

On the facia panels of the east ramp, east cantilever, there are sporadic missing bottom corners on the facia panels throughout **(See Span 2 Underside External Defects; Photo 1, 3, 4, 5, 6, 7 & 8)**

A 500mm long, Hairline longitudinal crack with water staining is present on the facia panels of the east ramp, east cantilever, 23.0m from the south pier **(See Span 2 Underside External Defects; Photo 2)**

A 600mm by 400mm area of 20mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, 2.0m from the east side of the face, 18.0m from the south pier **(See Span 2 Underside External Defects; Photo 9)**

A 4000mm by 150mm area of 40mm spalling is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 16.0m from the south pier **(See Span 2 Underside External Defects; Photo 10)**

A 150mm by 500mm area of 30mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, 1.0m from the east side of the face, 18.0m from the south pier **(See Span 2 Underside External Defects; Photo 11)**

A 100mm by 50mm area of 20mm spalling is present on the soffit of the east ramp span, east cantilever, at the east edge of the face, 18.0m from the south pier **(See Span 2 Underside External Defects; Photo 12)**

A 500mm by 200mm area of 50mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 14.0m from the south pier **(See Span 2 Underside External Defects; Photo 13)**

A 300mm by 100mm area with a defective concrete repair which is delaminated is present on the soffit of the east ramp span, east cantilever, at the west edge of the face, 18.0m from the south pier **(See Span 2 Underside External Defects; Photo 14)**

A 300mm by 100mm area of 20mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, 3.5m from the east side of the face, 13.0m from the south pier **(See Span 2 Underside External Defects; Photo 15)**

A 800mm by 200mm area of 100mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east edge of the face, 11.0m from the south pier **(See Span 2 Underside External Defects; Photo 16)**

A 4000mm by 150mm area of 200 spalling with exposed rebar and intermittent cracking open 1mm is present on the soffit of the east ramp span, east cantilever, at from the east side of the face, 4.0m from the south pier **(See Span 2 Underside External Defects; Photo 17)**

A 50mm by 250mm area of 20mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, 0.5m from the east side of the face, 3.5m from the south pier **(See Span 2 Underside External Defects; Photo 18)**

A 1000mm by 150mm area of 20mm spalling with exposed rebar and intermittent cracking open up to 1mm is present on the soffit of the east ramp span, east cantilever, at the east side of the face, at the south pier **(See Span 2 Underside External Defects; Photo 19)**

A full width by 100mm area of 50mm spalling with exposed rebar is present on the facia panels of the east ramp, west cantilever, at the north pier **(See Span 2 Underside External Defects; Photo 20)**

A 100mm by 50mm area of 50mm spalling is present on the facia panels of the east ramp, west cantilever, 18.0m from the south pier **(See Span 2 Underside External Defects; Photo 21)**

West Ramp

A 1500mm by 50mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the west ramp, east cantilever, 23.0m from the south pier **(See Span 2 Underside External Defects; Photo 22)**

A 100mm by 50mm area of 50mm spalling is present on the internal face of the facia panels of the west ramp, east cantilever, 22.0m from the south pier **(See Span 2 Underside External Defects; Photo 23)**

On the facia panels of the west ramp, east cantilever, the bottom corners of the facia panel are missing sporadically throughout the span **(See Span 2 Underside External Defects; Photo 24, 25, 26, 30, 33 ,35 & 36)**

A 100mm by 50mm, 1mm wide diagonal crack is present on the facia panels of the west ramp, east cantilever, 19.0m from the south pier **(See Span 2 Underside External Defects; Photo 27)**

A 500mm by 400mm area of delamination is present on the facia panels of the west ramp, east cantilever, 16.0m from the south pier **(See Span 2 Underside External Defects; Photo 28)**

A 500mm by 250mm area of delamination is present on the facia panels of the west ramp, east cantilever, 15.0m from the south pier **(See Span 2 Underside External Defects; Photo 29)**

On the facia panels of the west ramp, east cantilever, the bottom half of the facia panel is missing 13.0m from the south pier **(See Span 2 Underside External Defects; Photo 31)**

A 500mm, 3mm wide longitudinal crack is present on the soffit of the facia panels of the west ramp, east cantilever, 11.0m from the south pier **(See Span 2 Underside External Defects; Photo 32)**

A 2000mm, 1mm wide Transverse crack with leachate with leachate is present on the west ramp, east cantilever, 7.0m from the south pier **(See Span 2 Underside External Defects; Photo 34)**

A 600mm by 100mm area of 50mm spalling with exposed rebar is present on the facia panels of the west ramp, east cantilever, at the south pier **(See Span 2 Underside External Defects; Photo 37)**

A 50mm by 100mm area of 5mm spalling is present on the soffit of the west ramp span, east cantilever, 1.0m from the east side of the face, 14.0m from the south pier **(See Span 2 Underside External Defects; Photo 38)**

Access hatch K1 on the west ramp span west cantilever is cracked around the perimeter of the access open by 2mm **(See Span 2 Underside External Defects; Photo 39)**

A 700mm by 200mm area of full depth spalling with exposed rebar is present on the facia panels of the west ramp, west cantilever, 25.0m from the south pier **(See Span 2 Underside External Defects; Photo 40)**

Water staining is present on the facia panels of the west ramp, west cantilever, over the bottom 200mm throughout the span **(See Span 2 Underside External Defects; Photo 41)**

A 2000mm long, 1mm wide longitudinal crack with water staining is present on the soffit of the facia panels of the west ramp, west cantilever, 20.0m from the south pier **(See Span 2 Underside External Defects; Photo 42)**

A 1000mm, 1mm wide longitudinal crack with water staining is present on soffit of the facia panels of the west ramp, west cantilever, 16.0m from the south pier **(See Span 2 Underside External Defects; Photo 43)**

Span 2 General Photographs



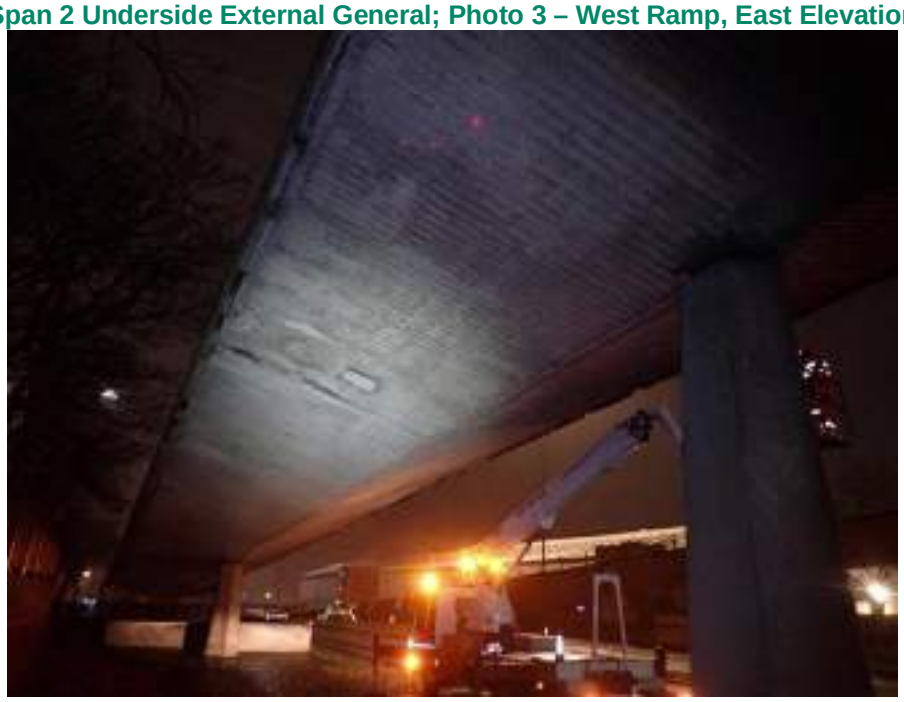
Span 2 Underside External General; Photo 1 – East Ramp, West Elevation



Span 2 Underside External General; Photo 2 – East Ramp, East Elevation



Span 2 Underside External General; Photo 3 – West Ramp, East Elevation



Span 2 Underside External General; Photo 4 – West Ramp Soffit

Span 2 Defect Photographs



Span 2 Underside External Defects; Photo 1 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 2 - Longitudinal Crack



Span 2 Underside External Defects; Photo 3 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 4 - Spalling With Exposed Rebar



Span 2; Photo 5 - Spalling With Exposed Rebar



Span 2; Photo 6 - Spalling With Exposed Rebar on 2No Facia Panels



Span 2; Photo 7 - Spalling



Span 2 Underside External Defects; Photo 8 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 9 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 10 - Spalling



Span 2 Underside External Defects; Photo 11 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 12 - Spalling



Span 2 Underside External Defects; Photo 13 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 14 - Defective Historical Repair



Span 2 Underside External Defects; Photo 15 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 16 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 17 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 18 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 19 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 20 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 21 - Spalling



Span 2 Underside External Defects; Photo 22 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 23 - Spalling



Span 2 Underside External Defects; Photo 24 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 25 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 26 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 27 - Diagonal Crack



Span 2 Underside External Defects; Photo 28 - Delamination



Span 2 Underside External Defects; Photo 29 - Delamination



Span 2 Underside External Defects; Photo 30 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 31 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 32 - Longitudinal Crack



Span 2 Underside External Defects; Photo 33 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 34 - Transverse Crack With Leachate



Span 2 Underside External Defects; Photo 35 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 36 - Spalling



Span 2 Underside External Defects; Photo 37 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 38 - Spalling



Span 2 Underside External Defects; Photo 39 - Cracking



Span 2 Underside External Defects; Photo 40 - Spalling With Exposed Rebar



Span 2 Underside External Defects; Photo 41 - Water Staining



Span 2 Underside External Defects; Photo 42 - Longitudinal Crack



Span 2 Underside External Defects; Photo 43 - Longitudinal Crack

5.3.4.3 Span 3

East Ramp

A 100mm by 3000 area of 50mm spalling with exposed rebar is present on internal face of the facia panels of the east ramp, east cantilever, 26m from the south pier **(See Span 3 Underside Defects; Photo 1)**

On the facia panels of the east ramp, east cantilever, bottom corners are missing sporadically throughout the span **(See Span 3 Underside Defects; Photo 2 & 3)**

A Full Width by 100mm area of 50mm spalling with exposed rebar is present on the facia panels of the east ramp, west cantilever, 27m from the south pier **(See Span 3 Underside Defects; Photo 4)**

A 500mm, 2mm wide longitudinal crack with water staining is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 24.0m from the south pier **(See Span 3 Underside Defects; Photo 5)**

Loose tie wire is present which protrudes through to soffit of the structure throughout the span **(See Span 3 Underside Defects; Photo 6)**

A 500mm by 150mm area of 50mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 21.0m from the south pier **(See Span 3 Underside Defects; Photo 7)**

An area of 70mm deep spalling with exposed rebar is present covering 50% of a 1500mm by 800mm area of on the soffit of the east ramp span, east cantilever is present located, at the east side of the face, 19.0m from the south pier **(See Span 3 Underside Defects; Photo 8**)

On the facia panels of the east ramp, west cantilever, the bottom corners of the facia panels are sporadically missing throughout the span missing 26 **(See Span 3 Underside Defects; Photo 9)**

A Full Width by 100mm area of 50mm spalling with exposed rebar on the internal face of the facia panels of the east ramp, west cantilever, is present over a length of 7.5m from the south pier **(See Span 3 Underside Defects; Photo 10)**

West Ramp

Water staining is present on the facia panels of the west ramp, west cantilever, throughout the span over the bottom 100mm of the panels **(See Span 3 Underside Defects; Photo 12)**

A 10mm by 50mm area of 1mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 1.0m from the east side of the face, 25.0m from the south pier **(See Span 3 Underside Defects; Photo 14)**

Span 3 General Photographs



Span 3 Underside General; Photo 1 – East Ramp East Elevation



Span 3 Underside General; Photo 2 – East Ramp West Elevation



Span 3 Underside General; Photo 3 – West Ramp East Elevation



Span 3 Underside General; Photo 4 – West Ramp Soffit

Span 3 Defect Photographs



Span 3 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 3 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 3 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 3 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 3 Underside Defects; Photo 5 - Longitudinal Crack



Span 3 Underside Defects; Photo 6 - Loose Ties



Span 3 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 3 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 3 Underside Defects; Photo 9 - Spalling With Exposed Rebar



Span 3 Underside Defects; Photo 10 - Spalling With Exposed Rebar



Span 3 Underside Defects; Photo 11 - Water Staining



Span 3 Underside Defects; Photo 12 - Spalling With Exposed Rebar

5.3.4.4 Span 4

East Ramp

On the facia panels of the east ramp, east cantilever, both bottom corners of the facia panels are missing over a 5m length at the north pier **(See Span 4 Underside Defects: Photo 1)**

On the facia panels of the east ramp, east cantilever, the bottom right corner of the facia panel is missing 15.0m from the south pier **(See Span 4 Underside Defects: Photo 2)**

Water staining is present on the facia panels of the east ramp, east cantilever, over the bottom 100mm of the panels throughout the span **(See Span 4 Underside Defects: Photo 3)**

A 1000mm by 100mm area of full depth spalling with exposed rebar is present on the internal face of the facia panels of the east ramp, east cantilever, 1.0m from the south pier **(See Span 4 Underside Defects: Photo 4)**

A 10m long, 1mm wide longitudinal crack with water staining and leachate is present on the soffit of the east ramp span, east cantilever, at from the east side of the face, 8.0m from the south pier **(See Span 4 Underside Defects: Photo 5)**

Throughout the east cantilever east ramp there is water staining present **(See Span 4 Underside Defects: Photo 6)**

A 5000mm by 500mm area of delamination is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 8.0m from the south pier **(See Span 4 Underside Defects: Photo 7)**

Loose tie wire is present which protrudes through to soffit of the structure throughout the span **(See Span 4 Underside Defects; Photo 8 & 9)**

A 1000mm by 1000mm area of water staining emanating from a construction joint is present on the soffit of the east ramp span, west cantilever, at the west edge of the face, 25.0m from the south pier **(See Span 4 Underside Defects: Photo 10)**

A 2000mm long, 1mm wide transverse crack with water staining and leachate is present on the soffit of the central deck, east cantilever, 2.0m from the east side of the face, at the north pier **(See Span 4 Underside Defects: Photo 11)**

A 100mm by full length area of water egress emanating from a construction joint is present on the soffit of the central deck, east cantilever, throughout the span **(See Span 4 Underside Defects: Photo 12)**

Central Deck

A 5000mm by Full width area of water staining emanating from a construction joint is present on the soffit of the central deck, east cantilever, at the east side of the face, 9.0m from the south pier **(See Span 4 Underside Defects: Photo 13)**

A 3000mm by Full width area of water staining emanating from a construction joint is present on the soffit of the central deck, east cantilever, at the east side of the face, at the south pier **(See Span 4 Underside Defects: Photo 14)**

A 1000mm by 2000mm area of delamination with water seepage is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 9.0m from the south pier. **(See Span 4 Underside Defects: Photo 15)**

A 500mm by 500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 16.0m from the south pier **(See Span 4 Underside Defects: Photo 16)**

A 100mm by 100mm area of 20mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 1.0m from the south pier **(See Span 4 Underside Defects: Photo 17)**

A 100mm by 4000mm area of water egress emanating from a construction joint is present on the soffit of the central deck, centre surface, 6.0m from the east side of the face, at the north pier **(See Span 4 Underside Defects: Photo 18)**

A 1000mm by 2000mm area of water staining emanating from the surface is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 5.0m from the south pier **(See Span 4 Underside Defects: Photo 19)**

A 300mm by 400mm area of 30mm spalling is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, at the south pier **(See Span 4 Underside Defects: Photo 20)**

A 1000mm by Full width area of water staining emanating from a construction joint is present on the soffit of the central deck, west cantilever, at the east side of the face, 4.5m from the south pier **(See Span 4 Underside Defects: Photo 21)**

A 250mm by 3000mm area of water staining emanating from a construction joint is present on the soffit of the central deck, west cantilever, at the west edge of the face, at the south pier **(See Span 4 Underside Defects: Photo 22)**

A 1000mm by 1000mm area of water staining emanating from the surface is present on the soffit of the central deck, west cantilever, 1.5m from the east side of the face, 15.0m from the south pier **(See Span 4 Underside Defects: Photo 23)**

A 100mm by 4000mm area of water egress emanating from a construction joint is present on the soffit of the central deck, west cantilever, at the west edge of the face, at the north pier **(See Span 4 Underside Defects: Photo 24)**

West Ramp

There are sporadic rusting tie wires to the west ramp, east cantilever throughout the span **(See Span 4 Underside Defects: Photo 25)**

A 1m by full width area of water staining emanating from a construction joint is present on the soffit of the west ramp span, east cantilever, at the east side of the face, 5.0m from the south pier **(See Span 4 Underside Defects: Photo 26)**

A 100mm by 250mm area of 30mm spalling is present on the soffit of the west ramp span, east cantilever, 3.0m from the east side of the face, 5.0m from the south pier **(See Span 4 Underside Defects: Photo 27)**

A 250mm long, Hairline transverse crack with leachate is present on the soffit of the west ramp span, east cantilever, at the east side of the face, at the north pier **(See Span 4 Underside Defects: Photo 28)**

A 200mm long, Hairline longitudinal crack with leachate is present on the soffit of the west ramp span, east cantilever, 2.0m from the east side of the face, 24.0m from the south pier **(See Span 4 Underside Defects: Photo 29)**

A 150mm long, Hairline longitudinal crack with leachate is present on the soffit of the west ramp span, east cantilever, 3.0m from the east side of the face, 21.0m from the south pier **(See Span 4 Underside Defects: Photo 30)**

A 1500mm long by 10mm area of 1mm spalling with exposed rebar is present on the soffit of the west ramp span, east cantilever, 2.5m from the east side of the face, 17.0m from the south pier **(See Span 4 Underside Defects: Photo 31)**

A 1500mm long, 2mm wide longitudinal crack is present on the soffit of the west ramp span, west cantilever, at the west edge of the face, 18.0m from the south pier. The cracking is over the carriageway and likely to spall, it is recommended that Gateshead Council arrange for the removal of the damaged or loose material (**See Span 4 Underside Defects: Photo 32).**

A 200mm by 200mm area of 30mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 4.5m from the south pier **(See Span 4 Underside Defects: Photo 33)**

A 20mm by 20mm area of 2mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 2.0m from the east side of the face, 1.0m from the south pier **(See Span 4 Underside Defects: Photo 34)**

A 20mm by 20mm area of 2mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 2.0m from the east side of the face, at the south pier **(See Span 4 Underside Defects: Photo 35)**

Sporadic spalling to the rear face of the west facia panels is present throughout the span **(See Span 4 Underside Defects: Photo 36)**

North End Face

A Full Width by 150mm area of water staining is present on the soffit of the north end face, throughout the span **(See Span 4 Underside Defects: Photo 37)**

Span 4 General Photographs



Span 4 Underside General: Photo 1 – East Elevation



Span 4 Underside General: Photo 2 – West Elevation

Span 4 Defect Photographs



Span 4 Underside Defects: Photo 1 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 2 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 3 - Water Staining



Span 4 Underside Defects: Photo 4 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 5 - Longitudinal Crack



Span 4 Underside Defects: Photo 6 - Water Staining Emanating From A Construction Joint



Span 4 Underside Defects: Photo 7 - Delamination



Span 4 Underside Defects: Photo 8 – Typical Loose Tie Wire



Span 4 Underside Defects: Photo 9 - General Photograph



Span 4 Underside Defects: Photo 10 - Water Staining Emanating From A Construction Joint



Span 4 Underside Defects: Photo 11 - Transverse Crack



Span 4 Underside Defects: Photo 12 - Water Egress Emanating From A Construction Joint



Span 4 Underside Defects: Photo 13 - Water Staining Emanating From A Construction Joint



Span 4 Underside Defects: Photo 14 - Water Staining Emanating From A Construction Joint



Span 4 Underside Defects: Photo 15 – Delamination With Water Seepage



Span 4 Underside Defects: Photo 16 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 17 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 18 - Water Egress Emanating From A Construction Joint



Span 4 Underside Defects: Photo 19 - Water Staining Emanating From The Surface



Span 4 Underside Defects: Photo 20 - Spalling



Span 4 Underside Defects: Photo 21 - Water Staining Emanating From A Construction Joint



Span 4 Underside Defects: Photo 22 - Water Staining Emanating From A Construction Joint



Span 4 Underside Defects: Photo 23 - Water Staining Emanating From The Surface



Span 4 Underside Defects: Photo 24 - Water Egress Emanating From A Construction Joint



Span 4 Underside Defects: Photo 25 – Typical sporadic rusting tie wires



Span 4 Underside Defects: Photo 26 - Water Staining Emanating From A Construction Joint



Span 4 Underside Defects: Photo 27 - Spalling



Span 4 Underside Defects: Photo 28 - Transverse Crack



Span 4 Underside Defects: Photo 29 - Longitudinal Crack



Span 4 Underside Defects: Photo 30 - Longitudinal Crack



Span 4 Underside Defects: Photo 31 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 32 - Longitudinal Crack



Span 4 Underside Defects: Photo 33 - Spalling With Exposed Rebar



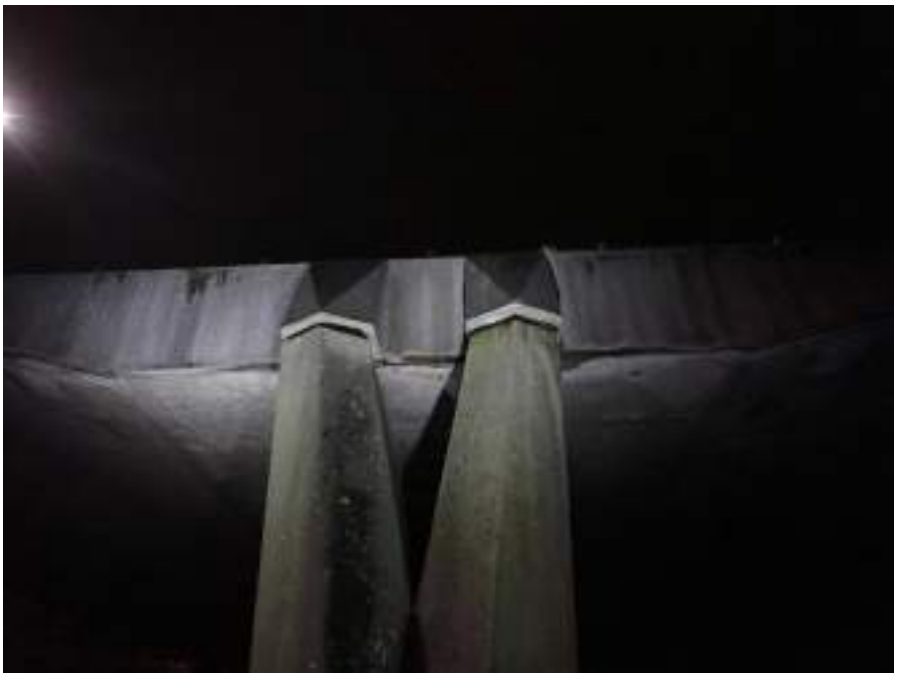
Span 4 Underside Defects: Photo 34 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 35 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 36 - Spalling With Exposed Rebar



Span 4 Underside Defects: Photo 37 - Water Staining

5.3.4.5 Span 5

East Ramp

2No. 1500mm long, 2mm wide longitudinal cracks are present on the elevation and soffit of the facia panels of the east ramp, east cantilever, 6.0m from the south pier **(See Span 5; Photo 1)**

On the facia panels of the east ramp, east cantilever, the bottom quarter of the facia panel is missing at the south pier **(See Span 5 Underside Defects; Photo 2)**

A 2000mm by 1000mm area of 50mm spalling with exposed rebar and dampness is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 11.0m from the south pier **(See Span 5 Underside Defects; Photo 3)**

A 3000mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 8.0m from the south pier **(See Span 5 Underside Defects; Photo 4)**

A 3000mm by 150mm area of 50mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 1.5m from the south pier **(See Span 5 Underside Defects; Photo 5)**

A 400mm by 400mm area of 50mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 2.5m from the south pier **(See Span 5 Underside Defects; Photo 6)**

A 10m long, 1mm wide longitudinal crack with water staining is present on the soffit of the east ramp span, east cantilever, at the east side of the face, at the north pier **(See Span 5 Underside Defects; Photo 7)**

A 200mm by 400mm area of 40mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 20.0m from the south pier **(See Span 5 Underside Defects; Photo 8)**

A 100mm by 2000mm area of water staining emanating from an existing core hole is present on the soffit of the east ramp span, east cantilever, 1.0m from the east side of the face, 20.0m from the south pier **(See Span 5 Underside Defects; Photo 9)**

A 100mm by 5000mm area of water staining emanating from an existing core hole is present on the soffit of the east ramp span, east cantilever, 1.0m from the east side of the face, 17.0m from the south pier **(See Span 5 Underside Defects; Photo 10)**

A 2000mm by 1000mm area of delamination is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 18.0m from the south pier **(See Span 5 Underside Defects; Photo 11)**

There are 2No. open core holes present on the east ramp span, east cantilever, located 16m from the south pier **(See Span 5 Underside Defects; Photo 12 and 13)**

A 200mm by 200mm area of 30mm spalling is present on the soffit of the east ramp span, west cantilever, 3.5m from the east side of the face, 7.0m from the south pier **(See Span 5 Underside Defects; Photo 14)**

Central Deck

A 500mm by 500mm area of delamination is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 21.0m from the south pier **(See Span 5 Underside Defects; Photo 15)**

A 400mm by 800mm area of 30mm spalling is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 19.0m from the south pier **(See Span 5 Underside Defects; Photo 16)**

A 10m by 3m area of defective historical repairs are present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 8.0m from the south pier which are wet throughout with map cracking and rust staining **(See Span 5 Underside Defects; Photo 17)**

A 6.5m by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 2.5m from the south pier **(See Span 5 Underside Defects; Photo 18)**

A 1000mm by 1500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 6.0m from the east side of the face, 5.0m from the south pier **(See Span 5 Underside Defects; Photo 19)**

A 100mm by 100mm area of defective repair to a previous core hole present on the soffit of the central deck, centre surface, 6.0m from the east side of the face, at the south pier the core hole has signs of water egress **(See Span 5 Underside Defects; Photo 20)**

There is water staining throughout the soffit of the span present throughout the central deck centre surface **(See Span 5 Underside Defects; Photo 21)**

West Ramp

A 500mm by 500mm area of hairline cracking surrounding access hatch to the north access hatch for void K on the west ramp span **(See Span 5 Underside Defects; Photo 22)**

An open core hole is present on the soffit of the west ramp span, west cantilever, 3.5m from the east side of the face, 21.0m from the south pier **(See Span 5 Underside Defects; Photo 23)**

A 200mm, Hairline transverse crack with leachate is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 21.0m from the south pier **(See Span 5 Underside Defects; Photo 24)**

A 10mm by 100mm area of 1mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 0.5m from the east side of the face, 11.0m from the south pier **(See Span 5 Underside Defects; Photo 25)**

A 300mm by 400mm area of 30mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 2.0m from the east side of the face, 4.7m from the south pier **(See Span 5 Underside Defects; Photo 26)**

A 100mm by 250mm area of 30mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 0.5m from the east side of the face, 4.5m from the south pier **(See Span 5 Underside Defects; Photo 27)**

A 200mm long, 1mm wide longitudinal crack is present on the soffit of the west ramp span, west cantilever, at the west edge of the face, 3.5m from the south pier **(See Span 5 Underside Defects; Photo 28)**

The top left corner is missing facia panels of the west ramp, west cantilever, 11.0m from the south pier **(See Span 5 Underside Defects; Photo 29)**

A 200mm long, 2mm wide longitudinal crack is present on the facia panels of the west ramp, west cantilever, 6.5m from the south pier **(See Span 5 Underside Defects; Photo 30)**

A 400mm by 300mm area of 20mm spalling is present on the facia panels of the west ramp, west cantilever, 14.5m from the south pier **(See Span 5 Underside Defects; Photo 31)**

Span 5 General Photographs



Span 5 Underside General: Photo 1 – East Elevation



Span 5 Underside General: Photo 2 – West Elevation



Span 5 Underside General: Photo 3 – Soffit View

Span 5 Defect Photographs



Span 5 Underside Defects; Photo 1 - Longitudinal Crack



Span 5 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 5 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 7 - Longitudinal Crack



Span 5 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 9 - Water Staining Emanating From Core hole



Span 5 Underside Defects; Photo 10 - Water Staining Emanating From Core hole



Span 5 Underside Defects; Photo 11 - Delamination



Span 5 Underside Defects; Photo 12 – Open Core Hole



Span 5 Underside Defects; Photo 13 – Open Core Hole



Span 5 Underside Defects; Photo 14 - Spalling



Span 5 Underside Defects; Photo 15 - Delamination



Span 5 Underside Defects; Photo 16 - Spalling



Span 5 Underside Defects; Photo 17 - Defective Historical Repair



Span 5 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 19 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 20 - Defective Core Hole Repair



Span 5 Underside Defects; Photo 21 - Water Staining



Span 5 Underside Defects; Photo 22 - Cracking Surrounding Access Hatch



Span 5 Underside Defects; Photo 23 – Open core Hole



Span 5 Underside Defects; Photo 24 - Transverse Crack



Span 5 Underside Defects; Photo 25 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 26 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 27 - Spalling With Exposed Rebar



Span 5 Underside Defects; Photo 28 - Longitudinal Crack



Span 5 Underside Defects; Photo 29 – Top Corner Missing



Span 5 Underside Defects; Photo 30 - Longitudinal Crack



Span 5 Underside Defects; Photo 31 - Spalling

5.3.4.6 Span 6

East Ramp

On the facia panels of the east ramp, east cantilever, the bottom quarter of the facia panel is missing 23.0m from the south pier. The defect is located directly over the carriageway and there is a risk of the remaining material coming loose, it is recommended that Gateshead Council arrange for the removal of the damaged or loose material as a priority **(See Span 6 Underside Defects; Photo 1)**

On the facia panels of the east ramp, east cantilever, the bottom corners of the facia panels are sporadically missing throughout the span **(See Span 6 Underside Defects; Photo 2 and Photo 3)**

4No. areas of 50mm spalling are present up to 50mm by 400mm with exposed rebar is located on the soffit of the east ramp span, east cantilever, 2.0m from the east side of the face, at the north pier **(See Span 6 Underside Defects; Photo 4)**

A 400mm by 4000mm area of water egress emanating from the surface is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 23.0m from the south pier **(See Span 6 Underside Defects; Photo 5)**

A 100mm by 300mm area of 40mm spalling over a previous repair is present on the soffit of the east ramp span, east cantilever which has become drummy and defective, 0.5m from the east side of the face, 4.0m from the south pier **(See Span 6 Underside Defects; Photo 6)**

A 500mm by 300mm area of 20mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, 2.0m from the east side of the face, 3.0m from the south pier **(See Span 6 Underside Defects; Photo 7)**

3No areas of 20mm spalling over 500mm by 1000mm with exposed rebar are present on the soffit of the east ramp span, east cantilever, at the east side of the face, 1.5m from the south pier **(See Span 6 Underside Defects; Photo 8)**

A 2000mm by 500mm area of water staining emanating from the structure is present on the soffit of the east ramp span, east cantilever, 0.5m from the east side of the face, 1.0m from the south pier **(See Span 6 Underside Defects; Photo 9)**

A 500mm by 2000mm area of 50mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 1.0m from the south pier. it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 6 Underside Defects; Photo 10)**

Water egress from a previous core hole present on the soffit of the east ramp span, east cantilever, 0.5m from the east side of the face, at the south pier **(See Span 6 Underside Defects; Photo 11)**

Central Deck

Hairline map cracking is present on the soffit of the central deck, centre surface over a 2000mm by 2000mm area, 3.0m from the east side of the face, 19.0m from the south pier **(See Span 6 Underside Defects; Photo 12)**

A 300mm by 300mm area of 70 spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 13.0m from the south pier **(See Span 6 Underside Defects; Photo 13)**

A 2000mm by 2000mm area of water staining emanating from a drainage Element is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 3.5m from the south pier **(See Span 6 Underside Defects; Photo 14)**

There are a large amount of exposed tie wires protruding through the surface over a 500mm by 3000mm present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 0.5m from the south pier **(See Span 6 Underside Defects; Photo 15)**

West Ramp

A 3000mm by 900mm area of 70mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 20.0m from the south pier **(See Span 6 Underside Defects; Photo 16)**

A 500mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 23.0m from the south pier **(See Span 6 Underside Defects; Photo 17)**

A 300mm by 300mm area of 50mm spalling is present on the soffit of the west ramp span, west cantilever, at the east side of the face, at the north pier **(See Span 6 Underside Defects; Photo 18)**

A 800mm by 50mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, on the west edge of the face, 20.0m from the south pier **(See Span 6 Underside Defects; Photo 19)**

A 200mm by 200mm area of 50mm spalling is present on the soffit of the west ramp span, west cantilever, 4.0m from the east side of the face, 24.0m from the south pier **(See Span 6 Underside Defects; Photo 20)**

2No. 300mm by 250mm, areas of cracked and delaminated upper corners of the facia panels with dampness and rust staining are present on the facia panels of the west ramp, west cantilever, 24.0m from the south pier. Although these were all secure at the time of inspection, it is recommended that the council remove these areas for the safety of the road users below the bridge, particularly given the presence of dampness and rust staining. **(See Span 6 Underside Defects; Photo 21)**

A 300mm by full height area of 50mm spalling with exposed rebar is present on the facia panels of the west ramp, west cantilever, 25.0m from the south pier **(See Span 6 Underside Defects; Photo 22)**

A 400mm by 150mm area of 30mm spalling is present on the soffit of the west ramp span, west cantilever, at the west edge of the face, at the north pier **(See Span 6 Underside Defects; Photo 23)**

2No. areas of 50mm spalling with exposed rebar are present over an area of 200mm by 400mm present on the facia panels of the west ramp, west cantilever, at the north pier **(See Span 6 Underside Defects; Photo 24)**

There are sporadic corners missing from the facia panels on the west ramp, west cantilever throughout the span.

Span 6 General Photographs



Span 6 Underside General; Photo 1 – East Elevation



Span 6 Underside General; Photo 2 – West Elevation

Span 6 Defect Photographs



Span 6 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 2 - Spalling



Span 6 Underside Defects; Photo 3 - Spalling



Span 6 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 5 - Water Egress Emanating From The Surface



Span 6 Underside Defects; Photo 6 - Defective Historical Repair



Span 6 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 9 - Water Staining



Span 6 Underside Defects; Photo 10 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 11 - Water Egress Emanating From The Surface



Span 6 Underside Defects; Photo 12 - Map Cracking



Span 6 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 14 - Water Staining



Span 6 Underside Defects; Photo 15 - Poor Construction Finish



Span 6 Underside Defects; Photo 16 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 18 - Spalling



Span 6 Underside Defects; Photo 19 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 20 - Spalling



Span 6 Underside Defects; Photo 21 – Cracked and Spalled Concrete



Span 6 Underside Defects; Photo 22 - Spalling With Exposed Rebar



Span 6 Underside Defects; Photo 23 - Spalling



Span 6 Underside Defects; Photo 24 - Spalling With Exposed Rebar

5.3.4.7 Span 7

Central Deck

There is sporadic spalling to the corners and edges of the facia panels of the east cantilever throughout the span **(See Span 7 Underside Defects; Photo 1)**

A 2000mm by 300mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 24.0m from the south pier **(See Span 7 Underside Defects; Photo 1)**

There is water egressing from the weep holes on the soffit of the central deck, centre surface, 4.5m from the east side of the face, at the north pier **(See Span 7 Underside Defects; Photo 2)**

A 50mm by 300mm area of rust staining is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 12.0m from the south pier **(See Span 7 Underside Defects; Photo 3)**

A 1000mm by 1000mm area of drummy concrete is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 9.0m from the south pier **(See Span 7 Underside Defects; Photo 4)**

A 400mm by 400mm area of 50mm spalling is present on the soffit of the central deck, west cantilever, 2.0m from the east side of the face, 13.0m from the south pier **(See Span 7 Underside Defects; Photo 5)**

A 100mm by 300mm area of defective historical repair which is drummy is present on the soffit of the west ramp span, west cantilever, 18.0m from the south pier **(See Span 6 Underside Defects; Photo 6)**

A 100mm by 3000mm area of water egress emanating from the surface is present on the soffit of the west ramp span, west cantilever, at the west edge of the face, 19.0m from the south pier **(See Span 7 Underside Defects; Photo 7)**

There is sporadic spalling to the corners and edges of the face panels of the west cantilever throughout the span **(See Span 7 Underside Defects; Photo 8, 9, 10, 11 & 12)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 7 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 7 Underside Defects; Photo 13)**

Span 7 General Photographs



Span 7 Underside General; Photo 1 – East Elevation



Span 7 Underside General; Photo 2 – West Elevation



Span 7 Underside General; Photo 3 – Soffit View Looking South

Span 7 Defect Photographs



Span 7 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 7 Underside Defects; Photo 2 - Water Egress Emanating From A Drainage Element



Span 7 Underside Defects; Photo 3 - Rust Staining



Span 7 Underside Defects; Photo 4 - Drummy Concrete



Span 7 Underside Defects; Photo 5 - Spalling



Span 7 Underside Defects; Photo 6 - Defective Historical Repair



Span 7 Underside Defects; Photo 7 - Water Egress Emanating From The Surface



Span 7 Underside Defects; Photo 8 - Spalling With Exposed Rebar



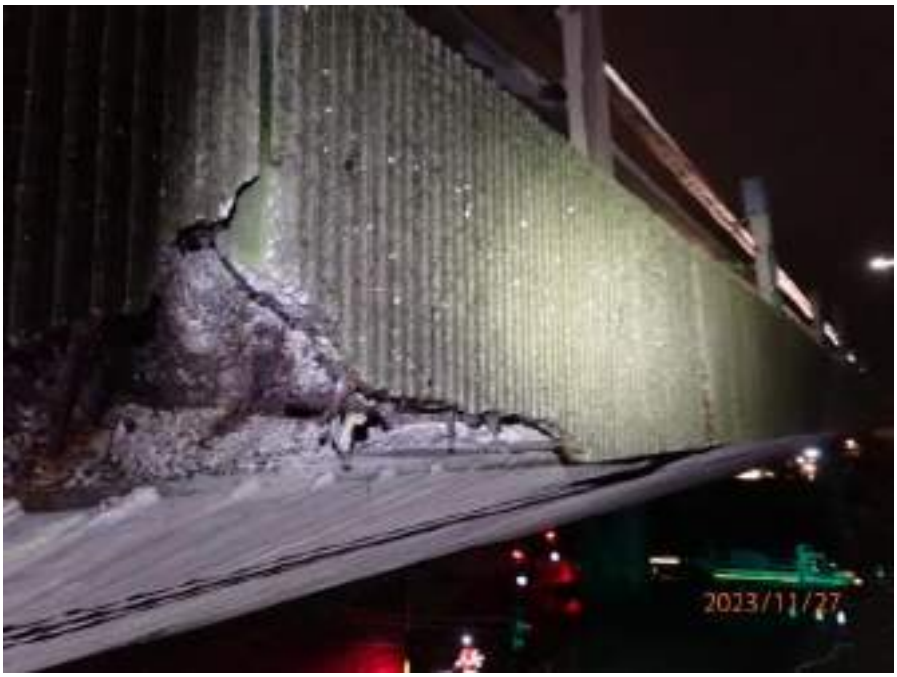
Span 7 Underside Defects; Photo 9 - Spalling With Exposed Rebar



Span 7 Underside Defects; Photo 10 - Spalling With Exposed Rebar



Span 7 Underside Defects; Photo 11 - Spalling With Exposed Rebar



Span 7 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 7 Underside Defects; Photo 13 – Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.4)

5.3.4.8 Span 8

Central Deck

A 400mm by 200mm area of defective historical repair is present which is delaminated and drummy sounding on the soffit of the central deck, east cantilever, 3.5m from the east side of the face, 16.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 8 Underside Defects; Photo 1)**

A 1000mm by 100mm area of delamination is present on the soffit of the central deck, east cantilever, at the east side of the face, 10.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 8 Underside Defects; Photo 2)**

A 1000mm by 100mm area of delamination is present on the soffit of the central deck, east cantilever, at the east side of the face, 8.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 8 Underside Defects; Photo 3)**

A 1000mm by 100mm area of delamination is present on the soffit of the central deck, east cantilever, at the east side of the face, 7.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 8 Underside Defects; Photo 4)**

A 300mm by 300mm area of honeycombing is present on the soffit of the central deck, centre surface, 7.0m from the east side of the face, 24.0m from the south pier **(See Span 8 Underside Defects; Photo 5)**

A 500mm, Hairline transverse crack with water staining and leachate is present on the soffit of the central deck, centre surface, at the west edge of the face, 20.0m from the south pier, additionally there is 30mm spalling over a 150mm by 100mm area in the same location at the interface with the west cantilever **(See Span 8 Underside Defects; Photo 6)**

A 400mm by 400mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 3.5m from the east side of the face, 13.0m from the south pier **(See Span 8 Underside Defects; Photo 7)**

A 200mm by 200mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 3.5m from the east side of the face, 12.0m from the south pier **(See Span 8 Underside Defects; Photo 8)**

There is water egress emanating from the weep holes present on the soffit of the central deck, centre surface, at the north pier **(See Span 8 Underside Defects; Photo 9)**

A 500mm by 500mm area of drummy concrete is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 4.0m from the south pier, which includes a patch repair which is also drummy **(See Span 8 Underside Defects; Photo 10)**

A 50mm by 150mm area of 1mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 4.0m from the east side of the face, at the north pier **(See Span 8 Underside Defects; Photo 11)**

There cracking open up to 10mm around the perimeter of an access hatch (E1) on the central deck, west cantilever **(See Span 8 Underside Defects; Photo 12)**

A 150mm by 150mm area of 50mm spalling with fracturing open 1mm over a 100mm length is present on the soffit of the central deck, west cantilever, at the west edge of the face, 16.0m from the south pier **(See Span 8 Underside Defects; Photo 13)**

A 400mm by 200mm area of 50mm spalling is present on the soffit of the central deck, west cantilever, at the east side of the face, 12.0m from the south pier **(See Span 8 Underside Defects; Photo 14)**

A 3000mm by 1500mm area of delamination is present on the soffit of the central deck, west cantilever, at the east side of the face, 4.0m from the south pier it is recommended that Gateshead

Council arrange for the removal of the damaged or loose material **(See Span 8 Underside Defects; Photo 15)**

The access hatch on the central deck, west cantilever, (E2) has an exposed reinforcing bar present around the perimeter of the hatch **(See Span 8 Underside Defects; Photo 16)**

A 1500mm by 150mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 1.5m from the south pier **(See Span 8 Underside Defects; Photo 17)**

There is an area of drummyness with water staining on the soffit of the central deck west cantilever over an area of 3000mm by 3000mm located 15m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 8 Underside Defects; Photo 18)**

On the facia panels of the centre deck, west cantilever, spalling is present to the corners and edges sporadically throughout the span **(See Span 8 Underside Defects; Photo 19, 20, 21 & 22)**

A 300mm by 100mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, west cantilever, 1.0m from the south pier **(See Span 8 Underside Defects; Photo 23)**

On the facia panels of the centre deck, east cantilever, both bottom corners of the facia panel are delaminated 21.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 8 Underside Defects; Photo 24)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 8 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 8 Underside Defects; Photo 25)**

Span 8 General Photographs



Span 8 Underside General; Photo 1 – East Elevation



Span 8 Underside General; Photo 2 – Soffit View



Span 8 Underside General; Photo 3 – West Elevation

Span 8 Defect Photographs



Span 8 Underside Defects; Photo 1 - Defective Historical Repair



Span 8 Underside Defects; Photo 2 - Delamination



Span 8 Underside Defects; Photo 3 - Delamination



Span 8 Underside Defects; Photo 4 - Delamination



Span 8 Underside Defects; Photo 5 - Honeycombing



Span 8 Underside Defects; Photo 6 - Transverse Crack With Spalling



Span 8 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 9 - Water Egress Emanating From A Drainage Element



Span 8 Underside Defects; Photo 10 - Drummy Concrete



Span 8 Underside Defects; Photo 11 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 12 - Damaged Access Hatch



Span 8 Underside Defects; Photo 13 – Spalling With Fracture



Span 8 Underside Defects; Photo 14 - Spalling



Span 8 Underside Defects; Photo 15 – Delamination



Span 8 Underside Defects; Photo 16 - Damaged Access Hatch



Span 8 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 18 – Drummyness and water staining



Span 8 Underside Defects; Photo 19 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 20 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 21 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 22 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 23 - Spalling With Exposed Rebar



Span 8 Underside Defects; Photo 24 - Delamination



Span 8 Underside Defects; Photo 25 – Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.4, 5 & 6)

5.3.4.9 Span 9

Central Deck

A 500mm by 100mm area of delamination is present on the soffit of the central deck, east cantilever, at the east side of the face, 25.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 9 Underside Defects; Photo 1)**

A 2000mm by 300mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 25.0m from the south pier **(See Span 9 Underside Defects; Photo 2)**

A 2000mm by 300mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, at the north pier **(See Span 9 Underside Defects; Photo 3)**

A 500mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the west edge of the face, 23.0m from the south pier **(See Span 9 Underside Defects; Photo 4)**

The guttering over the expansion joint between spans 9 and 10 is blocked and deflected it is recommended that Gateshead Council arrange for the removal and replacement of the existing drainage elements in this area for the safety of the road users beneath the bridge. This defect was reported to the Council as an urgent defect during the inspection. **(See Span 9 Underside Defects; Photo 5)**

There is water egress emanating from an expansion joint present on the soffit of the central deck, east cantilever, at the east side of the face, at the south pier **(See Span 9 Underside Defects; Photo 6)**

A 1000mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the west edge of the face, at the south pier **(See Span 9 Underside Defects; Photo 7)**

A 500mm by 2000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, at the east side of the face, 23.0m from the south pier **(See Span 9 Underside Defects; Photo 8)**

There is water staining emanating from the weep pipes on the soffit of the central deck, centre surface, 4.5m from the east side of the face, at the north pier **(See Span 9 Underside Defects; Photo 9)**

A 1000mm by 1000mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 16.0m from the south pier **(See Span 9 Underside Defects; Photo 10)**

A 2000mm by 2000mm area of defective historical repair which is spalled with exposed rebar present on the soffit of the central deck, centre surface, at the west edge of the face, at the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 9 Underside Defects; Photo 11)**

There is water egress from the expansion joint between spans 9 and 10 on the soffit of the central deck, centre surface where the drainage channels are damaged. It is recommended the council remove and replace the blocked and damaged drainage channels **(See Span 9 Underside Defects; Photo 12)**

A 500mm by 500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 23.0m from the south pier **(See Span 9 Underside Defects; Photo 13)**

A 150mm by 150mm area of water staining and severe rust staining is present on the soffit of the central deck, west cantilever, at the west edge of the face, 22.0m from the south pier **(See Span 9 Underside Defects; Photo 14)**

A 400mm by 400mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 21.0m from the south pier **(See Span 9 Underside Defects; Photo 15)**

A 400mm by 400mm area of delamination is present on the soffit of the central deck, west cantilever, at the west edge of the face, 10.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 9 Underside Defects; Photo 16)**

A 600mm by 150mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 3.0m from the south pier **(See Span 9 Underside Defects; Photo 17)**

The guttering at the expansion joint between spans 9 and 10 is missing on the central deck on both sides of the pier and there is water egress from the joint **(See Span 9 Underside Defects; Photo 18 and Photo 19)**

A 150mm by 200mm area of 50mm spalling is present on the soffit of the central deck, west cantilever, 3.0m from the east side of the face, at the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 9 Underside Defects; Photo 20)**

A 600mm by 2000mm area of delamination with water egress is present on the soffit of the central deck, west cantilever, at the east side of the face, at the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 9 Underside Defects; Photo 21)**

A 100mm by 100mm area of 50mm spalling with exposed rebar is present on the facia panels of the centre deck, west cantilever, at the north pier **(See Span 9 Underside Defects; Photo 22)**

On the facia panels of the centre deck, west cantilever, corners and edges of facia panels are missing sporadically throughout the span **(See Span 9 Underside Defects; Photo 23, 25, 26, 27, 28 & 29)**

A 1000mm by 100mm area of delamination is present on the face of the facia panels of the centre deck, west cantilever which is enclosed by a crack open 1mm, 23.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 9 Underside Defects; Photo 24)**

A Full Length, Hairline longitudinal crack with water staining is present on the soffit of the facia panels of the centre deck, west cantilever, throughout the span **(See Span 9 Underside Defects; Photo 25)**

On the facia panels of the centre deck, east cantilever, both bottom corners of the facia panel are missing throughout the span **(See Span 9 Underside Defects; Photo 30)**

A 300mm by 300mm area of full depth spalling with exposed rebar is present on the facia panels of the centre deck, east cantilever, at the north pier **(See Span 9 Underside Defects; Photo 31)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 9 are exhibiting map cracking and drummyness mostly localised towards the corners. **(See Span 9 Underside Defects; Photo 32)**

Span 9 General Photographs



Span 9 Underside General; Photo 1 – East Elevation



Span 9 Underside General; Photo 2 – West Elevation

Span 9 Defect Photographs



Span 9 Underside Defects; Photo 1 - Delamination



Span 9 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 5 – Blocked Guttering



Span 9 Underside Defects; Photo 6 - Water Egress Emanating From An Expansion Joint



Span 9 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 9 - Water Staining Emanating From A Drainage Element



Span 9 Underside Defects; Photo 10 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 11 - Defective Historical Repair



Span 9 Underside Defects; Photo 12 - Water Egress Emanating From An Expansion Joint



Span 9 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 14 - Water Staining Emanating From The Surface



Span 9 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 16 - Delamination



Span 9 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 18 - Missing Drainage Pipe



Span 9 Underside Defects; Photo 19 - Missing Drainage Pipe



Span 9 Underside Defects; Photo 20 - Spalling



Span 9 Underside Defects; Photo 21 - Delamination



Span 9 Underside Defects; Photo 22 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 23 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 24 – Delamination With Cracking



Span 9 Underside Defects; Photo 25 - Longitudinal Crack



Span 9 Underside Defects; Photo 26 - Spalling



Span 9 Underside Defects; Photo 27 - Spalling



Span 9 Underside Defects; Photo 28 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 29 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 30 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 31 - Spalling With Exposed Rebar



Span 9 Underside Defects; Photo 32 – Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.3 & 4)

5.3.4.10 Span 10

Central Deck

A 1000mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the west edge of the face, at the north pier **(See Span 10 Underside Defects; Photo 1)**

A 2000mm by 200mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 8.0m from the south pier **(See Span 10 Underside Defects; Photo 2)**

A 50mm by 300mm area of 20mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 1.5m from the east side of the face, 0.5m from the south pier **(See Span 10 Underside Defects; Photo 3)**

A 2000mm by 2000mm area of 50mm defective historical repair is present on the soffit of the central deck, centre surface, at the east side of the face, at the north pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 10 Underside Defects; Photo 4)**

A 5000mm by 5000mm area of water egress emanating from the surface is present on the soffit of the central deck, centre surface, at the east side of the face, 25.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 10 Underside Defects; Photo 5)**

A 1000mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 21.0m from the south pier **(See Span 10 Underside Defects; Photo 6)**

A 2000mm by 2000mm area of defective historical repair which is cracked and drummy is present on the soffit of the central deck, centre surface, at the west edge of the face, at the north pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 10 Underside Defects; Photo 7)**

A 1000mm by 1000mm area of 10mm bulging is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 13.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 10 Underside Defects; Photo 8)**

A 1000mm by 1000mm area of 10mm delamination is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 9.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 10 Underside Defects; Photo 9)**

An 800mm by 200mm area of delamination is present on the soffit of the central deck, west cantilever, 4.0m from the east side of the face, at the north pier. This area of leachate appears to be from a repaired core hole from the previous PTSI investigation **(See Span 10 Underside Defects; Photo 10)**

A 300mm by 50mm area of 10mm spalling is present on the soffit of the central deck, west cantilever, at the west edge of the face, at the north pier **(See Span 10 Underside Defects; Photo 11)**

A 300mm by 400mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 4.0m from the east side of the face, 18.0m from the south pier **(See Span 10 Underside Defects; Photo 12)**

A 1500mm by 150mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 18.0m from the south pier **(See Span 10 Underside Defects; Photo 13)**

A 1000mm by 100mm area of 50mm spalling is present on the soffit of the central deck, west cantilever, at the west edge of the face, 20.0m from the south pier **(See Span 10 Underside Defects; Photo 14)**

A 600mm by 1500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 23.0m from the south pier **(See Span 10 Underside Defects; Photo 15)**

A 100mm by 50mm area of leachate is present on the soffit of the central deck, west cantilever, 4.5m from the east side of the face, 15.0m from the south pier **(See Span 10 Underside Defects; Photo 16)**

A 100mm by 100mm area of 30mm spalling is present on the soffit of the central deck, west cantilever, 4.0m from the east side of the face, 4.5m from the south pier **(See Span 10 Underside Defects; Photo 17)**

A 1500mm by 100mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge, 4.5m from the south pier **(See Span 10 Underside Defects; Photo 18)**

A 1000mm by 150mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge, 6.0m from the south pier **(See Span 10 Underside Defects; Photo 19)**

On the facia panels of the centre deck, west cantilever, various corners of the facia panels are missing throughout the span **(See Span 10 Underside Defects; Photo 20, 21, 22 and 23)**

On the facia panels of the centre deck, east cantilever, the bottom corners of the facia panel are sporadically missing throughout the span **(See Span 10 Underside Defects; Photo 24)**

On anchorage block cap No.9 of Pier 9 there is a 150mm by 150mm area of 50mm spalling it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 10 Underside Defects; Photo 25)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 10 are exhibiting map cracking and drummyness mostly localised towards the corners. **(See Span 10 Underside Defects; Photo 26)**

Span 10 General Photographs



Span 10 Underside General; Photo 1 – East Elevation



Span 10 Underside General; Photo 1 – West Elevation

Span 10 Defect Photographs



Span 10 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 4 - Defective Historical Repair



Span 10 Underside Defects; Photo 5 - Water Egress Emanating From The Surface



Span 10 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 7 - Defective Historical Repair



Span 10 Underside Defects; Photo 8 - Bulging



Span 10 Underside Defects; Photo 9 - Delamination



Span 10 Underside Defects; Photo 10 - Delamination



Span 10 Underside Defects; Photo 11 - Spalling



Span 10 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 14 - Spalling



Span 10 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 16 - Leachate



Span 10 Underside Defects; Photo 17 - Spalling



Span 10 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 19 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 20 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 21 - Spalling



Span 10 Underside Defects; Photo 22 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 23 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 24 - Spalling With Exposed Rebar



Span 10 Underside Defects; Photo 25 – Spalling to Anchorage Block Cap



Span 10 Underside Defects; Photo 26 – Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.3)

5.3.4.11 Span 11

Centre Deck

A 500mm by 200mm area of delamination is present on the soffit of the central deck, east cantilever, at the east side of the face, 14.0m from the south pier **(See Span 11 Underside Defects; Photo1)**

A 50mm by 1000mm area of water staining emanating from a previous core hole is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 5.0m from the south pier **(See Span 11 Underside Defects; Photo 2)**

A 3000mm by 5000mm area of water staining emanating from a construction joint is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, at the south pier **(See Span 11 Underside Defects; Photo 3)**

A 50mm by 50mm area of water staining emanating from the surface is present on the soffit of the central deck, east cantilever, 0.5m from the east side of the face, at the south pier **(See Span 11 Underside Defects; Photo 4)**

A 250mm by 1000mm area of 10mm spalling is present on the soffit of the central deck, centre surface, 6.0m from the east side of the face, 25.0m from the south pier **(See Span 11 Underside Defects; Photo 5)**

An access hatch (D1) on the central deck, centre surface has fixings that are loose **(See Span 11 Underside Defects; Photo 6)**

On the soffit of the central deck, centre surface, there is water egress emanating from an access hatch (B1) **(See Span 11 Underside Defects; Photo 7)**

A 100mm by 100mm area of water staining surrounding weep pipes is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, at the north pier **(See Span 11 Underside Defects; Photo 8)**

A 50mm by 100mm area of 5mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the east side of the face, 25.0m from the south pier **(See Span 11 Underside Defects; Photo 9)**

A 100mm by 100mm area of 50mm spalling is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 15.0m from the south pier **(See Span 11 Underside Defects; Photo 10)**

On the facia panels of the centre deck, west cantilever, various corners are missing from the facia panels throughout the span **(See Span 11 Underside Defects; Photo 11, 12, 14 & 15)**

On the facia panels of the centre deck, east cantilever, both bottom corners of the facia panel are missing throughout the span **(See Span 11 Underside Defects; Photo 16)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 11 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 11 Underside Defects; Photo 17)**

Span 11 General Photographs



Span 11 Underside General; Photo 1 – East Elevation



Span 11 Underside General; Photo 2 – West Elevation

Span 11 Defect Photographs



Span 11 Underside Defects; Photo 1 - Delamination



Span 11 Underside Defects; Photo 2 - Water Staining Emanating From a Core Hole



Span 11 Underside Defects; Photo 3 - Water Staining Emanating From A Construction Joint



Span 11 Underside Defects; Photo 4 - Water Staining Emanating From The Surface



Span 11 Underside Defects; Photo 5 - Spalling



Span 11 Underside Defects; Photo 6 - Access Hatch With Loose Fixings



Span 11 Underside Defects; Photo 7 - Water Egress Emanating From An Access Hatch



Span 11 Underside Defects; Photo 8 - Water Staining Emanating From A Drainage Element



Span 11 Underside Defects; Photo 9 - Spalling With Exposed Rebar



Span 11 Underside Defects; Photo 10 - Spalling



Span 11 Underside Defects; Photo 11 - Spalling With Exposed Rebar



Span 11 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 11 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 11 Underside Defects; Photo 14 - Spalling With Exposed Rebar



Span 11 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 11 Underside Defects; Photo 16 - Spalling With Exposed Rebar



Span 11 Underside Defects; Photo 17 – Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.3)

5.3.4.12 Span 12

East Ramp

On the facia panels of the east ramp, east cantilever, several of the bottom corners of the facia panels are missing throughout the span **(See Span 12 Underside Defects; Photo 1)**

A 500mm by 500mm area of 40mm spalling with drummyness is present on the soffit of the east ramp span, east cantilever, at the west edge of the face, 25.0m from the south pier. In the same area there is water egress from an access hatch (A1) **(See Span 12 Underside Defects; Photo 2 and Photo 3)**

A 300mm by 300mm area of water staining with leachate emanating from the surface of the structure is present on the soffit of the east ramp span, east cantilever, 2.5m from the east side of the face, 20.0m from the south pier. The area is likely to have been previously cored **(See Span 12 Underside Defects; Photo 4)**

A 100mm by 50mm area of water staining with leachate emanating from the surface is present on the soffit of the east ramp span, east cantilever, at the west edge of the face, 20.0m from the south pier. The area is likely to have been previously cored **(See Span 12 Underside Defects; Photo 5)**

A 300mm by 300mm area of water staining emanating from a previous core hole is present on the soffit of the east ramp span, east cantilever, 1.0m from the east side of the face, 24.0m from the south pier **(See Span 12 Underside Defects; Photo 6)**

Central Deck

A 1500mm by 1500mm area of defective historical repair which is drummy is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 17.0m from the south pier **(See Span 12 Underside Defects; Photo 7)**

A 800mm by 800mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 16.0m from the south pier **(See Span 12 Underside Defects; Photo 8)**

A 500mm by 700mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 13.0m from the south pier **(See Span 12 Underside Defects; Photo 9)**

West Ramp

A 100mm by 100mm area of 30mm spalling is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 24.0m from the south pier **(See Span 12 Underside Defects; Photo 10)**

There spalling surrounding an access hatch (G1) on the west ramp span, west cantilever. The spalling is up to 50mm deep over a height of 100mm around the surround of the access hatch **(See Span 12 Underside Defects; Photo 11)**

On the facia panels of the west ramp, west cantilever, various corners and edges are missing sporadically throughout the span **(See Span 12 Underside Defects; Photo 12, 13, 16 & 19)**

A 400mm by 500mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 14.0m from the south pier **(See Span 12 Underside Defects; Photo 14)**

A 100mm by 100mm area of 30mm spalling is present on the soffit of the west ramp span, west cantilever, 3.0m from the east side of the face, 14.0m from the south pier **(See Span 12 Underside Defects; Photo 15)**

A 1000mm long, 1mm wide transverse crack is present on the soffit of the west ramp span, west cantilever, at the west edge of the face, 10.0m from the south pier **(See Span 12 Underside Defects; Photo 17)**

A 1000mm, 1mm wide transverse crack is present on the soffit of the west ramp span, west cantilever, at the west side of the face, 3.0m from the south pier **(See Span 12 Underside Defects; Photo 18)**

On anchorage block cap No.6 of Pier 12 there is a 300mm by 300mm area of isolated spalls up to 10mm in depth **(See Span 12 Underside Defects; Photo 20)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 12 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 12 Underside Defects; Photo 20)**

Span 12 General Photographs



Span 12 Underside General; Photo 1 – East Elevation



Span 12 Underside General; Photo 2 – West Elevation

Span 12 Defect Photographs



Span 12 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 12 Underside Defects; Photo 2 - Water Egress Emanating From An Access Hatch



Span 12 Underside Defects; Photo 3 – Spalling With Drummyness



Span 12 Underside Defects; Photo 4 - Water Staining Emanating From The Surface



Span 12 Underside Defects; Photo 5 - Water Staining Emanating From The Surface



Span 12 Underside Defects; Photo 6 - Water Staining Emanating From A Previous Core Hole



Span 12 Underside Defects; Photo 7 - Defective Historical Repair



Span 12 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 12 Underside Defects; Photo 9 - Spalling With Exposed Rebar



Span 12 Underside Defects; Photo 10 - Spalling



Span 12 Underside Defects; Photo 11 – Spalling Around Access Hatch



Span 12 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 12 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 12 Underside Defects; Photo 14 - Spalling With Exposed Rebar



Span 12 Underside Defects; Photo 15 - Spalling



Span 12 Underside Defects; Photo 16 - Spalling With Exposed Rebar



Span 12 Underside Defects; Photo 17 - Transverse Crack



Span 12 Underside Defects; Photo 18 - Transverse Crack



Span 12 Underside Defects; Photo 19 - Spalling With Exposed Rebar



Span 12 Underside Defects; Photo 20 - Spalling to Anchorage Block Cap and Typical Map Cracking

5.3.4.13 Span 13

East Ramp

A 2000mm by 3000mm area of 100mm spalling with exposed rebar and drummyness is present on the soffit of the east ramp span, east cantilever, 3.0m from the east side of the face, 25.0m from the south pier **(See Span 13 Underside Defects; Photo 1)** it is recommended that Gateshead Council arrange for the removal of the damaged or loose material

A 1500mm by 3000mm area of 100mm spalling with exposed rebar and drummyness is present on the soffit of the east ramp span, east cantilever, at the west edge of the face, 24.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 13 Underside Defects; Photo 2)**

A 3000mm by 200mm area of 100mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 25.0m from the south pier **(See Span 13 Underside Defects; Photo 3)**

A 1500mm by 2000mm area of 100mm spalling with exposed rebar with drummyness is present on the soffit of the east ramp span, east cantilever, at the west edge of the face, 18.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 13 Underside Defects; Photo 4)**

A 1500mm by 1500mm area of 100mm spalling with exposed rebar with drummyness and leachate is present on the soffit of the east ramp span, east cantilever, at the west edge of the face, 15.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 13 Underside Defects; Photo 5)**

A 1500mm by 1500mm area of water staining emanating from the surface of the structure is present on the soffit of the east ramp span, east cantilever, 1.0m from the east side of the face, 15.0m from the south pier **(See Span 13 Underside Defects; Photo 6)**

A 50mm by 50mm area of water staining emanating from the surface of the structure is present on the soffit of the east ramp span, east cantilever, 2.0m from the east side of the face, 14.0m from the south pier **(See Span 13 Underside Defects; Photo 7)**

A 1500mm by 1500mm area of 100mm spalling with exposed rebar and drummyness is present on the soffit of the east ramp span, west cantilever, at the east side of the face, 24.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 13 Underside Defects; Photo 2)**

On the facia panels of the centre deck, east cantilever, both bottom corners of the facia panel are missing at the north pier **(See Span 13 Underside Defects; Photo 19)**

Central Deck

A 200mm by 5000mm area of water egress emanating from a construction joint is present on the soffit of the central deck, centre surface, at the east side of the face, at the north pier **(See Span 13 Underside Defects; Photo 8)**

A 150mm by 150mm area of water and rust staining emanating from the surface of the structure is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 13.0m from the south pier **(See Span 13 Underside Defects; Photo 9)**

A 150mm by 150mm area of water and rust staining emanating from the surface of the structure is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 4.0m from the south pier **(See Span 13 Underside Defects; Photo 10)**

West Ramp

There are superficial scrape marks present on west ramp span, west cantilever over a length of 8m **(See Span 13 Underside Defects; Photo 11)**

A 300mm by 100mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 1.0m from the east side of the face, 24.0m from the south pier **(See Span 13 Underside Defects; Photo 12)**

A 150mm by 300mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 4.0m from the east side of the face, 21.0m from the south pier **(See Span 13 Underside Defects; Photo 13)**

A 150mm by 150mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 1.0m from the east side of the face, 18.0m from the south pier **(See Span 13 Underside Defects; Photo 14)**

A 500mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 1.0m from the east side of the face, 17.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 13 Underside Defects; Photo 15)**

A 500mm by 500mm area of delamination is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 17.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 13 Underside Defects; Photo 16)**

A 150mm by 50mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 6.0m from the south pier **(See Span 13 Underside Defects; Photo 17)**

A 900mm by 600mm area of 50mm spalling is present on the soffit of the west ramp span, west cantilever, at the east side of the face, at the north pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 13 Underside Defects; Photo 18)**

Span 13 General Photographs



Span 13 Underside General; Photo 1 – East Elevation



Span 13 Underside General; Photo 2 – West Elevation

Span 13 Defect Photographs



Span 13 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 5 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 6 - Water Staining Emanating From The Surface



Span 13 Underside Defects; Photo 7 - Water Staining Emanating From The Surface



Span 13 Underside Defects; Photo 8 - Water Egress Emanating From A Construction Joint



Span 13 Underside Defects; Photo 9 - Water Staining Emanating From The Surface



Span 13 Underside Defects; Photo 10 - Water Staining Emanating From The Surface



Span 13 Underside Defects; Photo 11 – Scrape Marks



Span 13 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 14 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 16 - Delamination



Span 13 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 13 Underside Defects; Photo 18 - Spalling



Span 13 Underside Defects; Photo 19 - Spalling With Exposed Rebar

5.3.4.14 Span 14

East Ramp

On the facia panels of the east ramp, east cantilever, the bottom left corner of the facia panel is missing 10.0m from the south pier **(See Span 14 Underside Defects; Photo 1)**

A 1000mm by 1000mm area of defective historical repair which is drummy and rust stained is present on the soffit of the east ramp span, east cantilever, 3.0m from the east side of the face, 25.0m from the south pier directly below hatch F1 it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 14 Underside Defects; Photo 2)**

A 100mm by 1000mm area of water egress emanating from the surface of the structure is present on the soffit of the east ramp span, east cantilever, 3.0m from the east side of the face, 22.0m from the south pier **(See Span 14 Underside Defects; Photo 3)**

A 50mm by 50mm area of 50mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, 3.0m from the east side of the face, 13.0m from the south pier **(See Span 14 Underside Defects; Photo 4)**

A 50mm by 500mm area of water egress emanating with rust staining and leachate from the surface of the structure is present on the soffit of the east ramp span, east cantilever, 1.5m from the east side of the face, 11.0m from the south pier **(See Span 14 Underside Defects; Photo 5)**

A 200mm by 300mm area of 30mm spalling surrounding a previous core hole is present on the soffit of the east ramp span, east cantilever, 3.0m from the east side of the face, 10.0m from the south pier **(See Span 14 Underside Defects; Photo 6)**

A 100mm by 300mm area of defective historical repair which is drummy is present on the soffit of the east ramp span, east cantilever, 1.0m from the east side of the face, 10.0m from the south pier **(See Span 14 Underside Defects; Photo 7)**

Central Deck

A 400mm by 400mm area of defective historical repair which is drummy is present on the soffit of the central deck, east cantilever, 2.5m from the east side of the face, 10.0m from the south pier **(See Span 14 Underside Defects; Photo 8)**

2No areas of hairline map cracking both 200mm in diameter are present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 12.0m from the south pier **(See Span 14 Underside Defects; Photo 9)**

A 300mm by 300mm area of 20mm spalling with delamination is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 12.0m from the south pier **(See Span 14 Underside Defects; Photo 10)**

West Ramp

There is spalling present to the surround of access hatch K1 to a depth of 50mm and the full width of the surround to the bottom half, the top half is delaminated. **(See Span 14 Underside Defects; Photo 11)**

A 50mm by 400mm area of leachate is present on the soffit of the west ramp span, west cantilever, at the west edge of the face, 25.0m from the south pier **(See Span 14 Underside Defects; Photo 12)**

A 150mm by 300mm area of delamination is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 17.0m from the south pier **(See Span 14 Underside Defects; Photo 13)**

A 100mm by 100mm area of 20mm spalling with leachate is present on the soffit of the west ramp span, west cantilever, at the west edge of the face, 4.5m from the south pier **(See Span 14 Underside Defects; Photo 14)**

Span 14 General Photographs



Span 14 Underside General; Photo 1 – East Elevation



Span 14 Underside General; Photo 2 – West Elevation

Span 14 Defect Photographs



Span 14 Underside Defects; Photo 1 - Spalling



Span 14 Underside Defects; Photo 2 - Defective Historical Repair



Span 14 Underside Defects; Photo 3 - Water Egress Emanating From The Surface



Span 14 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 14 Underside Defects; Photo 5 - Water Egress Emanating From The Surface



Span 14 Underside Defects; Photo 6 - Spalling



Span 14 Underside Defects; Photo 7 - Defective Historical Repair



Span 14 Underside Defects; Photo 8 - Defective Historical Repair



Span 14 Underside Defects; Photo 9 - Map Cracking



Span 14 Underside Defects; Photo 10 - Spalling



Span 14 Underside Defects; Photo 11 - Damaged Access Hatch



Span 14 Underside Defects; Photo 12 - Leachate



Span 14 Underside Defects; Photo 13 - Delamination



Span 14 Underside Defects; Photo 14 – Spalling With Leachate

5.3.4.15 Span 15

East Ramp

On the facia panels of the east ramp, east cantilever, the bottom right corner of the facia panel is missing 14.0m from the south pier **(See Span 15 Underside Defects; Photo 1)**

On the facia panels of the east ramp, east cantilever, both bottom corners of the facia panel are missing 12.0m from the south pier **(See Span 15 Underside Defects; Photo 2)**

A 1000mm by 1000mm area of defective historical repair which is drummy and rust stained is present on the soffit of the east ramp span, east cantilever, 2.0m from the east side of the face, 24.0m from the south pier at access hatch F1 **(See Span 15 Underside Defects; Photo 3)**

A 100mm by 500mm area of water egress with leachate emanating from a previous core hole is present on the soffit of the east ramp span, east cantilever, 0.5m from the east side of the face, at the north pier **(See Span 15 Underside Defects; Photo 4)**

A 100mm by 1500mm area of water egress with leachate emanating from a previous core hole is present on the soffit of the east ramp span, east cantilever, 0.5m from the east side of the face, 22.0m from the south pier **(See Span 15 Underside Defects; Photo 5)**

A 250mm by 400mm area of 30mm spalling with exposed rebar is present on the soffit of the east ramp span, east cantilever, 2.0m from the east side of the face, 22.0m from the south pier, plastic ducting is visible in the spalled location **(See Span 15 Underside Defects; Photo 6)**

Central Deck

A 200mm by 3000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the west edge of the face, at the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 15 Underside Defects; Photo 7)**

A 1000mm by 2000mm area of 50mm spalling with drummyness with exposed rebar is present on the soffit of the central deck, centre surface, 0.5m from the east side of the face, 1.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 15 Underside Defects; Photo 8)**

A 150mm by 150mm area of 50mm spalling with exposed rebar is present on the soffit of the centre deck, west cantilever, 3.0m from the east side of the face, at the south pier **(See Span 15 Underside Defects; Photo 10)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 15 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 15 Underside Defects; Photo 14)**

West Ramp

A 50mm by 400mm area of 5mm spalling with exposed rebar is present on the soffit of the west ramp span, east cantilever, at the west edge of the face, 5.0m from the south pier **(See Span 15 Underside Defects; Photo 9)**

The surround of access hatch K1 is cracked open up to 1mm and rust stained throughout the surround on the west ramp span west cantilever, the soffit has a 400mm by 400mm area of rust staining over a previous patch repair **(See Span 15 Underside Defects; Photo 11)**

A 800mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, at the east side of the face, 23.0m from the south pier **(See Span 15 Underside Defects; Photo 12)**

2No. 250mm by 250mm triangular areas of full depth spalling with exposed rebar present on the. facia panels of the west ramp, west cantilever, at the north pier **(See Span 15 Underside Defects; Photo 13)**

Span 15 General Photographs



Span 15 Underside General; Photo 1 – East Elevation



Span 15 Underside General; Photo 2 – West Elevation

Span 15 Defect Photographs



Span 15 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 3 - Defective Historical Repair



Span 15 Underside Defects; Photo 4 - Water Egress Emanating From The Surface



Span 15 Underside Defects; Photo 5 - Water Egress Emanating From The Surface



Span 15 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 9 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 10 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 11 - Damaged Access Hatch



Span 15 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 15 Underside Defects; Photo 14 – Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.4)

5.3.4.16 Span 16

East Ramp

A 1000mm by 200mm area of 50mm spalling with exposed rebar is present on the soffit of the east ramp span, west cantilever, at the west edge of the face, at the north pier **(See Span 16; Photo 1)**

On the facia panels of the east ramp, west cantilever, several of the bottom corners of the facia panels are missing throughout the span **(See Span 16; Photo 2)**

Central Deck

A 100mm by 600mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 22.0m from the south pier **(See Span 16; Photo 3)**

A 100mm by 1000mm area of drummy concrete with water staining and leachate is present on the soffit of the central deck, east cantilever, 1.5m from the east side of the face, 22.0m from the south pier **(See Span 16 Underside Defects; Photo 4)**

The drainage channel below the central deck east cantilever is missing at the expansion joint between spans 15 and 16. **(See Span 16 Underside Defects; Photo 5)**

An area of water egress emanating from an expansion joint is present on the soffit of the central deck, east cantilever, throughout the span **(See Span 16 Underside Defects; Photo 6)**

A 700mm by 400mm area of 100mm spalling is present on the soffit of the central deck, east cantilever, at the west edge of the face, at the north pier **(See Span 16 Underside Defects; Photo 7)**

A 400mm by 400mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the west edge of the face, 24.0m from the south pier **(See Span 16 Underside Defects; Photo 8)**

On the soffit of the central deck, east cantilever, there is water egress present emanating from access hatch A1 **(See Span 16 Underside Defects; Photo 9)**

A 100mm by 3000mm area of water staining emanating from a core hole present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 20.0m from the south pier **(See Span 16 Underside Defects; Photo 10)**

There is a missing downpipe west side of the central pier of Pier 15 **(See Span 16 Underside Defects; Photo 11)**

There is a missing drainage channel on the central deck, centre surface, between spans 15 and 16 **(See Span 16 Underside Defects; Photo 12)**

A 150mm by 150mm area of 30mm spalling is present on the soffit of the central deck, centre surface, 8.0m from the east side of the face, at the north pier **(See Span 16 Underside Defects; Photo 13)**

Access hatch D1 on the centre deck centre surface is supported fixings into on concrete which is spalled away and not secure. it is recommended that Gateshead Council arrange for the repair of the concrete around the access hatch to allow for a more secure fixing. **(See Span 16 Underside Defects; Photo 14)**

A 1500mm by 1500mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, at the west edge of the face, 20.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 16 Underside Defects; Photo 15)**

A 1000mm by 3000mm area of defective historical repair is present on the soffit of the central deck, centre surface, at the east side of the face, at the north pier it is recommended that Gateshead

Council arrange for the removal of the damaged or loose material **(See Span 16 Underside Defects; Photo 16)**

There is a missing drainage pipe on the central deck, centre surface, central section to the east side of Pier 15 **(See Span 16 Underside Defects; Photo 17)**

A 500mm by 1500mm area of 50mm spalling with exposed rebar with drummyness is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, at the north pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 16 Underside Defects; Photo 18)**

A 1000mm by 4000mm area of water egress emanating from the expansion joint is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, at the north pier **(See Span 16 Underside Defects; Photo 19)**

The drainage channel between spans 15 and 16 on the centre surface between central pier columns is blocked and detached from the soffit it is recommended that Gateshead Council arrange for the removal of the damaged or loose components **(See Span 16 Underside Defects; Photo 20)**

A 400mm by 50mm area of water staining emanating from the surface of the structure is present on the soffit of the central deck, centre surface, 1.0m from the east side of the face, 21.0m from the south pier **(See Span 16 Underside Defects; Photo 21)**

A 400mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 1.0m from the south pier **(See Span 16 Underside Defects; Photo 22)**

The area between Span 15 and 16 is spalled on the vertical edges within the expansion joint on both faces. The spalling is 30mm deep throughout the west cantilevers over a height of 150mm and is rust stained throughout the area. **(See Span 16 Underside Defects; Photo 23)**

A 800mm by 1000mm area of 50mm drummy concrete with a spalled area of 150mm by 150mm at the centre up to a depth of 30mm is present on the soffit of the central deck, west cantilever, at the east side of the face, at the north pier **(See Span 16 Underside Defects; Photo 24)**

Access hatch E1 in the central deck, west cantilever has spalling with exposed rebar to the concrete surrounds, the spalling is up to a depth of 50mm over a height of 100mm throughout the surround. **(See Span 16 Underside Defects; Photo 25)**

A 1500mm by 150mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 9.0m from the south pier **(See Span 16 Underside Defects; Photo 26)**

2No. 1000mm long, 2mm wide longitudinal cracks are present on the soffit of the central deck, west cantilever, at the west edge of the face, 7.0m from the south pier **(See Span 16 Underside Defects; Photo 27)**

On the central deck, east and west cantilevers, corners are missing from the facia panels sporadically throughout the span **(See Span 16 Underside Defects; Photo 28 & 36)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 16 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 16 Underside Defects; Photo 37)**

West Ramp

A 500mm by 100mm area of full depth spalling with exposed rebar is present on the facia panels of the west ramp, east cantilever, 22.0m from the south pier **(See Span 16 Underside Defects; Photo 28)**

On the facia panels of the west ramp, east cantilever, corners and edges are missing sporadically throughout the span **(See Span 16 Underside Defects; Photo 29, 30, 31)**

A 500mm by 100mm area of 100mm spalling with exposed rebar is present on the soffit of the west ramp span, east cantilever, at the east side of the face, at the north pier **(See Span 16 Underside Defects; Photo 32)**

On the facia panels of the west ramp, west cantilever, corners and edges are missing sporadically throughout the span **(See Span 16 Underside Defects; Photo 33 & 34)**

A 100mm by 100mm area of honeycombing is present on the soffit of the west ramp span, west cantilever, 2.5m from the east side of the face, 6.0m from the south pier **(See Span 16 Underside Defects; Photo 34)**

Span 16 General Photographs



Span 16 Underside General; Photo 1 – East Elevation



Span 16 Underside General; Photo 2 – West Elevation

Span 16 Defect Photographs



Span 16 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 4 - Drummy Concrete



Span 16 Underside Defects; Photo 5 – Missing Drainage Channel



Span 16 Underside Defects; Photo 6 - Water Egress Emanating From An Expansion Joint



Span 16 Underside Defects; Photo 7 - Spalling



Span 16 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 9 - Water Egress Emanating From An Access Hatch



Span 16 Underside Defects; Photo 10 - Water Staining Emanating From The Core Hole



Span 16 Underside Defects; Photo 11 - Missing Downpipe



Span 16 Underside Defects; Photo 12 - Missing Drainage Channel



Span 16 Underside Defects; Photo 13 - Spalling



Span 16 Underside Defects; Photo 14 - Damaged Access Hatch



Span 16 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 16 - Defective Historical Repair



Span 16 Underside Defects; Photo 17 - Missing Drainage Pipe



Span 16 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 19 - Water Egress Emanating From A Construction Joint



Span 16 Underside Defects; Photo 20 – Blocked Drainage Channel Detached From Soffit



Span 16 Underside Defects; Photo 21 - Water Staining Emanating From The Surface



Span 16 Underside Defects; Photo 22 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 23 – Spalling Within Expansion joint



Span 16 Underside Defects; Photo 24 – Drummyness With Spalling



Span 16 Underside Defects; Photo 25 - Damaged Access Hatch



Span 16 Underside Defects; Photo 26 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 27 - Longitudinal Crack



Span 16 Underside Defects; Photo 28 - Spalling With Exposed Rebar On Both The West Ramp East Cantilever and Centre Deck West Cantilever



Span 16 Underside Defects; Photo 29 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 30 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 31 - Spalling



Span 16 Underside Defects; Photo 32 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 33 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 34 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 35 - Honeycombing



Span 16 Underside Defects; Photo 36 - Spalling With Exposed Rebar



Span 16 Underside Defects; Photo 37 - Typical Crackling and Drummyness to Anchorage Block Caps (Block No.1)

5.3.4.17 Span 17

East Ramp

A 500mm by 5000mm area of water egress emanating from a construction joint is present on the soffit of the east ramp span, east cantilever, at the east side of the face, 10.0m from the south pier **(See Span 17 Underside Defects; Photo 1)**

On the facia panels of the east ramp, west cantilever, both bottom corners of the facia panel are missing over 7.0m length from the south pier **(See Span 17 Underside Defects; Photo 3)**

Central Deck

A 100mm by 100mm area of water egress emanating from a core hole present on the soffit of the central deck, east cantilever, 0.5m from the east side of the face, at the south pier **(See Span 17 Underside Defects; Photo 2)**

A 1000mm by 4000mm area of water staining emanating from a construction joint is present on the soffit of the central deck, east cantilever, 1.5m from the east side of the face, at the north pier **(See Span 17 Underside Defects; Photo 4)**

A 100mm by 100mm area of water staining emanating from an open core hole present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, at the north pier. A similar defect is also present in the same location on the central deck west cantilever **(See Span 17 Underside Defects; Photo 5)**

A 200mm by 400mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 4.5m from the east side of the face, 21.0m from the south pier **(See Span 17 Underside Defects; Photo 6)**

A 100mm by 2000mm area of water egress emanating from a core hole is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 21.0m from the south pier **(See Span 17 Underside Defects; Photo 7)**

A 3000mm by 1000mm area of water staining emanating from a construction joint is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, at the south pier **(See Span 17 Underside Defects; Photo 8)**

A 300mm by 1000mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 3.0m from the east side of the face, 25.0m from the south pier, additionally the area is drummy and wet over the same 300mm band for the full width of the centre surface. It is recommended that Gateshead Council arrange for a hammer tapping survey and removal of any loose material **(See Span 17 Underside Defects; Photo 9)**

A 1000mm by 2000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, at the west edge of the face, 20.0m from the south pier, additionally the area is wet with exposed wires of unknown origin or purpose within the spalled area **(See Span 17 Underside Defects; Photo 10)**

A 600mm by 500mm area of 30mm spalling is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 20.0m from the south pier **(See Span 17 Underside Defects; Photo 11)**

A 500mm by 4000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 0.5m from the east side of the face, 25.0m from the south pier **(See Span 17 Underside Defects; Photo 12)**

A 400mm by 700mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 0.5m from the east side of the face, 20.0m from the south pier **(See Span 17 Underside Defects; Photo 13)**

A 1000mm by 1000mm area of delamination is present on the soffit of the central deck, centre surface, 1.0m from the east side of the face, 21.0m from the south pier, the area adjoins to access

hatch it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 17 Underside Defects; Photo 14)**

A 200mm by 1000mm area of delamination with rust staining is present on the soffit of the central deck, centre surface, 0.5m from the east side of the face, 20.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 17 Underside Defects; Photo 15)**

A 1000mm by 1500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 4.0m from the south pier **(See Span 17 Underside Defects; Photo 16)**

A 700mm by 800mm area of drummy concrete is present on the soffit of the central deck, west cantilever, at the east side of the face, 25.0m from the south pier **(See Span 17 Underside Defects; Photo 17)**

There is an area of drummy concrete surrounding access hatch E1 on the central deck, west cantilever, additionally the vertical concrete surround of the hatch is cracked throughout the perimeter open 5mm. **(See Span 17 Underside Defects; Photo 18)**

A 150mm by 500mm area of 40mm spalling is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 2.5m from the south pier **(See Span 17 Underside Defects; Photo 19)**

On the facia panels of both the east and west cantilevers of the central deck there are corners and edges missing sporadically throughout out the span **(See Span 17 Underside Defects; Photo 24, 25 & 26)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 17 are exhibiting map cracking and drummyness mostly localised towards the corners. **(See Span 17 Underside Defects; Photo 27)**

West Ramp

On the facia panels of the west ramp, both east and west cantilevers, corners and edges are missing sporadically throughout the span **(See Span 17 Underside Defects; Photo 20, 21, 22 & 23)**

On the facia panels of the west ramp, east cantilever, the bottom left corner of the facia panel is missing 20.0m from the south pier **(See Span 17 Underside Defects; Photo 21)**

On the facia panels of the west ramp, east cantilever, the bottom left corner of the facia panels are missing at 8.0m from the south pier and at 3.0m from the south pier **(See Span 17 Underside Defects; Photo 22)**

On the facia panels of the west ramp, east cantilever, the bottom left corner of the facia panel is missing 1.5m from the south pier **(See Span 17 Underside Defects; Photo 23)**

Span 17 General Photographs



Span 17 Underside General; Photo 1 – East Elevation



Span 17 Underside General; Photo 2 – West Elevation

Span 17 Defect Photographs



Span 17 Underside Defects; Photo 1 - Water Egress Emanating From A Construction Joint



Span 17 Underside Defects; Photo 2 - Water Egress Emanating From The Surface



Span 17 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 4 - Water Staining Emanating From A Construction Joint



Span 17 Underside Defects; Photo 5 - Water Staining Emanating From The Surface



Span 17 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 7 - Water Egress Emanating From The Surface



Span 17 Underside Defects; Photo 8 - Water Staining Emanating From A Construction Joint



Span 17 Underside Defects; Photo 9 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 10 - Spalling With Exposed Rebar And Exposed Cables



Span 17 Underside Defects; Photo 11 - Spalling



Span 17 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 14 - Delamination



Span 17 Underside Defects; Photo 15 - Delamination



Span 17 Underside Defects; Photo 16 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 17 - Drummy Concrete



Span 17 Underside Defects; Photo 18 – Drummy Area With Cracking Around Access hatch



Span 17 Underside Defects; Photo 19 - Spalling



Span 17 Underside Defects; Photo 20 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 21 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 22 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 23 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 24 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 25 - Spalling With Exposed Rebar



Span 17 Underside Defects; Photo 26 - Spalling With Exposed Rebar



Span 17 underside Defects; Photo 27 - Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.5 & 6)

5.3.4.18 Span 18

Central Deck

A 100mm by 300mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 2.0m from the east side of the face, 24.0m from the south pier **(See Span 18 Underside Defects; Photo 1)**

A 1000mm by 200mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 23.0m from The south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 18 Underside Defects; Photo 2)**

A 150mm by 1000mm area of water egress emanating from a core hole present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 22.0m from The south pier **(See Span 18 Underside Defects; Photo 3)**

A 1000mm by 1000mm area of 40mm spalling is present on the soffit of the central deck, east cantilever, at the west edge of the face, 25.0m from The south pier adjacent to hatch A1, the area is also drummy it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 18 Underside Defects; Photo 4)**

A 500mm by 2000mm area of delamination is present on the soffit of the central deck, east cantilever, at the west edge of the face, 12.0m from The south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 18 Underside Defects; Photo 5)**

A 1000mm by 100mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 10.0m from The south pier **(See Span 18 Underside Defects; Photo 6)**

A 3000mm by 300mm area of 50mm spalling with exposed rebar with drummyness and rust staining is present on the soffit of the central deck, east cantilever, at the east side of the face, 9.0m from The south pier **(See Span 18 Underside Defects; Photo 7)**

A 500mm by 3000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 6.0m from The south pier, the spalling is in the area of a previous core hole. It is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 18 Underside Defects; Photo 8)**

3No. reinstated core holes are present on the central deck, east cantilever assumed to be from previous PTSI investigation **(See Span 18 Underside General; Photo 3)**

A 500mm by 5000mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 3.0m from The south pier **(See Span 18 Underside Defects; Photo 9)**

A 1000mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 3.0m from the south pier **(See Span 18 Underside Defects; Photo 10 & 14)**

A 2000mm by 2000mm area of delamination is present on the soffit of the central deck, centre surface surrounding access hatch B1, 0.5m from the east side of the face, 19.0m from The south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 18 Underside Defects; Photo 11)**

A 1000mm by 300mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, at the east side of the face, 12.0m from the south pier **(See Span 18 Underside Defects; Photo 12)**

A 500mm by 500mm area of delamination is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 4.5m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 18 Underside Defects; Photo 13)**

A 50mm by 200mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 23.0m from the south pier **(See Span 18 Underside Defects; Photo 15)**

A 250mm by 100mm area of drummy concrete is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 22.0m from the south pier **(See Span 18 Underside Defects; Photo 16)**

A 100mm by 100mm area of leachate is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 14.0m from the south pier **(See Span 18 Underside Defects; Photo 17)**

A 100mm by 200mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the east side of the face, 16.0m from the south pier **(See Span 18 Underside Defects; Photo 18)**

A 3000mm by 500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 0.5m from the east side of the face, 3.0m from the south pier **(See Span 18 Underside Defects; Photo 19)**

A 1000mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the east side of the face, 3.5m from the south pier **(See Span 18 Underside Defects; Photo 20)**

On the facia panels of the centre deck, east cantilever, several of the bottom corners of the facia panel are missing throughout the span **(See Span 18 Underside Defects; Photo 21)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 18 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 18 Underside Defects; Photo 22)**

Span 18 Underside General Photographs



Span 18 Underside General; Photo 1 – East Elevation



Span 18 Underside General; Photo 2 – West Elevation



Span 18 Underside General; Photo 3 – Reinstated Previous PTSI Investigation

Span 18 Underside Defect Photographs



Span 18 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 3 - Water Egress Emanating From The A Core Hole



Span 18 Underside Defects; Photo 4 - Spalling



Span 18 Underside Defects; Photo 5 - Delamination



Span 18 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 9 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 10 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 11 - Delamination



Span 18 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 13 - Delamination



Span 18 Underside Defects; Photo 14 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 16 - Drummy Concrete



Span 18 Underside Defects; Photo 17 - Leachate



Span 18 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 19 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 20 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 21 - Spalling With Exposed Rebar



Span 18 Underside Defects; Photo 22 - Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.5 & 6)

5.3.4.19 Span 19

East Cantilever

A 50mm by 500mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 2.0m from the east side of the face, 25.0m from the south pier **(See Span 19 Underside Defects; Photo 1)**

A 5000mm by 150mm area of drummy concrete with 1-2mm map cracking is present on the soffit of the central deck, east cantilever, at the east side of the face, 24.0m from the south pier **(See Span 19 Underside Defects; Photo 2)**

A 100mm by 500mm area of water egress emanating from a core hole is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 13.0m from the south pier **(See Span 19 Underside Defects; Photo 3)**

A 300mm by 300mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 7.0m from the east side of the face, 25.0m from the south pier **(See Span 19 Underside Defects; Photo 4)**

A 500mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 8.0m from the east side of the face, 23.0m from the south pier **(See Span 19 Underside Defects; Photo 5)**

A 1000mm by 800mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 7.5m from the east side of the face, 22.0m from the south pier **(See Span 19 Underside Defects; Photo 6)**

A 800mm by 800mm area of 10mm bulging is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 15.0m from the south pier. The area is also wet with excessive water seepage. It is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 19 Underside Defects; Photo 7)**

A 500mm by 500mm area of 4mm bulging and drummy concrete is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 14.0m from the south pier. The area is also wet with excessive water seepage **(See Span 19 Underside Defects; Photo 8 & 11)**

A 300mm by 700mm area of 40mm spalling with excessive water seepage is present on the soffit of the central deck, centre surface, 1.5m from the east side of the face, 25.0m from the south pier **(See Span 19 Underside Defects; Photo 9)**

A 1000mm by 3000mm area of drummy concrete is present on the soffit of the central deck, centre surface, 1.0m from the east side of the face, 25.0m from the south pier **(See Span 19 Underside Defects; Photo 10)**

A 1000mm by 2000mm area of defective historical repair which is drummy and has hairline map cracking throughout is present on the soffit of the central deck, west cantilever, at the east side of the face, at the north pier **(See Span 19 Underside Defects; Photo 12)**

A 1500mm by 150mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 17.0m from the south pier **(See Span 19 Underside Defects; Photo 13)**

An 800mm by 600mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 3.0m from the east side of the face, 8.0m from the south pier **(See Span 19 Underside Defects; Photo 14)**

A 600mm by 1000mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 7.0m from the south pier **(See Span 19 Underside Defects; Photo 15)**

A 300mm by 200mm area of 30mm spalling is present on the soffit of the central deck, west cantilever, 4.5m from the east side of the face, at the south pier **(See Span 19 Underside Defects; Photo 16)**

On the facia panels of the centre deck, west cantilever, corners and edges are missing sporadically throughout the span **(See Span 19 Underside Defects; Photo 13 & 17)**

On the facia panels of the centre deck, east cantilever, corners and edges are missing sporadically throughout the span **(See Span 19 Underside Defects; Photo 18 & 19)**

All of the anchorage blocks caps on both sides of the structure at the crosshead of Pier 19 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 19 Underside Defects; Photo 20)**

Span 19 Underside General Photographs



Span 19 Underside General; Photo 1 – East Elevation



Span 19 Underside General; Photo 2 – West Elevation

Span 19 Underside Defect Photographs



Span 19 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 19 Underside Defects; Photo 2 - Drummy Concrete With Cracking



Span 19 Underside Defects; Photo 3 - Water Egress Emanating From A Core Hole



Span 19 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 19 Underside Defects; Photo 5 - Spalling With Exposed Rebar



Span 19 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 19 Underside Defects; Photo 7 - Bulging



Span 19 Underside Defects; Photo 8 - Bulging



Span 19 Underside Defects; Photo 9 - Spalling



Span 19 Underside Defects; Photo 10 - Drummy Concrete



Span 19 Underside Defects; Photo 11 - Drummy Concrete



Span 19 Underside Defects; Photo 12 - Defective Historical Repair



Span 19 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 19 Underside Defects; Photo 14 - Spalling With Exposed Rebar



Span 19 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 19 Underside Defects; Photo 16 - Spalling



Span 19 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 19 Underside Defects; Photo 18 - Spalling



Span 19 Underside Defects; Photo 19 - Spalling



Span 19 Underside Defects; Photo 20 -; Typical Map Crackling and Drummyness to Anchorage Block Caps (Block No.3, 4 & 5)

5.3.4.20 Span 20

Central Deck

On the soffit of the central deck, east cantilever, there is water egressing from an access hatch (A1) with rust staining and drummyness to the surrounding area **(See Span 20 Underside Defects; Photo 1)**

A 500mm by 2000mm area of 30mm spalled and drummy concrete is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 24.0m from the south pier. In the same area there is water seepage from a previous core hole and rust staining throughout the area. It is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 20 Underside Defects; Photo 2)**

A 100mm by 800mm area of water egress emanating from a core hole is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 4.0m from the south pier **(See Span 20 Underside Defects; Photo 3)**

A 250mm by 50mm area of 10mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, at the west edge of the face, at the north pier **(See Span 20 Underside Defects; Photo 4)**

4No. 100mm by 100mm areas of water seepage and rust staining emanating from the surface of the structure is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 25.0m from the south pier **(See Span 20 Underside Defects; Photo 5)**

A 4000mm by 5000mm area of sporadic areas of water egress with rust staining emanating from the surface of the structure is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 24.0m from the south pier **(See Span 20 Underside Defects; Photo 6)**

A 1000mm by 2000mm area of drummy concrete is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 25.0m from the south pier **(See Span 20 Underside Defects; Photo 7)**

A 1000mm by 1000mm area of drummy concrete is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 24.0m from the south pier **(See Span 20 Underside Defects; Photo 8)**

On the soffit of the central deck, west cantilever, there is water egress emanating access hatch E1 with an area of water staining present over 1000mm by 1500mm around the access hatch below **(See Span 20 Underside Defects; Photo 9)**

A 700mm by 150mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 20.0m from the south pier **(See Span 20 Underside Defects; Photo 10)**

A 300mm by 600mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the east side of the face, 13.0m from the south pier **(See Span 20 Underside Defects; Photo 11)**

A 300mm by 600mm area of water and rust staining emanating from the surface is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 15.0m from the south pier **(See Span 20 Underside Defects; Photo 12)**

A 500mm by 1500mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 2.0m from the east side of the face, 9.0m from the south pier It is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 20 Underside Defects; Photo 13)**

On the facia panels of the centre deck, east cantilever, the bottom left corner of the facia panel is missing 25.0m from the south pier **(See Span 20 Underside Defects; Photo 14)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 20 are exhibiting map cracking and drummyness mostly localised towards the corners. **(See Span 20 Underside Defects; Photo 15)**

Span 20 General Photographs



Span 20 Underside General; Photo 1 – East Elevation



Span 20 Underside General; Photo 2 – West Elevation

Span 20 Defect Photographs



Span 20 Underside Defects; Photo 1 - Water Egress Emanating From An Access Hatch



Span 20 Underside Defects; Photo 2 - Drummy Concrete



Span 20 Underside Defects; Photo 3 - Water Egress Emanating From A Core Hole



Span 20 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 20 Underside Defects; Photo 5 - Water Staining Emanating From The Surface



Span 20 Underside Defects; Photo 6 - Water Egress Emanating From The Surface



Span 20 Underside Defects; Photo 7 - Drummy Concrete



Span 20 Underside Defects; Photo 8 - Drummy Concrete



Span 20 Underside Defects; Photo 9 - Water Egress Emanating From an Access Hatch



Span 20 Underside Defects; Photo 10 - Spalling With Exposed Rebar



Span 20 Underside Defects; Photo 11 - Spalling With Exposed Rebar



Span 20 Underside Defects; Photo 12 - Water Staining Emanating From The Surface



Span 20 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 20 Underside Defects; Photo 14 - Spalling



Span 20 Underside Defects; Photo 15 - Typical Crackling and Drummyness to Anchorage Block Caps (Block No.3)

5.3.4.21 Span 21

Central Deck

A 1500mm by 2000mm area of drummy concrete with water seepage surrounding an access hatch is present on the soffit of the central deck, east cantilever, 4.0m from the east side of the face, 25.0m from the south pier **(See Span 21 Underside Defects; Photo 1)**

A 100mm by 2000mm area of water egress emanating from a core hole present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 24.0m from the south pier **(See Span 21 Underside Defects; Photo 2)**

A 100mm by 1000mm area of drummy concrete is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 24.0m from the south pier **(See Span 21 Underside Defects; Photo 2)**

A 2000mm by 300mm area of 200mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 23.0m from the south pier **(See Span 21 Underside Defects; Photo 3)**

A 3000mm by 500mm area of 200mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 13.0m from the south pier **(See Span 21 Underside Defects; Photo 4)**

A 3000mm by 400mm area of 200mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 10.0m from the south pier **(See Span 21 Underside Defects; Photo 5)**

A 200mm by 200mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 7.0m from the east side of the face, at the north pier **(See Span 21 Underside Defects; Photo 6)**

A 1000mm by 400mm area of 40mm spalling with exposed rebar with surrounding drummyness is present on the soffit of the central deck, centre surface, at the east side of the face, 25.0m from the south pier **(See Span 21 Underside Defects; Photo 7)**

A 200mm by 3000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 1.5m from the east side of the face, 4.0m from the south pier **(See Span 21 Underside Defects; Photo 8)**

A 50mm by 150mm area of 10mm spalling is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 11.0m from the south pier **(See Span 21 Underside Defects; Photo 9)**

A 3000mm by 3000mm area of water staining emanating from the surface is present on the soffit of the central deck, west cantilever, 0.5m from the east side of the face, 16.0m from the south pier **(See Span 21 Underside Defects; Photo 10)**

A 1500mm by 1500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the east side of the face, 14.0m from the south pier **(See Span 21 Underside Defects; Photo 11)**

A 300mm long, 1mm wide longitudinal crack is present on the soffit of the central deck, west cantilever, at the west edge of the face, 18.0m from the south pier **(See Span 21 Underside Defects; Photo 12)**

A 1000mm by 3000mm area of water staining emanating from the surface is present on the soffit of the central deck, west cantilever, 1.0m from the east side of the face, 21.0m from the south pier **(See Span 21 Underside Defects; Photo 13)**

A 50mm by 50mm area of 20mm spalling is present on the soffit of the central deck, west cantilever, 2.5m from the east side of the face, 21.0m from the south pier **(See Span 21 Underside Defects; Photo 14)**

2No. 150mm by 150mm areas of 30mm spalling with exposed rebar are present on the soffit of the central deck, west cantilever, 2.0m from the east side of the face, 20.0m from the south pier **(See Span 21 Underside Defects; Photo 15)**

A 400mm by 150mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 22.0m from the south pier **(See Span 21 Underside Defects; Photo 16)**

A 300mm by 100mm area of 50mm spalling with exposed rebar is present on rear face of the facia panels of the centre deck, west cantilever, 6.0m from the south pier **(See Span 21 Underside Defects; Photo 17)**

A 300mm by 100mm area of 50mm spalling with exposed rebar is present on the rear face of the internal face of the facia panels of the centre deck, west cantilever, 14.0m from the south pier **(See Span 21 Underside Defects; Photo 18)**

On the facia panels of the centre deck, west cantilever, the bottom right corner of the facia panel is missing 20.0m from the south pier **(See Span 21 Underside Defects; Photo 19)**

On the facia panels of the centre deck, west cantilever, the bottom left corner of the facia panel is missing 19.0m from the south pier **(See Span 21 Underside Defects; Photo 20)**

A 300mm by 50mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, west cantilever, 20.0m from the south pier **(See Span 21 Underside Defects; Photo 21)**

On anchorage block cap No.4 of Pier 21 within there is a 150mm by 50mm area of 20mm spalling with exposed rebar **(See Span 21 Underside Defects; Photo 22)**

On anchorage blocks caps No.5 and No.6 of Pier 21 there are isolated spalls up to 20mm by 20mm in area and to a depth of 20mm sporadically located over the soffit **(See Span 21 Underside Defects; Photo 23)**

A 3000mm by 500mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face at the south pier **(See Span 21 Underside Defects; Photo 24)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 21 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 21 Underside Defects; Photo 23)**

Span 21 General Photographs



Span 21 Underside General; Photo 1 – East Elevation



Span 21 Underside General; Photo 2 – West Elevation

Span 21 Defect Photographs



Span 21 Underside Defects; Photo 1 - Drummy Concrete



Span 21 Underside Defects; Photo 2 - Water Egress Emanating From A Core Hole With Drummyness



Span 21 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 5 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 9 - Spalling



Span 21 Underside Defects; Photo 10 - Water Staining Emanating From The Surface



Span 21 Underside Defects; Photo 11 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 12 - Longitudinal Crack



Span 21 Underside Defects; Photo 13 - Water Staining Emanating From The Surface



Span 21 Underside Defects; Photo 14 - Spalling



Span 21 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 16 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 19 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 20 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 21 - Spalling With Exposed Rebar



Span 21 Underside Defects; Photo 22 – Spalling With Exposed Rebar and Typical Crackling and Drummyness to Anchorage Block Cap (Cap No.4)



Span 21 Underside Defects; Photo 23 – Isolated Spalls to Anchorage Block Caps (Cap No.5 & 6)



Span 21 Underside Defects; Photo 24 – Spalling with Exposed Rebar

5.3.4.22 Span 22

Central Deck

Access hatch A2 on the central deck, east cantilever has spalling with exposed reinforcement to the concrete surround of the hatch to a depth of 20mm around the vertical faces up to 100mm in height **(See Span 22 Underside Defects; Photo 1)**

A 2000mm by 200mm area of 70mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 12.0m from the south pier **(See Span 22 Underside Defects; Photo 2)**

On the soffit of the central deck, east cantilever there is significant water egress emanating from an access hatch A1 **(See Span 22 Underside Defects; Photo 3)**

A 1500mm long, 2mm wide longitudinal crack is present on the soffit of the central deck, east cantilever, at the east side of the face, 2.5m from the south pier **(See Span 22 Underside Defects; Photo 4)**

A 2000mm by 2000mm area of water staining emanating from the surface is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 15.0m from the south pier **(See Span 22 Underside Defects; Photo 5)**

A 50mm by 150mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 1.5m from the east side of the face, 15.0m from the south pier **(See Span 22 Underside Defects; Photo 6)**

A 200mm by 200mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, at the west edge of the face, 25.0m from the south pier **(See Span 22 Underside Defects; Photo 7)**

A 500mm by 1500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 2.5m from the east side of the face, 10.0m from the south pier **(See Span 22 Underside Defects; Photo 8)**

A 1000mm by 200mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 16.0m from the south pier **(See Span 22 Underside Defects; Photo 9)**

A 3000mm by 5000mm area of water staining emanating from the surface is present on the soffit of the central deck, west cantilever, at the east side of the face, 13.0m from the south pier **(See Span 22 Underside Defects; Photo 10)**

A 2000mm by 600mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the east side of the face, 13.0m from the south pier It is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 22 Underside Defects; Photo 11)**

A 400mm by 500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 3.5m from the east side of the face, 18.0m from the south pier **(See Span 22 Underside Defects; Photo 12)**

A 400mm by 400mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 3.0m from the east side of the face, 18.0m from the south pier **(See Span 22 Underside Defects; Photo 13)**

Access hatch E1 is damaged on the central deck, west cantilever which has up to 20mm of spalling to the concrete verticals on the hatch surround over a height of up to 80mm **(See Span 22 Underside Defects; Photo 14)**

A 150mm by 150mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the east side of the face, 25.0m from the south pier **(See Span 22 Underside Defects; Photo 15)**

A 200mm by 50mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 2.0m from the east side of the face, at the north pier **(See Span 22 Underside Defects; Photo 16)**

A 300mm by 100mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, west cantilever, 4.5m from the south pier **(See Span 22 Underside Defects; Photo 17)**

A 300mm by 100mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, west cantilever, 2.5m from the south pier **(See Span 22 Underside Defects; Photo 18)**

A 300mm by 100mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, west cantilever, 14.0m from the south pier **(See Span 22 Underside Defects; Photo 19)**

On the facia panels of the centre deck, east cantilever, the bottom right corner of the facia panel is missing 12.0m from the south pier **(See Span 22 Underside Defects; Photo 20)**

A 1500mm by 150mm area of 50mm spalling with exposed rebar is present on the facia panels of the centre deck, east cantilever, 12.0m from the south pier **(See Span 22 Underside Defects; Photo 21)**

A 100mm by 100mm area of 50mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, east cantilever, 10.0m from the south pier **(See Span 22 Underside Defects; Photo 22)**

All of the anchorage blocks caps on both sides of the structure at the crosshead of Pier 22 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Span 22 Underside Defects; Photo 23)**

Span 22 Underside General Photographs



Span 22 Underside General; Photo 2 – East Elevation



Span 22 Underside General; Photo 2 – West Elevation

Span 22 Underside Defect Photographs



Span 22 Underside Defects; Photo 1 - Damaged Access Hatch



Span 22 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 3 - Water Egress Emanating From An Access Hatch



Span 22 Underside Defects; Photo 4 - Longitudinal Crack



Span 22 Underside Defects; Photo 5 - Water Staining Emanating From The Surface



Span 22 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 8 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 9 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 10 - Water Staining Emanating From The Surface



Span 22 Underside Defects; Photo 11 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 14 - Damaged Access Hatch



Span 22 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 16 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 19 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 20 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 21 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 22 - Spalling With Exposed Rebar



Span 22 Underside Defects; Photo 23 - Typical Crackling and Drummyness to Anchorage Blocks Caps (Cap No.4, 5 & 6)

5.3.4.23 Span 23

Central Deck

A 300mm long, 2mm wide longitudinal crack is present on the facia panels of the central deck, east cantilever, 6.0m from the south pier **(See Span 23 Underside Defects; Photo 1)**

A 200mm by 200mm area of water staining with leachate emanating from a core hole is present on the soffit of the central deck, east cantilever, 1.5m from the east side of the face, 4.5m from the south pier **(See Span 23 Underside Defects; Photo 2)**

A 1000mm by 500mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, 1.5m from the south pier **(See Span 23 Underside Defects; Photo 3)**

A 100mm by 100mm area of water staining emanating from a core hole present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face at the south pier **(See Span 23 Underside Defects; Photo 4)**

A 1500mm by 500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the east side of the face, at the south pier **(See Span 23 Underside Defects; Photo 5)**

Access hatch A2 on the central deck, east cantilever has delamination with rust staining throughout the concrete verticals to the surround of the hatch **(See Span 23 Underside Defects; Photo 6)**

Access hatch A1 on the central deck, east cantilever has 30-40mm spalling on the concrete verticals to the surround of the hatch. **(See Span 23 Underside Defects; Photo 7)**

The street light in access hatch D2 is not illuminated **(See Span 23 Underside Defects; Photo 8)**

A 500mm by 500mm area of drummy concrete with water staining is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 2.5m from the south pier **(See Span 23 Underside Defects; Photo 9)**

A 800mm by 700mm area of 40mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 5.5m from the east side of the face, 8.0m from the south pier **(See Span 23 Underside Defects; Photo 10)**

Access hatch E1 on the central deck, west cantilever has cracking open 1mm throughout the concrete verticals surrounding the hatch **(See Span 23 Underside Defects; Photo 11)**

On the facia panels of the central deck, west cantilever, both bottom corners of the facia panel are missing 9.0m from the south pier **(See Span 23 Underside Defects; Photo 12)**

A 800mm by 200mm area of 100mm spalling with exposed rebar is present on the internal face of the facia panels of the central deck, west cantilever, 2.5m from the south pier **(See Span 23 Underside Defects; Photo 13)**

A 100mm by 500mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, 2.5m from the south pier **(See Span 23 Underside Defects; Photo 14)**

A 500mm long, 1mm wide longitudinal crack is present on the soffit of the central deck, west cantilever, at the west edge of the face, 2.5m from the south pier **(See Span 23 Underside Defects; Photo 15)**

A 200mm by 200mm area of 30mm spalling with exposed rebar is present on the soffit of the west ramp span, west cantilever, 2.5m from the east side of the face, at the south pier **(See Span 23 Underside Defects; Photo 16)**

On the facia panels of the centre deck, east cantilever, the bottom left corner of the facia panel is missing at the north pier **(See Span 23 Underside Defects; Photo 17)**

On anchorage block cap No.1 of Pier 23 there is a 150mm by 150mm area of 50mm spalling with exposed rebar **(See Pier 23 Underside Defects; Photo 18)**

On anchorage block cap No.3 of Pier 23 there is a 150mm by 50mm area of 30mm spalling with exposed rebar **(See Pier 23 Underside Defects; Photo 19)**

On anchorage block cap No.5 of Pier 23 there is a 100mm by 100mm area of 30mm spalling with exposed rebar **(See Pier 23 Underside Defects; Photo 20)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 23 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Pier 23 Underside Defects; Photo 19)**

Span 23 Underside General Photographs



Span 23 Underside Defects; Photo 1 – East Elevation



Span 23 Underside Defects; Photo 2 – West Elevation

Span 23 Underside Defect Photographs



Span 23 Underside Defects; Photo 1 - Longitudinal Crack



Span 23 Underside Defects; Photo 2 - Water Staining Emanating From The Surface



Span 23 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 23 Underside Defects; Photo 4 - Water Staining Emanating From The Surface



Span 23 Underside Defects; Photo 5 - Spalling With Exposed Rebar



Span 23 Underside Defects; Photo 6 – Delaminated Access Hatch Surround



Span 23 Underside Defects; Photo 7 – Spalled Access Hatch Surround



Span 23 Underside Defects; Photo 8 – Light Fitting Faulty



Span 23 Underside Defects; Photo 9 - Drummy Concrete



Span 23 Underside Defects; Photo 10 - Spalling With Exposed Rebar



Span 23 Underside Defects; Photo 11 - Damaged Access Hatch



Span 23 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 23 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 23 Underside Defects; Photo 14 - Spalling With Exposed Rebar



Span 23 Underside Defects; Photo 15 - Longitudinal Crack



Span 23 Underside Defects; Photo 16 - Spalling With Exposed Rebar



Span 23 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 23 Underside Defects; Photo 18 – Spalling With Exposed Rebar (Anchorage Block Cap No.1)



Span 23 Underside Defects; Photo 19 – Spalling With Exposed Rebar (Anchorage Block Cap No.3)



Span 23 Underside Defects; Photo 20 – Spalling With Exposed Rebar (Anchorage Block Cap No.5)

5.3.4.24 Span 24

Central Deck

A 100mm by 10mm area of 2mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 24.0m from the south pier **(See Span 24 Underside Defects; Photo 1)**

3No areas of 2mm spalling with exposed rebar are present, up to 10mm by 150mm in area of 2mm are present on the soffit of the central deck, east cantilever, 2.5m from the east side of the face, 23.0m from the south pier **(See Span 24 Underside Defects; Photo 2)**

A 2000mm by 600mm area of 20mm spalling with cracking and leachate is present on the soffit of the central deck, east cantilever, 3.5m from the east side of the face, 16.0m from the south pier **(See Span 24 Underside Defects; Photo 3 & 4)**

A 300mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 3.0m from the east side of the face, 13.0m from the south pier **(See Span 24 Underside Defects; Photo 5)**

A 200mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the west edge of the face, 12.0m from the south pier **(See Span 24 Underside Defects; Photo 5)**

A 7500mm long, up to 4mm wide length of intermittent longitudinal cracking with leachate is present on the soffit of the central deck, east cantilever, at the east side of the face, 1.5m from the south pier **(See Span 24 Underside Defects; Photo 6)**

An 800mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 1.5m from the east side of the face, 5.0m from the south pier **(See Span 24 Underside Defects; Photo 7)**

A 1500mm by 1000mm area of defective historical repair which is drummy and has map cracking and water staining throughout is present on the soffit of the central deck, east cantilever surrounding access hatch A2 **(See Span 24 Underside Defects; Photo 8)**

A 100mm long, hairline transverse crack with leachate is present on the soffit of the central deck, centre surface, at the east side of the face, 24.0m from the south pier **(See Span 24 Underside Defects; Photo 9)**

A 600mm long, Hairline longitudinal crack with leachate is present on the soffit of the central deck, centre surface, 8.5m from the east side of the face, 21.0m from the south pier **(See Span 24 Underside Defects; Photo 10)**

A 400mm by 100mm area of 5mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 6.0m from the east side of the face, 5.0m from the south pier **(See Span 24 Underside Defects; Photo 11)**

A 800mm by 1000mm area of hairline map cracking with leachate is present on the soffit of the central deck, centre surface, adjacent to an access hatch 5.0m from the east side of the face, 5.0m from the south pier **(See Span 24 Underside Defects; Photo 12)**

A 3000mm by 2000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 2.5m from the south pier **(See Span 24 Underside Defects; Photo 13)**

A 3000mm by 2000mm area of defective historical repair which is has map cracking and water staining throughout, is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 6.0m from the south pier **(See Span 24 Underside Defects; Photo 14)**

A 250mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 6.0m from the south pier **(See Span 24 Underside Defects; Photo 15)**

There is an area of isolated spot rust staining present on the central deck, centre surface, all rust stains are up to 100mm in diameter and cover an area of 8m length and 3m width at midspan of span 24 **(See Span 24 Underside Defects; Photo 16)**

A 800mm by 250mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 9.0m from the south pier **(See Span 24 Underside Defects; Photo 17)**

A 3000mm by 2000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 7.0m from the south pier **(See Span 24 Underside Defects; Photo 18)**

A 50mm by 200mm area of 5mm spalling is present on the soffit of the central deck, centre surface 8.5m from the east side of the face, 24.0m from the south pier **(See Span 24 Underside Defects; Photo 19)**

A 50mm by 10mm area of 2mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 2.5m from the east side of the face, 21.0m from the south pier **(See Span 24 Underside Defects; Photo 20)**

A 500mm long, Hairline transverse crack with leachate is present on the soffit of the central deck, west cantilever, 3.0m from the east side of the face, 20.0m from the south pier **(See Span 24 Underside Defects; Photo 21)**

A 1500mm long, 3mm wide longitudinal crack is present on the soffit of the central deck, west cantilever, at the west edge of the face, 18.0m from the south pier **(See Span 24 Underside Defects; Photo 22)**

A 1000mm long, hairline transverse crack with leachate is present on the soffit of the central deck, west cantilever, 2.5m from the east side of the face, 18.0m from the south pier **(See Span 24 Underside Defects; Photo 23)**

A 10mm by 300mm area of 2mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, 3.0m from the east side of the face, 18.0m from the south pier **(See Span 24 Underside Defects; Photo 23)**

A 1500mm long, 2mm wide longitudinal crack with water staining is present on the soffit of the central deck, west cantilever, at the west edge of the face, 1.0m from the south pier **(See Span 24 Underside Defects; Photo 24)**

A 1000mm by 200mm area of 20mm spalling is present on the soffit of the central deck, west cantilever, 3.0m from the east side of the face, 15.0m from the south pier **(See Span 24 Underside Defects; Photo 25)**

On anchorage block No.6 of Pier 23 there is a 100mm by 100mm area of 30mm spalling with exposed rebar **(See Pier 24 Underside Defects; Photo 26)**

On anchorage block No.4 of Pier 24 there is a 50mm by 100mm area of 5mm spalling with exposed rebar **(See Pier 24 Underside Defects; Photo 27)**

All of the anchorage blocks on both sides of the structure at the crosshead of Pier 24 are exhibiting map cracking and drummyness mostly localised towards the corners **(See Pier 24 Underside Defects; Photo 28)**

Span 24 Underside General Photographs



Span 24 Underside General; Photo 1 – East Elevation



Span 24 Underside General; Photo 2 – West Elevation

Span 24 Underside Defect Photographs



Span 24 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 3 - Spalling



Span 24 Underside Defects; Photo 4 - Spalling



Span 24 Underside Defects; Photo 5 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 6 - Longitudinal Crack



Span 24 Underside Defects; Photo 7 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 8 - Defective Historical Repair



Span 24 Underside Defects; Photo 9 - Transverse Crack



Span 24 Underside Defects; Photo 10 - Longitudinal Crack



Span 24 Underside Defects; Photo 11 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 12 – Map Cracking



Span 24 Underside Defects; Photo 13 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 14 - Defective Historical Repair



Span 24 Underside Defects; Photo 15 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 16 – Spot Rust Staining



Span 24 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 19 - Spalling



Span 24 Underside Defects; Photo 20 - Spalling With Exposed Rebar



Span 24 Underside Defects; Photo 21 - Transverse Crack



Span 24 Underside Defects; Photo 22 - Longitudinal Crack



Span 24 Underside Defects; Photo 23 - Transverse Crack



Span 24 Underside Defects; Photo 24 - Longitudinal Crack



Span 24 Underside Defects; Photo 25 - Spalling



Span 24 Underside Defects: Photo 26 – Spalling to Anchorage Block Cap (Cap No.6)



Span 24 Underside Defects: Photo 27 – Spalling to Anchorage Block Cap (Cap No.4)



Span 24 Underside Defects ; Photo 28 Typical Map Crackling and Drummyness to Anchorage Block Caps (Caps No.1, 2 & 3)

5.3.4.25 Span 25

Central Deck

A 50mm by 200mm area of 5mm spalling with exposed rebar is present on the soffit of the centre deck, east cantilever, at the east side of the face, 15.0m from the south pier **(See Span 25 Underside Defects; Photo 1)**

A 200mm by 100mm area of 5mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the west edge of the face, 15.0m from the south pier **(See Span 25 Underside Defects; Photo 2)**

A 1000mm by 300mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, at the west edge of the face, 13.0m from the south pier **(See Span 25 Underside Defects; Photo 3)**

A 300mm by 200mm area of 30mm spalling with exposed rebar is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 12.0m from the south pier **(See Span 25 Underside Defects; Photo 4)**

A 3000mm long, 2mm wide longitudinal crack is present on the soffit of the central deck, east cantilever, at the east side of the face, 16.0m from the south pier **(See Span 25 Underside Defects; Photo 5)**

A 1000mm long, 2mm wide longitudinal crack is present on the soffit of the central deck, east cantilever, at the east side of the face, 8.0m from the south pier **(See Span 25 Underside Defects; Photo 6)**

A 50mm by 800mm area of leachate is present on the soffit of the central deck, east cantilever, 2.0m from the east side of the face, 10.0m from the south pier **(See Span 25 Underside Defects; Photo 7)**

A 50mm by 1000mm area of leachate is present on the soffit of the central deck, east cantilever, 2.0m from the east side of the face, 5.0m from the south pier **(See Span 25 Underside Defects; Photo 8)**

A 1500mm by 1500mm area of defective historical repair which is cracked and rust stained throughout is present on the soffit of the central deck, east cantilever around the access hatch, 3.5m from the east side of the face, at the north pier **(See Span 25 Underside Defects; Photo 9)**

A 250mm by 250mm area of water staining emanating from a core hole is present on the soffit of the central deck, east cantilever, 1.0m from the east side of the face, 22.0m from the south pier **(See Span 25 Underside Defects; Photo 10)**

A 150mm by 150mm area of leachate is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 8.0m from the south pier **(See Span 25 Underside Defects; Photo 11)**

A 200mm by 200mm area of up to 5mm spalling with water staining is present on the soffit of the central deck, centre surface, 3.5m from the east side of the face, 8.0m from the south pier **(See Span 25 Underside Defects; Photo 12)**

A 300mm by 300mm area of 5mm spalling is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 3.5m from the south pier **(See Span 25 Underside Defects; Photo 13)**

A 1000mm by 2500mm area of 100mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, at the west edge of the face, 24.0m from the south pier **(See Span 25 Underside Defects; Photo 14)**

A 1500mm by 1500mm area of 50mm spalling is present on the soffit of the central deck, centre surface surrounding an access hatch, 4.0m from the east side of the face, 20.0m from the south

pier, the spalling continues into the vertical concrete surfaces surrounding the hatch (B2) **(See Span 25 Underside Defects; Photo 15)**

A 300mm by 300mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 21.0m from the south pier **(See Span 25 Underside Defects; Photo 16)**

A 50mm by 150mm area of 20mm spalling with exposed rebar is present on the soffit of the central deck, west cantilever, at the west edge of the face, at the north pier **(See Span 25 Underside Defects; Photo 17)**

A 500mm by 500mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre soffit, 4.5m from the east side of the face, 24.0m from the south pier **(See Span 25 Underside Defects; Photo 18)**

A 3000mm long, Hairline transverse crack with leachate is present on the soffit of the centre deck span, west cantilever, 1.5m from the east side of the face, 1.5m from the south pier **(See Span 25 Underside Defects; Photo 19)**

A 400mm by 50mm area of leachate is present on the soffit of the centre deck span, west cantilever, at the west edge of the face, 5.0m from the south pier **(See Span 25 Underside Defects; Photo 20)**

A 100mm by 300mm area of leachate is present on the soffit of the centre deck span, west cantilever, 1.0m from the east side of the face, 4.0m from the south pier **(See Span 25 Underside Defects; Photo 21)**

A 3000mm long, 2mm wide longitudinal crack with 50mm spalling over a 100mm by 50mm area is present on the soffit of the centre deck span, west cantilever, at the west edge of the face, 10.0m from the south pier **(See Span 25 Underside Defects; Photo 22)**

A 150mm by 500mm area of 50mm spalling with exposed rebar is present on the soffit of the centre deck span, west cantilever, at the east side of the face, 14.0m from the south pier **(See Span 25 Underside Defects; Photo 23)**

A 1000mm by 1000mm area of 30mm spalling is present on the soffit of the centre deck, centre surface, 3.0m from the east side of the face, 15.0m from the south pier **(See Span 25 Underside Defects; Photo 24)**

A 100mm by 300mm area of 5mm spalling is present on the soffit of the centre deck, centre surface, 5.0m from the east side of the face, 16.0m from the south pier **(See Span 25 Underside Defects; Photo 25)**

A 200mm by 50mm area of 5mm spalling with exposed rebar is present on the soffit of the centre deck, west cantilever, at the west edge of the face, 13.0m from the south pier **(See Span 25 Underside Defects; Photo 26)**

On anchorage block cap No.5 of Pier 25 there is a 50mm by 100mm area of 5mm spalling with exposed rebar **(See Span 25 Underside Defects; Photo 27)**

A 1500mm by 1500mm area map cracking over a previous repair on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 6.0m from the south pier **(See Span 26 Underside Defects; Photo 28)**

Span 25 Underside General Photographs



Span 25 Underside General; Photo 1 – East Elevation



Span 25 Underside General; Photo 2 – West Elevation

Span 25 Underside Defect Photographs



Span 25 Underside Defects; Photo 1 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 5 - Longitudinal Crack



Span 25 Underside Defects; Photo 6 - Longitudinal Crack



Span 25 Underside Defects; Photo 7 - Leachate



Span 25 Underside Defects; Photo 8 - Leachate



Span 25 Underside Defects; Photo 9 - Defective Historical Repair



Span 25 Underside Defects; Photo 10 - Water Staining Emanating From A Core Hole



Span 25 Underside Defects; Photo 11 - Leachate



Span 25 Underside Defects; Photo 12 – Spalling With Water Staining



Span 25 Underside Defects; Photo 13 - Spalling



Span 25 Underside Defects; Photo 14 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 15 - Spalling



Span 25 Underside Defects; Photo 16 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 19 - Transverse Crack



Span 25 Underside Defects; Photo 20 - Leachate



Span 25 Underside Defects; Photo 21 - Leachate



Span 25 Underside Defects; Photo 22 - Longitudinal Crack With Spalling



Span 25 Underside Defects; Photo 23 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 24 - Spalling



Span 25 Underside Defects; Photo 25 - Spalling



Span 25 Underside Defects; Photo 26 - Spalling With Exposed Rebar



Span 25 Underside Defects; Photo 27 – Spalling to Anchorage Block Cap (Cap No.5)



Span 25 Underside Defects; Photo 28 - Defective Historical Repair With Map Cracking

5.3.4.26 Span 26

Central Deck

On the facia panels of the centre deck, east cantilever, the bottom right corner of the facia panel is missing 16.0m from the south pier **(See Span 26 Underside Defects; Photo 1)**

3No. 50mm by 200mm area of 5mm spalling with exposed rebar are present on the soffit of the central deck, east cantilever, 1.5m from the east side of the face, 20.0m from the south pier **(See Span 26 Underside Defects; Photo 2)**

A 900mm long, 2mm wide longitudinal crack with water staining is present on the soffit of the central deck, east cantilever, at the east side of the face, 13.0m from the south pier **(See Span 26 Underside Defects; Photo 3)**

A 50mm by 500mm area of leachate is present on the soffit of the central deck, east cantilever, 2.0m from the east side of the face, 12.0m from the south pier **(See Span 26 Underside Defects; Photo 4)**

A 2000mm by 2000mm area of defective historical repair which is cracked open 1mm around the perimeter of the repair is present on the soffit of the central deck, centre surface, 4.5m from the east side of the face, 3.5m from the south pier **(See Span 26 Underside Defects; Photo 5)**

A 6000mm by 1000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 3.5m from the east side of the face, 7.0m from the south pier **(See Span 26 Underside Defects; Photo 6)**

A 300mm by 300mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 9.0m from the south pier, additionally the area is water stained (south) pier **(See Span 26 Underside Defects; Photo 6)**

A 2000mm by 2000mm area of water staining emanating from the surface of the structure is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 14.0m from the south pier **(See Span 26 Underside Defects; Photo 7)**

A 50mm by 150mm area of 5mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, at the west edge of the face, 16.0m from the south pier **(See Span 26 Underside Defects; Photo 8)**.

A 1000mm by 3000mm area of cracked historical repair is present on the soffit of the central deck, centre surface which is open hairline around the perimeter of the repair, 4.0m from the east side of the face, 20.0m from the south pier **(See Span 26 Underside Defects; Photo 9)**

A 200mm by 200mm area of 20mm spalling is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 25.0m from the south pier **(See Span 26 Underside Defects; Photo 10)**

A 100mm by 400mm area of 20mm spalling is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 25.0m from the south pier **(See Span 26 Underside Defects; Photo 10)**

A 800mm by 2000mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 2.0m from the east side of the face, 24.0m from the south pier **(See Span 26 Underside Defects; Photo 11)**

A 1500mm by 300mm area of 50mm spalling with exposed rebar is present on the soffit of the centre deck, west cantilever, 1.0m from the east side of the face, 3.5m from the south pier **(See Span 26 Underside Defects; Photo 12)**

A 100mm by 100mm area of 30mm spalling and a 1000mm by 1000mm area of hairline cracking from which is emanating water staining and leachate is present on the soffit of the centre deck span, west cantilever, at the east side of the face, 13.0m from the south pier **(See Span 26 Underside Defects; Photo 13)**

A 100mm by 5000mm area of water staining emanating from the surface of the structure is present on the soffit of the centre deck span, west cantilever, at the east side of the face, 18.0m from the south pier **(See Span 26 Underside Defects; Photo 14)**

A 100mm by 200mm area of defective historical repair which is cracked and drummy is present on the soffit of the centre deck west cantilever, 2.5m from the east side of the face, 20.0m from the south pier **(See Span 26 Underside Defects; Photo 15)**

A 150mm by 1000mm area of water staining emanating from the surface is present on the soffit of the centre deck, west cantilever, 3.0m from the east side of the face, 21.0m from the south pier **(See Span 26 Underside Defects; Photo 16)**

A 1500mm by 150mm area of 100mm spalling with exposed rebar is present on the soffit of the centre deck, west cantilever, at the west edge of the face, 18.0m from the south pier **(See Span 26 Underside Defects; Photo 17)**

A 1500mm by 400mm area of 50mm spalling with exposed rebar is present on the soffit of the centre deck, west cantilever, at the west edge of the face, 20.0m from the south pier **(See Span 26 Underside Defects; Photo 18)**

A 300mm by 100mm area of 10mm spalling is present on the soffit of the west ramp span, centre deck, at the west edge of the face, 24.0m from the south pier **(See Span 26 Underside Defects; Photo 19)**

All of the anchorage block caps on both sides of the structure at the crosshead of Pier 26 are exhibiting map cracking and drummyness mostly localised towards the corners. **(See Span 26 Underside Defects; Photo 20)**

Span 26 Underside General Photographs



Span 26 Underside General; Photo 1 – East Elevation



Span 27 Underside General; Photo 2 – West Elevation

Span 26 Underside Defect Photographs



Span 26 Underside Defects; Photo 1 - Spalling



Span 26 Underside Defects; Photo 2 - Spalling With Exposed Rebar



Span 26 Underside Defects; Photo 3 - Longitudinal Crack



Span 26 Underside Defects; Photo 4 - Leachate



Span 26 Underside Defects; Photo 5 - Defective Historical Repair With Map Cracking



Span 26 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 26 Underside Defects; Photo 7 - Water Staining Emanating From The Surface



Span 26 Underside Defects; Photo 8 – Spalling With Exposed Rebar



Span 26 Underside Defects; Photo 9 - Defective Historical Repair



Span 26 Underside Defects; Photo 10 - Spalling



Span 26 Underside Defects; Photo 11 - Spalling With Exposed Rebar



Span 26 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 26 Underside Defects; Photo 13 - Spalling



Span 26 Underside Defects; Photo 14 - Water Staining Emanating From The Surface



Span 26 Underside Defects; Photo 15 - Defective Historical Repair



Span 26 Underside Defects; Photo 16 - Water Staining Emanating From The Surface



Span 26 Underside Defects; Photo 17 - Spalling With Exposed Rebar



Span 26 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 26 Underside Defects; Photo 19 - Spalling



Span 26 Underside Defects; Photo 20 – Typical Cracking and Drummyness to Anchorage Blocks Caps (Cap No.1)

5.3.4.27 Span 27

A 500mm by 200mm area of 50mm spalling is present on the internal face of the facia panels of the centre deck, east cantilever, 14.0m from the south pier **(See Span 27 Underside Defects; Photo 1)**

A 600mm, 1mm wide longitudinal crack with rust staining is present on the facia panels of the east ramp, east cantilever, 15.0m from the south pier **(See Span 27 Underside Defects; Photo 2)**

On the facia panels of the centre deck, east cantilever corners and edges are missing sporadically throughout the span **(See Span 27 Underside Defects; Photo 3, 4 & 5)**

A 3000mm by 200mm area of 40mm spalling with exposed rebar is present on the soffit of the centre deck, east cantilever, at the east side of the face, 13.0m from the south pier **(See Span 27 Underside Defects; Photo 6)**

There are several core holes within the span that are open and show signs of water egress, with leachate. **(See Span 27 Underside Defects; Photo 7 - Photo 9)**

A 1000mm by 400mm area of drummy concrete is present on the soffit of the centre deck, east cantilever, at the east side of the face, 20.0m from the south pier **(See Span 27 Underside Defects; Photo 10)**

A 500mm by 200mm area of 20mm spalling with water staining is present on the soffit of the centre deck, east cantilever, 1.5m from the east side of the face, 23.0m from the south pier **(See Span 27 Underside Defects; Photo 11)**

A 700mm by 100mm area of 50mm spalling with exposed rebar is present on the soffit of the centre deck, east cantilever, at the east side of the face, 23.0m from the south pier **(See Span 27 Underside Defects; Photo 12)**

A 2000mm by 2000mm area of delamination with excessive water staining emanating from an access hatch is present on the soffit of the centre deck, east cantilever, 1.0m from the east side of the face, 25.0m from the south pier **(See Span 27 Underside Defects; Photo 13)**

A 400mm by 400mm area of 40mm spalling with exposed rebar is present on the soffit of the centre deck, east cantilever, 3.0m from the east side of the face, 24.0m from the south pier **(See Span 27 Underside Defects; Photo 14)**

A 50mm by 500mm area of water egress with leachate emanating from the what appears to be a previous core hole from a previous PTSI is present on the soffit of the centre deck, east cantilever, 4.0m from the east side of the face, 17.0m from the south pier **(See Span 27 Underside Defects; Photo 15 & 17)**

A 50mm by 50mm area of water egress with leachate emanating from a core hole is present on the soffit of the centre deck, east cantilever, 4.5m from the east side of the face, 14.0m from the south pier. **(See Span 27 Underside Defects; Photo 16)**

A 500mm by 700mm area of 40mm spalling with exposed rebar is present on the soffit of the centre deck, east cantilever, 4.5m from the east side of the face, 19.0m from the south pier this area of spalling is surrounding a previous core hole. **(See Span 27 Underside Defects; Photo 18)**

A 2000mm by 200mm area of water staining emanating from a construction joint is present on the soffit of the centre deck, east cantilever, 1.5m from the east side of the face, 2.5m from the south pier **(See Span 27 Underside Defects; Photo 19)**

A 200mm by 200mm area of water egress with leachate emanating from a previous repair is present on the soffit of the centre deck, east cantilever, 3.0m from the east side of the face, 2.5m from the south pier **(See Span 27 Underside Defects; Photo 20)**

A 700mm by 100mm area of 50mm spalling with exposed rebar is present on the soffit of the centre deck, east cantilever, at the east side of the face, 8.0m from the south pier it is recommended that Gateshead Council arrange for the removal of the damaged or loose material **(See Span 27 Underside Defects; Photo 21)**

There is 1No missing bolt from access hatch B1 on the central deck centre surface **(See Span 27 Underside Defects; Photo 22**)

A 1000mm by 3000mm area of delamination is present on the soffit of the central deck, centre surface, 0.5m from the east side of the face, 25.0m from the south pier **(See Span 27 Underside Defects; Photo 23)**

A 5000mm by 5000mm area of water egress emanating from the surface of the structure with isolated drummy areas is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, at the north pier **(See Span 27 Underside Defects; Photo 24)**

A 2000mm by 2000mm area of 50mm spalling with exposed rebar and drummyness is present on the soffit of the central deck, centre surface, 4.0m from the east side of the face, 3.5m from the south pier **(See Span 27 Underside Defects; Photo 25)**

A 1000mm by 1500mm area of 80mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 6.0m from the east side of the face, 22.0m from the south pier **(See Span 27 Underside Defects; Photo 26)**

The street lighting fixed to void D1 in the central deck centre surface is faulty and not illuminated **(See Span 27 Underside Defects; Photo 27)**

A 100mm by 100mm area of water egress emanating from a core hole is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 16.0m from the south pier **(See Span 27 Underside Defects; Photo 28)**

A 300mm by 300mm area of water egress emanating from the a core hole present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 14.0m from the south pier **(See Span 27 Underside Defects; Photo 29)**

A 1000mm by 3000mm area of water egress with leachate emanating from the surface is present on the soffit of the central deck, centre surface, 7.0m from the east side of the face, 25.0m from the south pier **(See Span 27 Underside Defects; Photo 30)**

There is water egress emanating from the a core hole present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 7.5m from the south pier **(See Span 27 Underside Defects; Photo 31)**

A 500mm by 800mm area of 50mm spalling with exposed rebar is present on the soffit of the central deck, centre surface, 5.0m from the east side of the face, 2.5m from the south pier **(See Span 27 Underside Defects; Photo 32)**

There is excessive water egress and leachate emanating from hatch E1 on the centre deck west cantilever **(See Span 27 Underside Defects; Photo 33)**

A 1000mm by 1000mm area of drummy concrete with water egress and leachate is present on the soffit of the centre deck, west cantilever, at the east side of the face, 22.0m from the south pier **(See Span 27 Underside Defects; Photo 34)**

On the facia panels of the centre deck, west cantilever, corners and edges are missing sporadically throughout **(See Span 27 Underside Defects; Photo 35, 47, 48 & 49)**

A 1000mm by 100mm area of 100mm spalling with exposed rebar is present on the soffit of the centre deck, west cantilever, at the west edge of the face, 17.0m from the south pier **(See Span 27 Underside Defects; Photo 36)**

A 2000mm long, 1mm wide longitudinal crack with leachate is present on the soffit of the centre deck, west cantilever, at the west edge of the face, 17.0m from the south pier **(See Span 27 Underside Defects; Photo 37)**

A 500mm by 100mm area of water staining emanating from the a core hole is present on the soffit of the centre deck, west cantilever, 3.0m from the east side of the face, 18.0m from the south pier **(See Span 27 Underside Defects; Photo 38)**

A 50mm by 2000mm area of 30mm spalling with exposed rebar is present on the soffit of the centre deck, west cantilever, 2.0m from the east side of the face, 18.0m from the south pier **(See Span 27 Underside Defects; Photo 39)**

A 3000mm by 100mm area of delamination with isolated spalling and water staining is present on the soffit of the centre deck, west cantilever, at the west edge of the face, 22.0m from the south pier **(See Span 27 Underside Defects; Photo 40)**

A 500mm by 200mm area of 100mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, west cantilever, 23.0m from the south pier **(See Span 27 Underside Defects; Photo 41)**

A 500mm by 100mm area of 100mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, west cantilever, 24.0m from the south pier **(See Span 27 Underside Defects; Photo 42)**

A 100mm by 100mm area of water egress with leachate emanating from a core hole is present on the soffit of the centre deck, west cantilever, 4.0m from the east side of the face, 24.0m from the south pier **(See Span 27 Underside Defects; Photo 43)**

A 500mm by 200mm area of 100mm spalling with exposed rebar is present on the internal face of the facia panels of the centre deck, west cantilever, 6.0m from the south pier **(See Span 27 Underside Defects; Photo 44)**

On the facia panels of the centre deck, west cantilever, 2No areas of 50mm spalling are present over 150mm by 100mm areas on the internal face of the facia panel, 4.0m from the south pier **(See Span 27 Underside Defects; Photo 45)**

A 1000mm long, 1mm wide transverse crack with leachate is present on the soffit of the centre deck, west cantilever, 4.0m from the east side of the face, 3.5m from the south pier **(See Span 27 Underside Defects; Photo 46)**

A 1000mm by 500mm area of water egress with rust staining emanating from a construction joint is present on the soffit of the centre deck, west cantilever, 3.5m from the east side of the face, 1.0m from the south pier **(See Span 27 Underside Defects; Photo 50)**

There is water seepage emanating from the a core hole is present on the soffit of the centre deck, west cantilever, 3.5m from the east side of the face, 8.0m from the south pier **(See Span 27 Underside Defects; Photo 51)**

A 100mm by 500mm area of 40mm spalling with exposed rebar is present on the soffit of the centre deck, west cantilever, at the east side of the face, 8.0m from the south pier **(See Span 27 Underside Defects; Photo 52)**

Span 27 General Photographs



Span 27 Underside General; Photo 1 – East Elevation



Span 27 Underside General; Photo 2 – West Elevation

Span 27 Underside Defect Photographs



Span 27 Underside Defects; Photo 1 - Spalling



Span 27 Underside Defects; Photo 2 - Longitudinal Crack



Span 27 Underside Defects; Photo 3 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 4 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 5 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 6 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 7 - Water Egress Emanating From a Core Hole



Span 27 Underside Defects; Photo 8 - Water Egress Emanating From a Core Hole



Span 27 Underside Defects; Photo 9 - Water Egress Emanating From a Core Hole



Span 27 Underside Defects; Photo 10 - Drummy Concrete



Span 27 Underside Defects; Photo 11 - Drummy Concrete



Span 27 Underside Defects; Photo 12 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 13 - Delamination



Span 27 Underside Defects; Photo 14 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 15 - Water Egress Emanating From The Surface



Span 27 Underside Defects; Photo 16 - Water Egress Emanating From a Core Hole



Span 27 Underside Defects; Photo 17 - Water Egress Emanating From a Core Hole



Span 27 Underside Defects; Photo 18 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 19 - Water Staining Emanating From A Construction Joint



Span 27 Underside Defects; Photo 20 - Water Egress Emanating From The Surface



Span 27 Underside Defects; Photo 21 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 22 – Missing Bolt in Light Fitting



Span 27 Underside Defects; Photo 23 - Delamination



Span 27 Underside Defects; Photo 24 - Water Egress From The Surface and Drummyness



Span 27 Underside Defects; Photo 25 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 26 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 27 – Faulty Light Fitting



Span 27 Underside Defects; Photo 28 - Water Egress Emanating From A Core Hole



Span 27 Underside Defects; Photo 29 - Water Egress Emanating From A Core Hole



Span 27 Underside Defects; Photo 30 - Water Egress Emanating From The Surface



Span 27 Underside Defects; Photo 31 – Water Seepage Emanating From A Core Hole



Span 27 Underside Defects; Photo 32 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 33 - Water Egress Emanating From An Access Hatch



Span 27 Underside Defects; Photo 34 - Drummy Concrete



Span 27 Underside Defects; Photo 35 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 36 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 37 - Longitudinal Crack



Span 27 Underside Defects; Photo 38 - Water Staining Emanating From A Core Hole



Span 27 Underside Defects; Photo 39 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 40 – Delamination With Isolated Spalling And Water Staining



Span 27 Underside Defects; Photo 41 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 42 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 43 - Water Egress Emanating From The Surface



Span 27 Underside Defects; Photo 44 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 45 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 46 - Transverse Crack



Span 27 Underside Defects; Photo 47 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 48 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 49 - Spalling With Exposed Rebar



Span 27 Underside Defects; Photo 50 - Water Egress Emanating From A Construction Joint



Span 27 Underside Defects; Photo 51 - Water Staining Emanating From A Core Hole



Span 27 Underside Defects; Photo 52 - Spalling With Exposed Rebar

6. Conclusion

6.1 Post Tensioning – Concerns

Gateshead Viaduct is deteriorating and is exhibiting numerous defects which may imply the post tensioned ducts and strands are in poor condition.
It should be noted that this Principal Inspection has been restricted to the visible external surfaces of all elements (including insides of the deck voids) without intrusive investigations to the post-tensioned ducts or strands which are Hidden Critical Elements (HCE's) and upon which the structural integrity of the entire viaduct is dependent.

The volume of water noted within the cellular superstructure, including within the deck voids and seeping through the concrete soffits and walls, presents a cause for concern for the condition of the grouted tendons of the post-tensioning system concealed within the concrete. No Post-Tensioned Special Inspections (PTSI) have been carried out on the structure since 1996, and although that PTSI stated that no corrosion to the strands worse than 'heavy surface corrosion' was noted at that time, it further stated that the condition noted at several locations was concerning. Given the period of 28 years since the previous PTSI, and the extent of the defects noted in this Principal Inspection, it is strongly recommended that a PTSI is carried out as a matter of urgency to confirm the condition of the post-tensioning system.

6.2 Water Issues

The main issues with viaduct are caused by water passing through the superstructure itself rather than being directed into the viaduct's drainage system. Evidence noted during the inspection would suggest that most of this water is entering the structure via two methods; construction joints in the walls of the manhole chambers of the centre void (Void C) and via the drainage system cast within the concrete of the deck cantilevers which are leaking.

6.2.1 Water Ingress – Manhole Chamber Walls (Centre Deck Voids, Void C)

It was evident that significant volumes of water were able to enter the structure via the manhole chamber walls in the central deck void (Void C) by the large quantities of leachate deposits emanating from the construction joints within the walls of the manholes **(see Conclusions Images 1 – 4)** and the fact that the services frames were consistently corroded to the point of disintegration and collapse only locally below the manhole chambers **(see Conclusions Images 5 – 8)**. This water ingress has led to flooding within the centre void which was both photographed during the previous Principal Inspection in 2004 **(see Conclusions Image 9)** and evident during this inspection with dampness, sediment build up and water marks within the centre void **(see Conclusions Images 10 – 12)**. The widespread extent of the problem of flooding to the centre void is evident by the water staining, and in many cases, spalling to the external soffit beneath the centre void caused by the water apparently able to seep through the concrete of the floor of the voids **(see Conclusions Images 13 – 16)**. The outlines of the centre voids are clearly visible from beneath the structure by the areas of water staining in every span throughout the viaduct. The fact that the water is emanating through the walls of the manhole chambers would suggest that the waterproofing system is inadequate and probably not lapped up around the edges of the manholes.

Weep pipes have been installed at the northern ends of the centre voids throughout the viaduct at some point since construction however, the weep pipes observed during the internal inspection of the central deck voids all appeared to be blocked **(see Conclusions Image 12)**.

The water ingress through the manhole walls is having an adverse effect on the services carried within the viaduct which are located directly below the manholes. The water ingress has caused the steel frames supporting the services to corrode and, in many instances, to disintegrate to the point of collapse **(see Conclusions Images 5 – 8)**. The flooding of the centre void has also caused a number of bases to the legs of the service frame to completely corrode away leaving the service frames and services unsupported **(see Conclusions Images 9 & 17)**. Further to this, in many locations, extensive water seepage is running directly onto exposed electrical cables marked as 450 volts (on the walls of the cells, **see Conclusions Image 18**) and in some instances directly onto electrical distribution cabinets to such an extent that they are covered in leachate deposits **(see Conclusions Image 19)**. Whilst the

nature of the services is unknown , this defect presents a risk to any manned entry into the deck voids and should be investigated further to be made safe prior to any maintenance works being undertaken.

6.2.2 Flooding to Deck Voids B and D

The excess surface water from the centre voids is being transferred from the centre void to both adjacent deck voids (Voids B and D) via the drainage pipes through the adjoining walls at the northern ends of the spans. In many of the B and D voids previous repair works were carried out to curtail the flooding of those areas by the installation of a kerb at the northern end **(see Conclusions Image 20)**. In many instances this has had an adverse effect where the flood water has flowed over the top of the kerb which has then acted as a dam preventing the water from draining away, leading to the flooding of the northern ends of the voids back to the access hatch noted in numerous voids during the inspection **(see Conclusions Image 21)**.

It was noted that anywhere where such flooding was taking place within the deck voids B and D, it was evident on the soffit of the structure by means of water staining and salt staining, suggesting that the water is passing directly through the concrete either due to porosity or fine fractures **(see Conclusions Image 22)**.

6.2.3 Water Ingress to the Cantilever Deck Voids (Typically Voids A and E)

In many cases it would appear that the flooding which originates from the centre deck voids (Void C) has extended to all adjacent deck voids including the cantilever voids (typically Voids A and E) via the interconnected drainage pipes at the northern ends of the voids.

It was apparent that there was also extensive water ingress in the outer cantilever voids on many spans. The source of the water ingress was obscured by the drainage pipe in most cases however, it is believed that, although in several locations the drainage pipes within the void were leaking, most of the water ingress appeared to be originating from the walls at the edge of the deck voids **(see Conclusions Images 23-25)**. This would suggest that the pipes built into the concrete at the edges of the cantilevers and which connect the surface kerb drains in each span are leaking and allowing water to flow into the concrete and into the deck voids **(see Conclusions Images 26 & 27)**. This is a particular issue with the viaduct design which will likely be costly, intrusive and potentially detrimental to the structure to rectify and it is likely that it will be very difficult to prevent the issue from recurring.

Generally, where there was water ingress present on the inside of the cantilever deck voids, the internal floor exhibited widespread delamination and had pushed upwards by approximately 20-50mm **(see Conclusions Images 28-32)**. Although no rust staining was noted in these areas the likely cause of this delamination is rust jacking caused by corrosion to the reinforcement, this was evident in the AECOM 2004 PI **(see Conclusions Image 33)**. Further to this, generally where water ingress was present on the inside of the void, staining and in many instances, spalling was present on the external faces **(see Conclusions Images 34-35)**. Given that the cantilever sloping soffit deck slabs are only 9” thick and contain ducts for the post-tensioning strands **(see Conclusions Image 36)**, the fact that water is seeping through the entire slab with spalling to both the internal and external surfaces must give serious cause for concern. It is therefore recommended that a PTSI is undertaken as a matter of some urgency to investigate and confirm the condition of the post-tensioned strands in these locations.

It is further recommended that the drainage system be replaced and diverted away from the defective pipe within the concrete with the large drainage pipe within the deck voids being investigated for leaks and repaired as necessary or removed entirely if an alternative flow path can be installed.

6.2.4 Span 18, Beam 1 Defects

Although the delamination to the internal floors of the deck voids was largely limited to the cantilever deck voids, the defect was present in some of the other inner deck voids also. The worst area noted was on Span 18 in Voids A and B where it was apparent that water was leaking from the surface into Beam 18/1 (I.E. the adjoining wall between Voids A and B) which was causing widespread delamination to both sides of Beam 18/1 and to the floors of the voids adjacent to this area (Voids A and B **see Conclusions Image 37-38)**. The delamination would suggest that reinforcement is corroding and causing rust jacking. The extent of the defects as well as the fact that the walls were wet at the time of

the inspection would suggest that the leak is significant. As the defect is present over large areas on both sides of Beam 18/1, and that both the beam and the sloping floor of the cantilever void (Void A) contain post tensioning ducts, this is considered a serious defect and gives cause for concern. Again, it is recommended that a PTSI is carried out as a matter of urgency to investigate the condition of the post-tensioned strands in this location.

6.2.5 Water Retention Within Concrete

There was widespread evidence of water retention within and water emanation through the concrete of the viaduct. In one instance an area of concrete from which a stalactite was hanging was hammer tapped and a section of concrete spalled away and a stream of water approximately 1cm diameter poured out of the concrete for around 10 seconds. This occurred on a sloping soffit towards the south end of the bridge (Span 27). Further evidence included numerous occurrences of spalling around discontinuities in the concrete, mostly around formwork plugs from construction and previous core holes **(see Conclusions Image 39)**. Further to this, in most of the central deck voids (Void C) there was evidence of water ingress and leachate staining from core holes installed through the upper haunches on both sides and both ends of the deck voids to accommodate service wires **(see Conclusions Image 40)**. Stalactites were also present in many places throughout the structure however this was noticeably more apparent in Span 27 **(see Conclusions Image 41).** These defects would all suggest that the waterproofing system has likely failed, and water is passing into the concrete and emanating out from any weak point or discontinuity such as core holes.

6.2.6 Failed Repairs

There are many failed previous concrete repairs which are either spalled or exhibiting map cracking, delamination and drummyness **(see Conclusions Image 15 & 16)**. These failed repairs are not limited to but are mostly located beneath the central deck void and around the soffit access hatches, particularly the cantilever access hatches which are acting as the main drainage outlets for the flooding and water seepage in the deck voids **(see Conclusions Images 42 & 43)**. It should be noted that extensive mineral deposits were noted on the carriageway surface beneath the Span 20 Access Hatch E1 **(see Conclusions Image 44)** suggesting that the water seepage is continuous. As such it is recommended that the remedial works to prevent the water ingress be carried out prior to the commencement of any of the concrete repair works.

6.2.7 Concerns over Post Tensioning Strand Condition

The fact that the waterproofing system appears to have failed gives cause for concern for the condition of the post-tension strands, particularly as each longitudinal duct/strand has one end terminating at the deck surface **(see Conclusions Image 45)**, from which point the duct steadily drops to the low point at mid-span. This could potentially allow water to enter the duct at the end at the surface and run down towards and collect at the midspan low point. It should be noted that the previous 1994 PTSI found some ducts to be un-grouted or to contain only splashes of grout and ducts which contained free water, including fully grouted ducts. These findings from 28 years ago give further cause for concern for the current condition of the tendons given the ongoing water issues.

Further to this, all longitudinal ducts and strands in both the longitudinal beams and sloping soffits all have a low point at the mid-span of each span **(see Conclusions Images 45 & 46)**, which locates them within or in the near vicinity of the areas of concrete being subjected to the flood water and general water seepage. This means that the post-tensioning strands are potentially exposed to water every time that it rains and the voids are subject to flooding and water seepage (which in winter, will be contaminated with chlorides from road salts). It is recommended that a PTSI is carried out as a matter of urgency to investigate the condition of the post-tensioned strands in these locations.

6.2.8 Recommendations for Water Issue Rectification

It is recommended that the viaduct be re-waterproofed ensuring that the waterproofing layer is sufficiently lapped up to ensure water cannot enter the deck voids, particularly at the manholes in the central reserve and gully locations.

It is recommended that the existing weep pipes in the floor of the centre void be cleared and enlarged to allow any internal water to be drained quickly and efficiently. It is further recommended that similar weep pipes be installed in Deck Voids B and D also to allow any flooding within these voids to drain away quickly and efficiently.

All surface kerb drains should be cleared. The existing drainage system should be replaced with a new system which diverts water away from the existing built in drainage pipe connecting the surface drains in each span, rendering this pipe redundant. The pipe should be filled and sealed to prevent any further water seepage from this area.

6.3 Facia Panel Issues

Large areas of spalling to the facia panels on both elevations of the viaduct are prevalent throughout the structure **(see Conclusions Images 47 & 48)**. This is likely due to a combination of carbonation and chloride contamination by water penetration through the joint behind the facia panels. This has also led to cracking, delamination and spalling with exposed rebar to the bottom edges of the deck directly adjacent to the facia panels throughout the viaduct **(see Conclusions Images 49 & 50)**. Although AE-COM removed any loose concrete at the time of the inspection, these defects are ongoing and pose a risk to the general public and should be rectified as a matter of urgency. These defective areas are likely to continue to deteriorate and as such it is recommended that the facia panels are removed and the spalled cracked and delaminated areas to the edge of the deck be repaired.

6.4 Expansion Joints

The defects evident on the structure would suggest that the bridge joints are life expired. It is recommended that all bridge joints on the viaduct are replaced **(see Conclusions Image 51)**.

The guttering beneath the joints is defective with many full of debris and many missing. It is recommended that the guttering be replaced/reinstated with a mesh cover to prevent any debris build up **(see Conclusions Image 52)**.

6.5 Concrete Repairs

As can be seen in the report, there are numerous areas of spalling, cracking and delamination throughout the superstructure (both internally and externally) and substructure, the cause of which is likely to be either or a combination of, carbonation, chloride contamination and water ingress into the structure carrying contamination from winter de-icing salts. Most of the spalling on the external surfaces of the superstructure tends to be located either beneath the centre deck void (which is subject to repeated flooding), the sloping soffits of the cantilevers in areas where leaks are present, and along the edges of the cantilevers which are subject to water leaking through the construction joint between the deck and the facia panels. There are large areas of delaminated concrete within the deck voids where flooding and water ingress has occurred.

Spalling, cracking and drummyness are present to the base of nearly all piers, the most likely cause of which being that these areas are within the spray zone from passing vehicles and as such subject to chloride contamination **(see Conclusions Images 53 & 54)**. Many of these areas have been repaired previously however the repairs are now failing and spalling. The central piers at expansion joints (Pier 9 and Pier 15) were also exhibiting widespread spalling and cracking throughout all surfaces due to the drainage being defective/insufficient and causing water to run down the faces of the pier **(see Conclusions Image 55)**.

It is recommended that all defective areas of concrete are repaired to prevent any further deterioration to the structure.

Due to the number of failing previous repairs, and the volume and extent of the water issues with the viaduct, it is recommended that the bridge be re-waterproofed and all other water ingress issues rectified prior to any concrete repairs being carried out.

Given the age of the structure, it is likely that carbonation and chloride contamination is a major cause of the spalling and as such, it is recommended that consideration be given to installing cathodic protection on the bridge to curtail any further deterioration.

Whilst carrying out the inspection AECOM experienced so much delaminated concrete which was subsequently removed from the bridge during the inspection, that it was hindering the inspection and would likely have prevented the completion of the inspection to programme. As such AECOM contacted the Council to request that a minor works team be sent out to remove the delaminated concrete to allow the inspection to proceed, which was agreed by the Council. As such, any such areas of delaminated concrete which AECOM recommend that the Council remove is highlighted blue in the text of the report and on the drawings.

6.6 Viaduct Drainage Issues

Numerous issues were noted with regards to the viaduct's drainage system. All surface kerb drains were noted to be blocked with sediment, debris and vegetation **(see Conclusions Image 56)**. It is recommended that all kerb drains are cleared.

In the deck cantilevers the drainage pipe connecting the kerb drains in each span which is built into the concrete of the cantilever edge (and so inaccessible) appears to be leaking in numerous locations throughout the structure. As stated above, it is recommended that further investigation into this issue be carried out and that the drainage system be replaced and diverted away from the defective pipe within the concrete. It is further recommended that the large drainage pipe within the deck voids is investigated for leaks and repaired as necessary.

As stated above, it is recommended that the weepholes in the floor of the centre deck voids (Deck Void C) be cleared and enlarged to allow efficient drainage of the centre deck voids and prevent any future flooding.

It was noted that, on wet days, water is pouring out of the drainage hoppers in the piers at the expansion joints (it should be noted that for each of the north, centre and south structures, all drainage exits the structure via downpipes and hoppers in the northern most piers of each structure at expansion joint locations), soaking the pier faces and on Pier 9 particularly, spouting out of the hopper and cascading on to the carriageway below **(see Conclusions Image 57)**. These defects, and all of the issues with water ingress into the structure, suggest that the drainage system may be inadequate for the structure. It is recommended that the drainage system is cleared, and further investigation be carried out to determine the adequacy of the system for the viaduct.

6.7 Parapet Issues

A number of areas of damage to the parapets and vehicle restraint system (VRS) were noted. It is recommended that any damaged rails or posts (including the area where the VRS posts have been knocked out of vertical most likely by impact damage) be replaced. Any missing bolts on the parapet should be replaced.

The protective paint system has failed and caused surface corrosion to the bases of many of the parapet and VRS posts. It is recommended that any defective areas of protective paint system to the parapet bases are removed and the paint system reinstated.

It was noted in one location, on the east side of the north-west ramp wing wall, that spalling to the wing wall had exposed the footing and undermined a parapet post. The parapet base was seated on only unbound loose material (sand) rather than a grout bed and that the material surrounding the holding down bolts could be easily wiped away exposing the bolts **(see Conclusions Image 58)**. No other footings for the parapet posts were visible. Although AECOM have not seen the design, it is unlikely that this detail is in accordance with the design intent and as such is likely to compromise the performance of the parapet. It is recommended that this parapet post be reseated on a grout bed and suitable material. It is recommended that further investigation be carried out to ascertain whether this problem is only in this one location or is present on other parapet posts. It is recommended that repair

works are carried out to ensure any parapet posts seated on incorrect material be reseated within an appropriate material as per design.

6.8 Transverse Post-Tensioning Anchorage Block Concrete Cap Defects

All of the transverse post-tensioning anchorage block concrete caps present on the soffit of the viaduct at pier locations were exhibiting similar map cracking and drummy areas to the base and corners. In some areas spalling was present with exposed rebar, these defects are deemed as minor and likely due to carbonation of the concrete, however it is assumed that the typical map cracking and drummy areas are simply construction defects and are negligible.

6.9 Bearing Issues

It was noted during the inspection that on the North and Centre Structures, the fixity and articulation of the viaduct varied. Generally, the structures are fixed at a central pier, then on the two columns of the remaining centre piers, the east bearing is guided and the west is free. All other piers have free bearings. The available archive information regarding the articulation of the viaduct is limited but suggests that all non-fixed centre piers are guided on the east column and free on the west column. The south structure follows this pattern with all east bearings all guided and the west bearings all free. Although it was not possible to confirm the articulation of each bearing, it was confirmed that on the centre structure, most of the guided bearings were on the east side but on Piers 10 and 13, the guided bearing was on the west side rather than the east. On the north structure it was confirmed that Piers 3, 4 & 8 had the guided bearing on the west side, but Pier 7 had the guided bearing on the east side. This varying of the location of the guided pier is thought to be an error during construction however this appears to be having no adverse effects on the structure given that no defects which could be attributed to any resultant stress issues were observed. It is recommended that the bearings and piers are checked for potential stress induced defects during following Principal Inspections.

6.10 Demolition Discussion

Widespread concrete defects, water issues and inherent drainage problems which are causing water ingress and corrosion to the reinforcement within the concrete and subsequent spalling to the concrete, are all present throughout the viaduct. These defects and issues all pose an inherent risk to the long term durability of the structure and subsequently to the general public given the post tensioned construction of the viaduct with ducts and tendons located within the defective concrete. The cost of repairs to rectify the issues with the viaduct will potentially be very high, and it is unlikely that the issues can be fully resolved, nor that the deterioration of the viaduct be fully arrested economically. As such without significant investment on maintenance of the structure, there will always be an inherent risk associated with it. Given the high costs of repairs and the ongoing inherent risk associated with the viaduct, it is recommended that consideration be given to demolition of the viaduct.

6.11 Asbestos

An asbestos survey carried out in 2014/2015 noted the presence of asbestos within all abutment voids, the structure weep pipes and the service ducts within both electrical substations associated with the viaduct (Belle Vue Substation and Park Lane Substation). As such these areas were not inspected as part of this Principal Inspection. This meant that the abutment bearings were not accessible for inspection.

The asbestos survey also included a partial inspection of the deck voids which found that asbestos was present within some deck voids, although it did not state which voids were inspected nor where the asbestos was identified. As such, for the purpose of this inspection it was assumed that asbestos was present within all deck voids and no manned inspection was carried out. Instead these areas were inspected using a remote controlled inspection vehicle handled by specialist asbestos contractors.
It is recommended that a comprehensive asbestos survey of the deck voids be carried out.

It is recommended that any asbestos identified on the structure be removed prior to any maintenance works or investigations within the affected areas.

6.12 Conclusion Image References



Conclusion Image 1: Typical water seepage and leachate staining from construction joint in manhole wall



Conclusion Image 2: Typical water seepage and leachate staining from construction joint in manhole wall



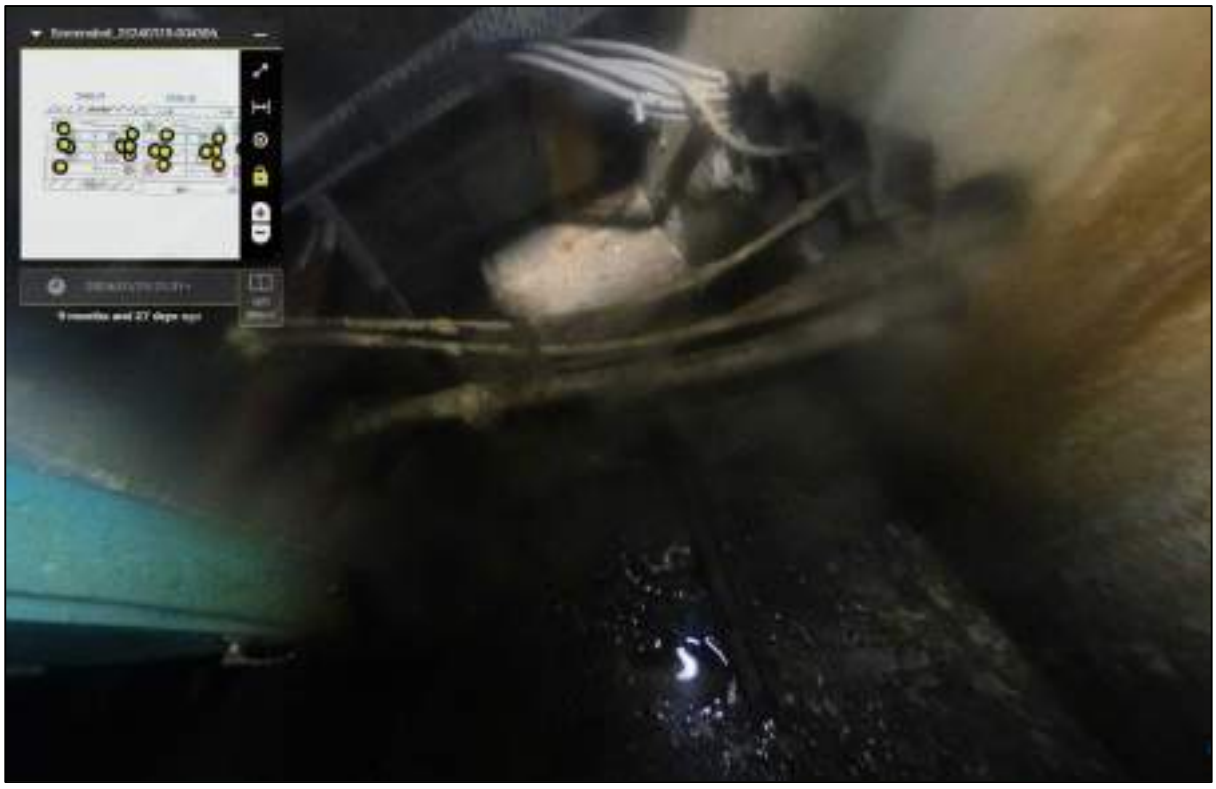
Conclusion Image 3: Typical water seepage and leachate staining from construction joint in manhole wall



Conclusion Image 4: Typical water seepage and leachate staining from construction joint in manhole wall



Conclusion Image 5: Typical corrosion to service frame beneath manhole



Conclusion Image 6: Typical corrosion to service frame beneath manhole



Conclusion Image 7: Typical corrosion to service frame beneath manhole



Conclusion Image 8: Typical corrosion to service frame beneath manhole



Conclusion Image 9: AECOM photo from 2004 Principal Inspection showing flooding to centre deck void (C)



Conclusion Image 10: Typical dampness, standing water and sediment to centre deck void (C)



Conclusion Image 11: Typical dampness, standing water and sediment to centre deck void (C)



Conclusion Image 12: Typical dampness, standing water and sediment to centre deck void (C) and typical blocked weep pipe



Conclusion Image 13: Water staining below central deck void (C)



Conclusion Image 14: Water staining below central deck void (C)



Conclusion Image 15: Water staining below central deck void (C)



Conclusion Image 16: Staining and spalling below central deck void (C)



Conclusion Image 17: Missing base of service frame leg



Conclusion Image 18: Water seepage onto exposed electrical cables



Conclusion Image 19: Water seepage and leachate deposits on exposed electrical distribution cabinets.



Conclusion Image 20: Typical kerbed channel.



Conclusion Image 21: Typical flooding to Voids B and D



Conclusion Image 22: Typical dampness, water staining and salt staining below flooded area (Voids B and D)



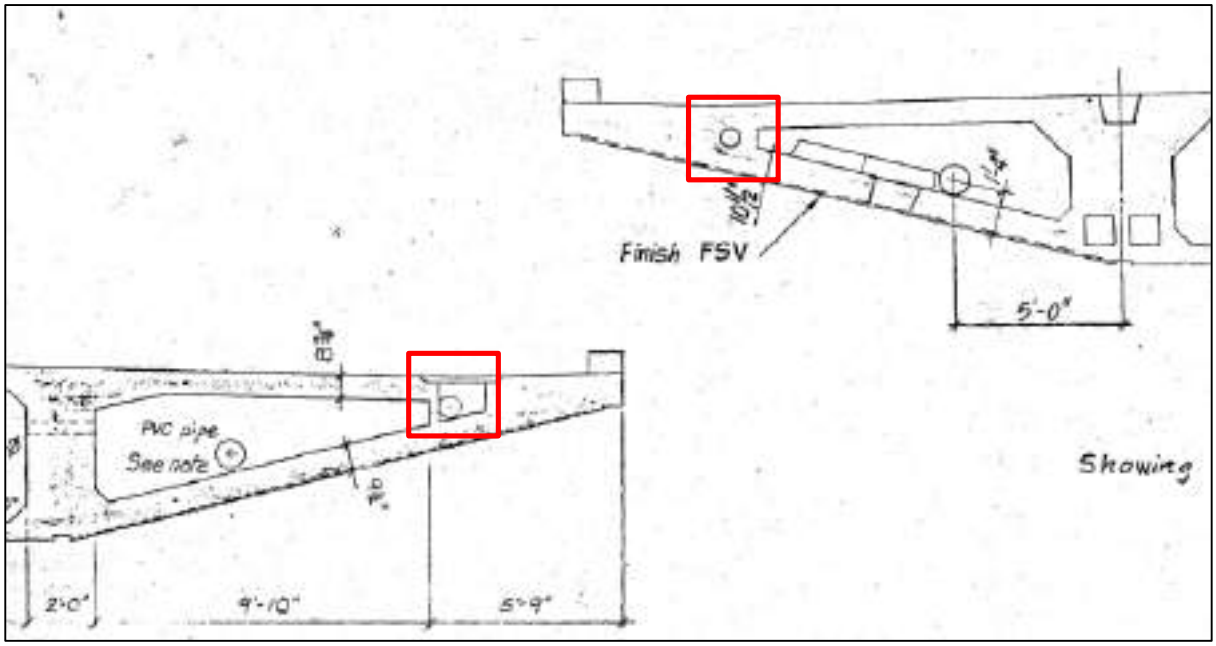
Conclusion Image 23: Typical water ingress through outer wall of cantilever deck void (typical Voids A & E)



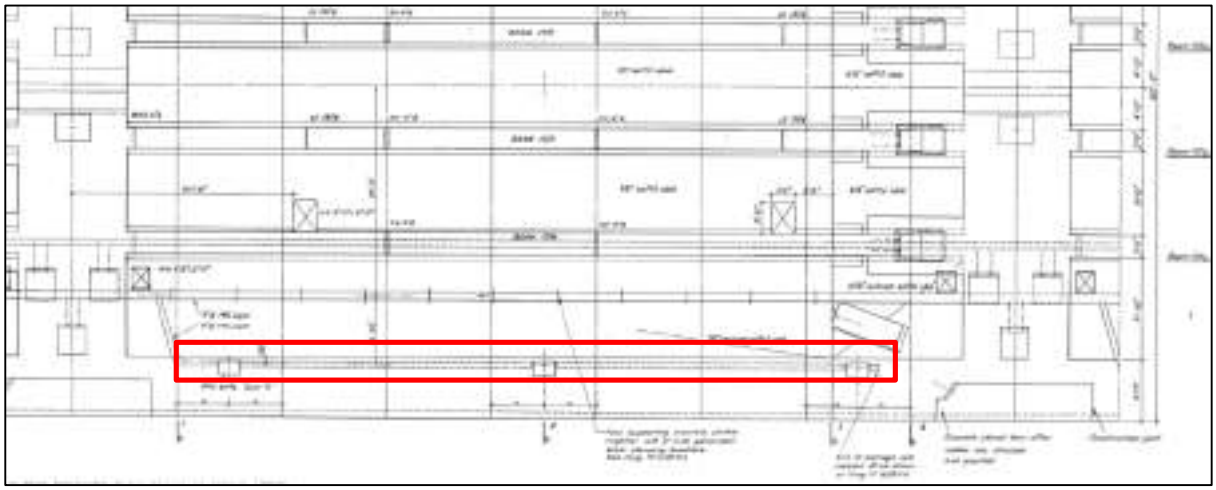
Conclusion Image 24: Typical water ingress, cantilever deck void (taken from AECOM 2004 PI)



Conclusion Image 25: Typical water ingress, cantilever deck void (taken from AECOM 2004 PI)



Conclusion Image 26: Archive drawing excerpt showing cantilever drainage detail (PD500185)



Conclusion Image 27: Archive drawing excerpt showing cantilever drainage detail (PD000424)



Conclusion Image 28: Typical delamination to floor in cantilever deck voids



Conclusion Image 29: Typical delamination to floor in cantilever deck voids



Conclusion Image 30: Typical delamination to floor in cantilever deck voids



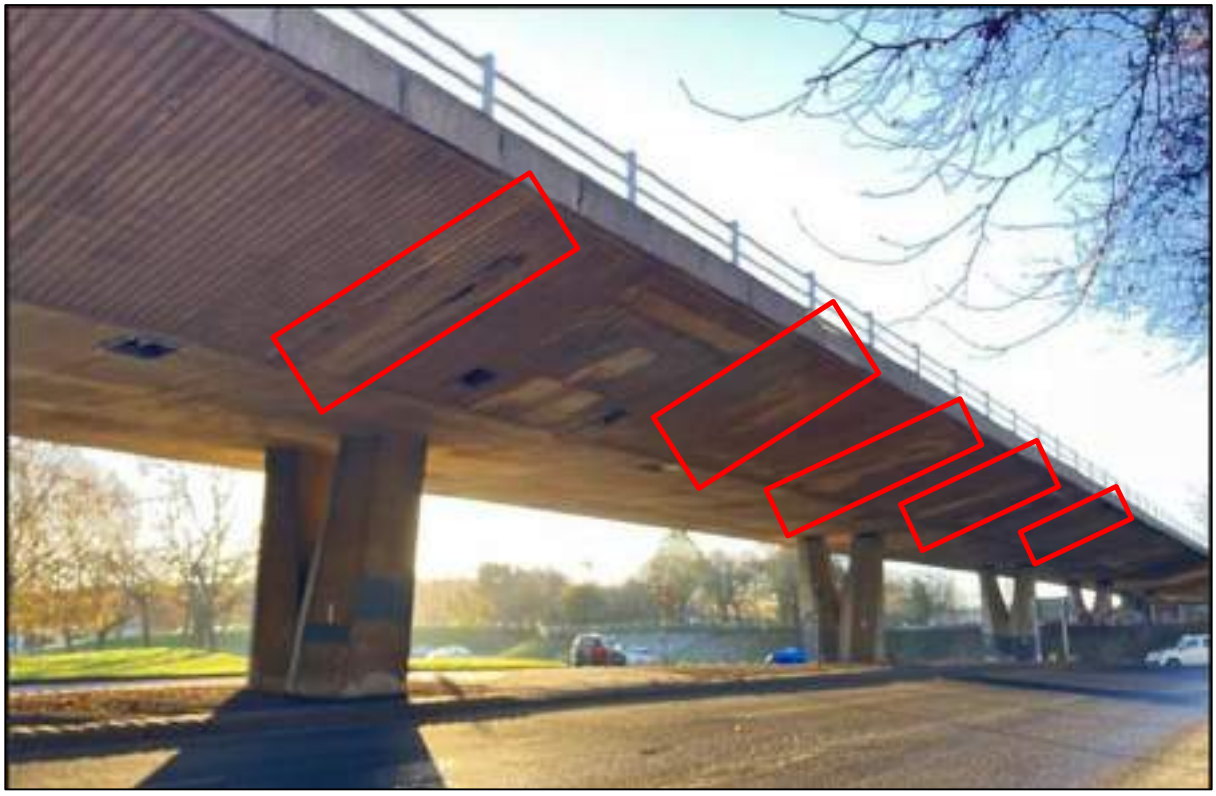
Conclusion Image 31: Typical delamination to floor in cantilever deck voids



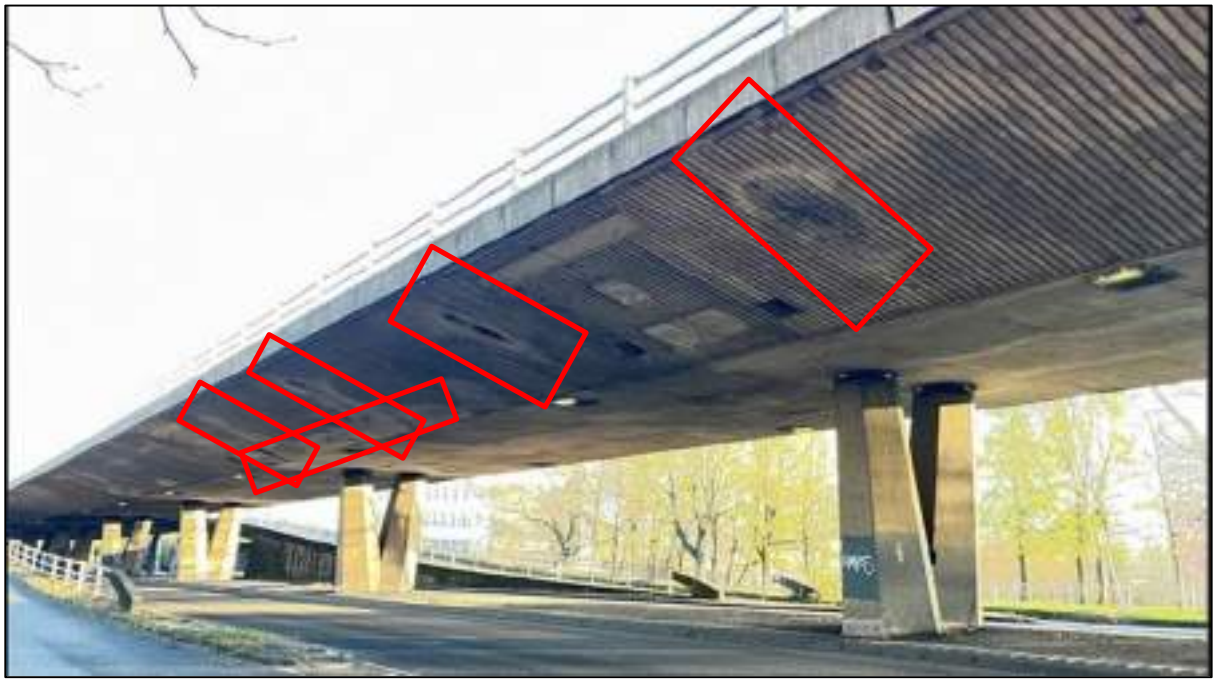
Conclusion Image 32: Typical delamination to floor in cantilever deck voids



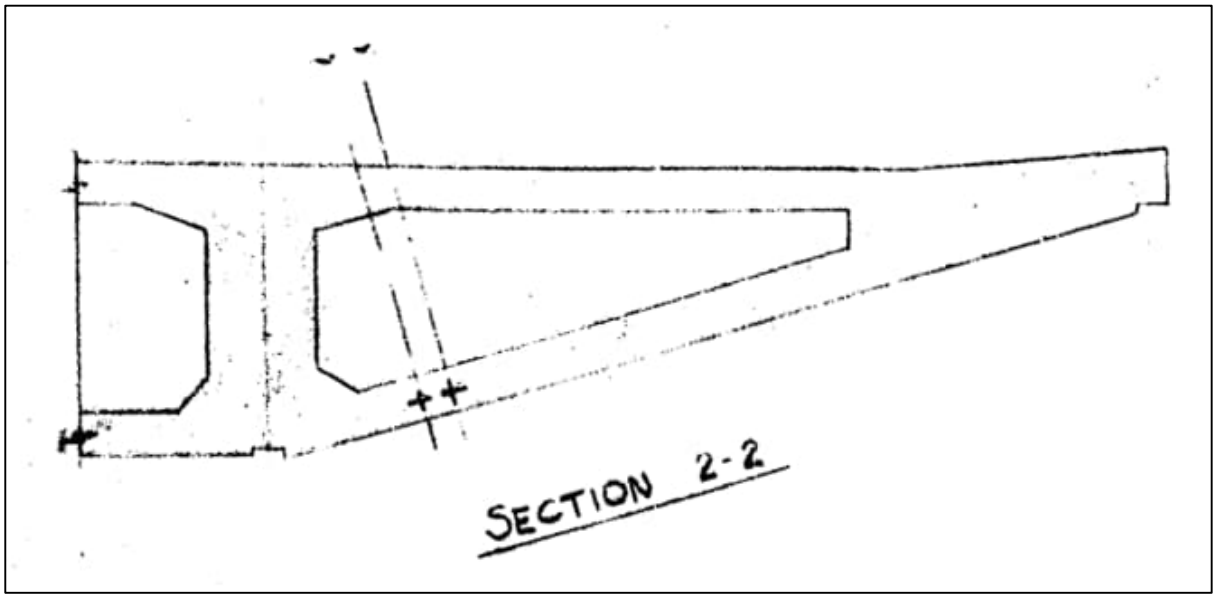
Conclusion Image 33: Exposed rusting reinforcement to cantilever deck void (taken from AECOM 2004 PI)



Conclusion Image 34: Typical water seepage through cantilever deck slabs



Conclusion Image 35: Typical water seepage through cantilever deck slabs



Conclusion Image 36: Excerpt of archive drawing showing locations of tendons in sloping soffit (PD000605)



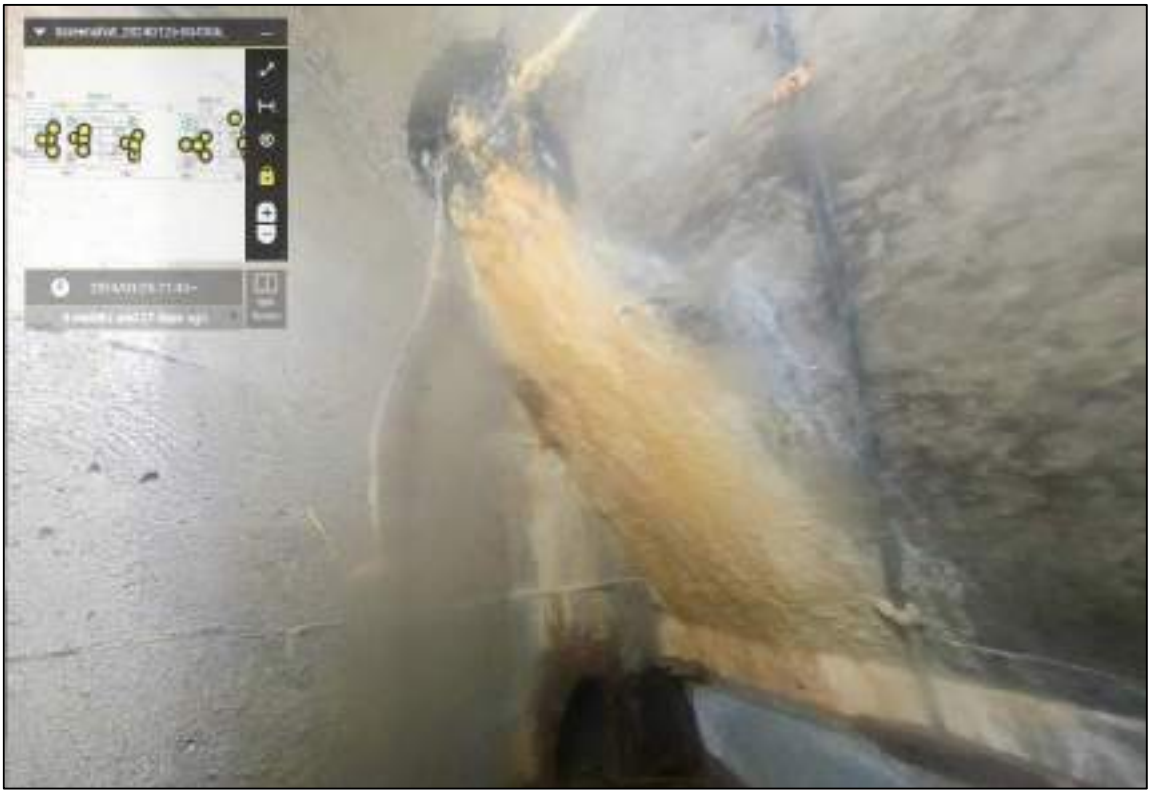
Conclusion Image 37: Defects to Span 18 Void A (rust staining and widespread delamination)



Conclusion Image 38: Defects to Span 18 Void B (dampness and widespread delamination)



Conclusion Image 39: Typical spalling around formwork plug



Conclusion Image 40: Typical leachate emanating from internal service core



Conclusion Image 41: Example of stalactites forming on soffit



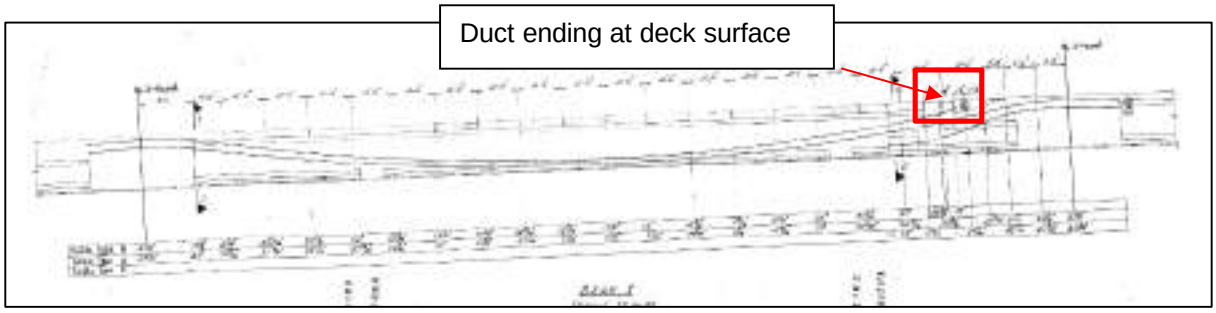
Conclusion Image 42: Typical failed repair around access hatches



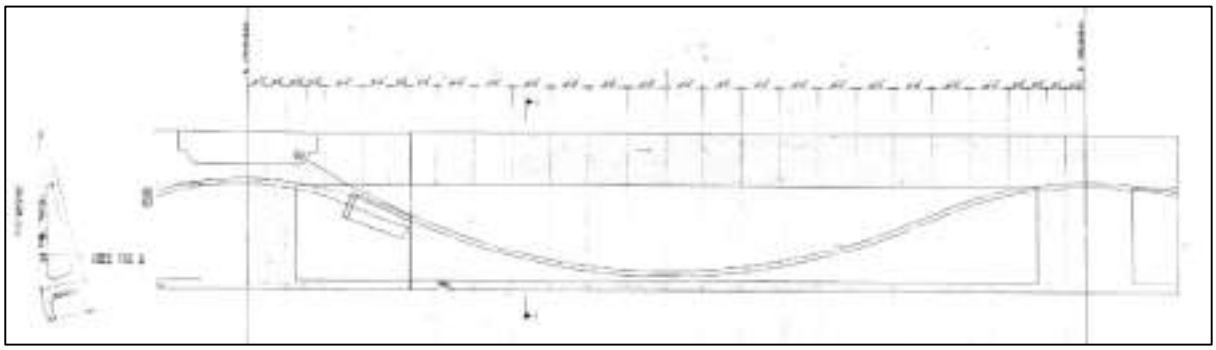
Conclusion Image 43: Typical example of water draining out of access hatch



Conclusion Image 44: Mineral deposits on carriageway below Span 20 Access E1



Conclusion Image 45: Archive drawing excerpt showing typical longitudinal beam PT tendon profiles



Conclusion Image 46: Archive drawing excerpt showing typical sloping soffit PT tendon profiles



Conclusion Image 47: Typical spalling to facia panels



Conclusion Image 48: Typical spalling to facia panels



Conclusion Image 49: Typical spalling to cantilever edge



Conclusion Image 50: Typical spalling to cantilever edge



Conclusion Image 51: Typical defects to expansion joints



Conclusion Image 52: Typical defective guttering at expansion joints



Conclusion Image 53: Typical spalling/drummyness and cracking to base of pier



Conclusion Image 54: Typical spalling/drummyness and cracking to base of pier



Conclusion Image 55: Typical defects to expansion joint piers



Conclusion Image 56: Typical blocked surface drains



Conclusion Image 57: Extensive water pouring out of drainage hopper on Pier 9



Conclusion Image 58: Inadequate parapet holding down detail

7. Recommendations

The following recommendations for Gateshead Council are proposed based on the findings of the Principal Inspection.

7.1 Further Investigations

It is recommended that a Post Tension Special Investigation is carried out as a matter of urgency to confirm the condition of the post tensioned strands.

It is recommended that concrete testing be carried out to confirm the carbonation depth, chloride contamination, strength and general condition of the concrete.

It is recommended that the parapet post footings be investigated to determine if any other footings are seating in adequate material such as sand.

It is recommended that further investigation be carried out into the adequacy and condition of the existing structure drainage system.

Further investigation should be carried out into the nature and status of the services within the deck void, particularly the areas affected by water seepage. Any live services should be made safe, and any redundant services should be removed.

A comprehensive asbestos survey of the deck voids is required.

7.2 Drainage

As discussed above, it is recommended that further investigation be carried out into the adequacy and condition of the existing structure drainage system.

It is recommended that the weep pipes in the floor of the central deck voids (Deck Void C) be cleared and enlarged.

It is recommended that weep pipes be installed in the floors of Deck Voids B and D.

All surface kerb drains should be cleared and cleaned.

It is recommended that the drainage system connected to the kerb drains within the deck cantilevers be replaced and diverted away from the defective pipe within the concrete.

The large drainage pipe within the deck voids should be investigated for leaks and repaired as necessary or removed entirely if an alternative flow path can be installed.

7.3 Waterproofing

It is recommended that the viaduct be re-waterproofed ensuring that the waterproofing layer is sufficiently lapped up to ensure water cannot enter the deck voids, particularly at the manholes in the central reserve and gully locations.

7.4 Delamination Survey/Concrete Removal

As stated in the conclusions, any areas of delaminated concrete which AECOM did not remove during the inspection due to time restraints and the extent of delaminated concrete encountered, is highlighted blue in the report and on the defect drawings. It is recommended that the council remove these areas of delaminated concrete.

It is recommended that the council carry out regular delamination surveys on the viaduct, particularly focusing on the areas above the carriageway, foot paths and facia panels. The frequency of these surveys should be determined by the condition encountered.

7.5 Facia Panels

It is recommended that the facia panels are removed and the spalled cracked and delaminated areas of concrete to the edge of the deck be repaired.

7.6 Concrete Repairs

It is recommended that all defective areas of concrete (including spalling, cracking, delaminated and drummy areas) to the internal and external areas of the superstructure and all areas of the substructure be repaired to prevent any further deterioration to the structure. This includes any failed previous repairs.

It is recommended that consideration be given to installing cathodic protection on the bridge to curtail any further deterioration to the concrete.

It is recommended that the remedial works to prevent the water ingress (waterproofing works and drainage repairs) be carried out prior to the commencement of any of the concrete repair works.

7.7 Expansion Joints

It is recommended that all bridge joints on the viaduct are replaced.

It is recommended that the guttering below the expansion joints be replaced/reinstated with a mesh cover to prevent any debris build up.

7.8 Parapets/Vehicle Restraint System (VRS)

It is recommended that any damaged parapet/VRS rails or posts (including the area where the VRS posts have been knocked out of vertical most likely by impact damage) be replaced and any missing bolts on the parapet/VRS be replaced.

It is recommended that any defective areas of protective paint system to the parapet/VRS bases are removed, and the paint system reinstated.

It is recommended that further investigation be carried out to ascertain the extent of parapet/VRS posts being founded on inappropriate material.

It is recommended that repair works are carried out to ensure any parapet/VRS posts seated on incorrect material be reseated within an appropriate material as per design, including the parapet/VRS post identified on the east wing wall of the northwest abutment.

7.9 Services

As stated above, further investigation should be carried out into the nature and status of the services within the deck void, particularly the areas affected by water seepage. Any live services should be made safe, and any redundant services should be removed.

The service support frame within the centre deck void (Deck Void C) should be replaced.

7.10 Asbestos Survey/Removal

A comprehensive asbestos survey of the deck voids is required.

It is recommended that any asbestos identified on the structure be removed prior to any maintenance works or investigations within the affected areas.

7.11 Vegetation Clearance

It is recommended that vegetation clearance be carried out to the topside of the structure including the drainage gullies, the verges and central reserve.

Vegetation clearance should also be carried out the verges adjacent the north abutments wing walls including removal of all saplings.

7.12 Other Ancillary Items

It is recommended that the redundant signpost base on Span 9 is removed from the parapet.

It is recommended that the pedestrian lighting under the west ramp of Span 1 is repaired.

It is recommended that the street lighting in Access Hatch D1 of Span 27 is repaired.

There is 1No missing manhole cover in Span 5 (C1), which is currently only partially sealed by a non-fitted concrete block. It is recommended that this is sealed with a proper manhole cover to prevent unwanted water egress and potential fall risk

There is 1No corroded and holed speed signpost on Span 3. It is recommended that this is replaced or repaired.

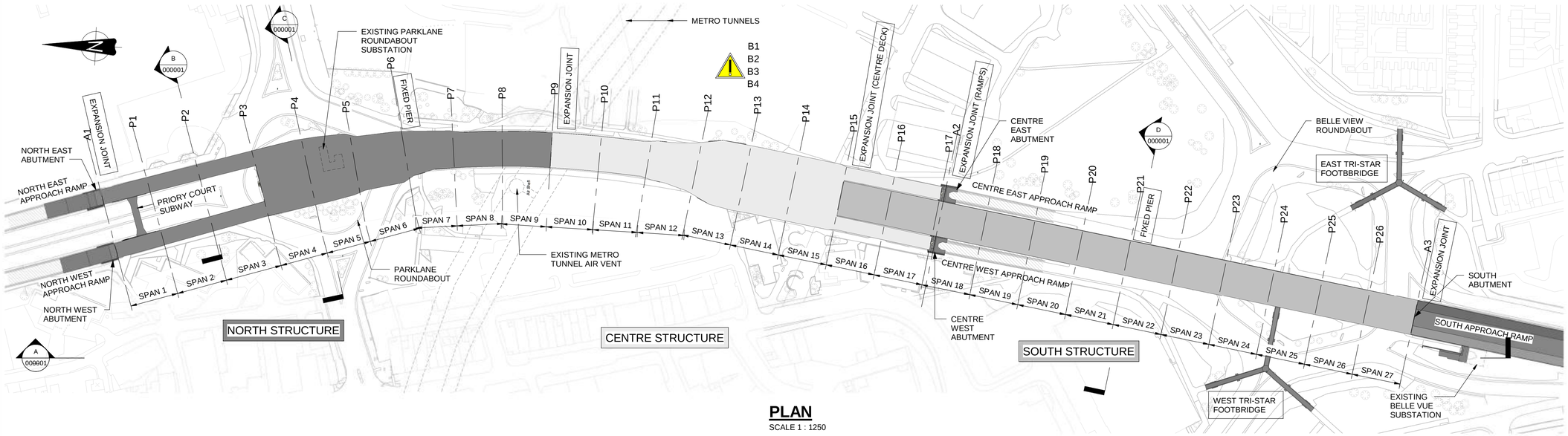
7.13 Other Considerations

It is recommended that consideration be given to carrying out resurfacing works to the viaduct. Note that resurfacing works would form part of the recommended re-waterproofing works.

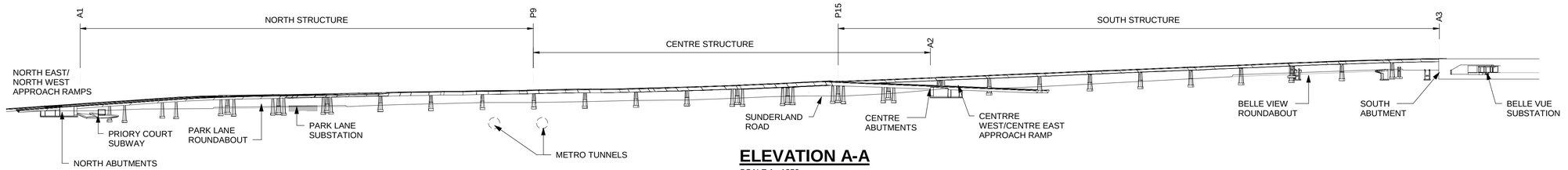
Given the potentially high costs of repairs required on the structure, and, without significant investment for maintenance, the ongoing inherent risk associated with the viaduct, it is recommended that consideration be given to demolition of the viaduct.

Appendix A - General Arrangement Drawings

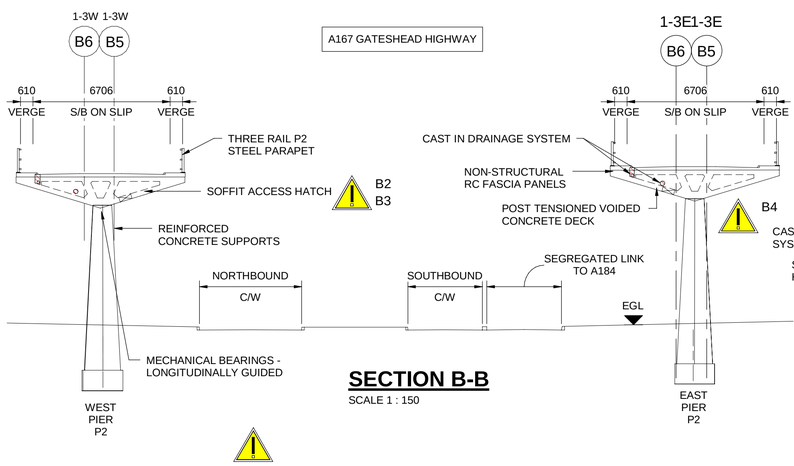
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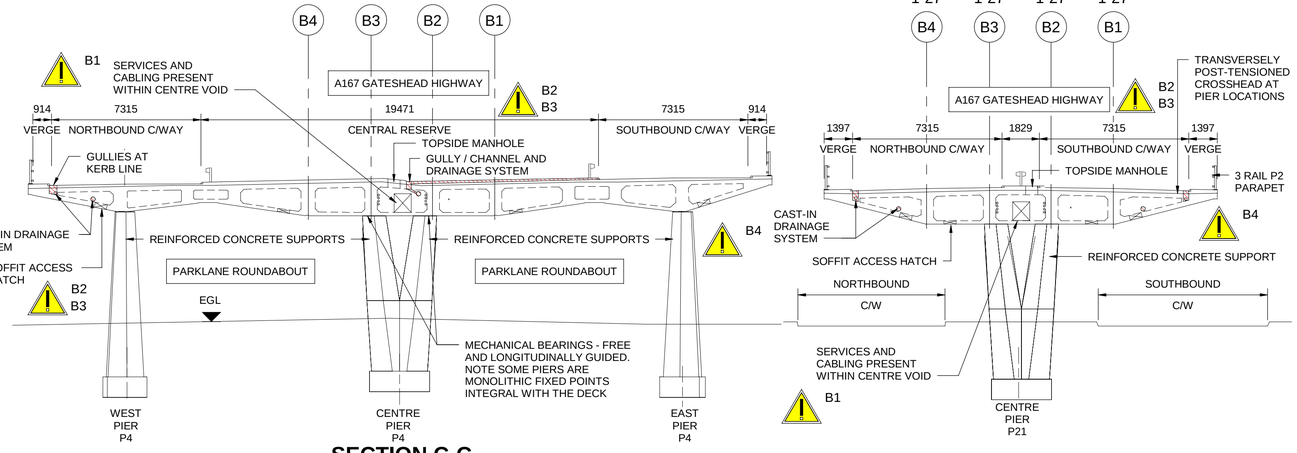
PLAN
SCALE 1 : 1250



ELEVATION A-A
SCALE 1 : 1250



SECTION B-B
SCALE 1 : 150



SECTION C-C
SCALE 1 : 150

SECTION D-D
SCALE 1 : 150

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING:

CONSTRUCTION
A1. NOT APPLICABLE

MAINTENANCE / CLEANING / OPERATION
B1. SERVICES PRESENT THROUGH STRUCTURE VOIDS. REDUNDANCY OF CABLING HAS NOT BEEN PROVEN AND SHOULD BE TREATED AS LIVE. WATER WITHIN THE STRUCTURE IS IN CONTACT WITH THE CABLING / ELECTRIC. ACCESS TO VOIDS WHERE CABLING PRESENT - PROCEED WITH CAUTION AND SAFE SYSTEM OF WORK REQUIRED.
B2. ASBESTOS PRESENT THROUGHOUT STRUCTURE. REFER TO ASBESTOS REPORT FOR FURTHER DETAILS AND SPECIFIC LOCATIONS.
B3. ACCESS TO INTERNAL DECK VOIDS IS VIA DECK SOFFIT ACCESS HATCHES AND TOPSIDE MANHOLES (SEE DRAWING 010002). DECK VOIDS TO BE TREATED AS CONFINED SPACE WITH ASBESTOS PRESENT UNTIL CONFIRMED OTHERWISE. APPROPRIATE TRAFFIC MANAGEMENT SAFE SYSTEM OF WORK REQUIRED FOR ALL WORKS.
B4. CONDITION OF STRUCTURE IS POOR THROUGHOUT. DELAMINATED CONCRETE ON THE EXTERNAL SURFACES HAS BEEN REMOVED AS FAR AS REASONABLY PRACTICABLE DURING THE AECOM PRINCIPAL INSPECTION. DELAMINATED CONCRETE MAY STILL BE PRESENT.

DECOMMISSIONING / DEMOLITION
C1. NOT APPLICABLE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.



PHOTO 1: GENERAL VIADUCT UNDERSIDE



PHOTO 2: VIADUCT RAMP UNDERSIDE



PHOTO 3: TYPICAL ABUTMENT (NORTH RAMP SHOWN)



PHOTO 4: TYPICAL TOPSIDE

AECOM

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE
2. DO NOT SCALE FROM THIS DRAWING
3. AECOM UNDERTOOK THE VIADUCT PRINCIPAL INSPECTION BETWEEN NOVEMBER 2023 AND JANUARY 2024. THE STRUCTURE WAS FOUND TO BE IN POOR CONDITION. REFER TO DOCUMENT 60713768-ACM-XX-GV-RP-CE-000001 FOR FURTHER DETAILS.
4. THE STRUCTURE DETAILS HAVE BEEN MODELLED INDICATIVELY BASED UPON THE AVAILABLE ARCHIVE AND LIDAR DATA.
5. ASBESTOS SURVEYS WERE UNDERTAKEN BY LUCION IN 2014/2015 WHICH FOUND ASBESTOS THROUGHOUT THE STRUCTURE. SOME AREAS WERE NOT ACCESSIBLE AT THE TIME OF THE SURVEY AND ARE ASSUMED TO CONTAIN ASBESTOS. FURTHER ASBESTOS SURVEYS ARE RECOMMENDED TO CONFIRM ALL ACMS. REFER TO LUCION ASBESTOS REPORT FOR FURTHER DETAILS.

STRUCTURE REF KEY

- SOUTH STRUCTURE
- CENTRE STRUCTURE
- NORTH STRUCTURE
- APPROACH RAMP

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
P02	13/12/24	MJB	MINOR AMENDMENTS	CR	ACL
P01	26/11/24	MJB	INITIAL ISSUE	KP	ACL

SUITABILITY

S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT PHASE 1 WORKS

SHEET TITLE

GATESHEAD VIADUCT
EXISTING GENERAL ARRANGMENT

CONSULTANT

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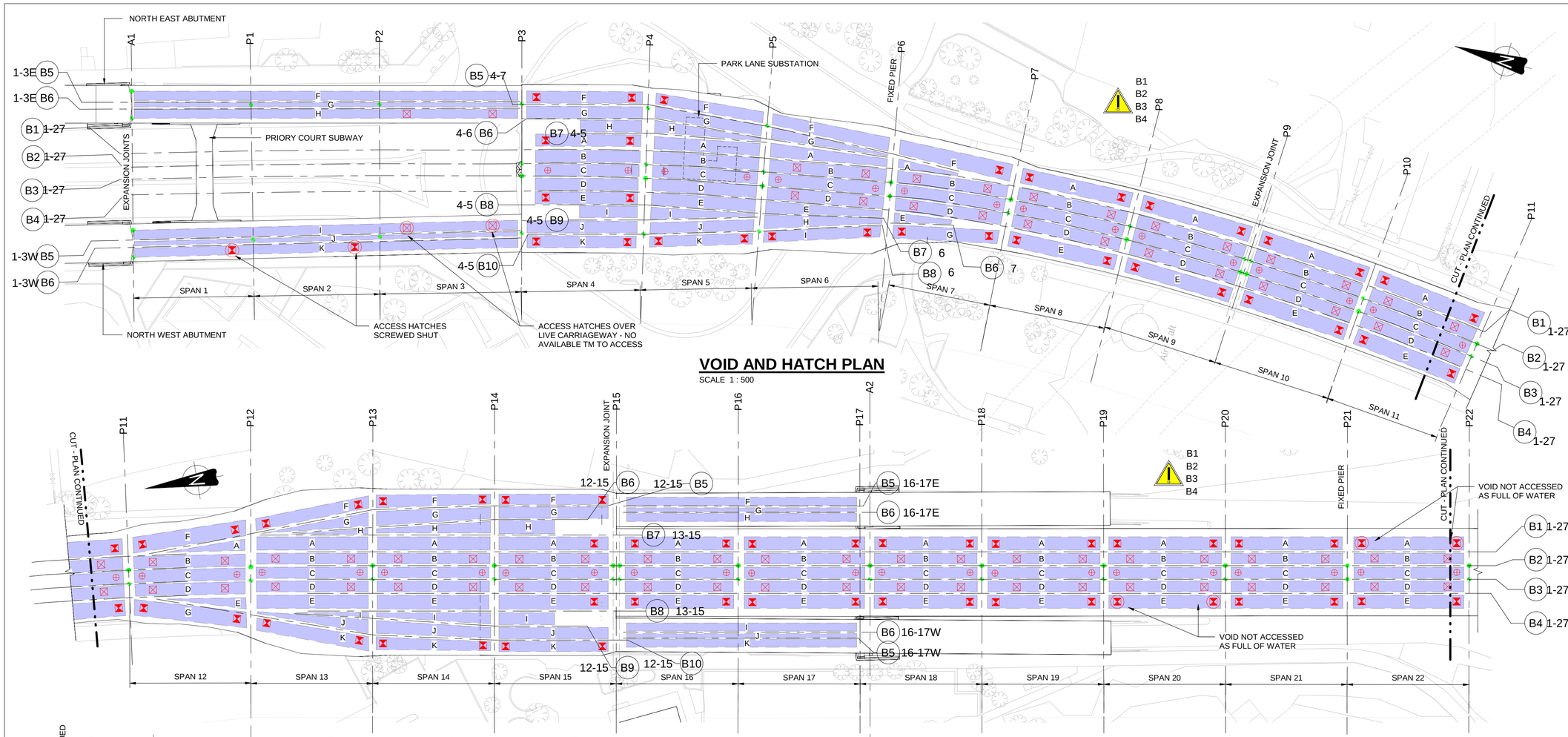
SHEET NUMBER

60713768-ACM-XX-GV-DR-CE-000001_P02

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Designer: MJB Checked: KP Approved: ACL ISO A1 594mm x 841mm

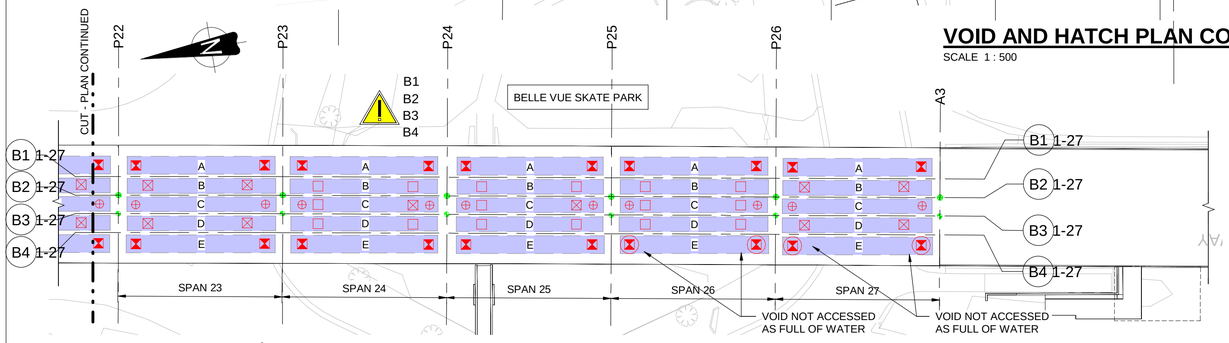


VOID AND HATCH PLAN

SCALE 1 : 500

VOID AND HATCH PLAN CONT.

SCALE 1 : 500



VOID AND HATCH PLAN CONT.

SCALE 1 : 500

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING:
CONSTRUCTION A1. NOT APPLICABLE
MAINTENANCE / CLEANING / OPERATION B1. SERVICES PRESENT THROUGH STRUCTURE VOIDS. REDUNDANCY OF CABLING HAS NOT BEEN PROVEN AND SHOULD BE TREATED AS LIVE. WATER WITHIN THE STRUCTURE IS IN CONTACT WITH THE CABLING / ELECTRIC. ACCESS TO VOIDS WHERE CABLING PRESENT - PROCEED WITH CAUTION AND SAFE SYSTEM OF WORK REQUIRED. B2. ASBESTOS PRESENT THROUGHOUT STRUCTURE. REFER TO ASBESTOS REPORT FOR FURTHER DETAILS AND SPECIFIC LOCATIONS. B3. ACCESS TO INTERNAL DECK VOIDS IS VIA DECK SOFFIT ACCESS HATCHES AND TOPSIDE MANHOLES (SEE DRAWING 010002). DECK VOIDS TO BE TREATED AS CONFINED SPACE WITH ASBESTOS PRESENT UNTIL CONFIRMED OTHERWISE. APPROPRIATE TRAFFIC MANAGEMENT SAFE SYSTEM OF WORK REQUIRED FOR ALL WORKS. B4. CONDITION OF STRUCTURE IS POOR THROUGHOUT. DELAMINATED CONCRETE ON THE EXTERNAL SURFACES HAS BEEN REMOVED AS FAR AS REASONABLY PRACTICABLE DURING THE AECOM PRINCIPAL INSPECTION. DELAMINATED CONCRETE MAY STILL BE PRESENT.
DECOMMISSIONING / DEMOLITION C1. NOT APPLICABLE
IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

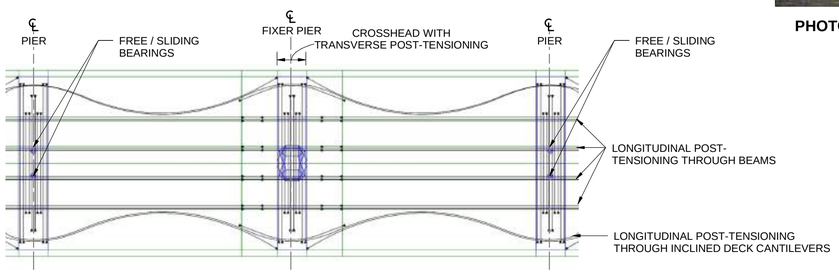


PHOTO 5: PLAN ON TENDON LAYOUT (EXTRACT FROM LUSAS)

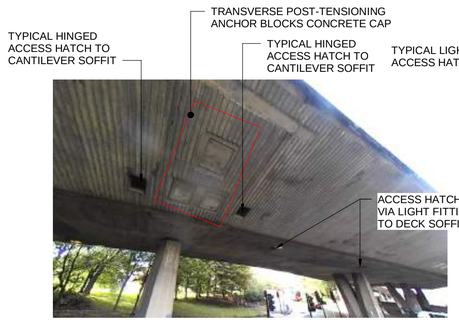


PHOTO 1: TYPICAL HINGED ACCESS HATCH TO DECK AND CANTILEVER SOFFIT



PHOTO 2: SPAN 24-26 (BELLE VUE SKATE PARK) ACCESS HATCHES



PHOTO 3: TOPSIDE MANHOLES WITHIN CENTRAL RESERVE



PHOTO 4: TYPICAL TOPSIDE MANHOLE ACCESS

AECOM

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE
2. DO NOT SCALE FROM THIS DRAWING.
3. WHERE DECK VOIDS HAVE NO ACCESS HATCH, THEY ARE INACCESSIBLE BY DESIGN.
4. THE GRID REFERENCE SYSTEM IS IN ACCORDANCE WITH THE ARCHIVE REFERENCING SYSTEM.

   14-15 — SPAN REFERENCE
   (B1) — BEAM REFERENCE
5. WHERE HATCH LOCATIONS ARE REFERENCED WITHIN THE CORRESPONDING PRINCPAL INSPECTION REPORT, THE STARTING LETTER REFERS TO THE VOID REFERENCE AS DENOTED ON THIS DRAWING AND THE SECOND LOCATION NUMBER REFERS TO THE NORTH AND SOUTH POSITION.

   HATCH F1 = DECK VOID F, NORTHERNMOST HATCH
   HATCH F2 = DECK VOID F, SOUTHERNMOST HATCH

KEY

- HINGED ACCESS HATCH TO SOFFIT (PHOTO 1)
- ACCESS HATCH VIA LIGHT FITTING (PHOTO 1/2)
- SLIDING ACCESS HATCH TO SOFFIT (SPAN 24-26) (PHOTO 2)
- TOP DOWN MANHOLE FROM TOPSIDE ROAD (PHOTO 3 AND 4)
- ACCESS HATCH / VOID NOT ACCESSED
- DECK VOID
- A,B,C — DECK VOID REFERENCE
- DECK / PIER FIXED POINT
- BEARING - FREE IN ALL DIRECTIONS
- BEARING - LONGITUDINALLY GUIDED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
P01	26/11/24	MJB	INITIAL ISSUE	KP	ACL

SUITABILITY

S3-INTERNAL REVIEW AND COMMENT

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CIVIC CENTRE,
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT PHASE 1 WORKS

SHEET TITLE

GATESHEAD VIADUCT
ACCESS HATCH, ARTICULATION
VOID REFERENCES & INDICATIVE
TENDON LAYOUT

CONSULTANT

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SHEET NUMBER

60713768-ACM-XX-GV-DR-CE-000002_P01

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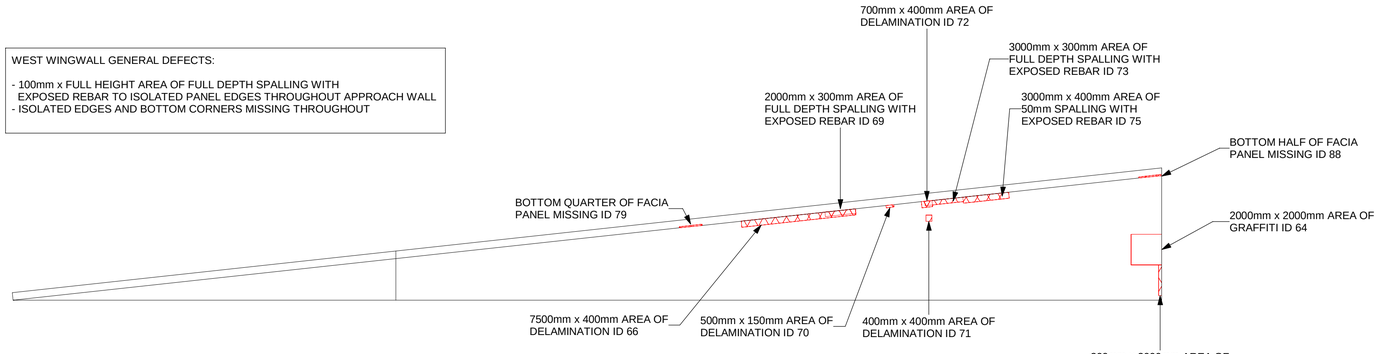
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Appendix B .1–Defect Drawings Substructure

Designer: KGH Checked: AL Approved: PMR ISO A1 594mm x 841mm

WEST WINGWALL GENERAL DEFECTS:

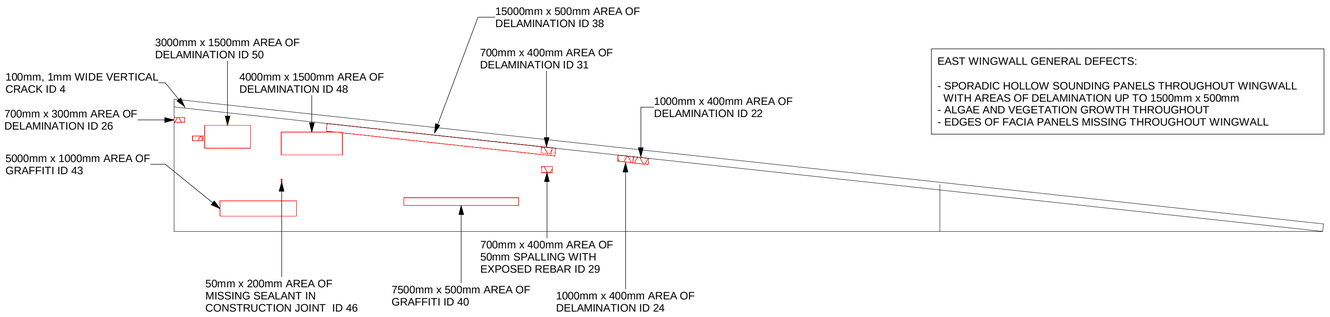
- 100mm x FULL HEIGHT AREA OF FULL DEPTH SPALLING WITH EXPOSED REBAR TO ISOLATED PANEL EDGES THROUGHOUT APPROACH WALL
- ISOLATED EDGES AND BOTTOM CORNERS MISSING THROUGHOUT



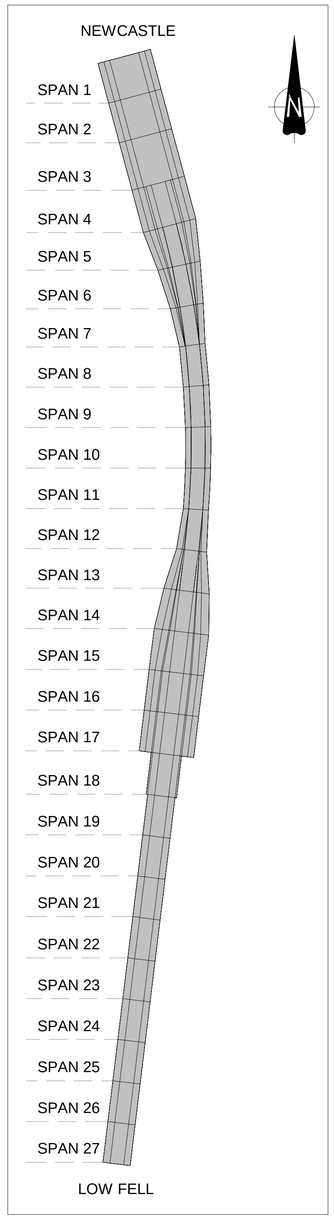
NORTH EAST ABUTMENT (EAST RAMP) WEST WINGWALL

EAST WINGWALL GENERAL DEFECTS:

- SPORADIC HOLLOW SOUNDING PANELS THROUGHOUT WINGWALL WITH AREAS OF DELAMINATION UP TO 1500mm x 500mm
- ALGAE AND VEGETATION GROWTH THROUGHOUT
- EDGES OF FACIA PANELS MISSING THROUGHOUT WINGWALL



NORTH ABUTMENT EAST RAMP EAST WINGWALL



NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
NORTH ABUTMENT EAST RAMP WINGWALL

CONSULTANT

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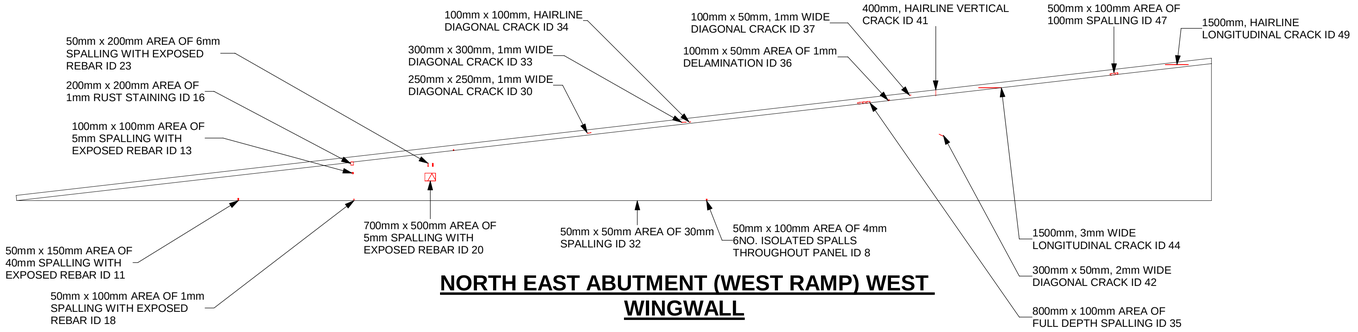
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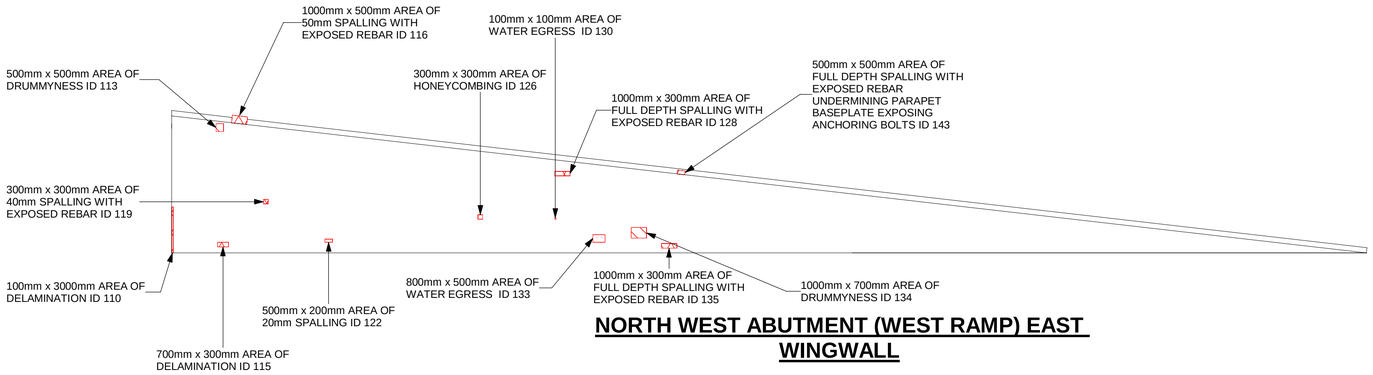
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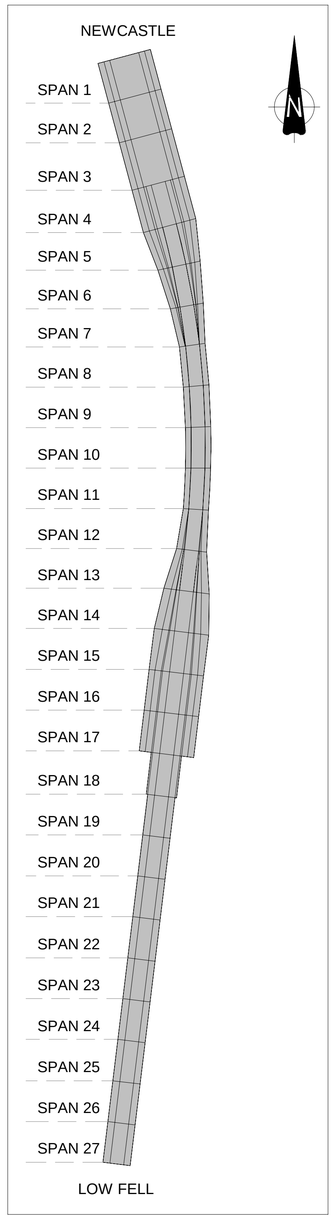
Designer: KGH Checked: AL Approved: PMR ISO A1 594mm x 841mm



NORTH EAST ABUTMENT (WEST RAMP) WEST WINGWALL



NORTH WEST ABUTMENT (WEST RAMP) EAST WINGWALL



NOTES

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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REGENT TERRACE,
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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
NORTH ABUTMENT WEST RAMP
WINGWALL

CONSULTANT

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SHEET NUMBER

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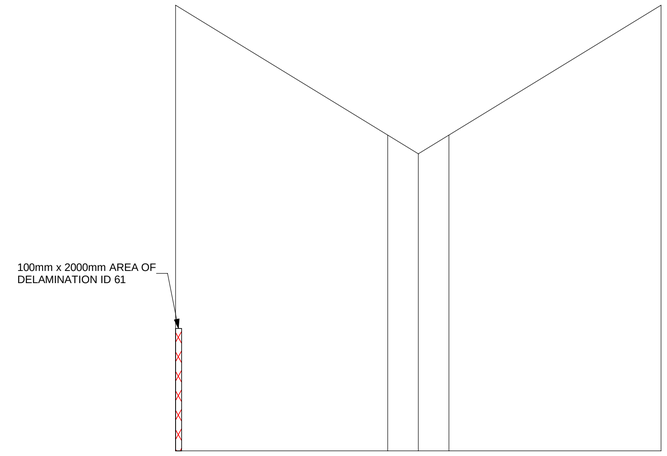
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Designer: KGH Checked: AL Approved: PMR ISO A1 594mm x 841mm

NORTH EAST ABUTMENT FACE GENERAL DEFECTS:

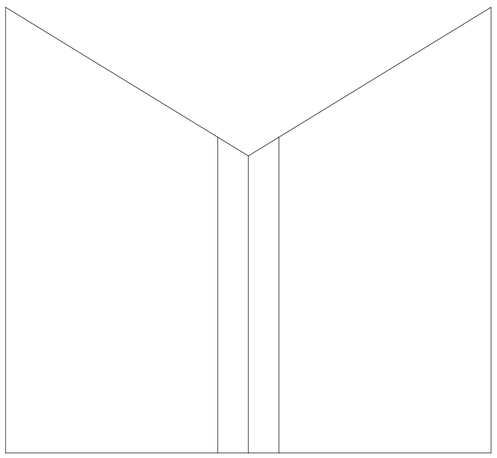
- GRAFFITI THROUGHOUT ABUTMENT
- WATER EGRESS WITH SEDIMENT FROM SERVICE DOOR



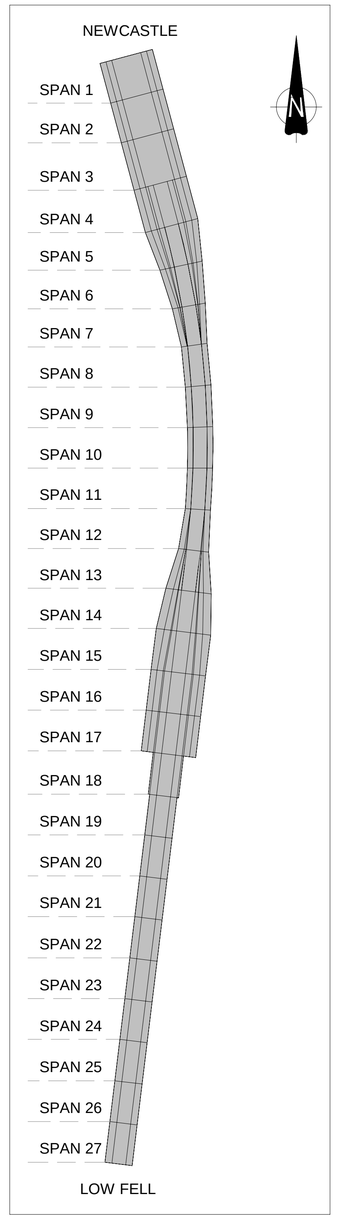
NORTH EAST ABUTMENT FACE (EAST RAMP)

NORTH WEST ABUTMENT FACE GENERAL DEFECTS:

- GRAFFITI THROUGHOUT ABUTMENT
- WATER EGRESS WITH SEDIMENT FROM SERVICE DOOR



NORTH WEST ABUTMENT FACE (WEST RAMP)



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NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
NORTH ABUTMENT FACE

CONSULTANT

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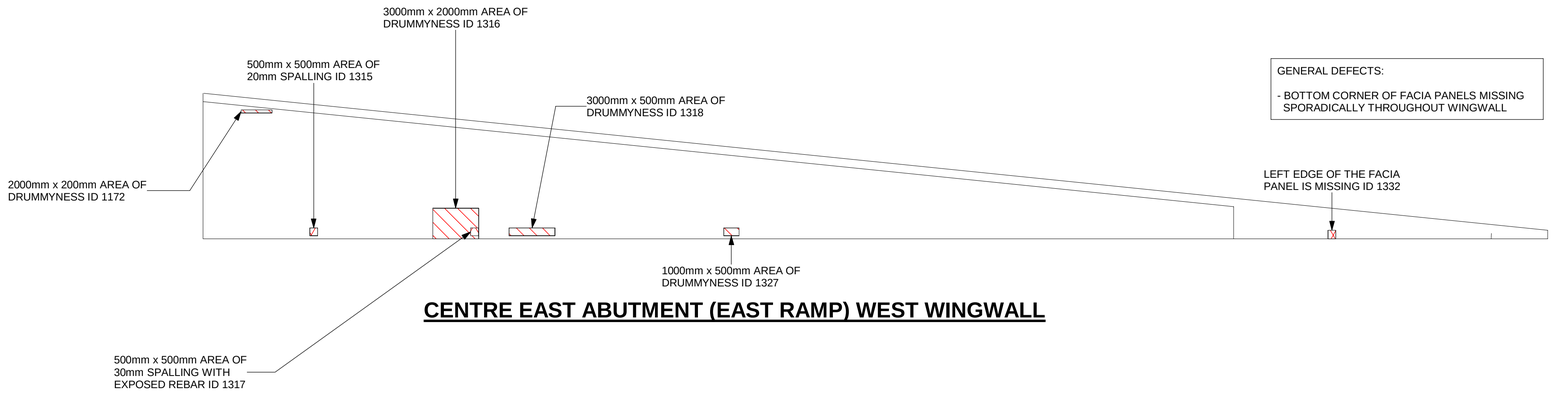
SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000016 __P01

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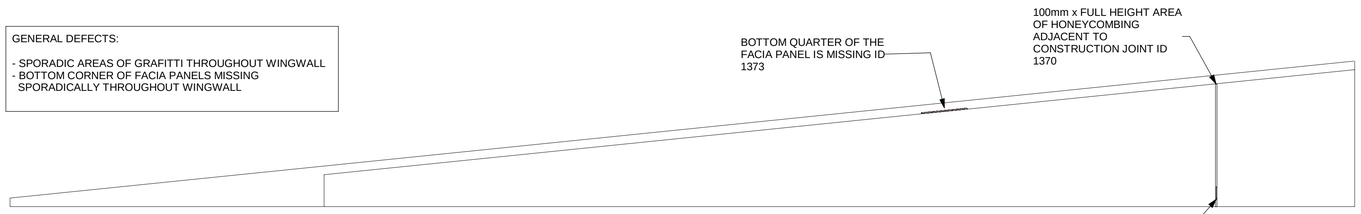
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GENERAL DEFECTS:

- BOTTOM CORNER OF FACIA PANELS MISSING SPORADICALLY THROUGHOUT WINGWALL

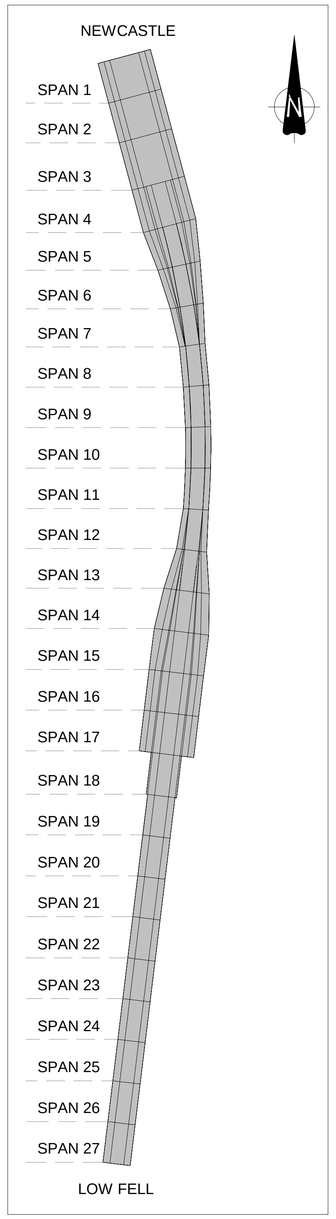
CENTRE EAST ABUTMENT (EAST RAMP) WEST WINGWALL



GENERAL DEFECTS:

- SPORADIC AREAS OF GRAFITTI THROUGHOUT WINGWALL
- BOTTOM CORNER OF FACIA PANELS MISSING SPORADICALLY THROUGHOUT WINGWALL

CENTRE EAST ABUTMENT (EAST RAMP) EAST WINGWALL



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SUITABILITY

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NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
CENTRAL ABUTMENT EAST RAMP WINGWALL

CONSULTANT

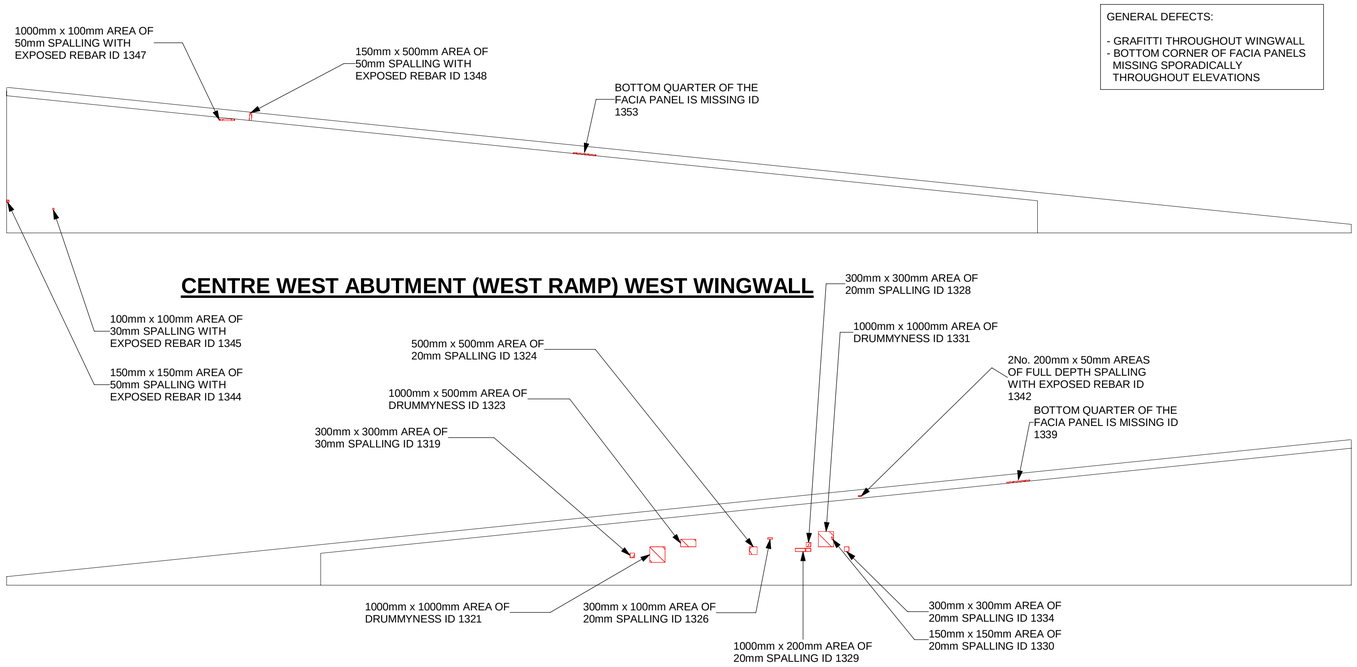
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60713768 -ACM -XX -GV -M3 -CE -000014 __P01

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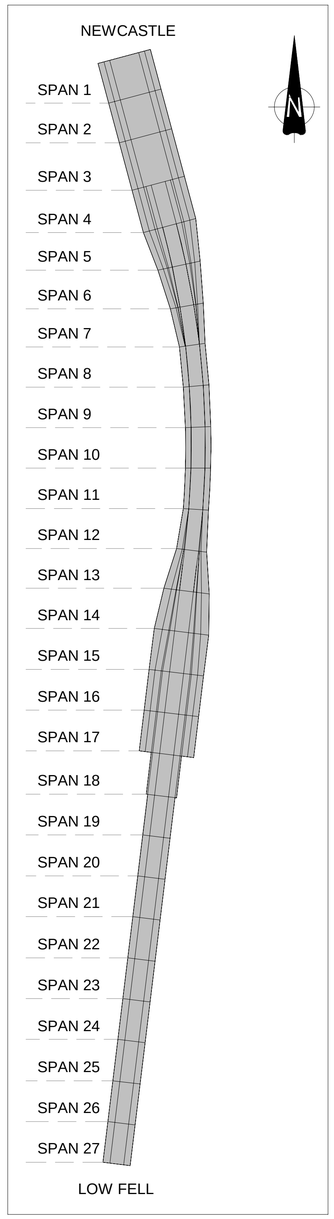


GENERAL DEFECTS:

- GRAFITTI THROUGHOUT WINGWALL
- BOTTOM CORNER OF FACIA PANELS MISSING SPORADICALLY THROUGHOUT ELEVATIONS

CENTRE WEST ABUTMENT (WEST RAMP) WEST WINGWALL

CENTRE WEST ABUTMENT (WEST RAMP) EAST WINGWALL



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SUITABILITY

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SHEET TITLE

DEFECTS SCHEDULE
CENTRAL ABUTMENT WEST RAMP WINGWALL

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60713768 -ACM -XX -GV -M3 -CE -000015 __P01

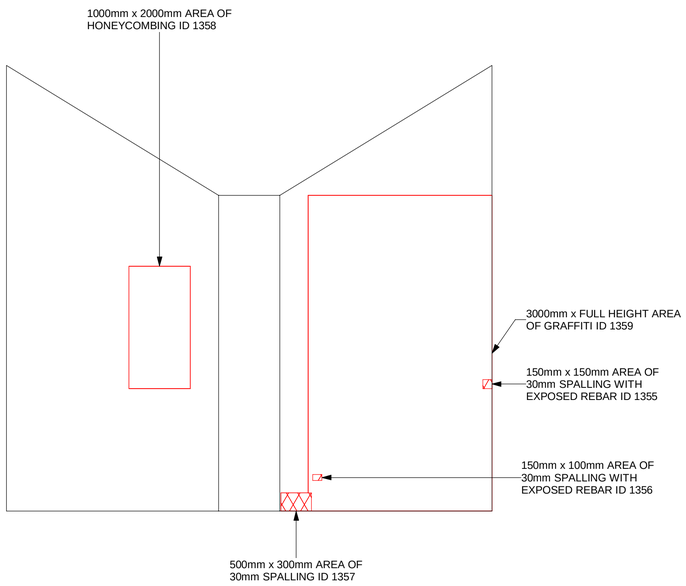
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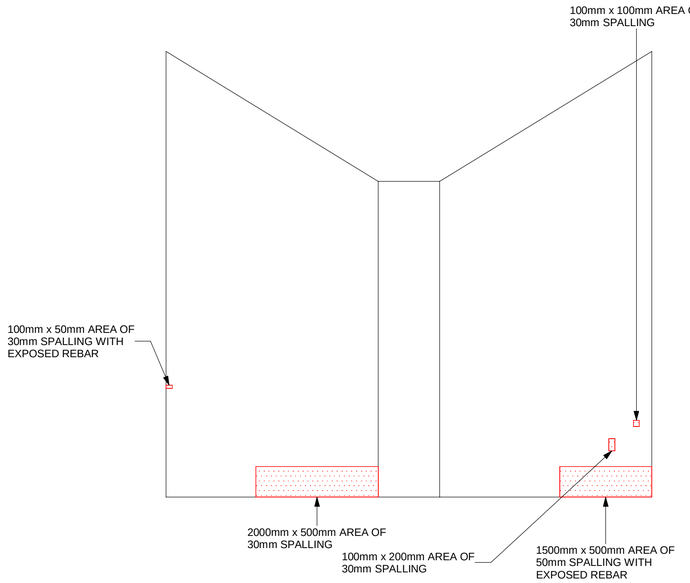
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CENTRE EAST ABUTMENT FACE GENERAL DEFECTS:

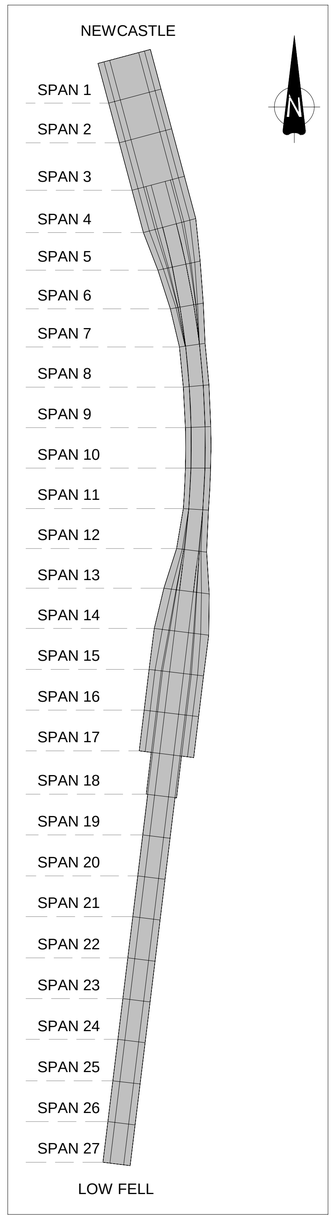
- GRAFFITI THROUGHOUT CENTRE ABUTMENT EAST RAMP ABUTMENT FACE



CENTRE WEST ABUTMENT FACE (WEST RAMP)



CENTRE EAST ABUTMENT FACE (EAST RAMP)



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SUITABILITY

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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
CENTRAL ABUTMENT FACE

CONSULTANT

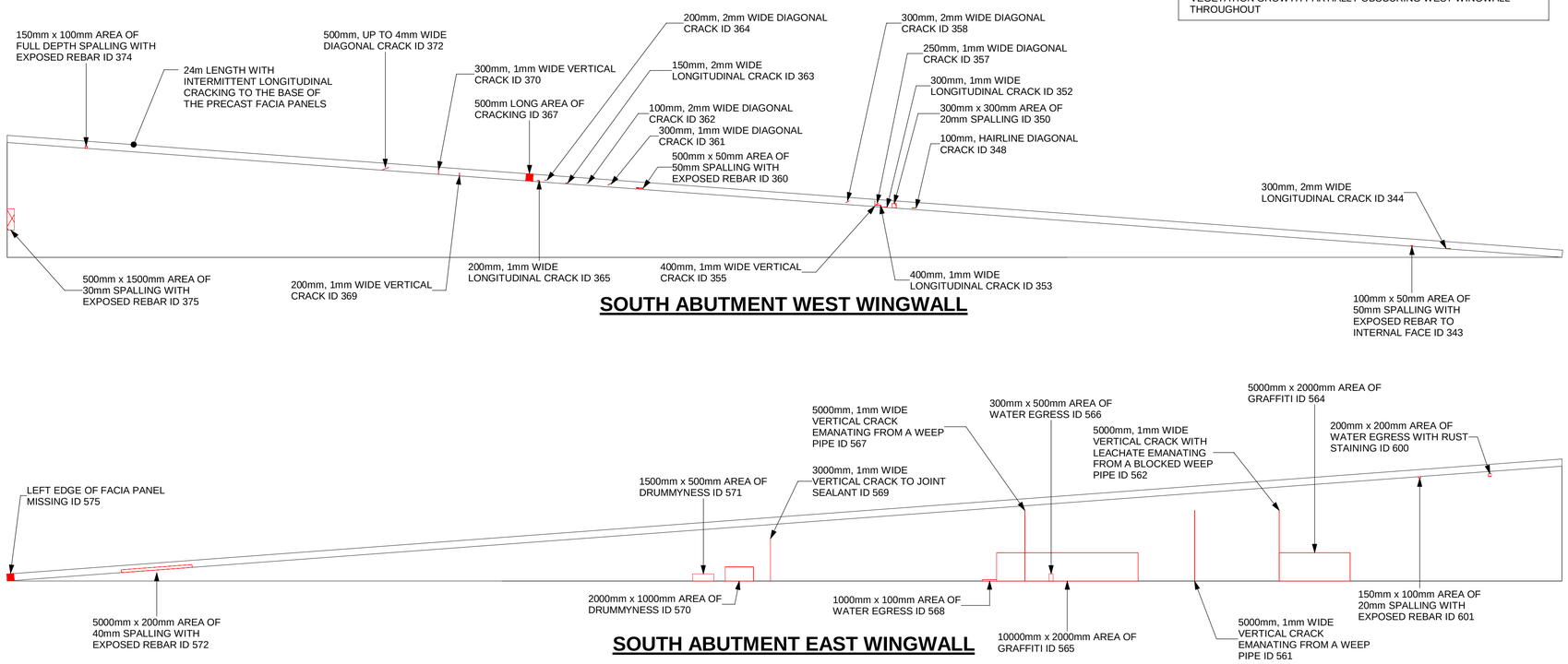
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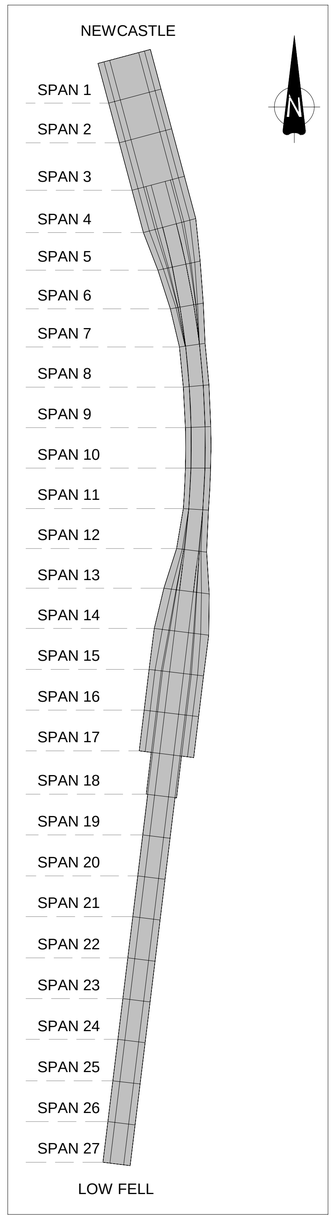


SOUTH ABUTMENT WEST WINGWALL

GENERAL DEFECTS:

- VEGETATION GROWTH PARTIALLY OBSCURING WEST WINGWALL THROUGHOUT

SOUTH ABUTMENT EAST WINGWALL



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SOUTH ABUTMENT WINGWALLS

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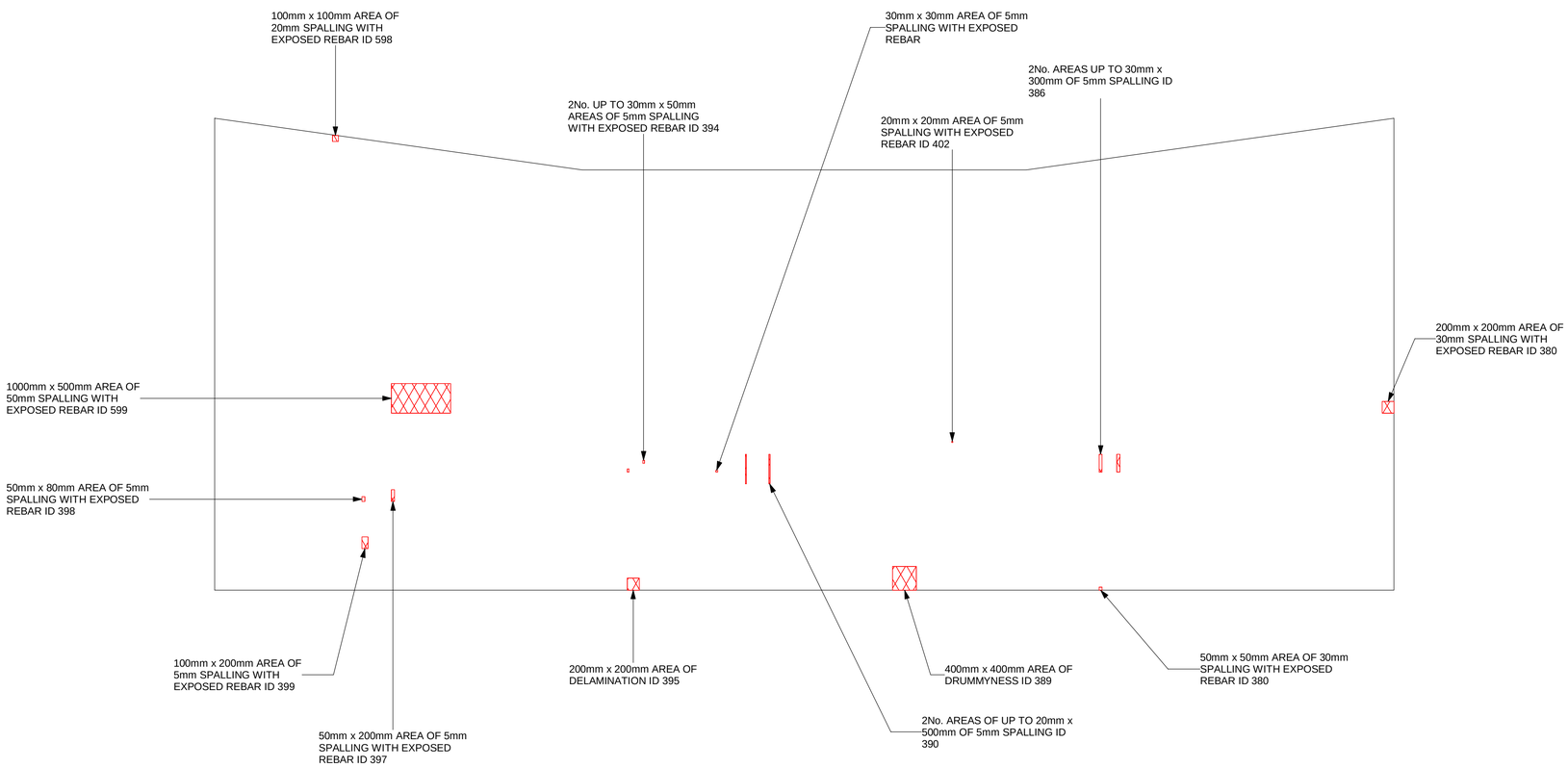
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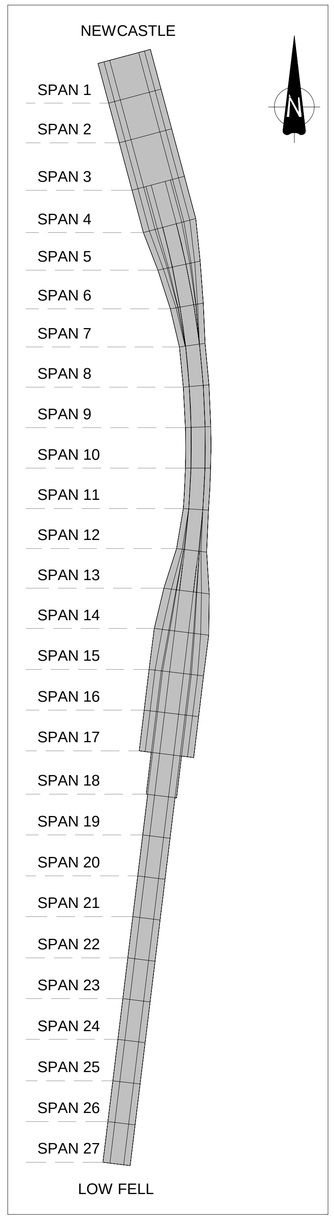
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SOUTH ABUTMENT FACE



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SOUTH ABUTMENT FACE

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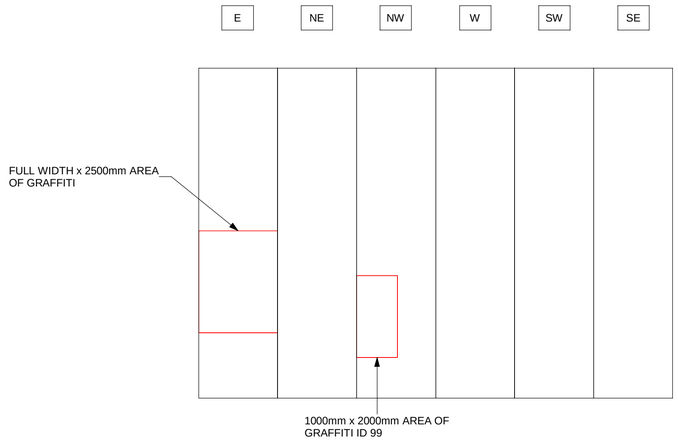
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

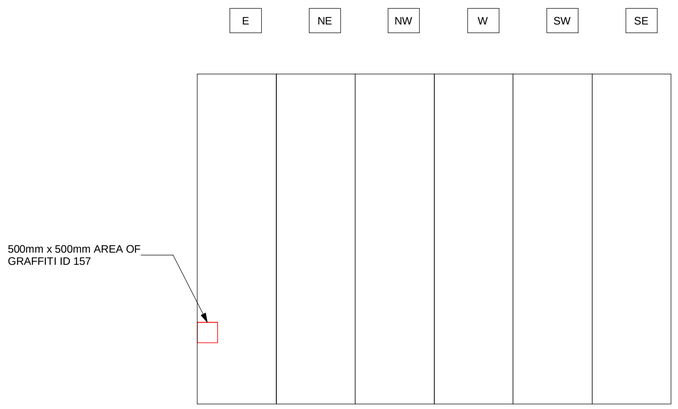


IS1 EAST PIER

SCALE 1 : 75

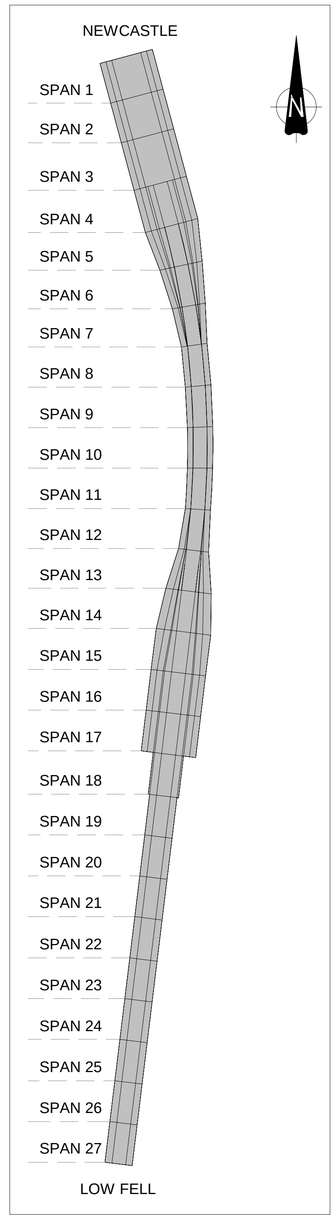
GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS1 WEST PIER

SCALE 1 : 75



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4. THE DEVELOPED VIEWS OF THE CENTRAL PIERS ARE IDEALISED AND NOT THE TRUE SHAPE GIVEN THE COMPLEXITIES OF THE 'V' NATURE OF THE PIERS

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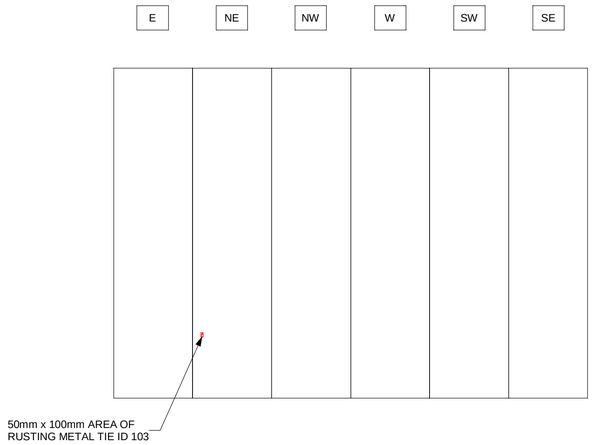
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

EAST PIER GENERAL DEFECTS:

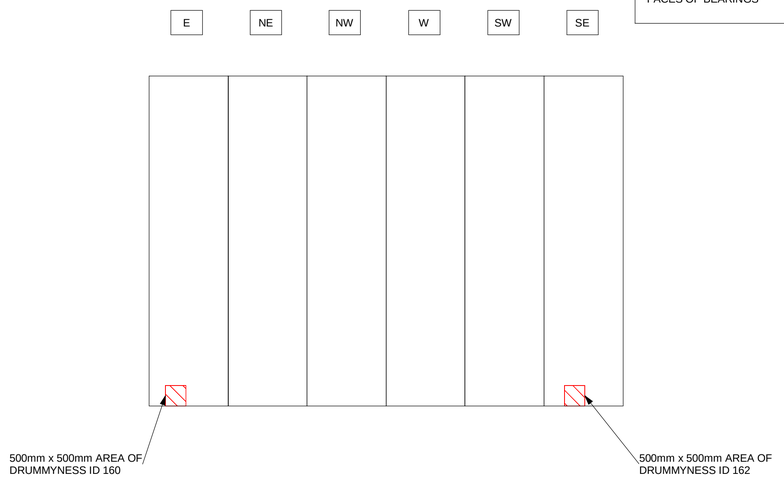
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



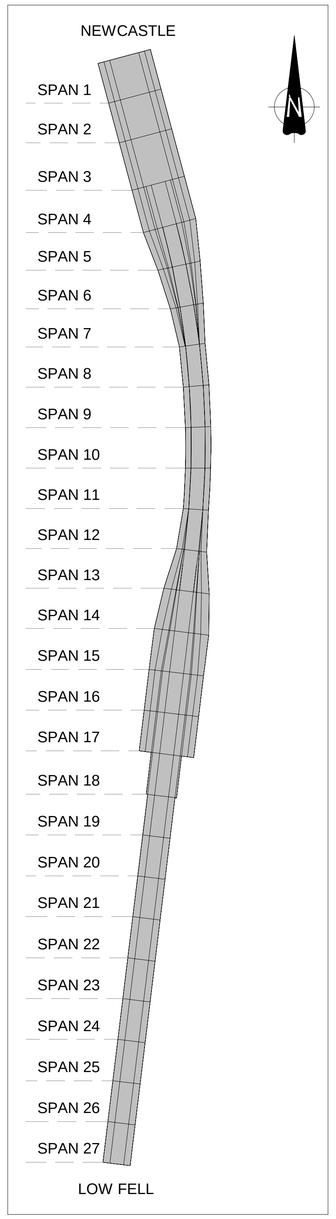
IS2 EAST PIER

WEST PIER GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS2 WEST PIER



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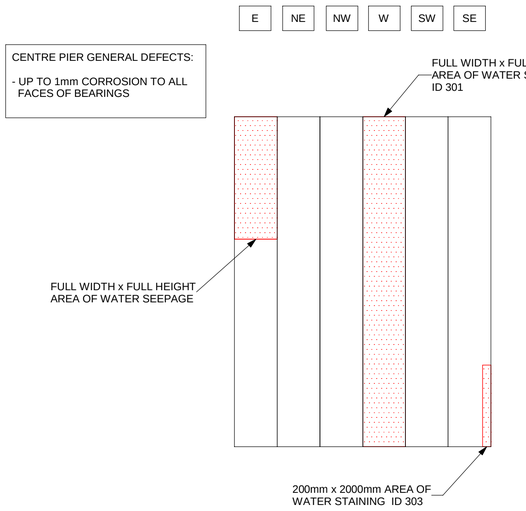
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EAST PIER GENERAL DEFECTS:

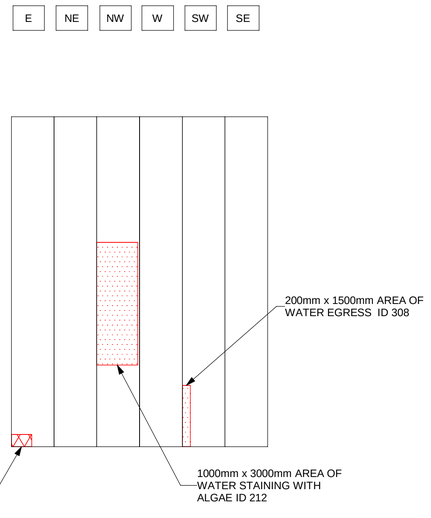
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

IS3 EAST PIER



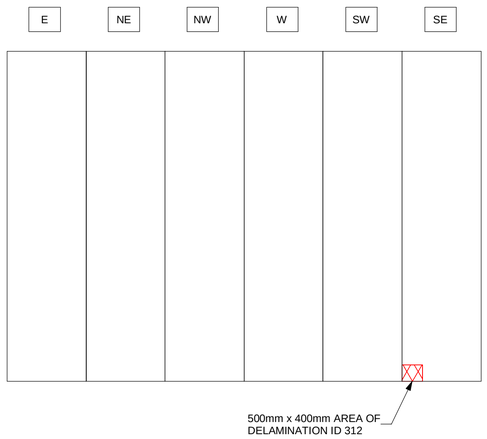
CENTRE PIER GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS3 CENTRAL PIER WEST COLUMN

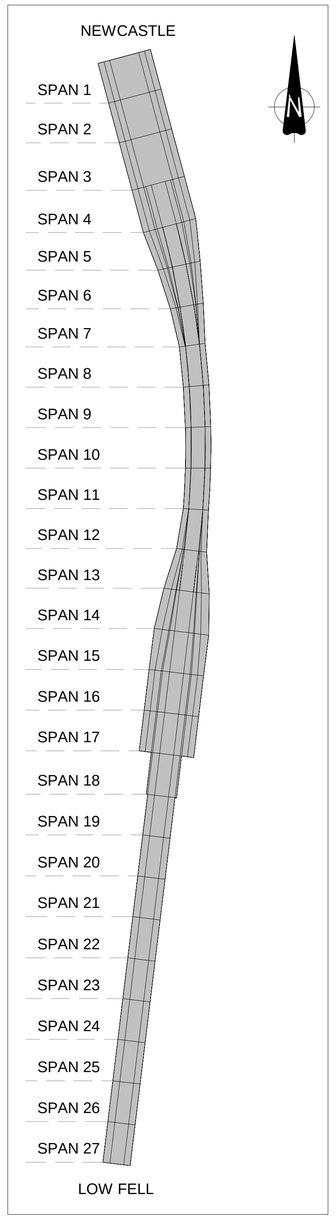
IS3 CENTRAL PIER EAST COLUMN



WEST PIER GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

IS3 WEST PIER



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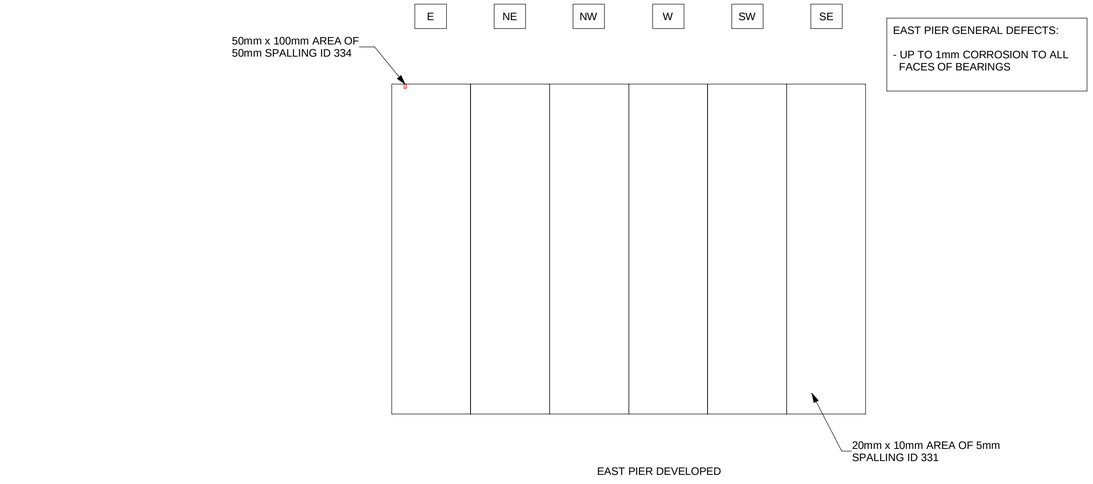
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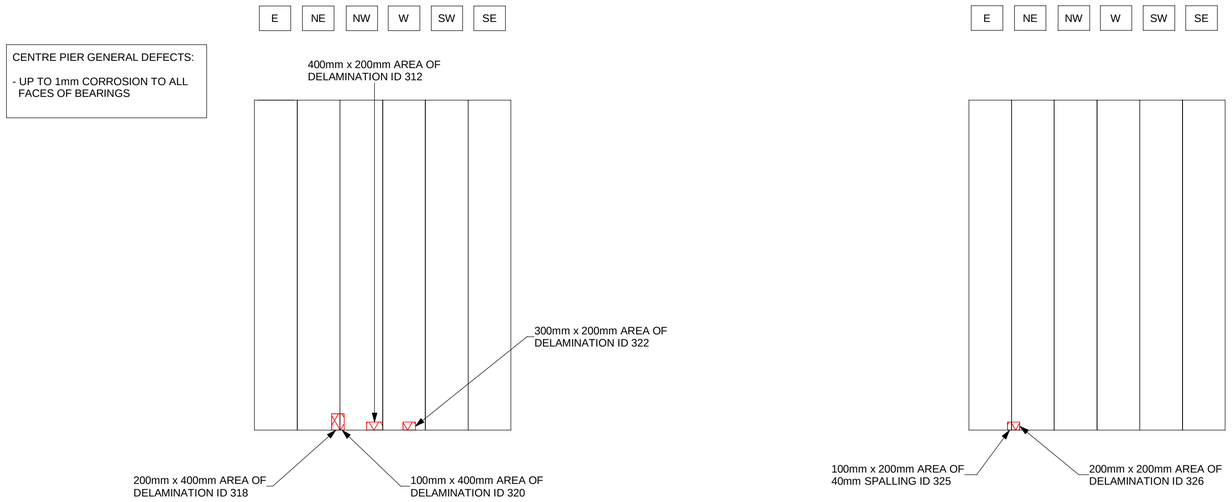
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

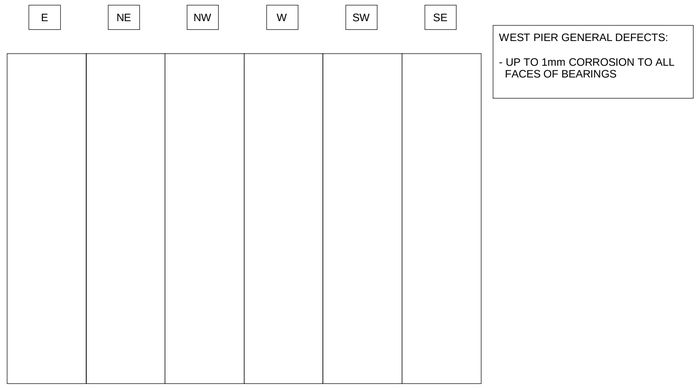


IS4 EAST PIER

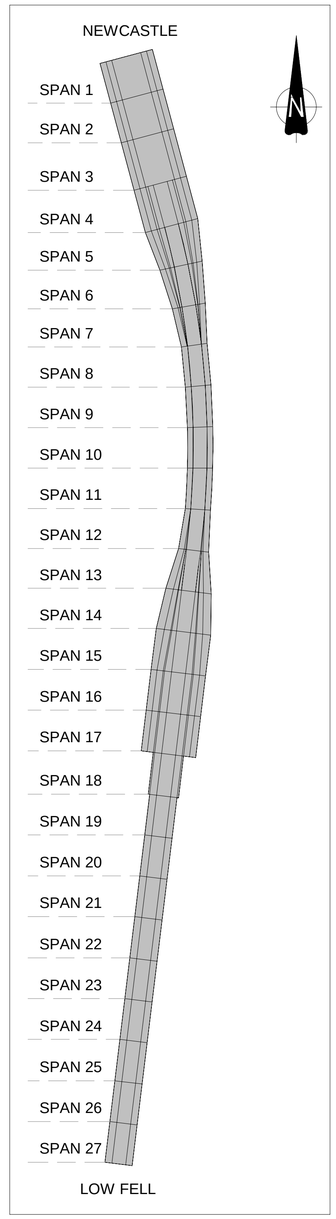


IS4 CENTRAL PIER WEST COLUMN

IS4 CENTRAL PIER EAST COLUMN



IS4 WEST PIER



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NOTES

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS4 ELEMENTS

CONSULTANT

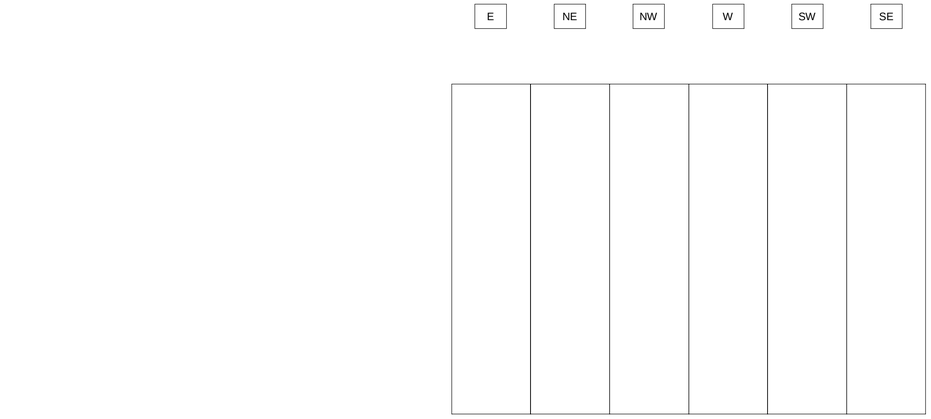
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60713768 -ACM -XX -GV -M3 -CE -000043 __P01

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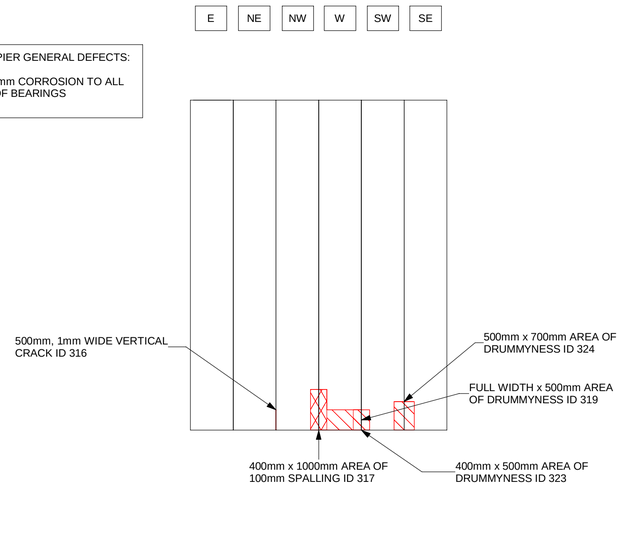


EAST PIER GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

EAST PIER DEVELOPED

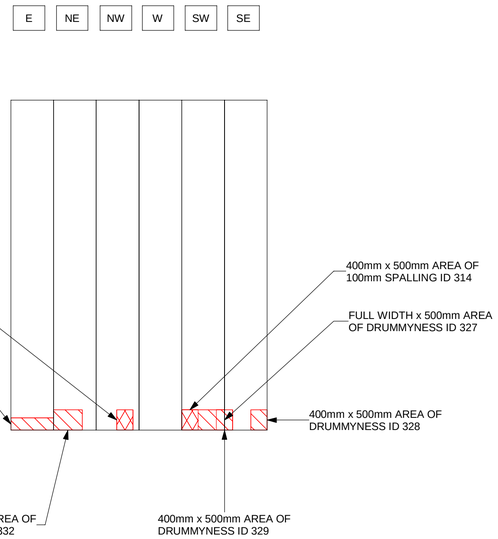
IS5 EAST PIER



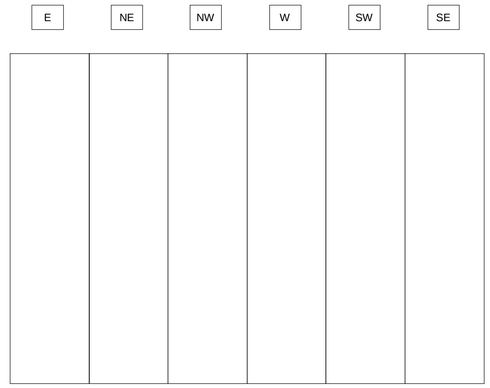
CENTRE PIER GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

IS5 CENTRAL PIER WEST COLUMN



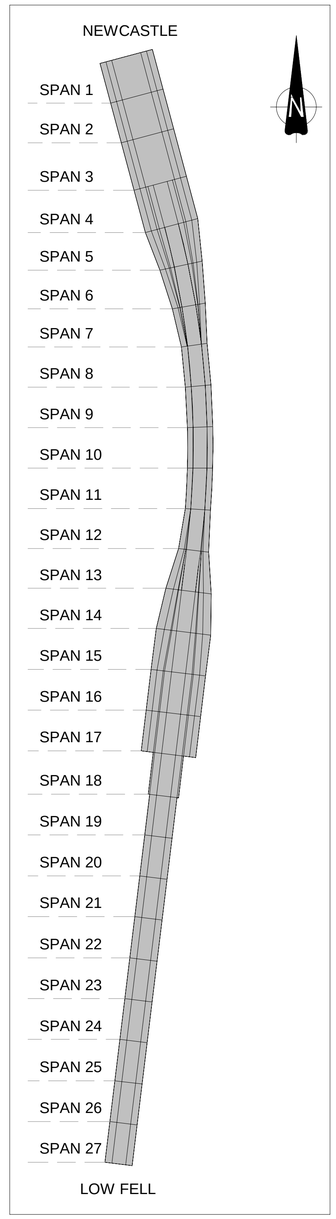
IS5 CENTRAL PIER EAST COLUMN



WEST PIER GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

IS5 WEST PIER



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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS5 ELEMENTS

CONSULTANT

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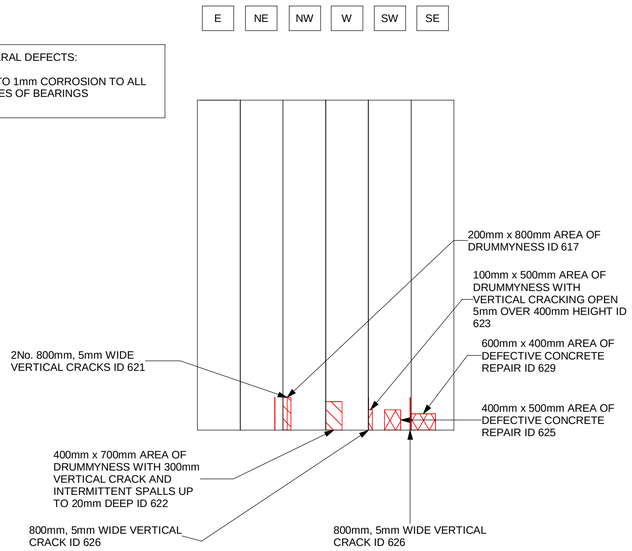
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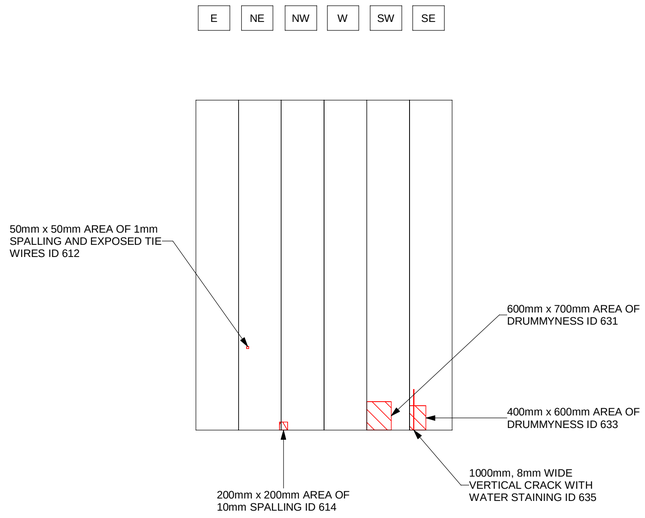
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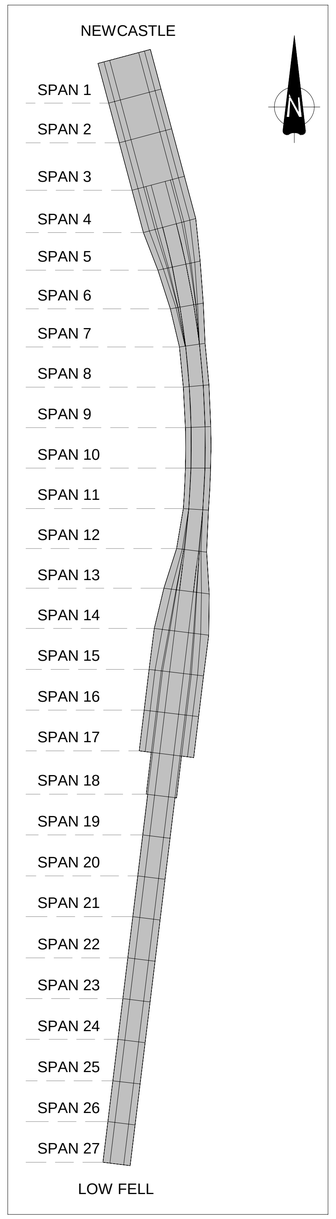
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS6 CENTRAL PIER WEST COLUMN



IS6 CENTRAL PIER EAST COLUMN



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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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CIVIC CENTRE,
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GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS6 ELEMENTS

CONSULTANT

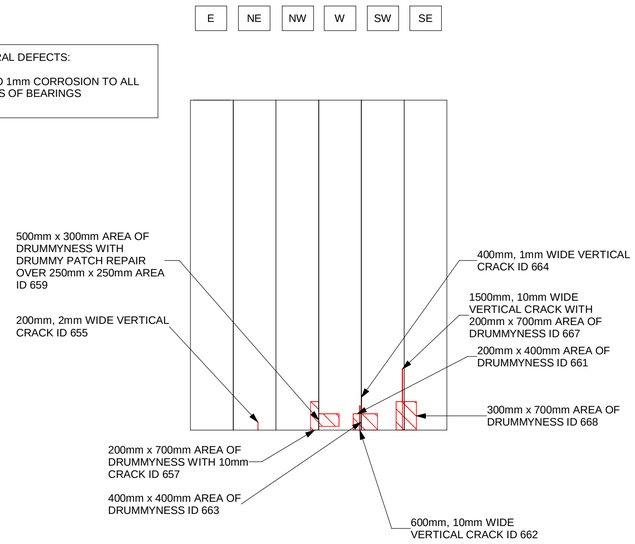
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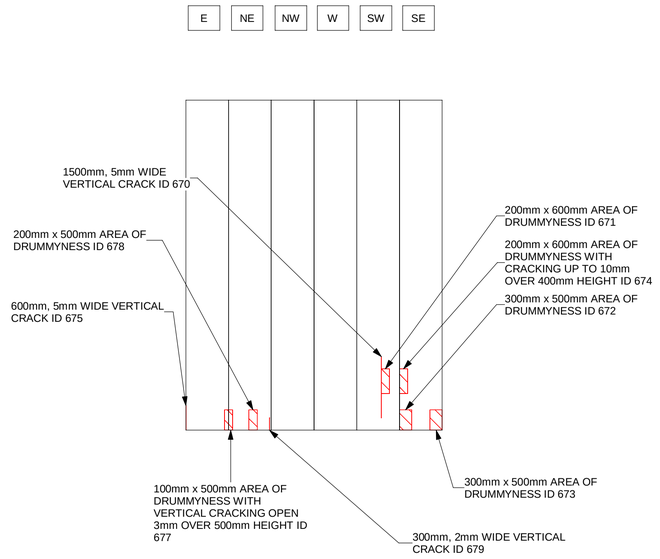
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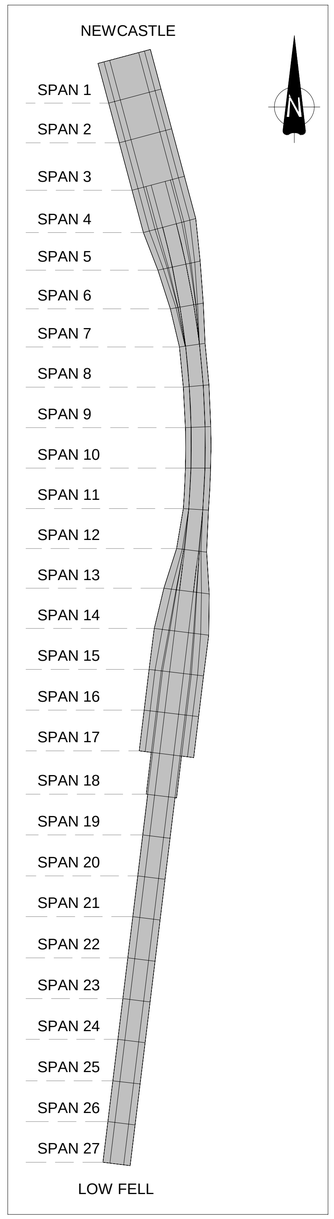
GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

IS7 CENTRAL PIER WEST COLUMN



IS7 CENTRAL PIER EAST COLUMN



NOTES

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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS7 ELEMENTS

CONSULTANT

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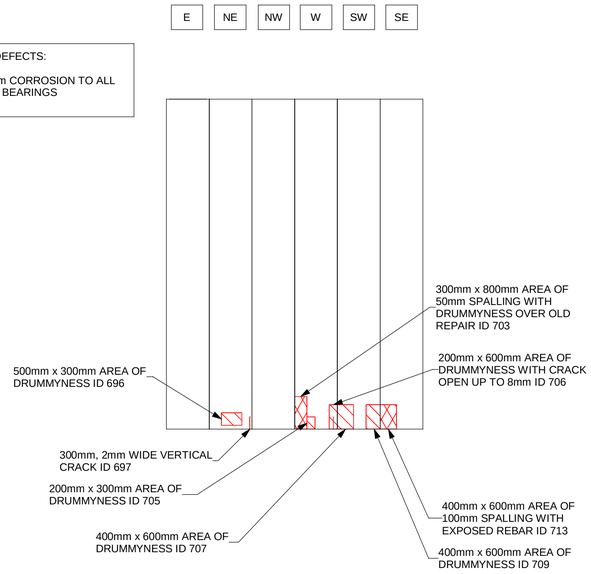
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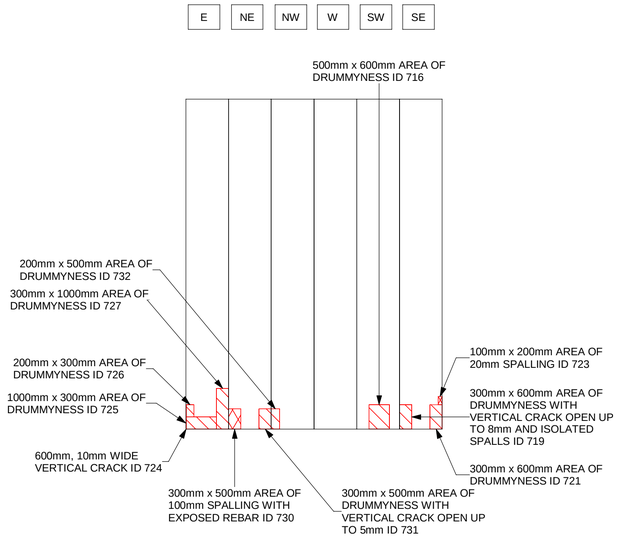
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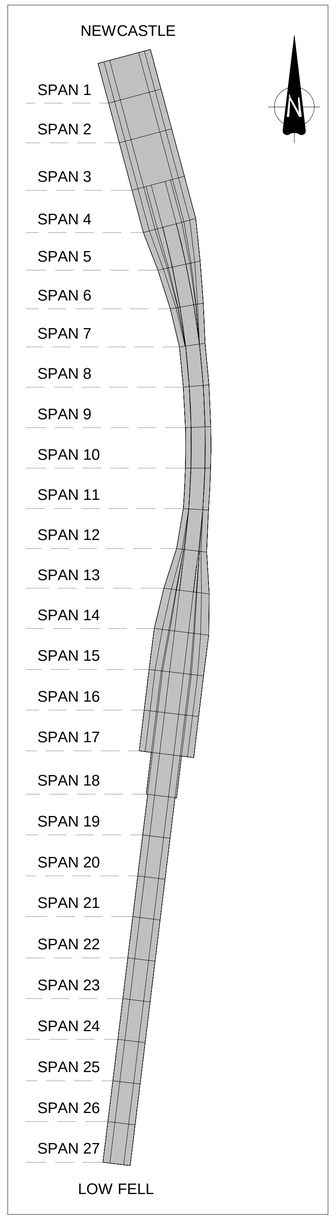
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS8 CENTRAL PIER WEST COLUMN



IS8 CENTRAL PIER EAST COLUMN



NOTES

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I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS8 ELEMENTS

CONSULTANT

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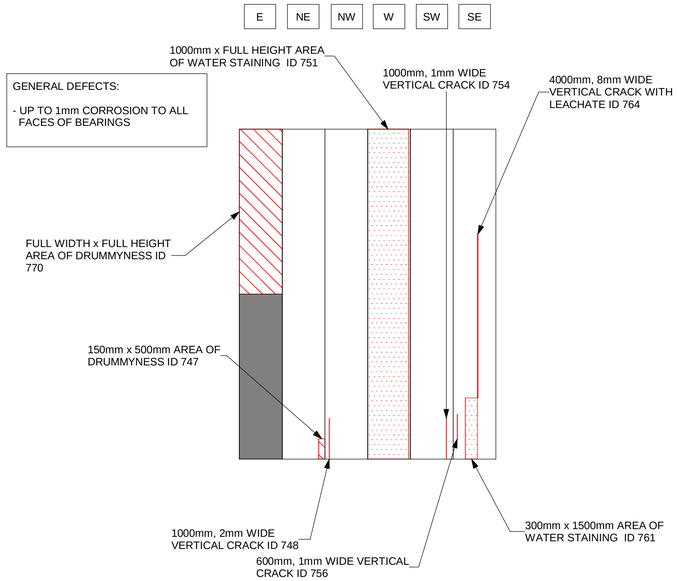
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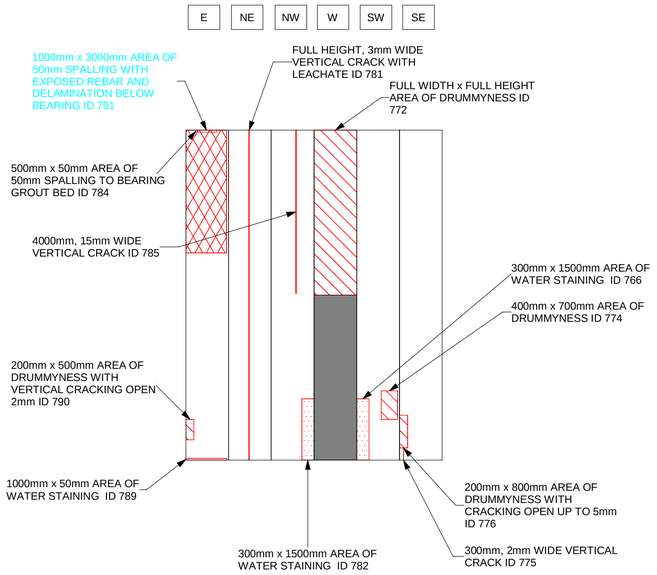
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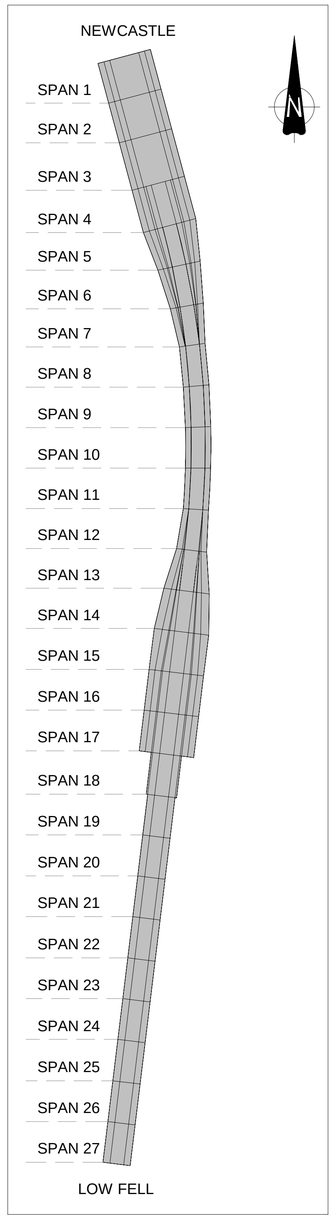
Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm



IS9 CENTRAL PIER WEST COLUMN



IS9 CENTRAL PIER EAST COLUMN



NOTES

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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS9 ELEMENTS

CONSULTANT

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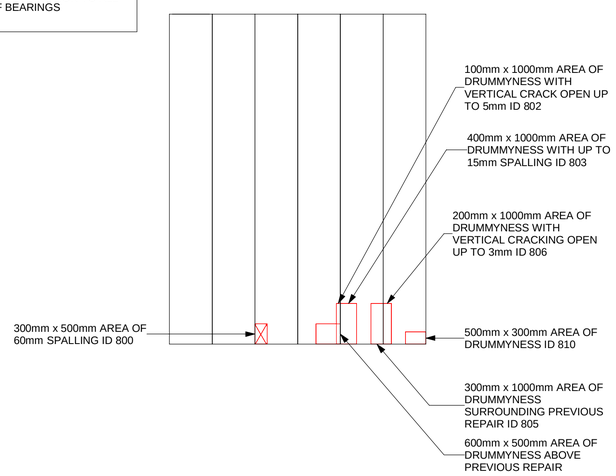
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E NE NW W SW SE

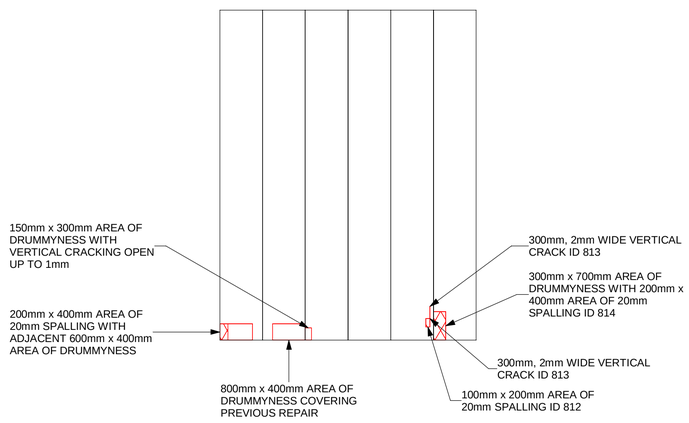
GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

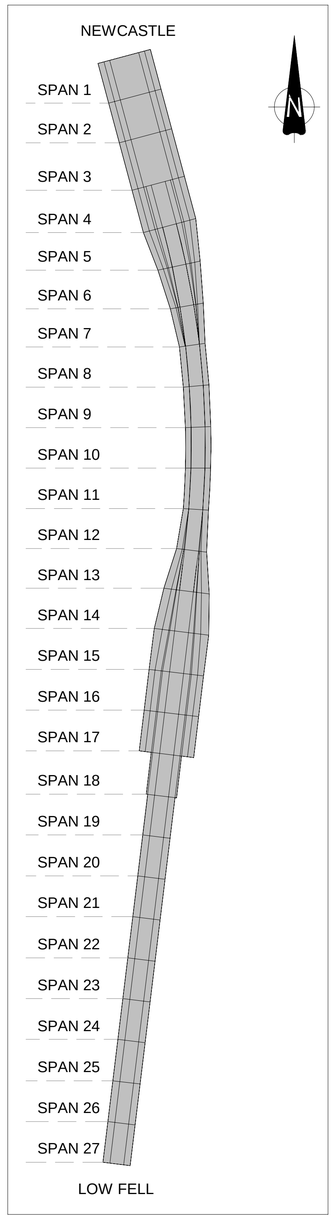


IS10 CENTRAL PIER WEST COLUMN

E NE NW W SW SE



IS10 CENTRAL PIER EAST COLUMN



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I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS10 ELEMENTS

CONSULTANT

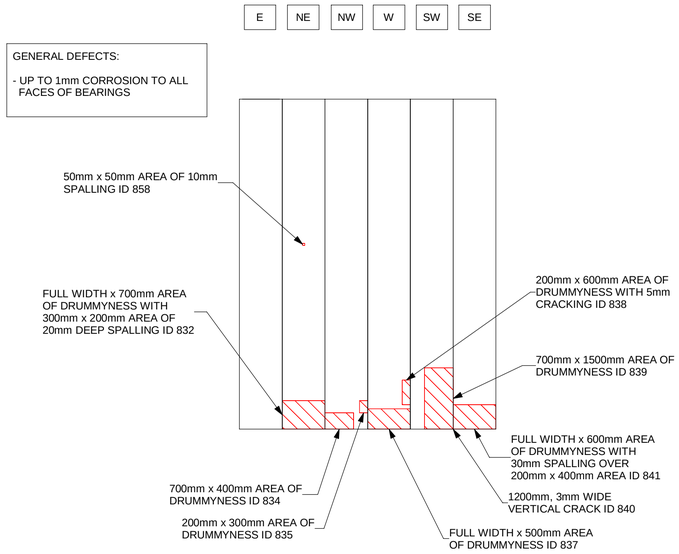
AECOM
One Trinity Gardens
Newcastle upon Tyne
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www.aecom.com

SHEET NUMBER

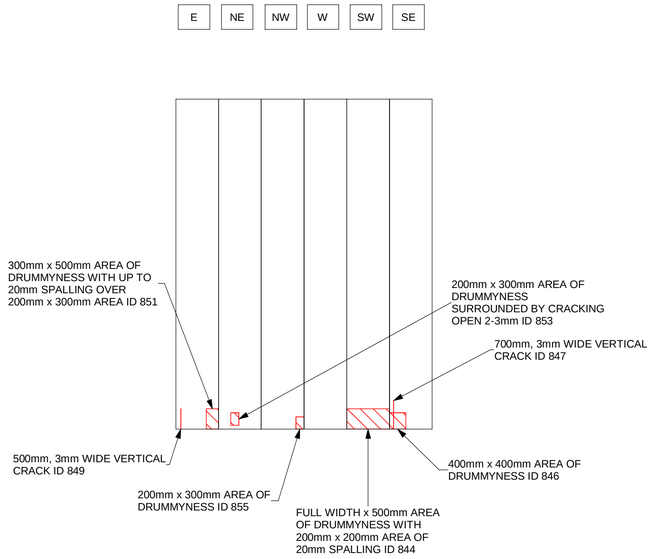
60713768 -ACM -XX -GV -M3 -CE -000101 __P01

Last Plotted: 29/01/2025 13:30:55
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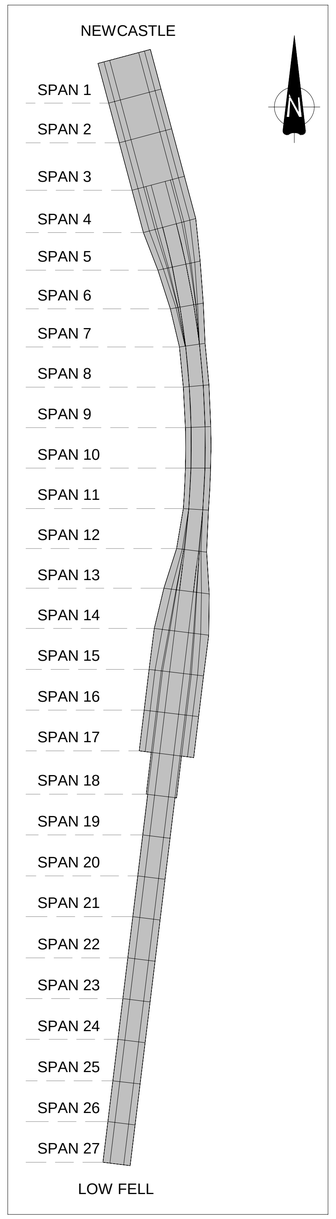
Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm



IS11 CENTRAL PIER WEST COLUMN



IS11 CENTRAL PIER EAST COLUMN



NOTES

1. DO NOT SCALE FROM THIS DRAWING.
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4. THE DEVELOPED VIEWS OF THE CENTRAL PIERS ARE IDEALISED AND NOT THE TRUE SHAPE GIVEN THE COMPLEXITIES OF THE 'V' NATURE OF THE PIERS

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS11 ELEMENTS

CONSULTANT

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SHEET NUMBER

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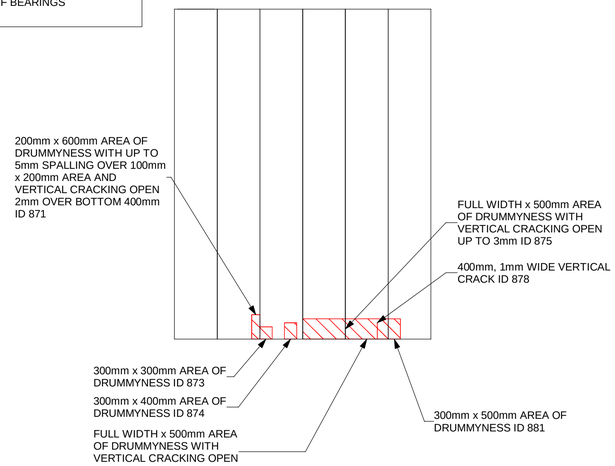
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

E | NE | NW | W | SW | SE

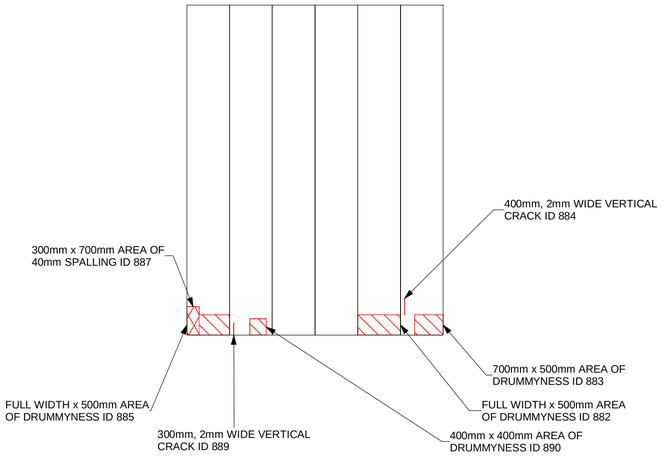
GENERAL DEFECTS:

- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS

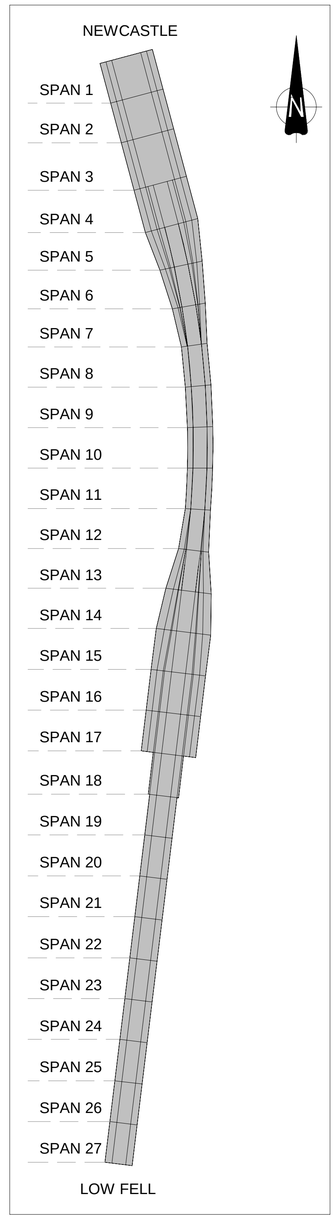


IS12 CENTRAL PIER WEST COLUMN

E | NE | NW | W | SW | SE



IS12 CENTRAL PIER EAST COLUMN



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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS12 ELEMENTS

CONSULTANT

AECOM
One Trinity Gardens
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www.aecom.com

SHEET NUMBER

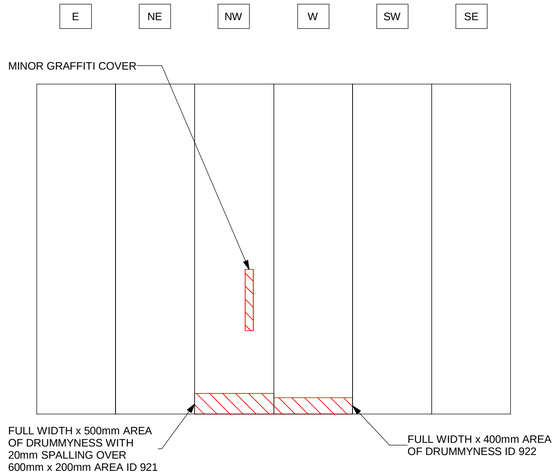
60713768 -ACM -XX -GV -M3 -CE -000121 __P01

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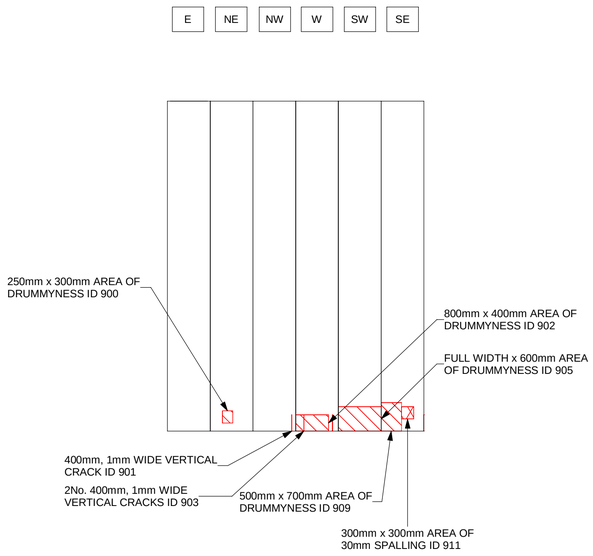
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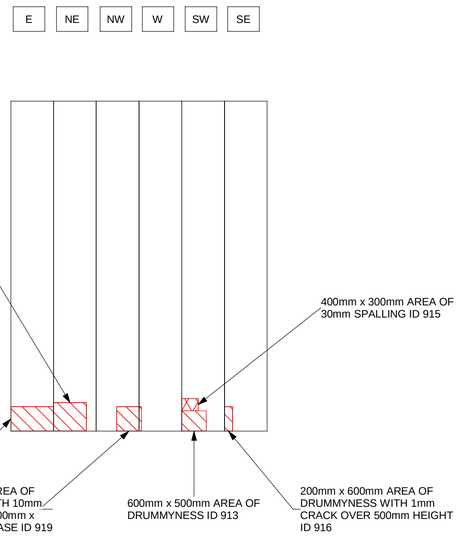
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



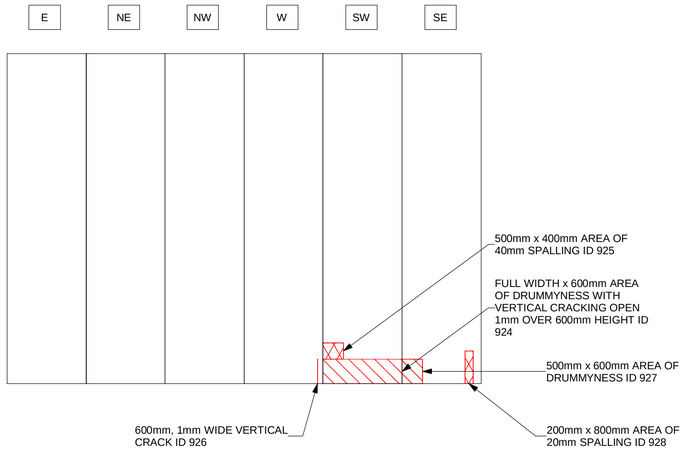
IS13 EAST PIER



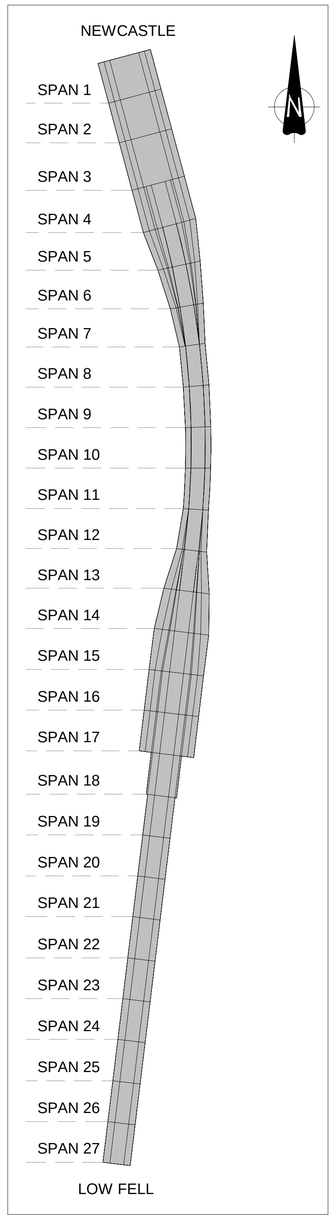
IS13 CENTRAL PIER WEST COLUMN



IS13 CENTRAL PIER EAST COLUMN



IS13 WEST PIER



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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS13 ELEMENTS

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000131 __P01

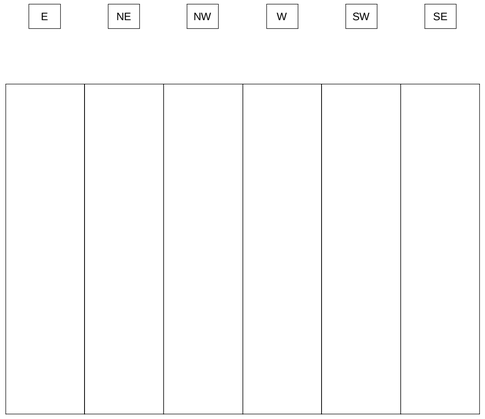
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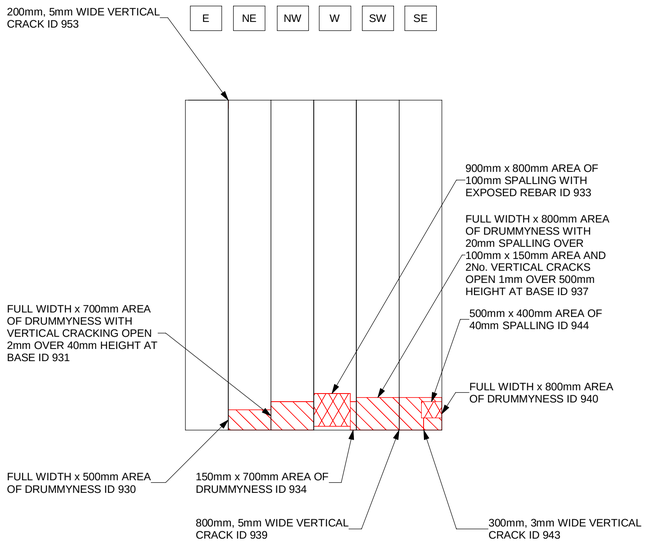
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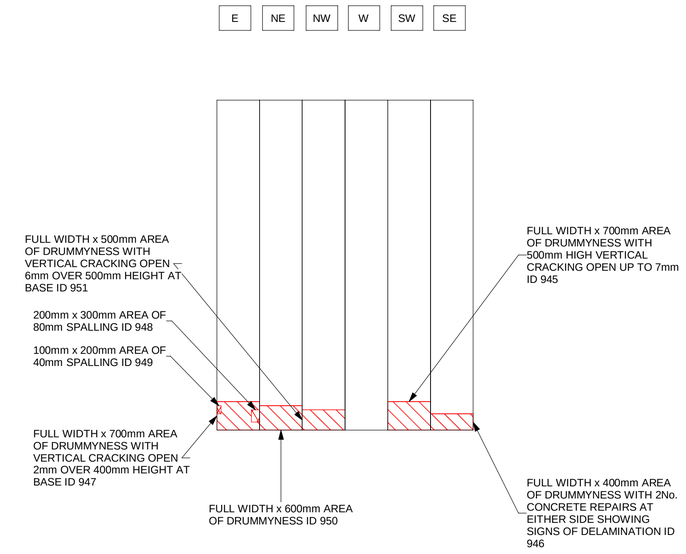
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



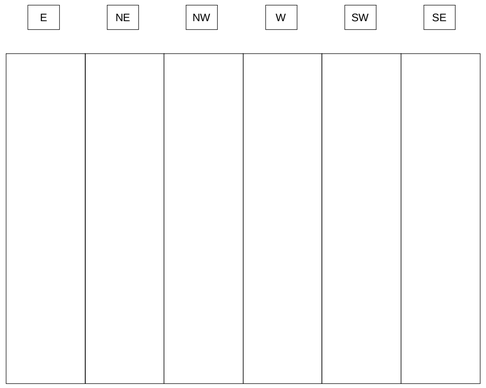
IS14 EAST PIER



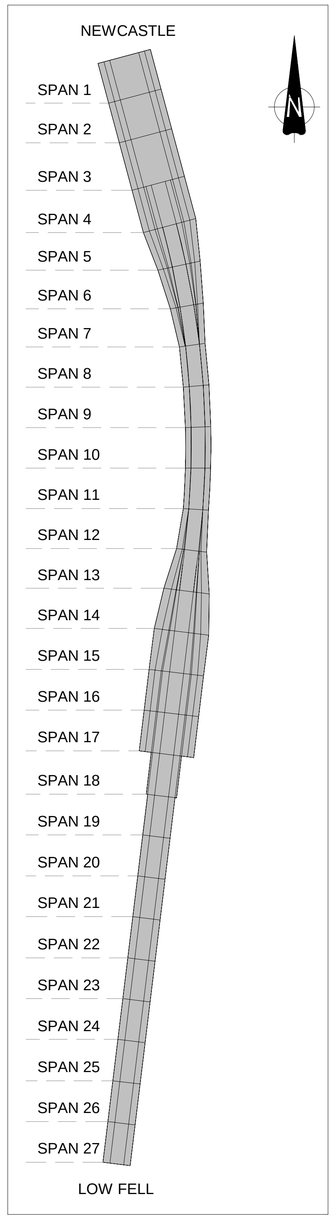
IS14 CENTRAL PIER WEST COLUMN



IS14 CENTRAL PIER EAST COLUMN



IS14 WEST PIER



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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS14 ELEMENTS

CONSULTANT

AECOM
One Trinity Gardens
Newcastle upon Tyne
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SHEET NUMBER

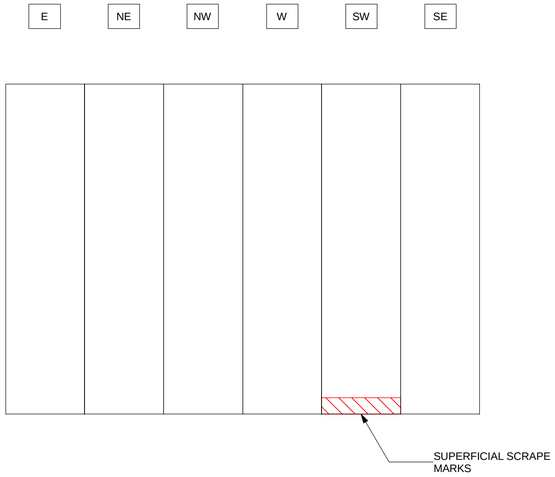
60713768 -ACM -XX -GV -M3 -CE -000143 __P01

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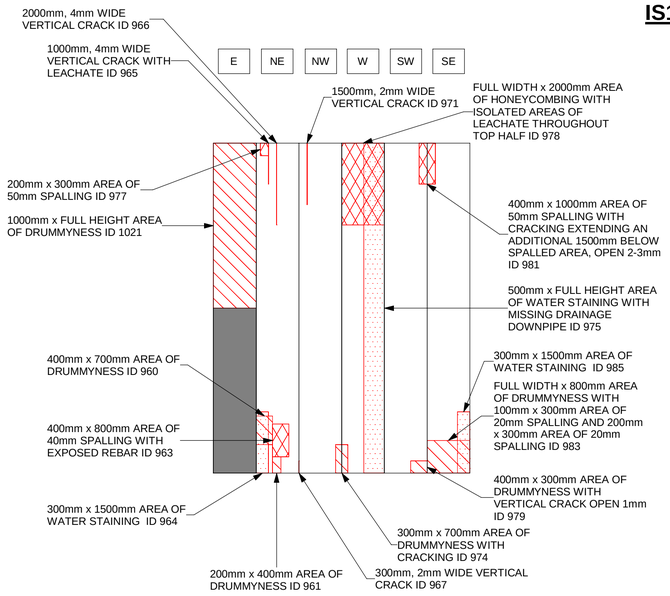
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GENERAL DEFECTS:

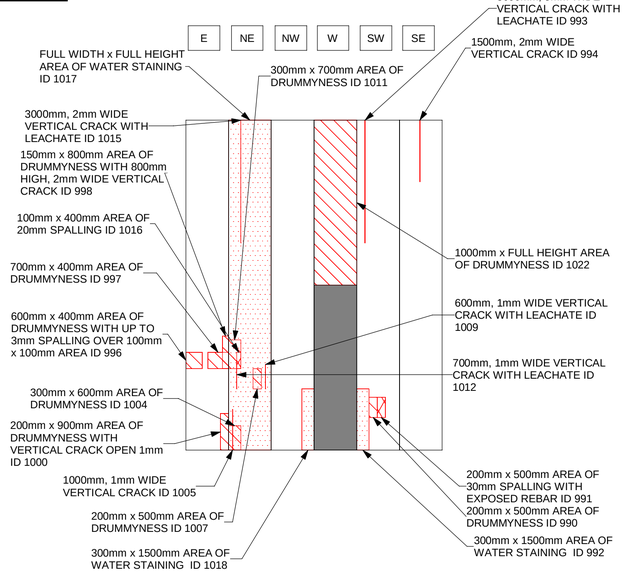
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



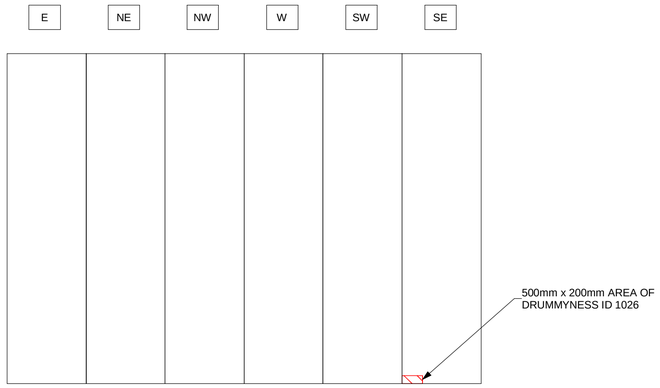
IS15 EAST PIER



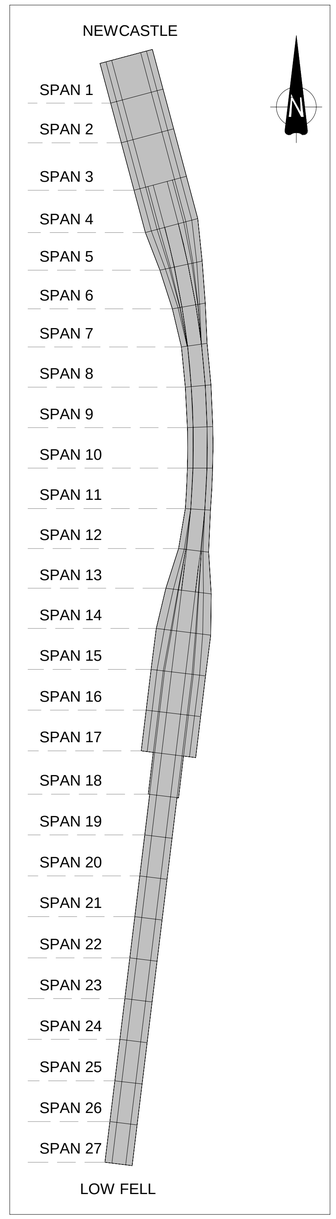
IS15 CENTRAL PIER WEST COLUMN



IS15 CENTRAL PIER EAST COLUMN



IS15 WEST PIER



NOTES

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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS15 ELEMENTS

CONSULTANT

One Trinity Gardens
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SHEET NUMBER

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Filename: Autodesk Docs://TR_EURI_(UK)_60713768_Gateshead Viaduct PI 2023/60713768-ACM-GV-M3-CE-000001_P01.rvt

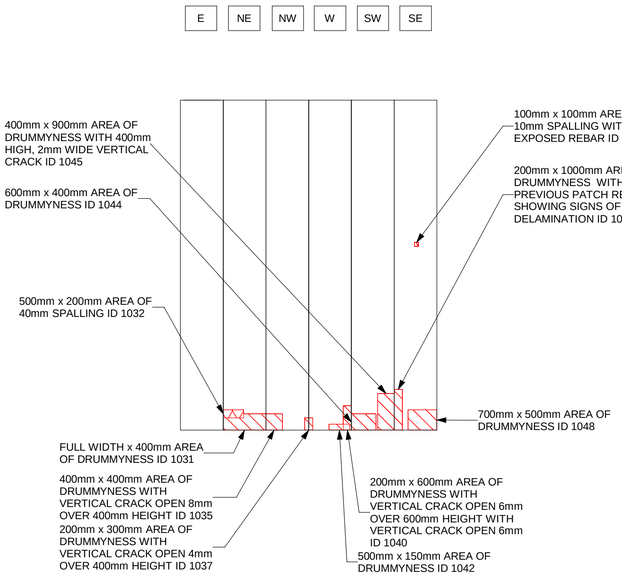
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GENERAL DEFECTS:

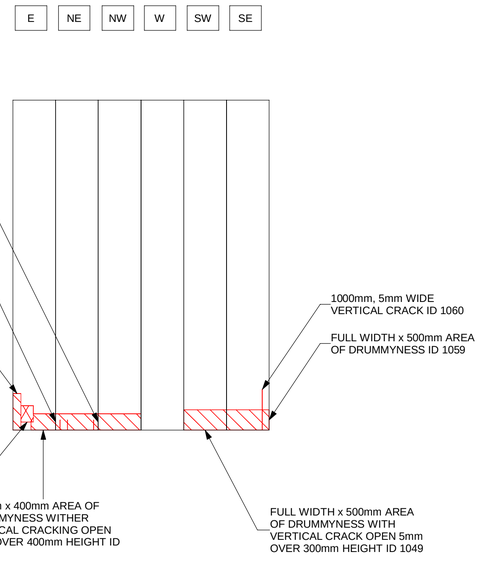
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS
- WATER STAINING OVER BOTTOM 1000mm WITH SIGNS OF DETERIORATION TO CENTRAL RESERVE
- RUST TO BEARINGS



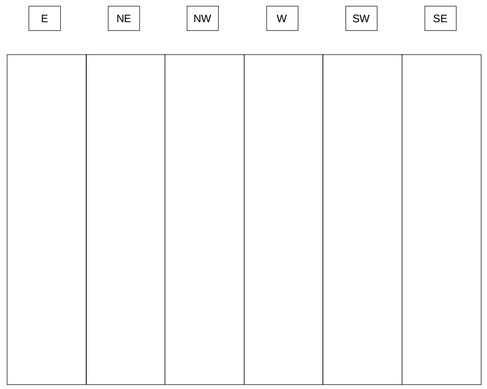
IS16 EAST PIER



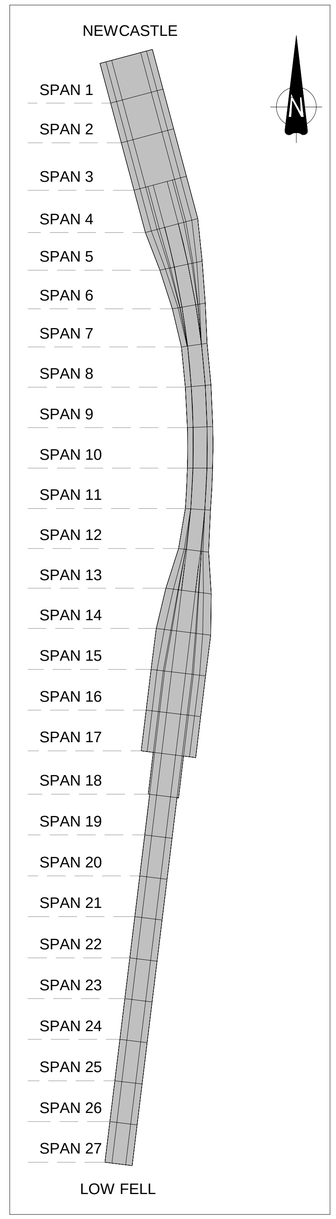
IS16 CENTRAL PIER WEST COLUMN



IS16 CENTRAL PIER EAST COLUMN



IS16 WEST PIER



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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS16 ELEMENTS

CONSULTANT

One Trinity Gardens
Newcastle upon Tyne
T: 0191 224 6500 F: 0191 224 6599
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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000163 __P01

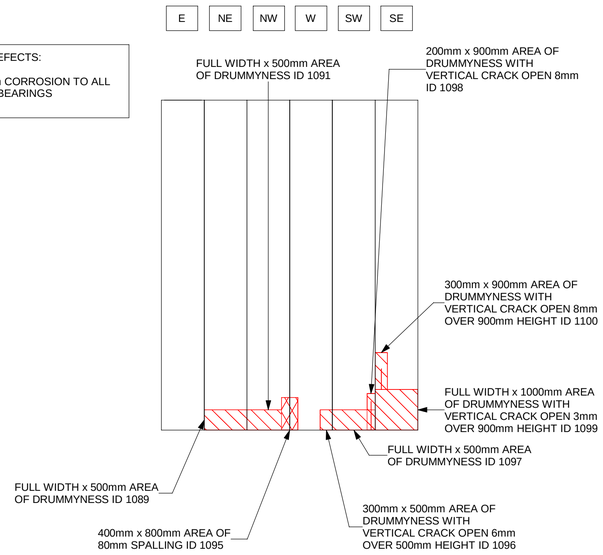
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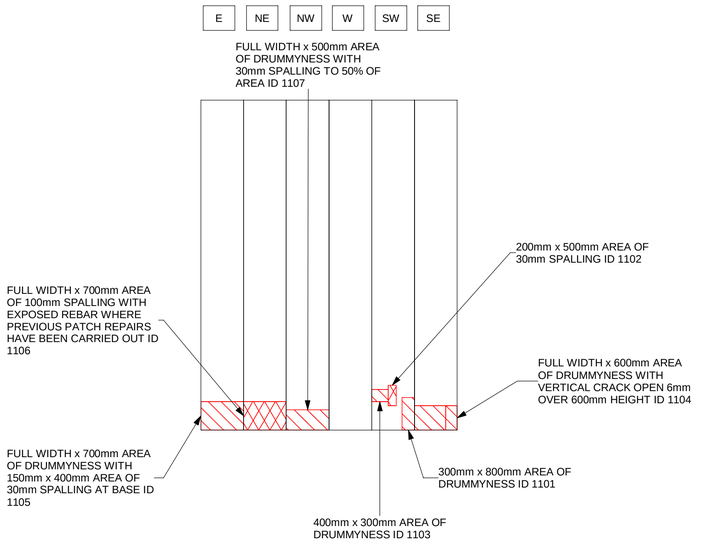
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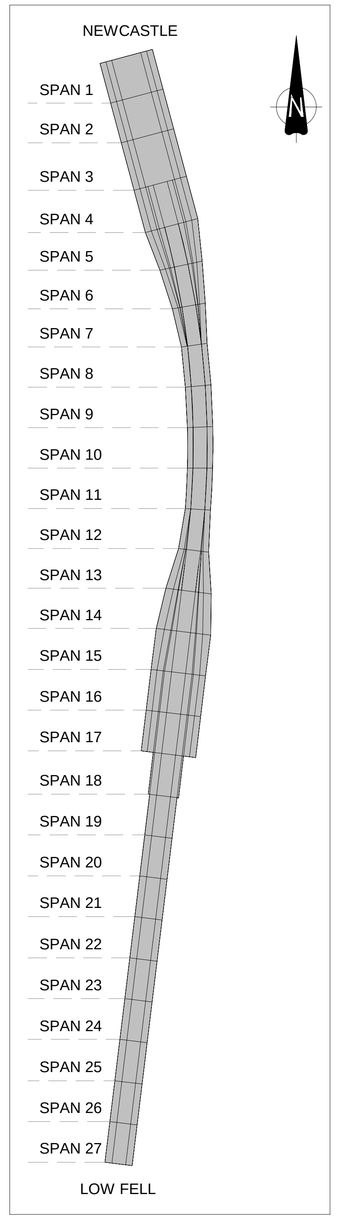
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS17 CENTRAL PIER WEST COLUMN



IS17 CENTRAL PIER EAST COLUMN



NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
3. GIVEN THE TIME CONSTRAINTS INVOLVED WITH THE INSPECTION AND THE VOLUME OF DELAMINATED CONCRETE, THE INSPECTION TEAM COULD NOT REMOVE ALL DELAMINATED CONCRETE. ANY AREAS OF SUCH DELAMINATED AND LOOSE CONCRETE ARE HIGHLIGHTED IN BLUE IN THE DRAWINGS. IT IS RECOMMENDED THAT THE COUNCIL ARRANGE FOR THESE AREAS TO BE SAFELY REMOVED.
4. THE DEVELOPED VIEWS OF THE CENTRAL PIERS ARE IDEALISED AND NOT THE TRUE SHAPE GIVEN THE COMPLEXITIES OF THE 'V' NATURE OF THE PIERS

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS17 ELEMENTS

CONSULTANT

One Trinity Gardens
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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000173 __P01

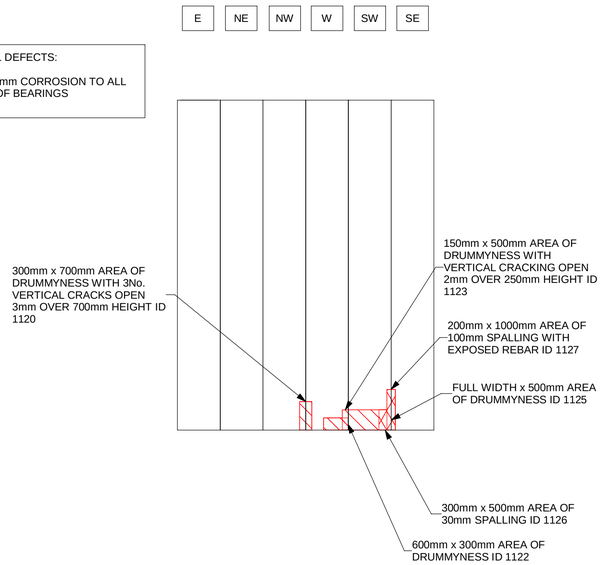
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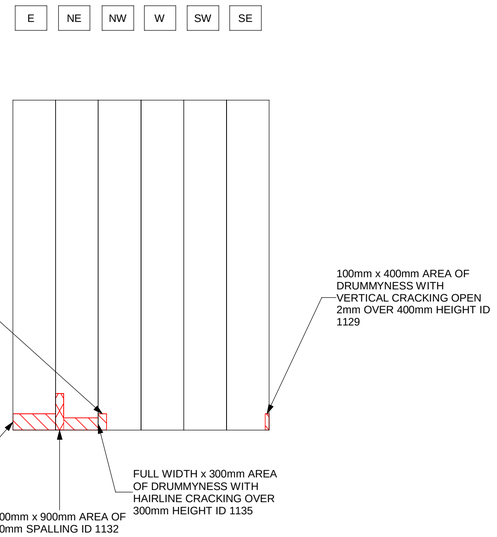
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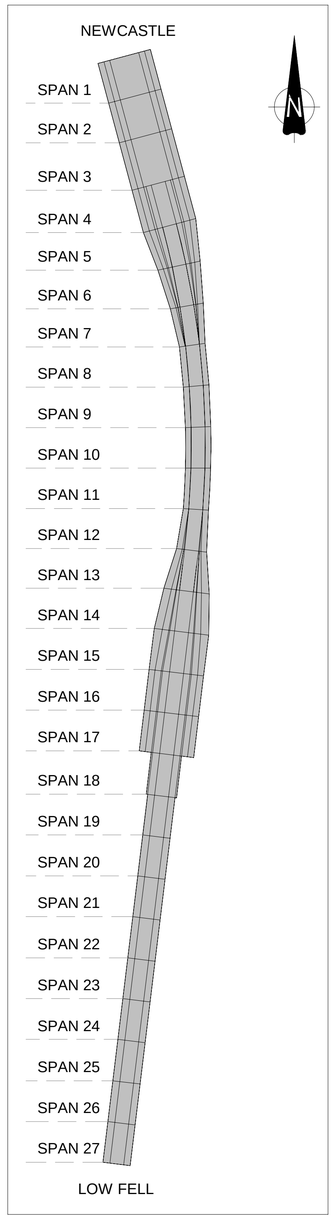
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS18 CENTRAL PIER WEST COLUMN



IS18 CENTRAL PIER EAST COLUMN



NOTES

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS18 ELEMENTS

CONSULTANT

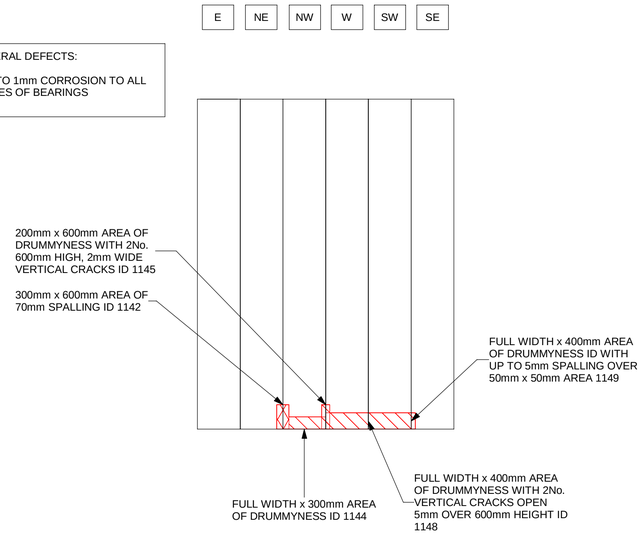
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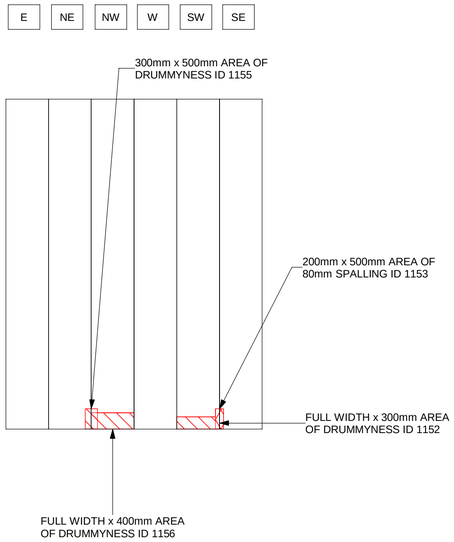
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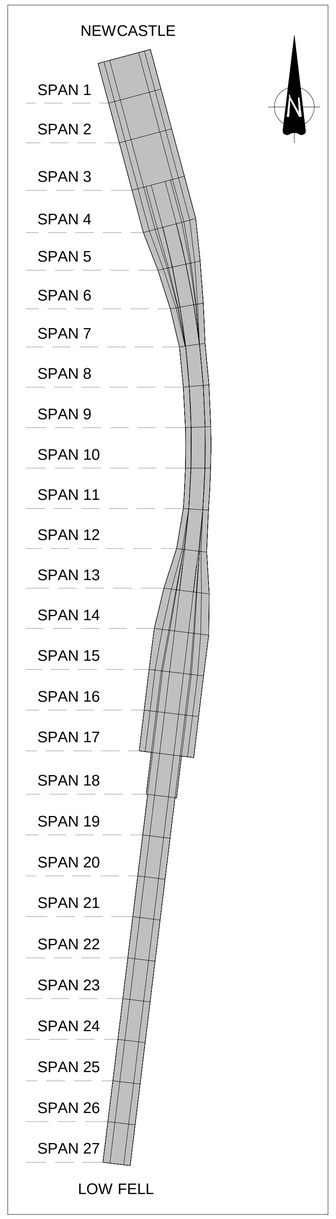
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IS19 CENTRAL PIER WEST COLUMN



IS19 CENTRAL PIER EAST COLUMN



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ISSUE/REVISION

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS19 ELEMENTS

CONSULTANT

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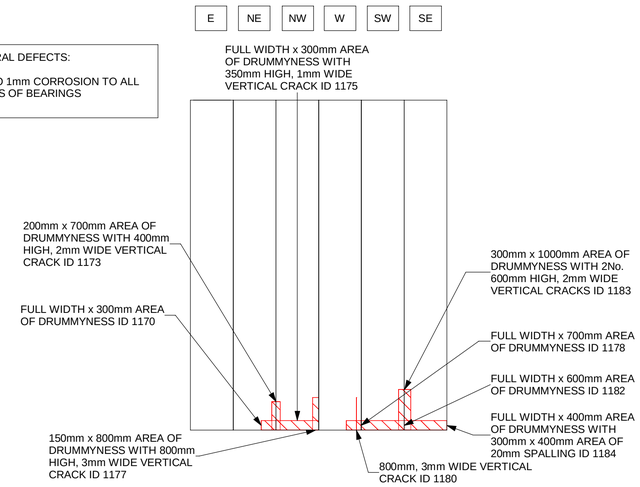
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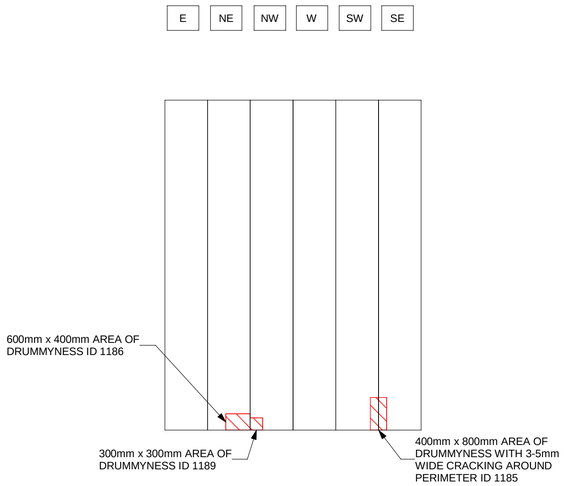
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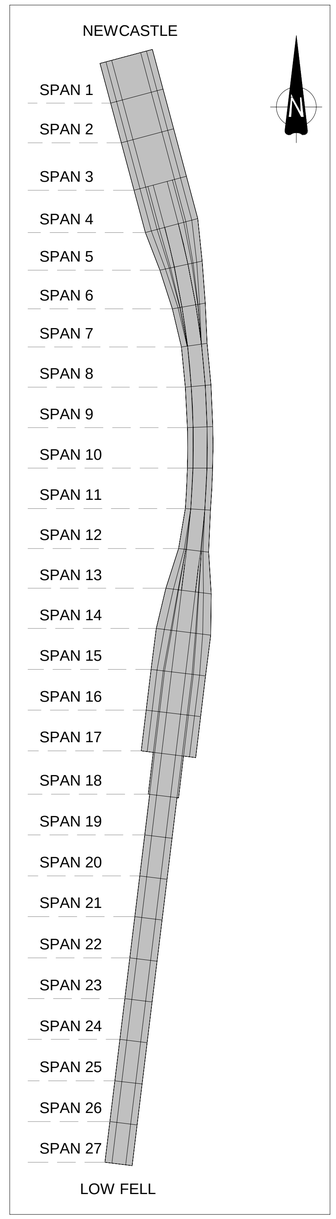
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS20 CENTRAL PIER WEST COLUMN



IS20 CENTRAL PIER EAST COLUMN



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NOTES

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ISSUE/REVISION

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS20 ELEMENTS

CONSULTANT

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60713768 -ACM -XX -GV -M3 -CE -000201 __P01

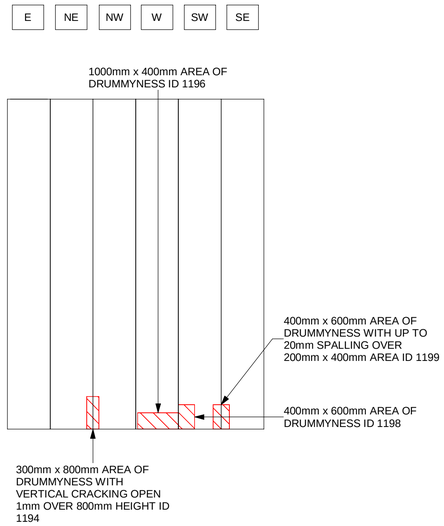
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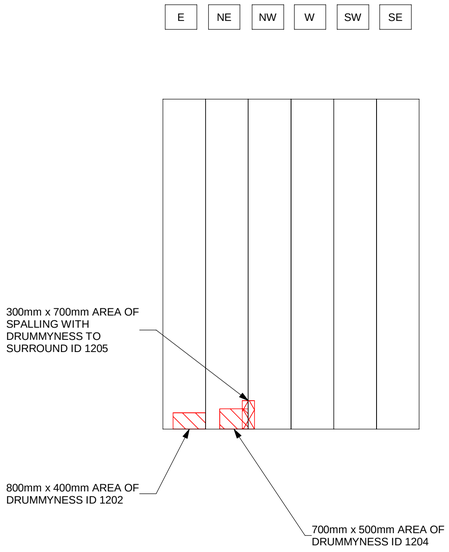
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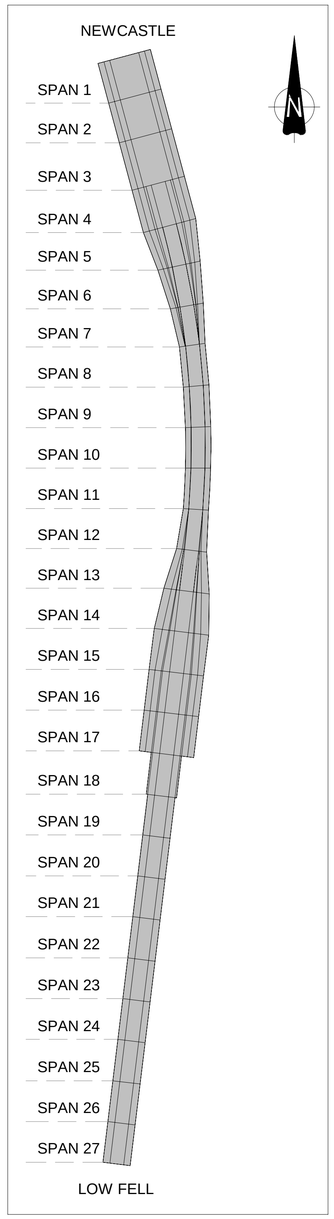
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS21 CENTRAL PIER WEST COLUMN



IS21 CENTRAL PIER EAST COLUMN



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NOTES

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SUITABILITY

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CIVIC CENTRE,
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS21 ELEMENTS

CONSULTANT

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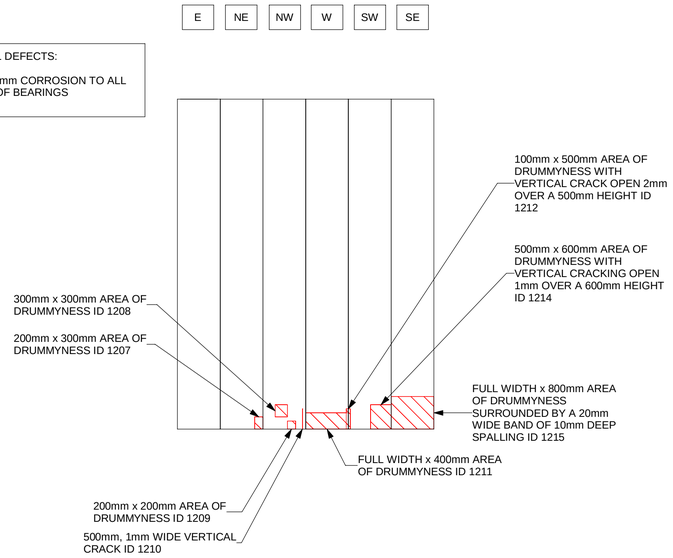
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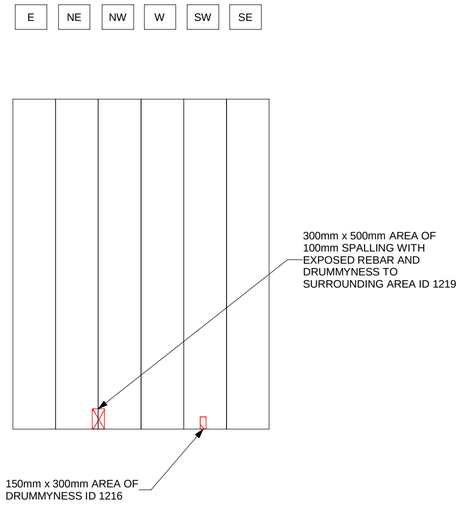
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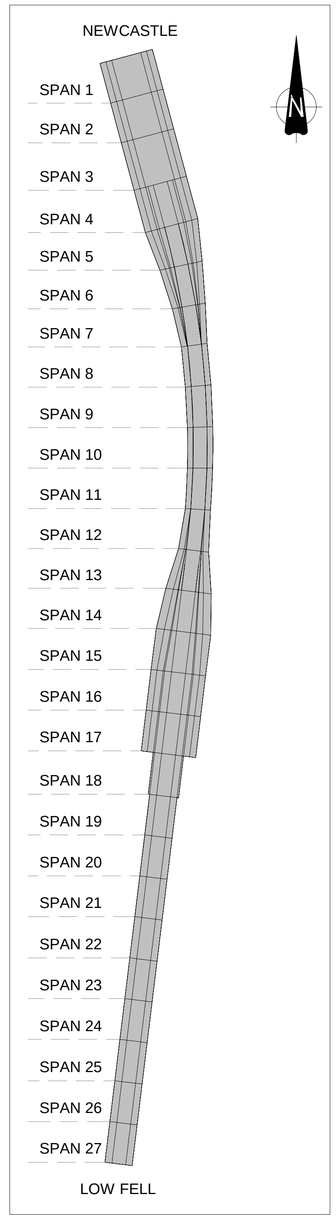
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS22 CENTRAL PIER WESTY COLUMN



IS22 CENTRAL PIER EAST COLUMN



NOTES

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS22 ELEMENTS

CONSULTANT

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Newcastle upon Tyne
T: 0191 224 6500 F: 0191 224 6599
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SHEET NUMBER

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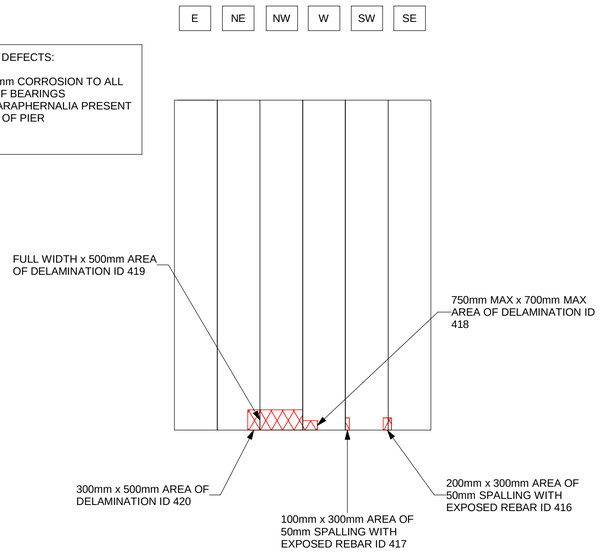
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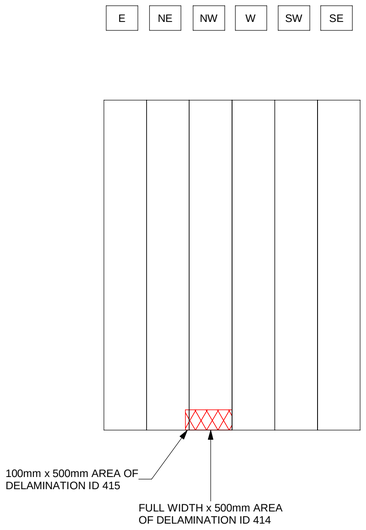
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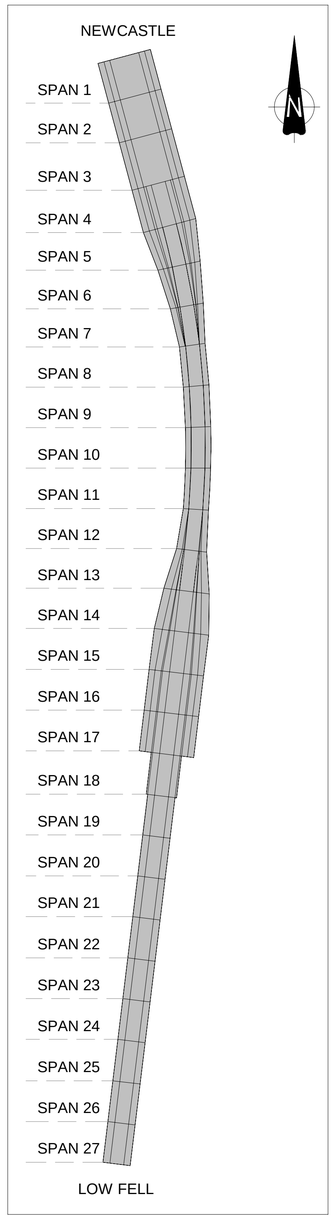
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS
- DRUG PARAPHERNALIA PRESENT AT BASE OF PIER



IS23 CENTRAL PIER WEST COLUMN



IS23 CENTRAL PIER EAST COLUMN



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NOTES

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS23 ELEMENTS

CONSULTANT

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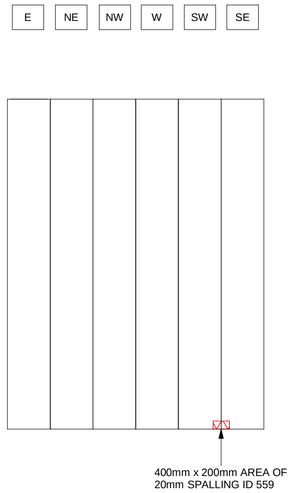
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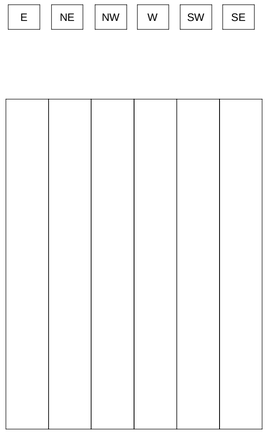
Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

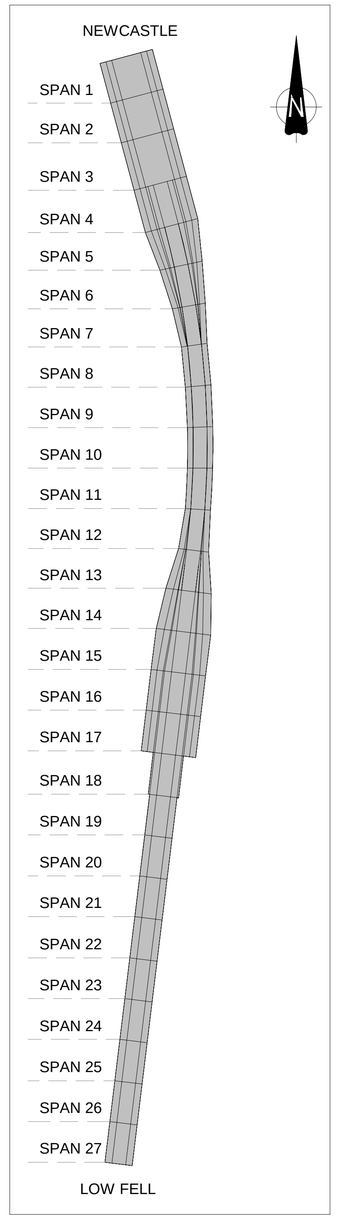
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS
- GRAFFITI THROUGHOUT



IS24 CENTRAL PIER WEST COLUMN



IS24 CENTRAL PIER EAST COLUMN



AECOM

NOTES

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3. GIVEN THE TIME CONSTRAINTS INVOLVED WITH THE INSPECTION AND THE VOLUME OF DELAMINATED CONCRETE, THE INSPECTION TEAM COULD NOT REMOVE ALL DELAMINATED CONCRETE. ANY AREAS OF SUCH DELAMINATED AND LOOSE CONCRETE ARE HIGHLIGHTED IN BLUE IN THE DRAWINGS. IT IS RECOMMENDED THAT THE COUNCIL ARRANGE FOR THESE AREAS TO BE SAFELY REMOVED.
4. THE DEVELOPED VIEWS OF THE CENTRAL PIERS ARE IDEALISED AND NOT THE TRUE SHAPE GIVEN THE COMPLEXITIES OF THE 'V' NATURE OF THE PIERS

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS24 ELEMENTS

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000241 __P01

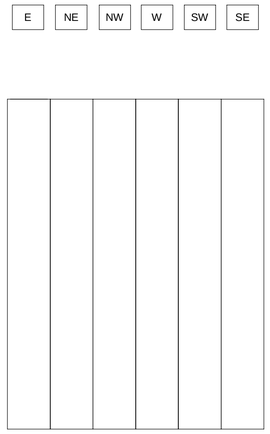
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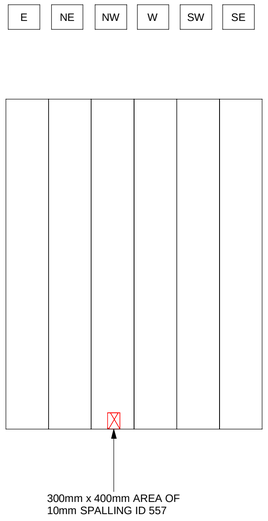
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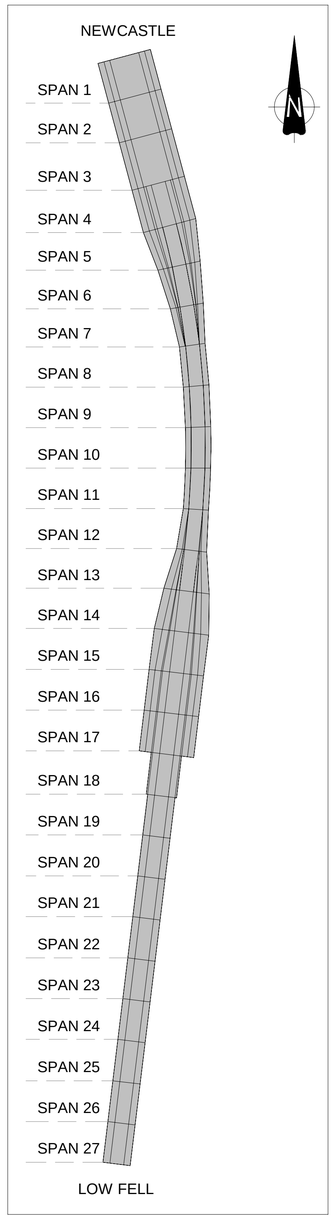
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS



IS25 CENTRAL PIER WEST COLUMN



IS25 CENTRAL PIER EAST COLUMN



NOTES

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SUITABILITY

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NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS25 ELEMENTS

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SHEET NUMBER

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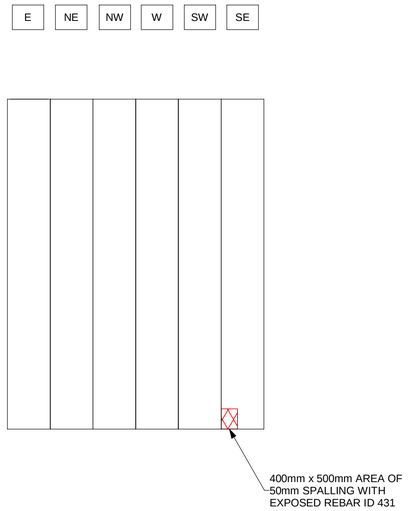
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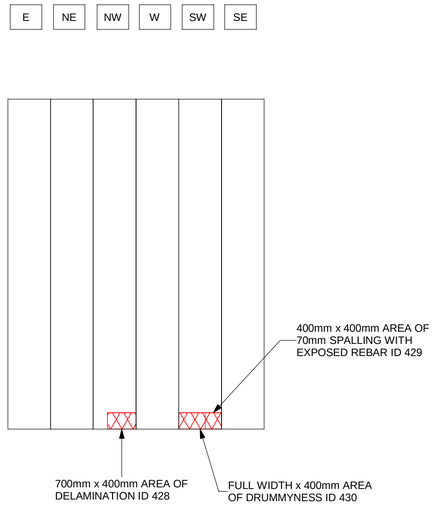
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GENERAL DEFECTS:

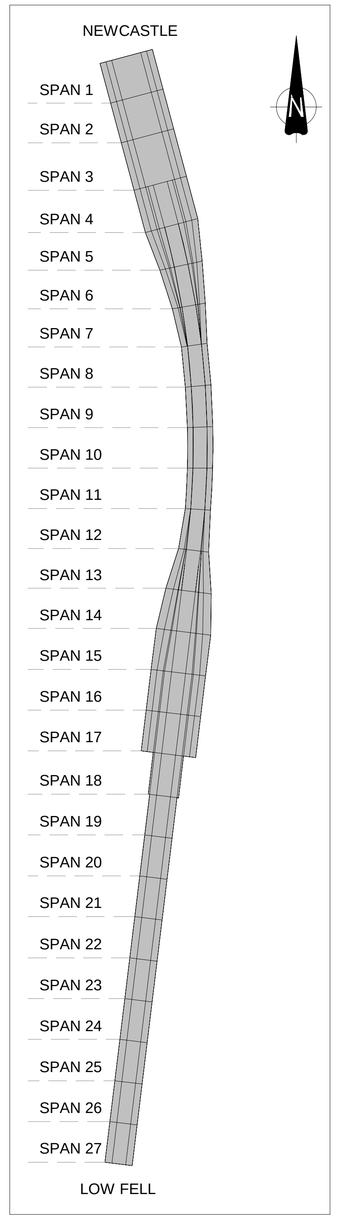
- UP TO 1mm CORROSION TO ALL FACES OF BEARINGS
- GRAFFITI THROUGHOUT



IS26 CENTRAL PIER WEST COLUMN



IS26 CENTRAL PIER EAST COLUMN



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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
IS26 ELEMENTS

CONSULTANT

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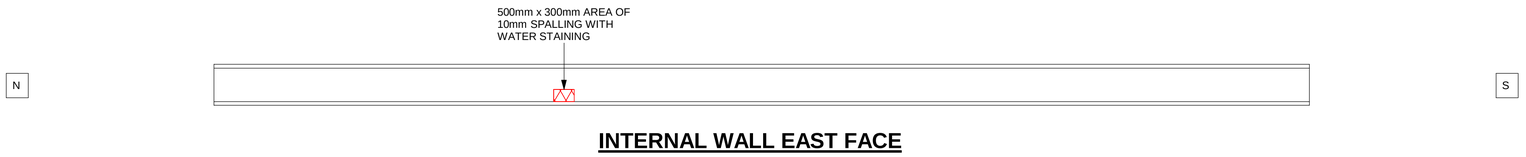
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Appendix B . 2 – Defect Drawings Underside Internal

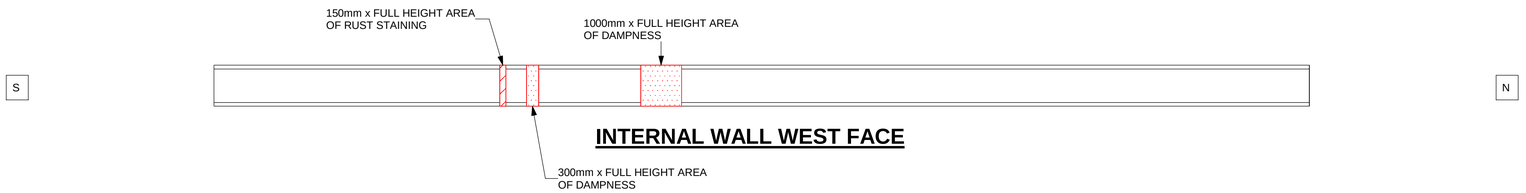
Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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3. WALLS, SOFFIT AND FLOOR OF THE CELLS ARE SHOWN INDICATIVELY, ACTUAL DIMENSIONS/SIZES MAY DIFFER

VOID F - NO ACCESS HATCHES
VOID G - NO ACCESS HATCHES
VOID I - INACCESSABLE
VOID J - NO ACCESS HATCHES
VOID H - INSPECTED
VOID K - INSPECTED

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DEFECTS SCHEDULE
SPAN 2 VOID H

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

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SUITABILITY

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GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



INTERNAL WALL WEST FACE

GENERAL DEFECTS:

- DAMPNESS AND WATER STAINING THROUGHOUT SOFFIT



PLAN ON FLOOR



PLAN ON SOFFIT

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NE8 1HH

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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 3 VOID H

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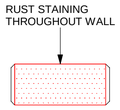
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GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID G - NO ACCESS HATCHES
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SHEET TITLE

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



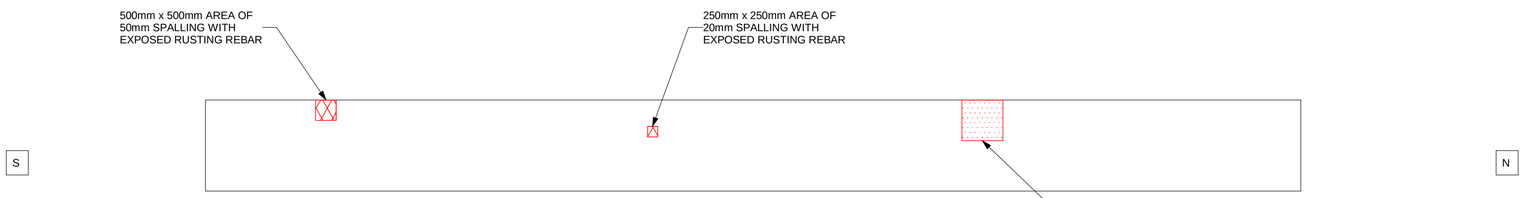
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



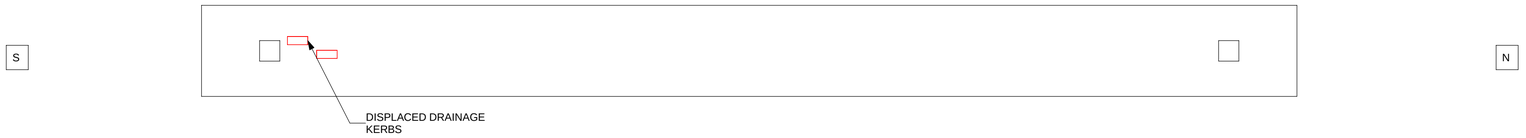
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SHEET NUMBER

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Last Plotted: 29/01/2025 13:35:58
Filename: Autodesk Docs://TR_EURI_(UKI)_60713768_Gateshead Viaduct PI 2023/60713768-ACM-GV-M3-CE-000001_P01.rvt

Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



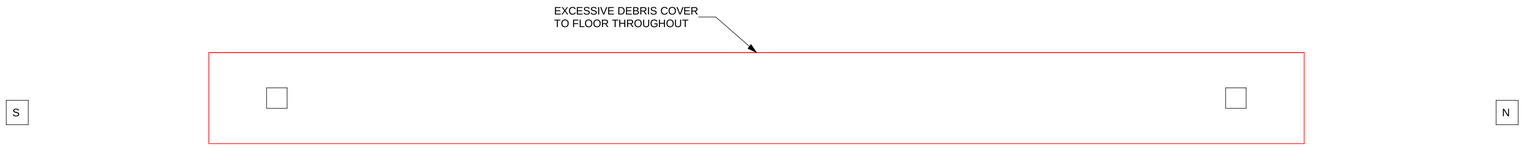
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID A - NO ACCESS HATCHES
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - NO ACCESS HATCHES
VOID F - NO ACCESS HATCHES
VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S2 - FOR INFORMATION

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 6 VOID B

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000064 __P01

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Filename: Autodesk Docs://TR_EURI_(UKI)_60713768_Gateshead Viaduct PI 2023/60713768-ACM-GV-M3-CE-000001_P01.rvt

Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 6 VOID D

CONSULTANT

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SHEET NUMBER

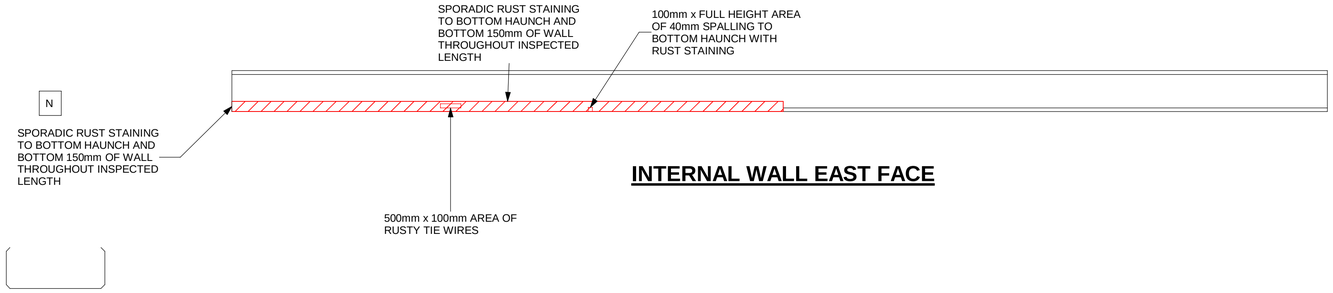
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

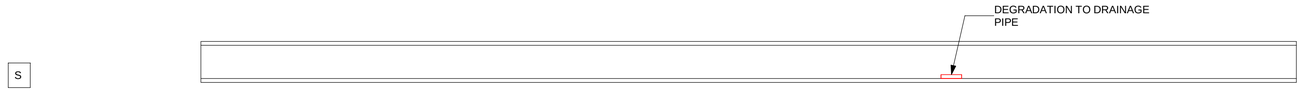
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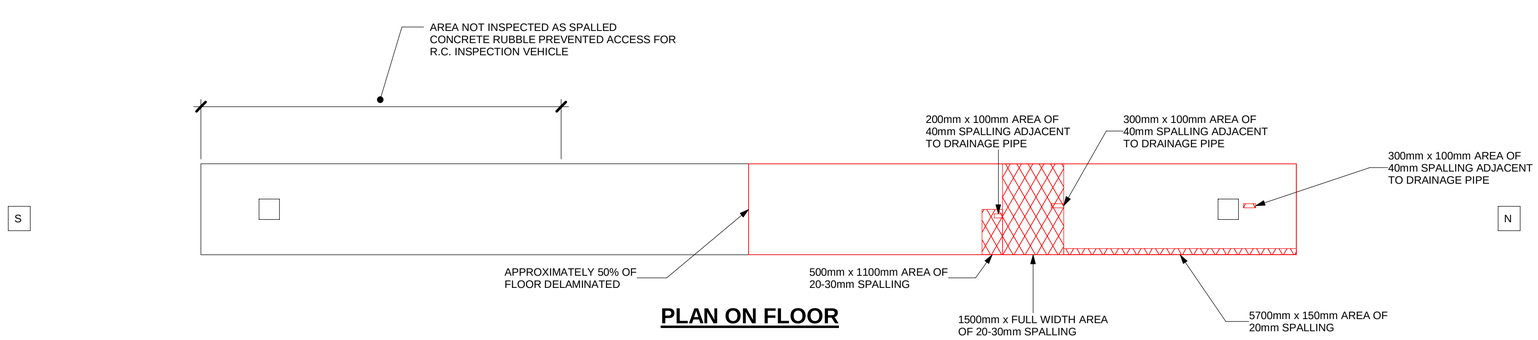
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID F - NO ACCESS HATCHES
VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - INSPECTED

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 6 VOID I

CONSULTANT

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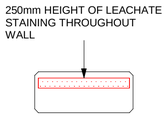
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
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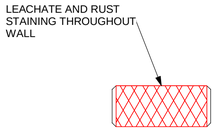
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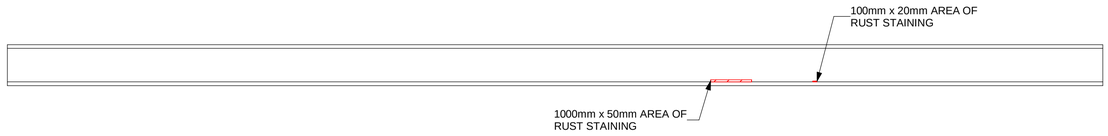
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



S

N

INTERNAL WALL WEST FACE



S

N

PLAN ON FLOOR



S

N

PLAN ON SOFFIT

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VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - NO ACCESS HATCHES
VOID F - INSPECTED
VOID G - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 7 VOID B

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000072 __P01

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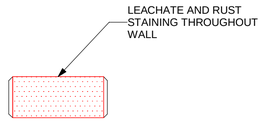
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GENERAL DEFECTS:

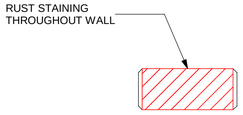
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
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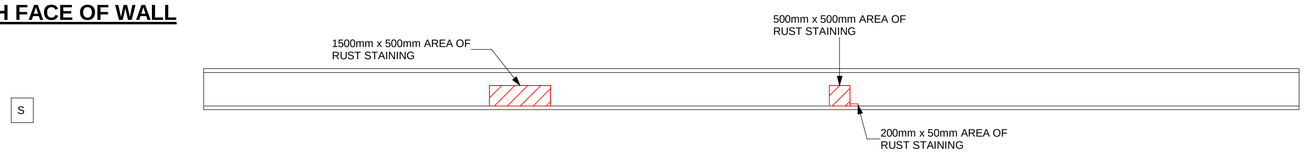
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID F - INSPECTED
VOID G - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 7 VOID D

CONSULTANT

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60713768 -ACM -XX -GV -M3 -CE -000073 __P01

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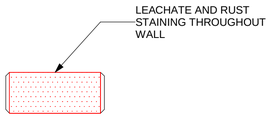
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GENERAL DEFECTS:

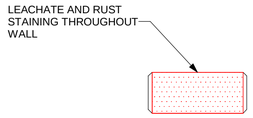
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INTERNAL WALL EAST FACE



NORTH FACE OF WALL



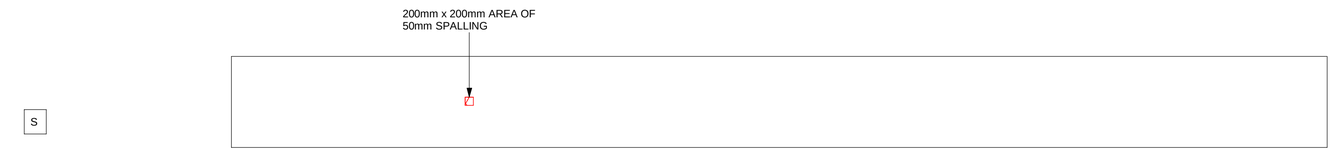
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 7 VOID F

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000074 __P01

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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INTERNAL WALL EAST FACE



NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 7 VOID G

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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NE8 1HH

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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 8 VOID D

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60713768 -ACM -XX -GV -M3 -CE -000082 __P01

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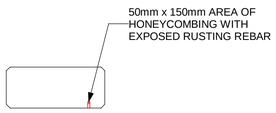
Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



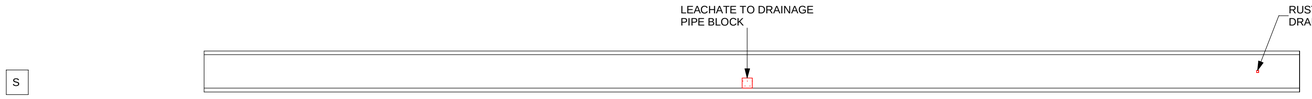
INTERNAL WALL EAST FACE



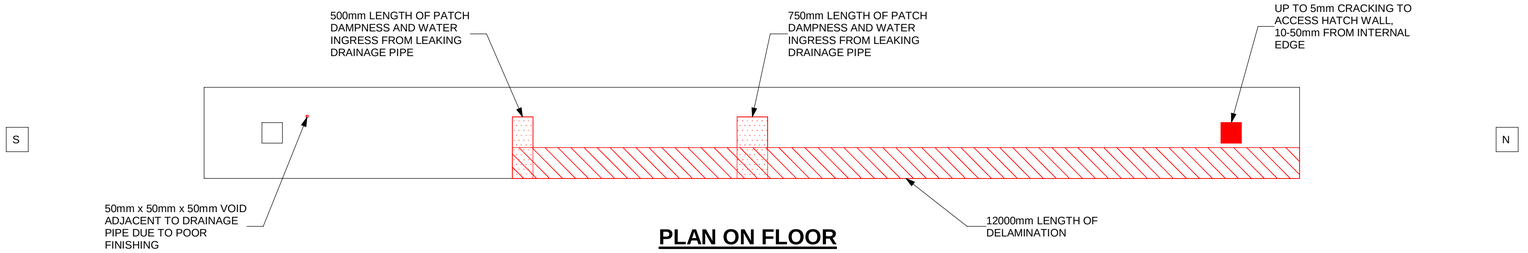
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 8 VOID E

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000083 __P01

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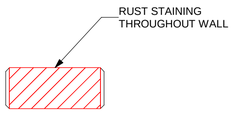
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GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 9 VOID A

CONSULTANT

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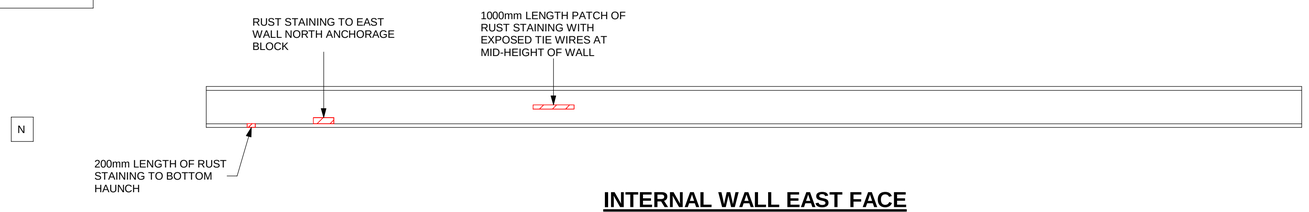
SHEET NUMBER

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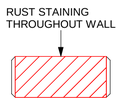
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GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT

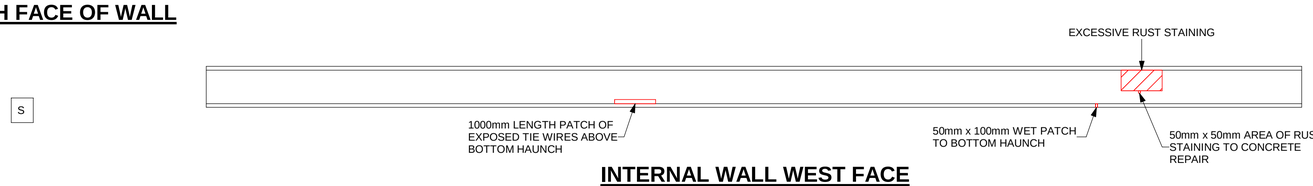


INTERNAL WALL EAST FACE



NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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3. WALLS, SOFFIT AND FLOOR OF THE CELLS ARE SHOWN INDICATIVELY, ACTUAL DIMENSIONS/SIZES MAY DIFFER

VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 9 VOID B

CONSULTANT

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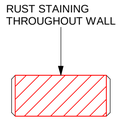
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GENERAL DEFECTS:

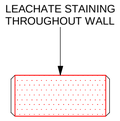
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

Last Plotted: 29/01/2025 13:36:02
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VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 9 VOID D

CONSULTANT

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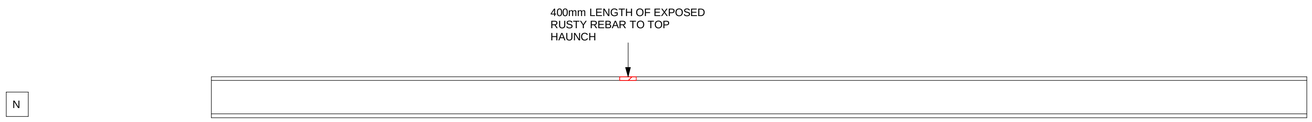
SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000094 __P01

Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

Last Plotted: 29/01/2025 13:36:02
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VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 9 VOID E

CONSULTANT

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT

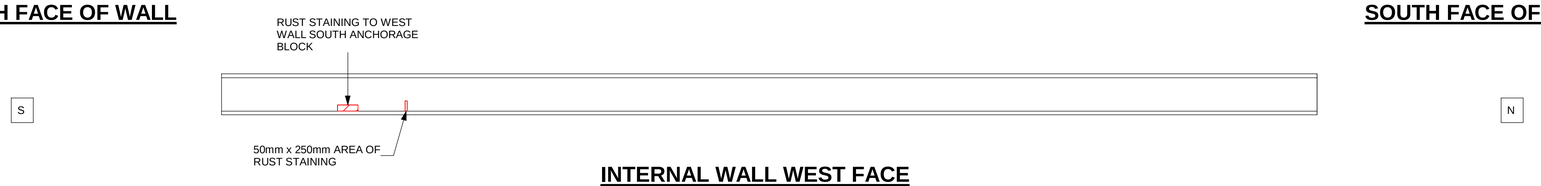


INTERNAL WALL EAST FACE



NORTH FACE OF WALL

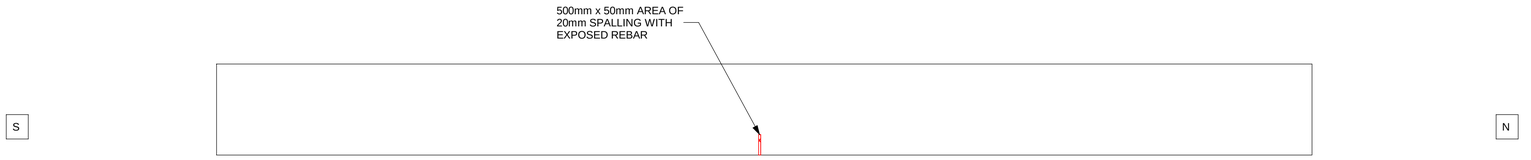
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

AECOM

NOTES

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VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - 90% INSPECTED, NORTH END BLOCKED BY TRANSVERSE PIPE

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 10 VOID B

CONSULTANT

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SHEET NUMBER

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

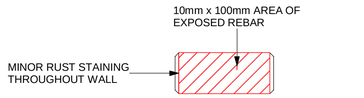
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



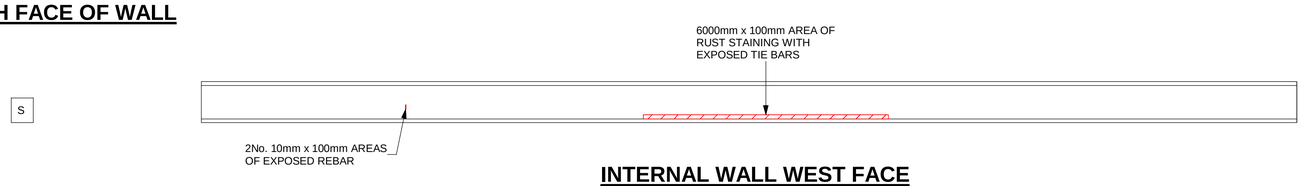
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
3. WALLS, SOFFIT AND FLOOR OF THE CELLS ARE SHOWN INDICATIVELY, ACTUAL DIMENSIONS/SIZES MAY DIFFER

VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - 90% INSPECTED, NORTH END BLOCKED BY TRANSVERSE PIPE

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 10 VOID D

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000103 __P01

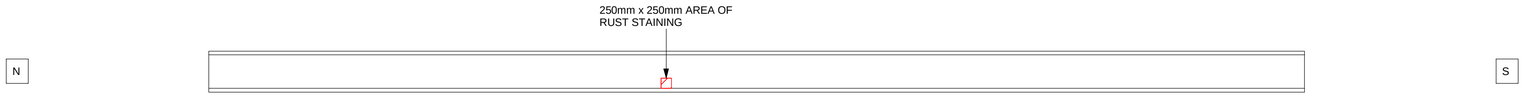
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



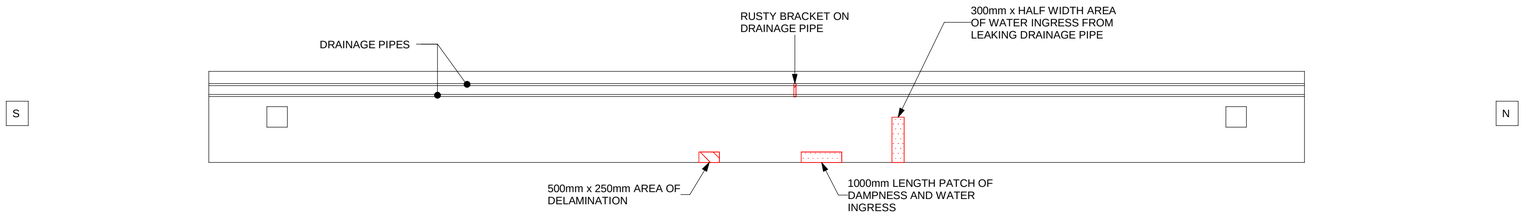
NORTH FACE OF WALL



INTERNAL WALL WEST FACE



SOUTH FACE OF WALL



PLAN ON FLOOR



PLAN ON SOFFIT

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3. WALLS, SOFFIT AND FLOOR OF THE CELLS ARE SHOWN INDICATIVELY, ACTUAL DIMENSIONS/SIZES MAY DIFFER
4. THE WEST WALL OF THE VOID WAS OBSCURED BY A LARGE DIAMETER DRAINAGE PIPE

VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - 90% INSPECTED, NORTH END BLOCKED BY TRANSVERSE PIPE

ISSUE/REVISION

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 10 VOID E

CONSULTANT

AECOM
One Trinity Gardens
Newcastle upon Tyne
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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000104 __P01

Last Plotted: 29/01/2025 13:36:03
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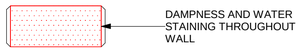
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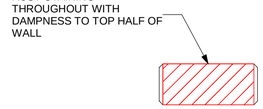
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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
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VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 11 VOID B

CONSULTANT

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SHEET NUMBER

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

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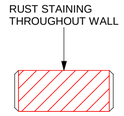
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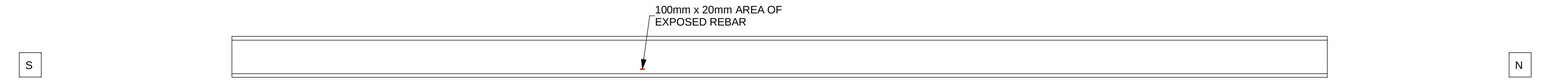
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 11 VOID D

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



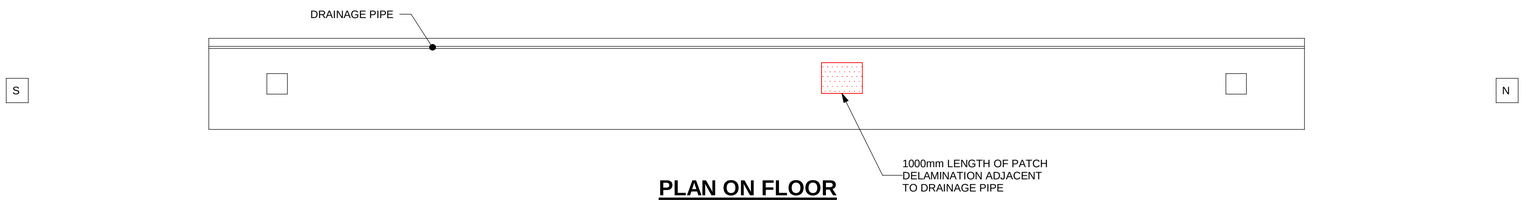
NORTH FACE OF WALL



INTERNAL WALL WEST FACE



SOUTH FACE OF WALL



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

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CLIENT

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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 11 VOID E

CONSULTANT

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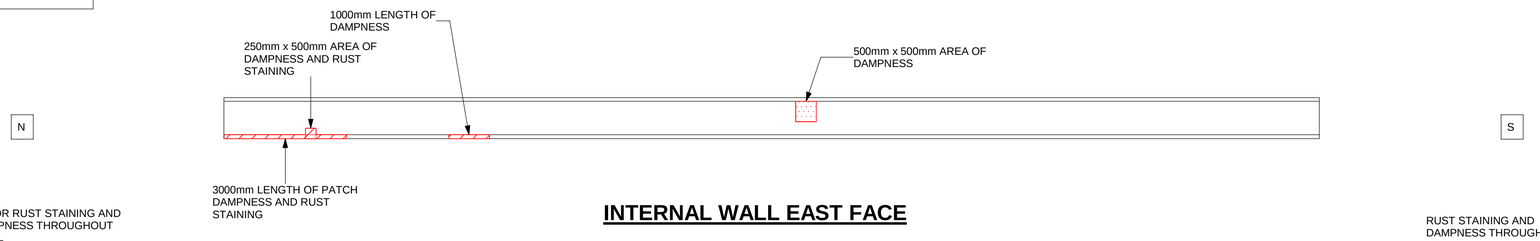
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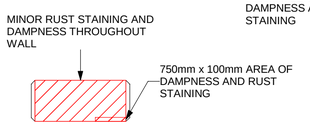
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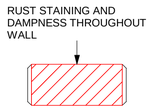
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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO SOFFIT AND TOP HAUNCH OF BOTH WALLS THROUGHOUT SPAN



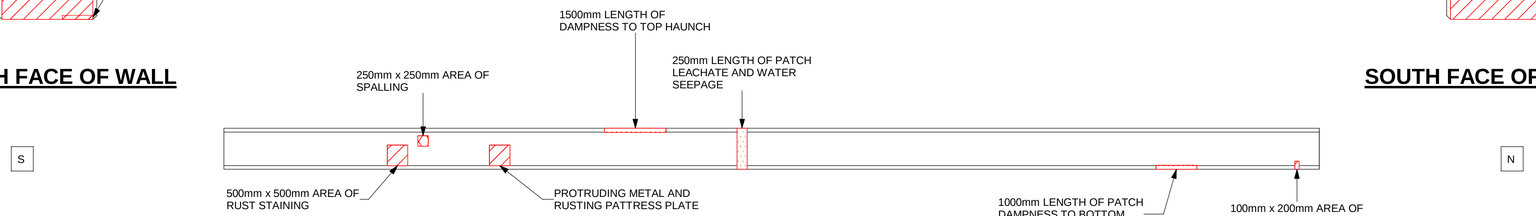
INTERNAL WALL EAST FACE



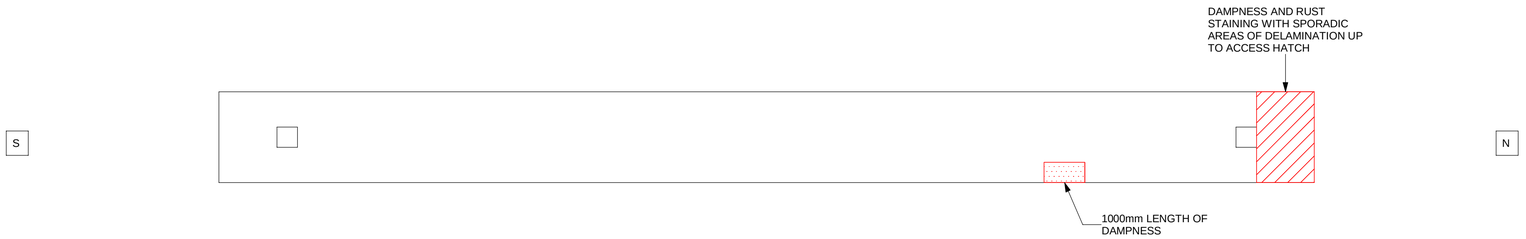
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - NO ACCESS HATCHES
VOID F - INSPECTED
VOID G - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 12 VOID B

CONSULTANT

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SHEET NUMBER

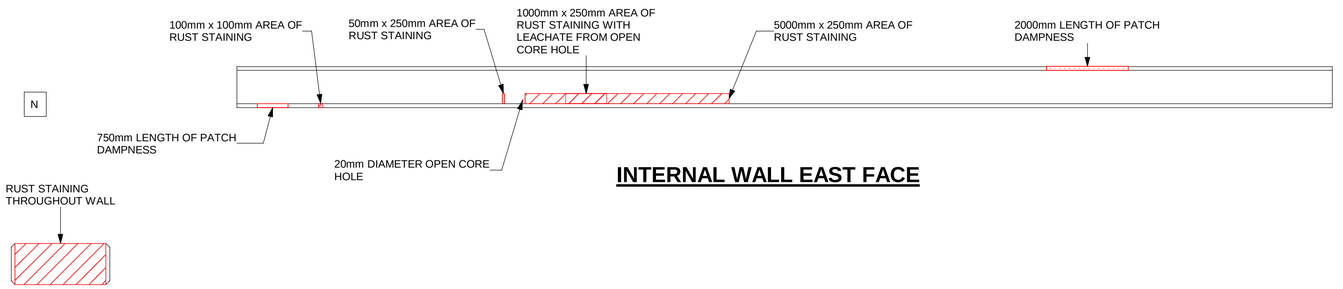
60713768 -ACM -XX -GV -M3 -CE -000122 __P01

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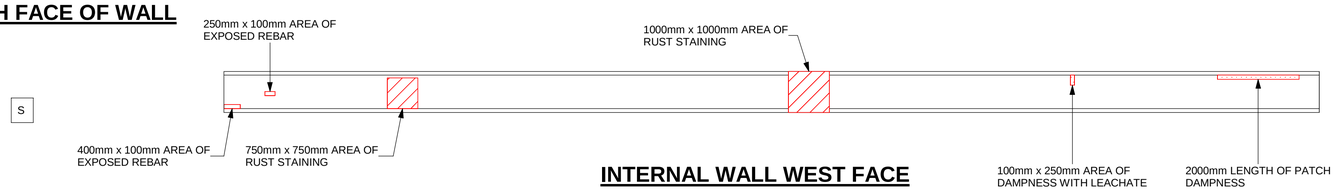
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INTERNAL WALL EAST FACE

NORTH FACE OF WALL

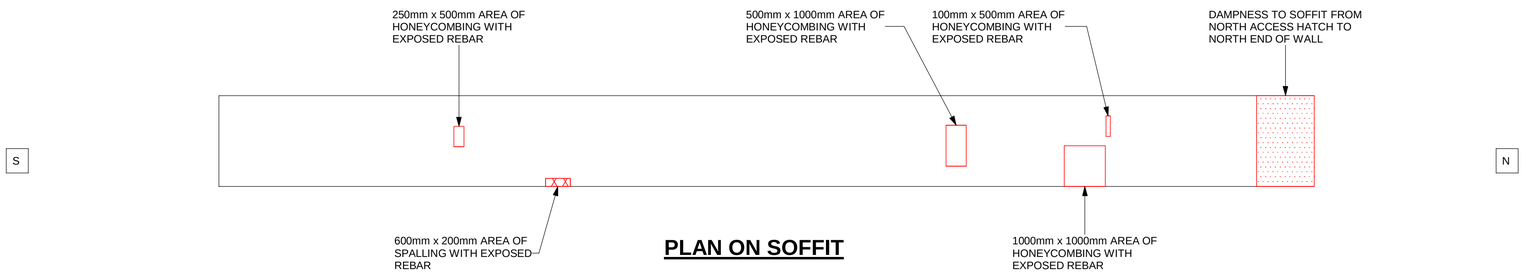
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 12 VOID D

CONSULTANT

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

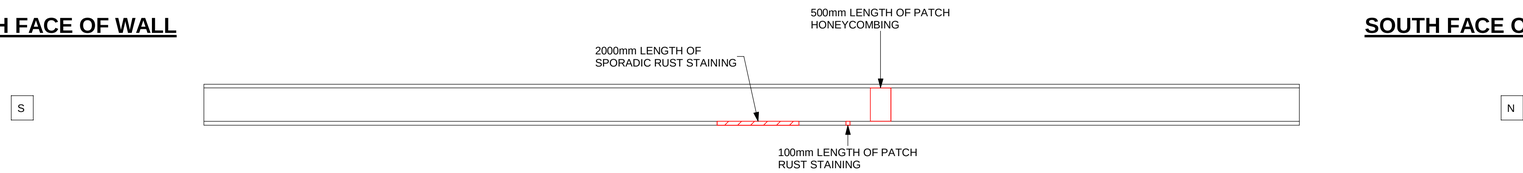
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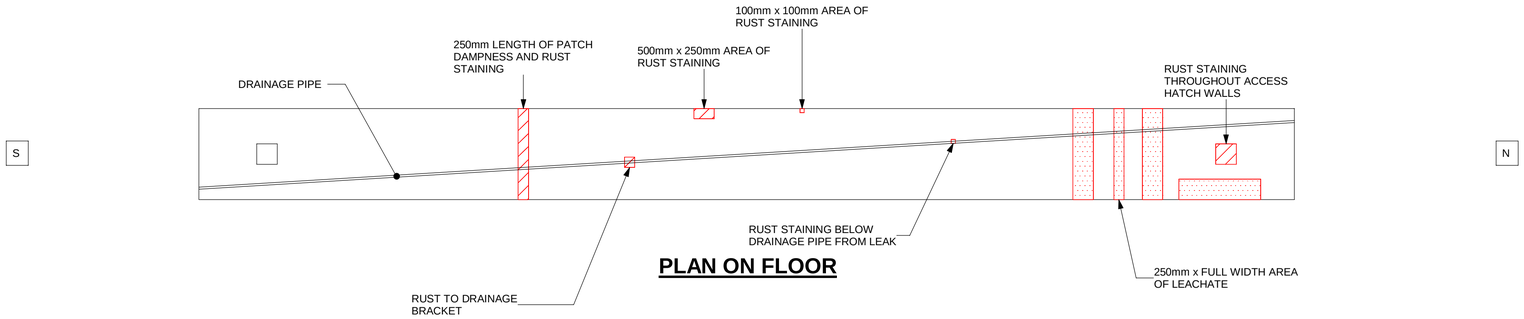
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 12 VOID F

CONSULTANT

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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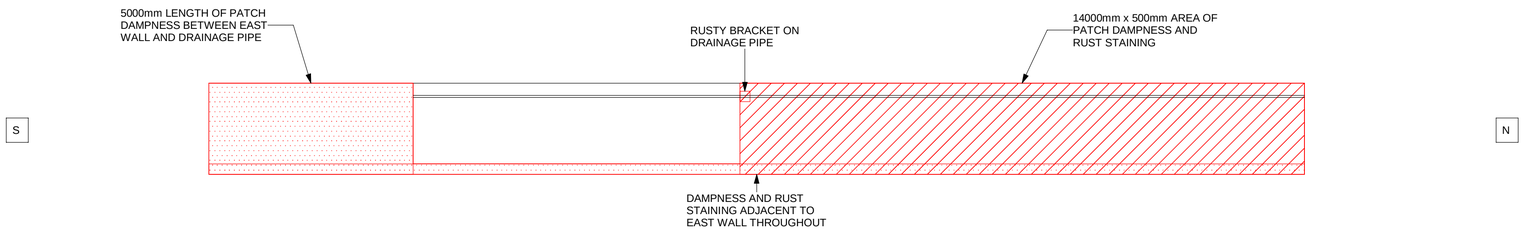
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 12 VOID G

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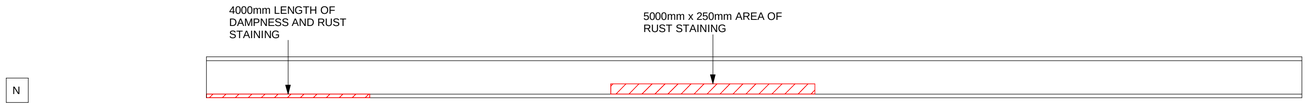
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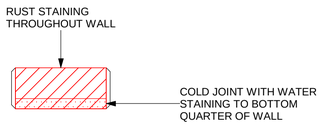
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GENERAL DEFECTS:

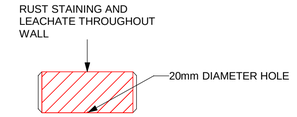
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- SPORADIC DAMPNESS TO BOTH WALLS THROUGHOUT
- DAMPNESS THROUGHOUT SOFFIT



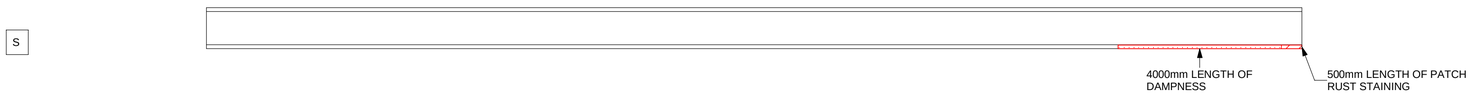
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

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VOID F - INSPECTED
VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 13 VOID B

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000132 __P01

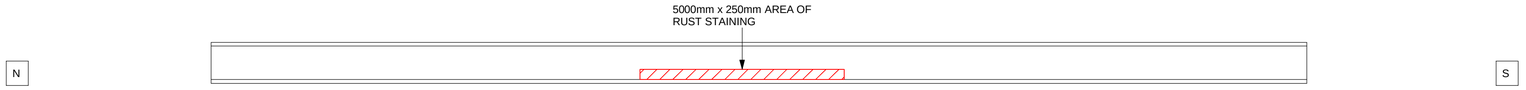
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

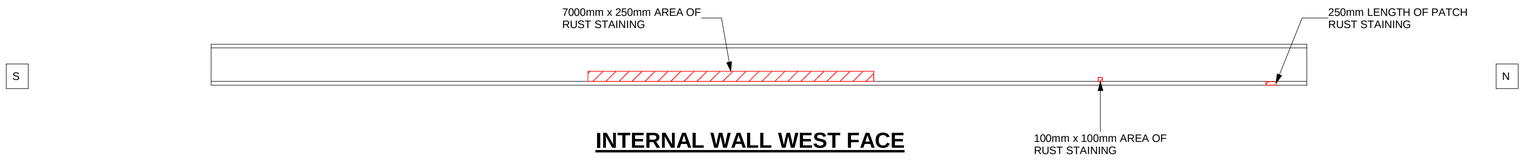
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



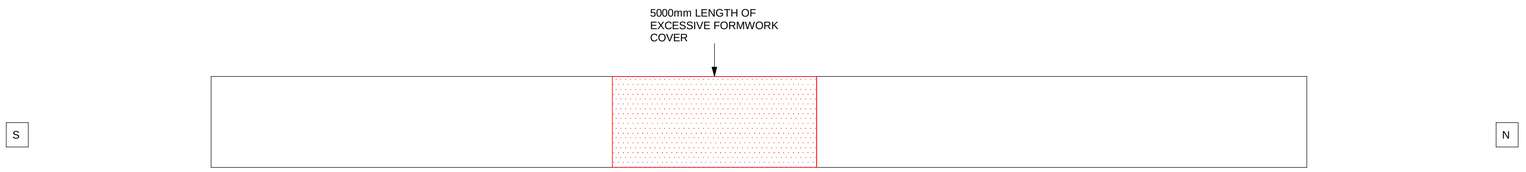
INTERNAL WALL WEST FACE

GENERAL DEFECTS:

- DAMPNESS THROUGHOUT SOFFIT



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - NO ACCESS HATCHES
VOID F - INSPECTED
VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 13 VOID D

CONSULTANT

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SHEET NUMBER

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

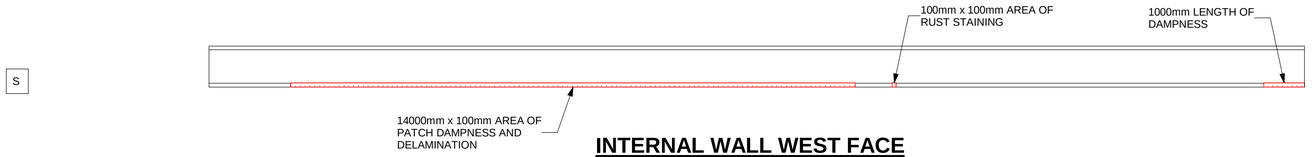
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



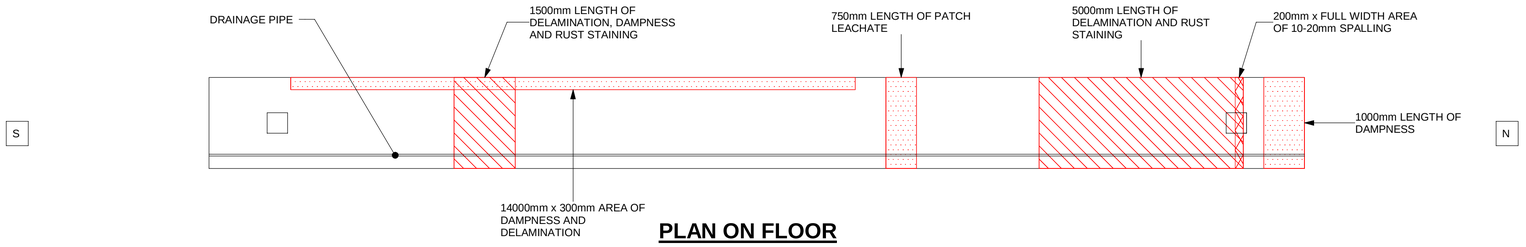
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 13 VOID F

CONSULTANT

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



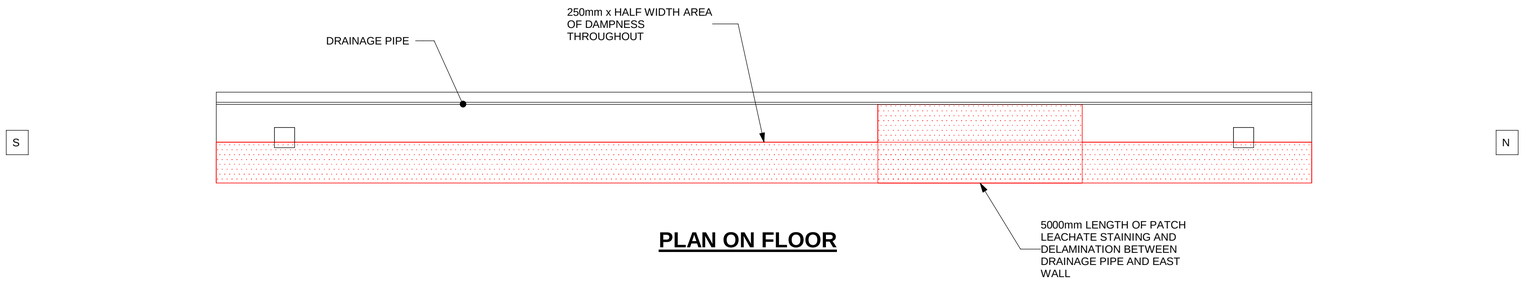
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID F - INSPECTED
VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 13 VOID K

CONSULTANT

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

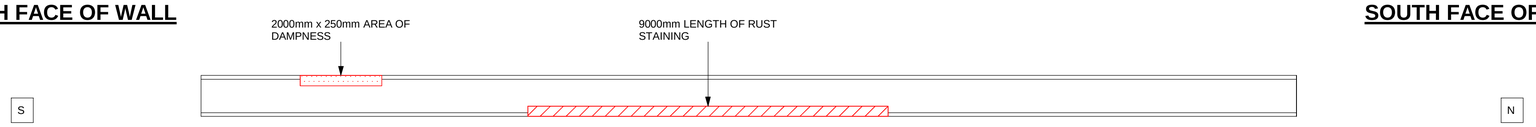
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- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS THROUGHOUT SOFFIT



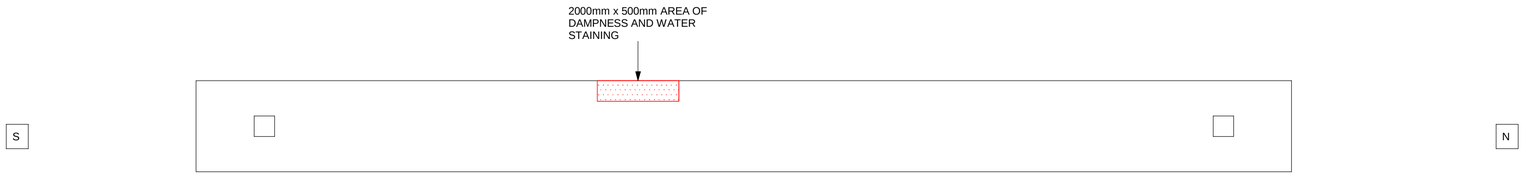
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 14 VOID B

CONSULTANT

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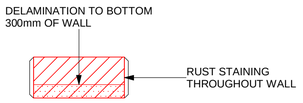
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GENERAL DEFECTS:

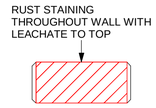
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- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS THROUGHOUT SOFFIT
- EXTENSIVE FORMWORK COVER TO BOTH WALLS AND SOFFIT OVER MAJORITY OF SPAN



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 14 VOID D

CONSULTANT

AECOM
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SHEET NUMBER

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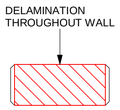
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GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT

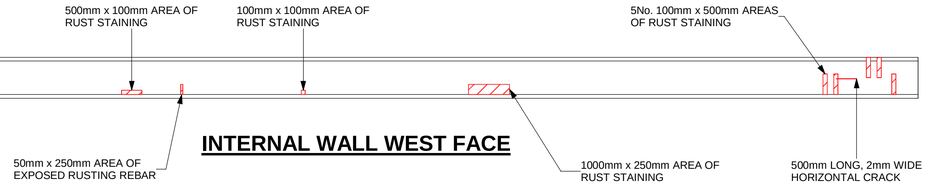


INTERNAL WALL EAST FACE

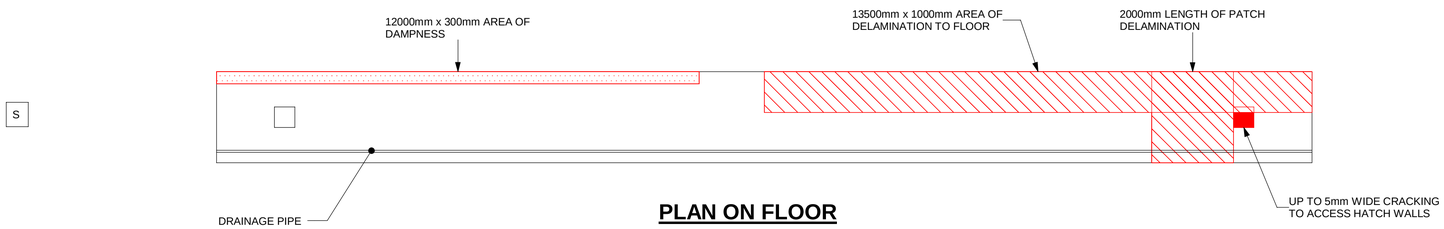


NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID I - NO ACCESS HATCHES
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 14 VOID F

CONSULTANT

AECOM
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SHEET NUMBER

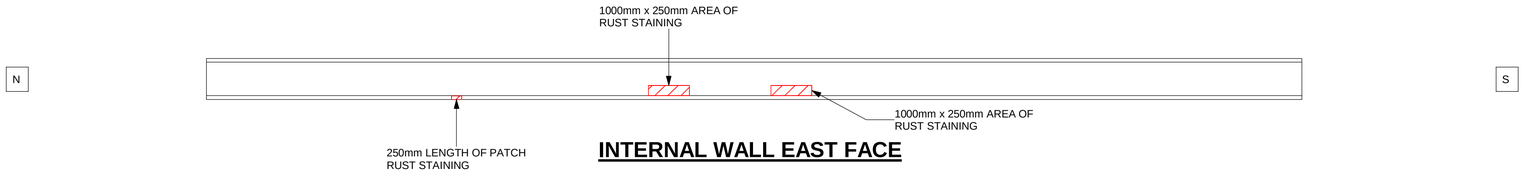
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



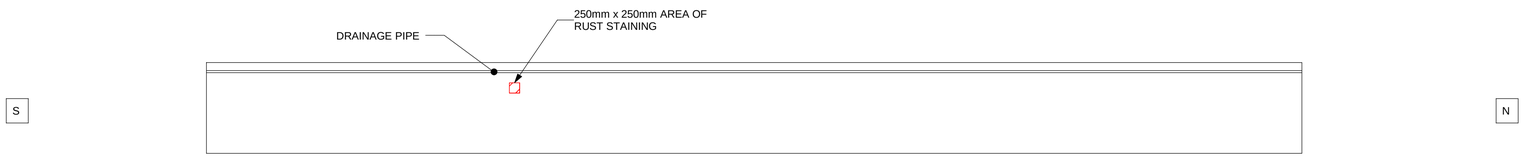
INTERNAL WALL WEST FACE



SOUTH FACE OF WALL



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - NO ACCESS HATCHES
VOID F - INSPECTED
VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 14 VOID K

CONSULTANT

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www.aecom.com

SHEET NUMBER

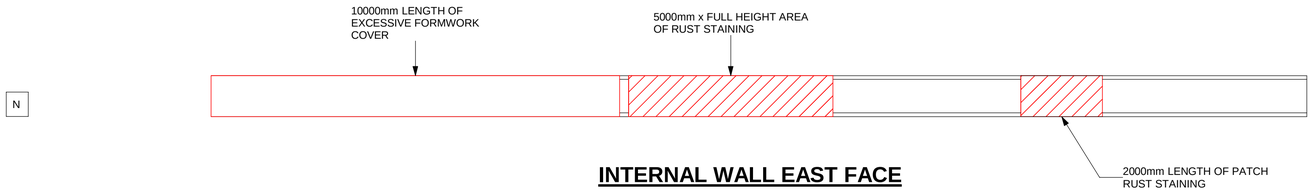
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- SPORADIC RUST STAINING THROUGHOUT FLOOR



INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID F - INSPECTED
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VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 VOID A

CONSULTANT

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SHEET NUMBER

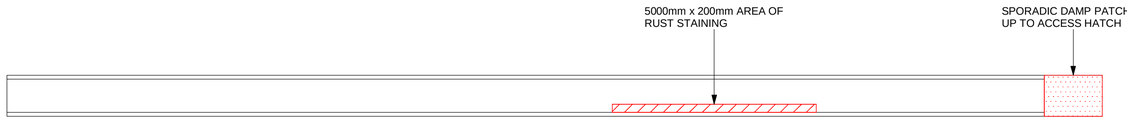
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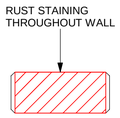
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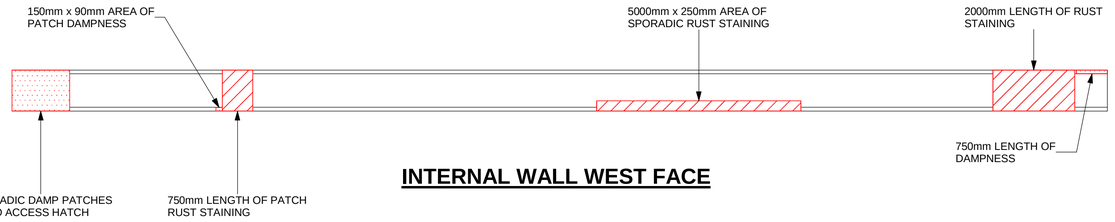


INTERNAL WALL EAST FACE



NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 VOID B

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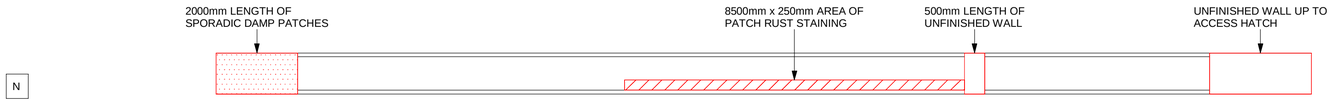
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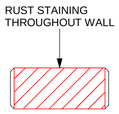
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GENERAL DEFECTS:

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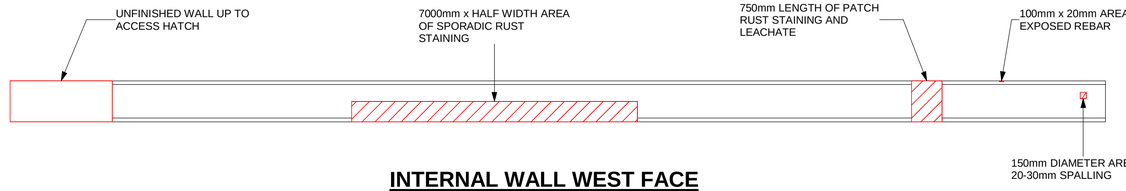


INTERNAL WALL EAST FACE

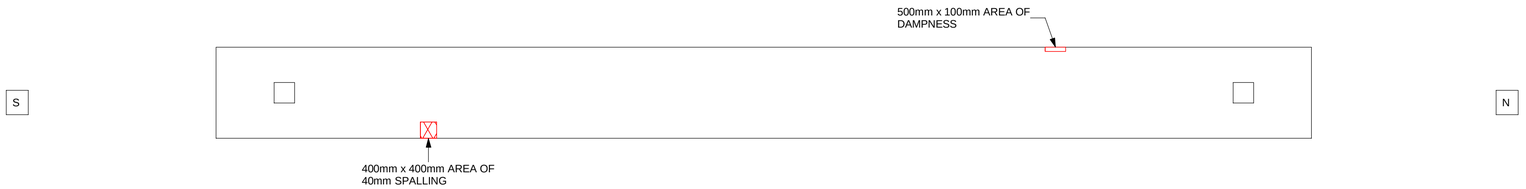


NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - INSPECTED
VOID F - INSPECTED
VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 VOID D

CONSULTANT

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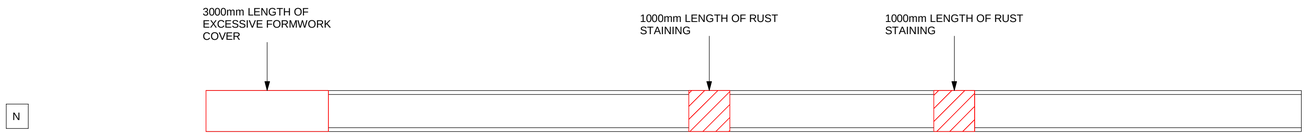
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 VOID E

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

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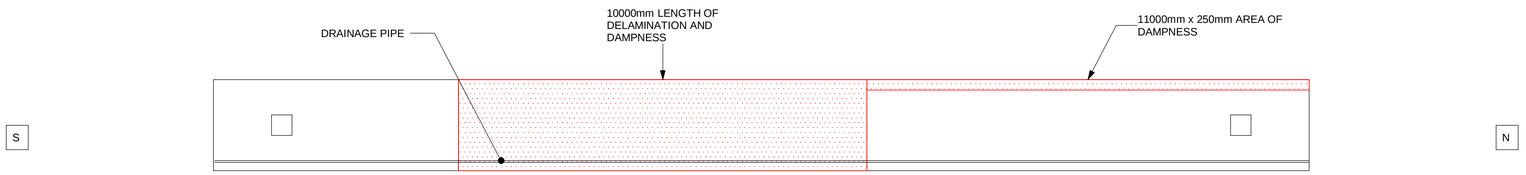
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 VOID F

CONSULTANT

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SHEET NUMBER

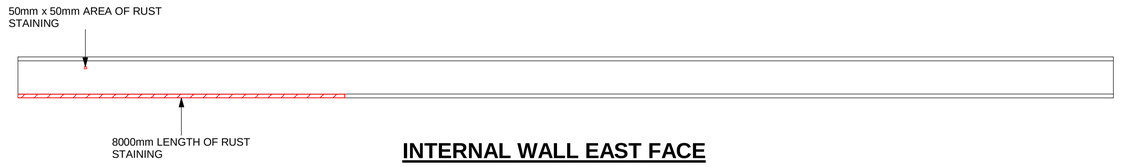
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GENERAL DEFECTS:

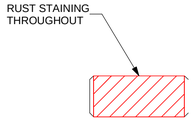
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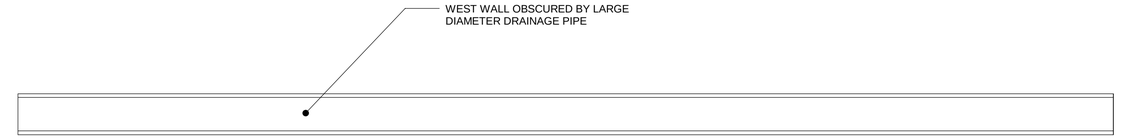
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



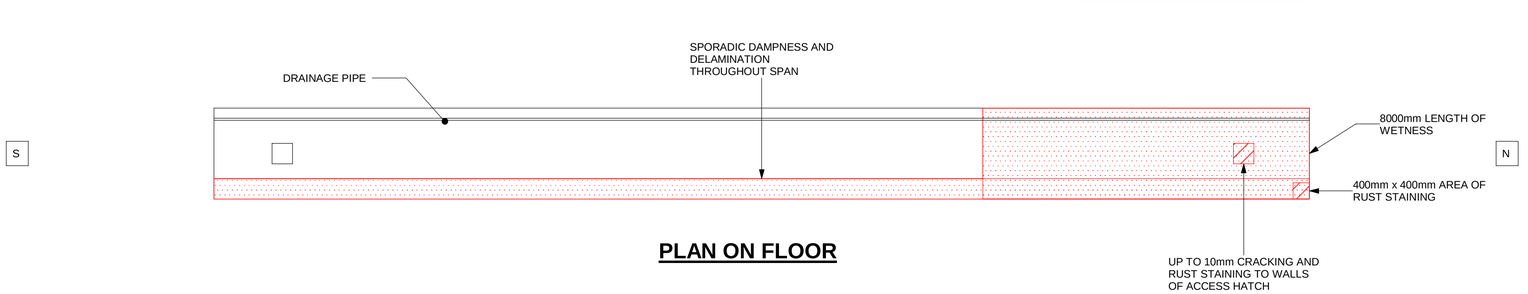
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE

GENERAL DEFECTS:

- DELAMINATION THROUGHOUT FLOOR



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID I - NO ACCESS HATCHES
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 VOID K

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



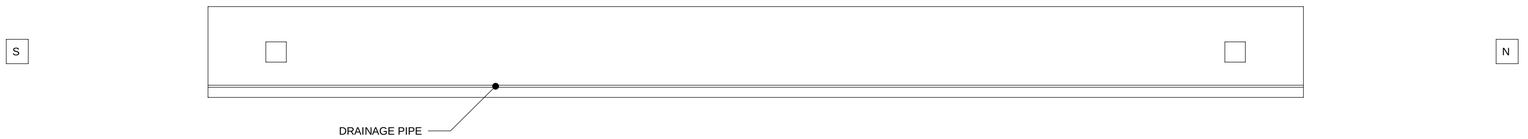
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE

FLOOR GENERAL DEFECTS:

- SURFACE CRACKING TO FLOOR THROUGHOUT SPAN



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
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VOID J - NO ACCESS HATCHES
VOID K - NO ACCESS HATCHES

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 16 VOID A

CONSULTANT

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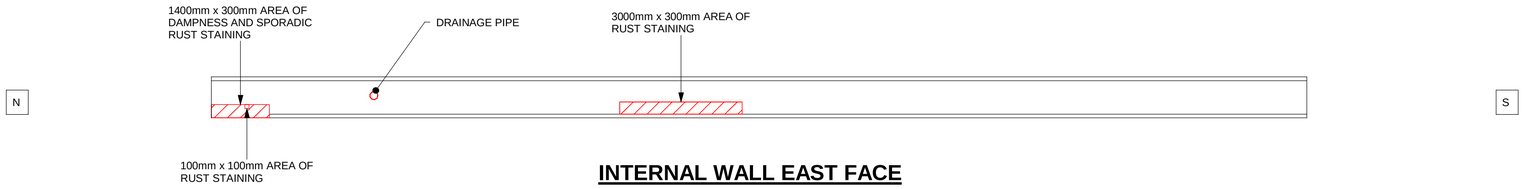
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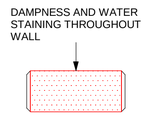
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GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



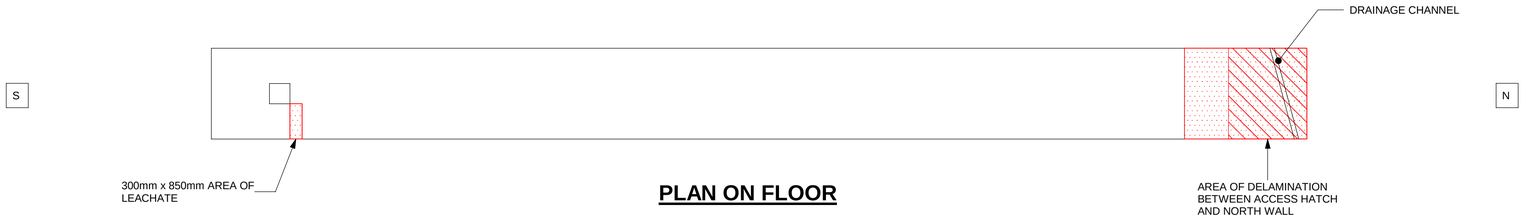
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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GATESHEAD
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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 16 VOID B

CONSULTANT

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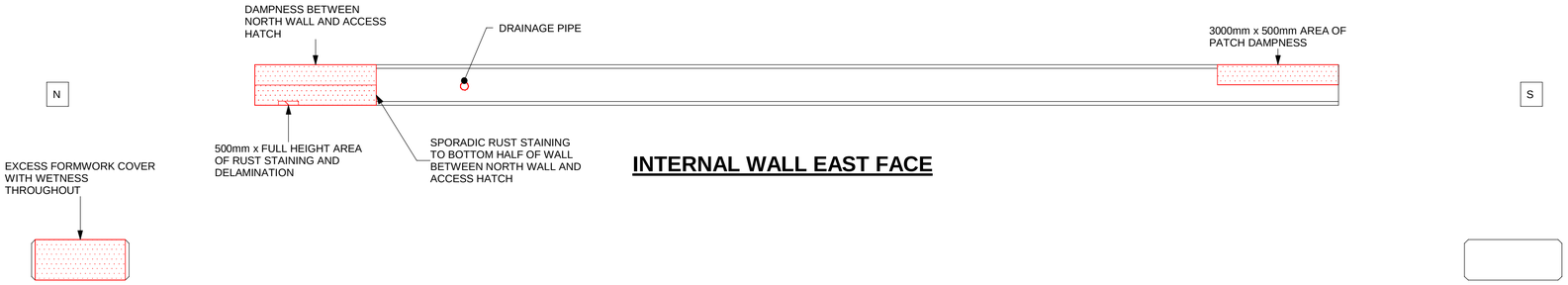
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GENERAL DEFECTS:

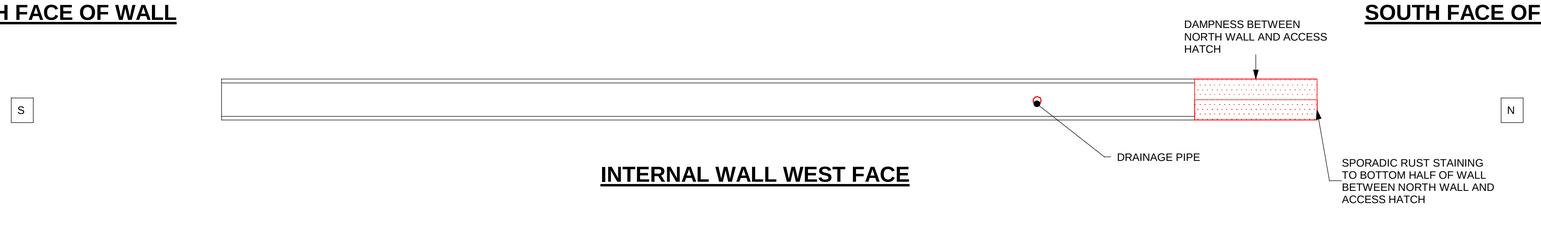
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- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- SPORADIC RUST STAINING TO WEST FACE OF WALL BETWEEN HATCHES



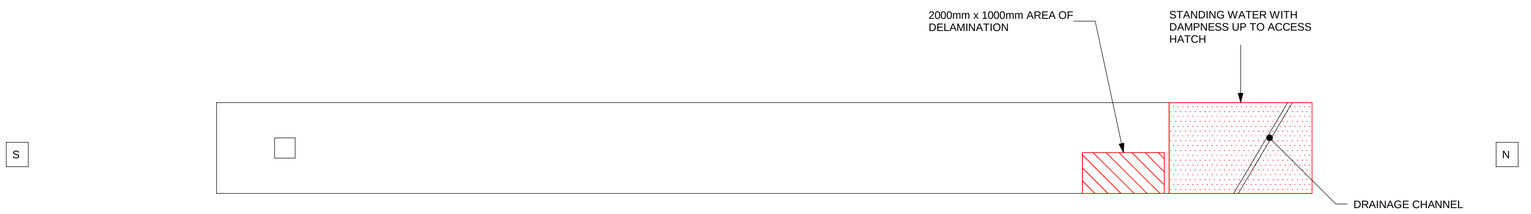
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 16 VOID D

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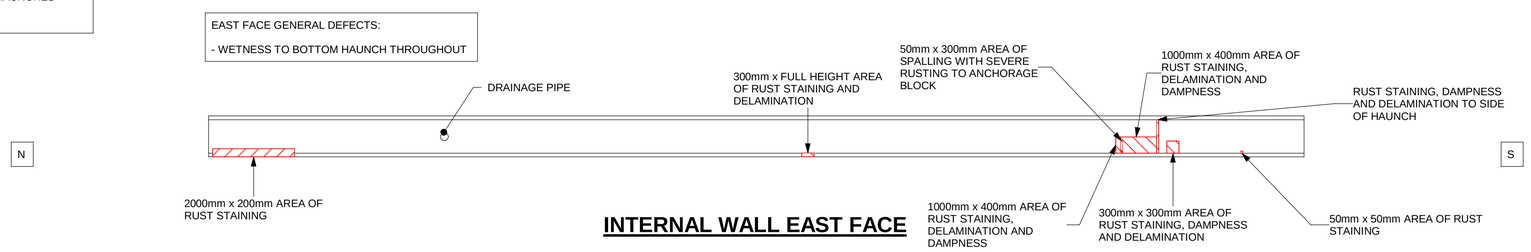
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GENERAL DEFECTS:

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- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT

EAST FACE GENERAL DEFECTS:

- WETNESS TO BOTTOM HAUNCH THROUGHOUT



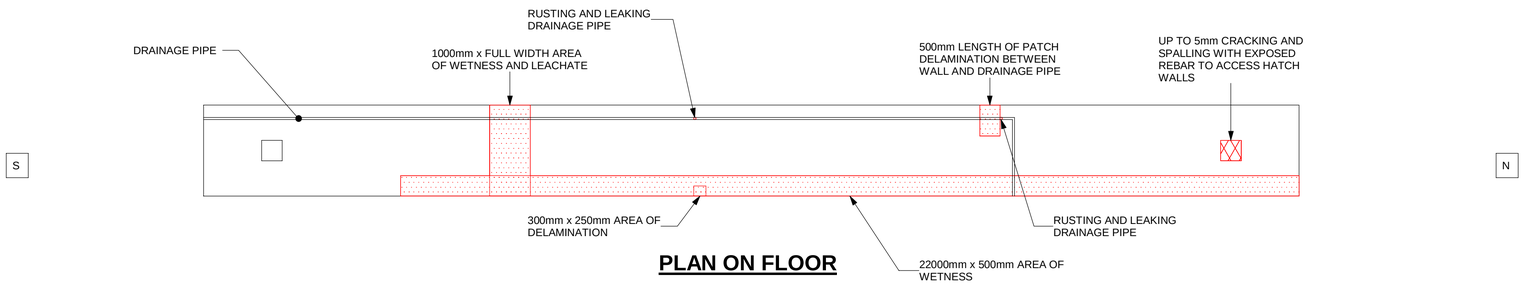
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

AECOM

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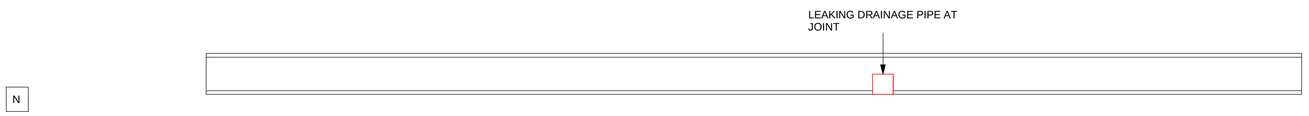
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

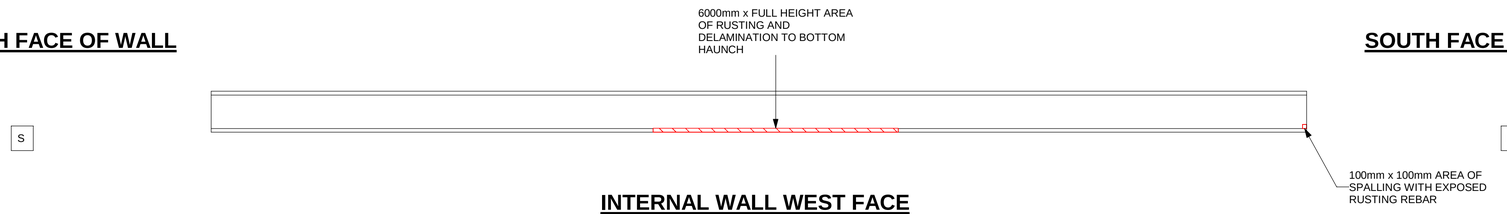
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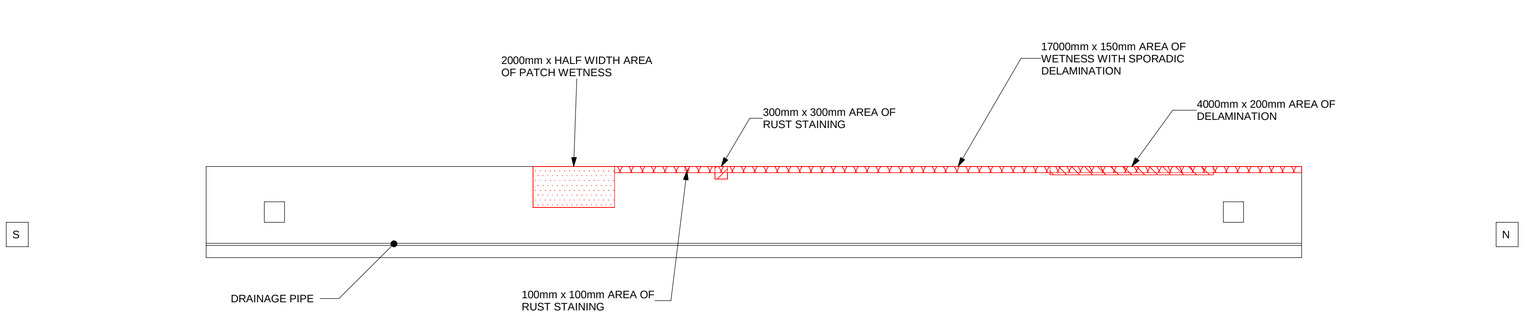
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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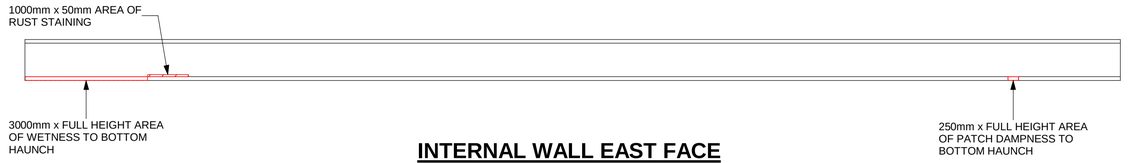
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GENERAL DEFECTS:

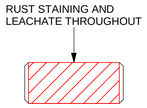
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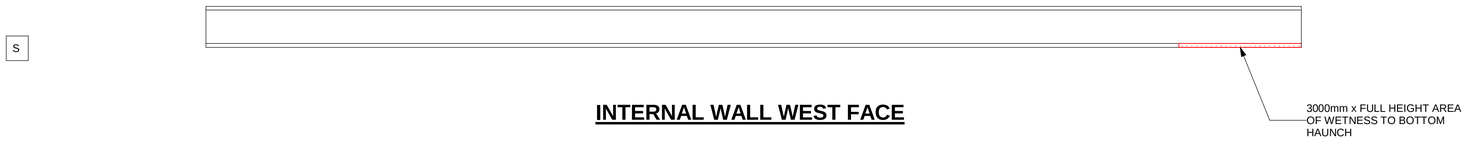
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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GATESHEAD
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SHEET TITLE

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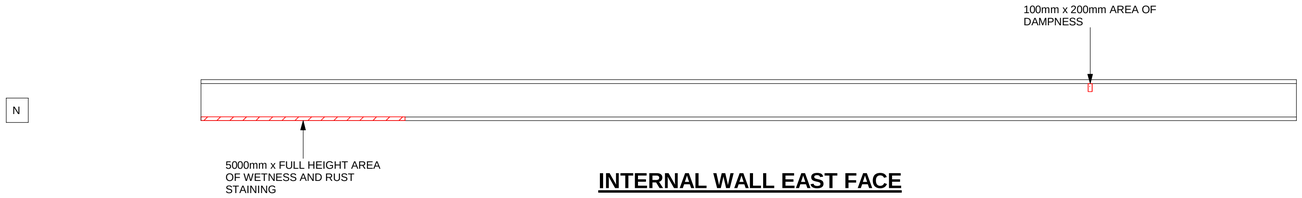
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

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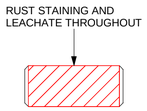
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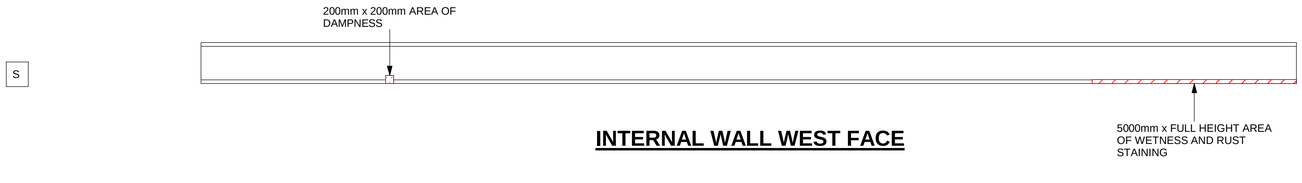
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SHEET TITLE

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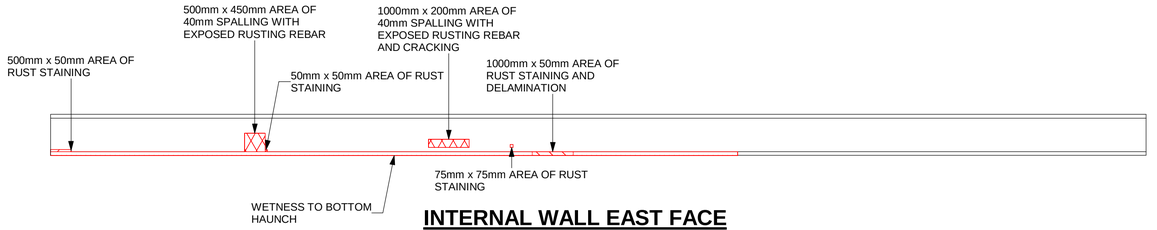
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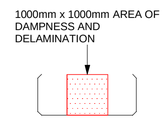
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- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



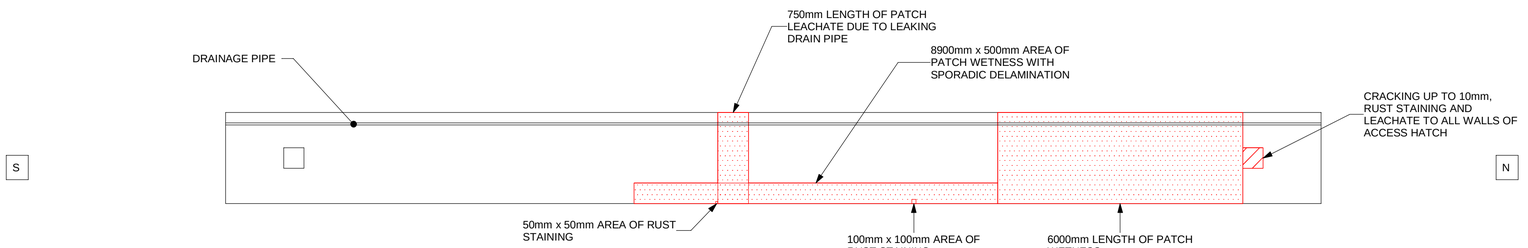
NORTH FACE OF WALL



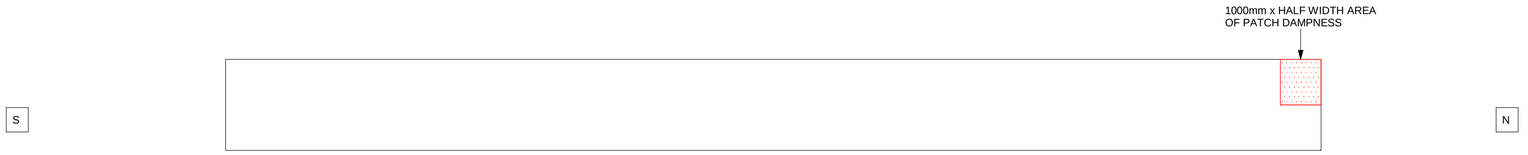
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 17 VOID E

CONSULTANT

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60713768 -ACM -XX -GV -M3 -CE -000177 __P01

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

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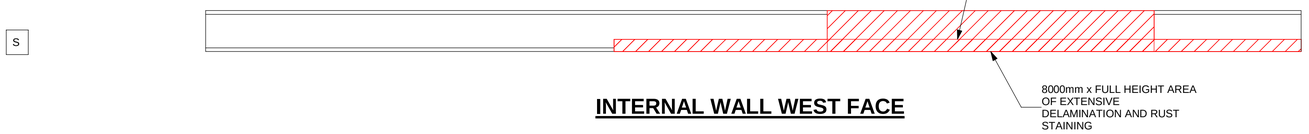
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



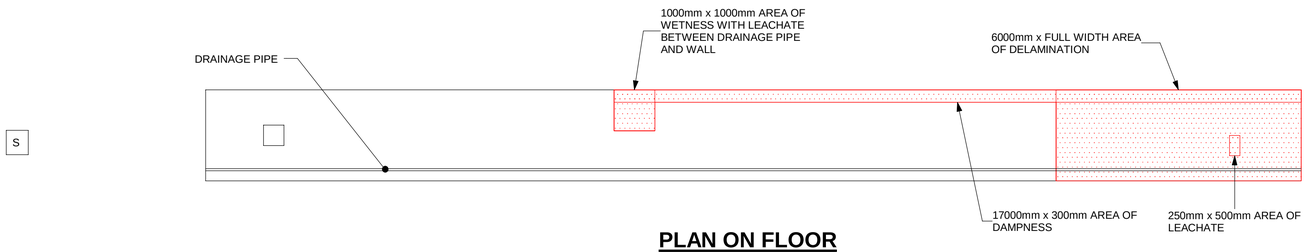
NORTH FACE OF WALL



INTERNAL WALL WEST FACE



SOUTH FACE OF WALL



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 18 VOID A

CONSULTANT

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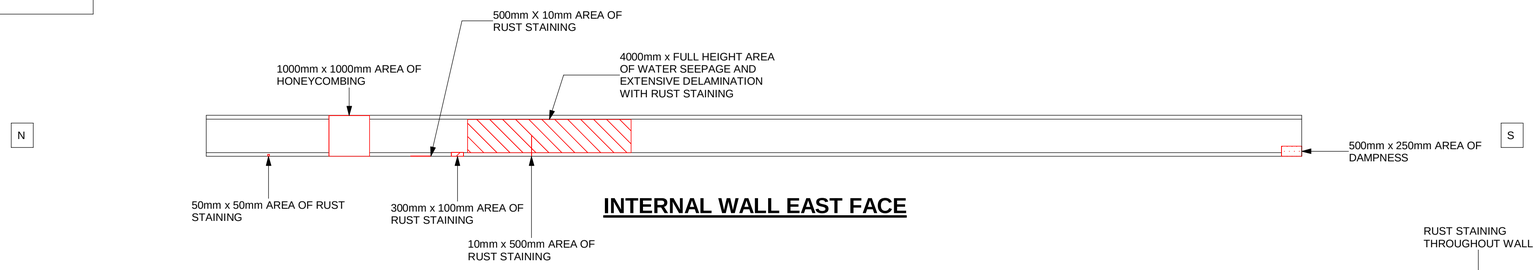
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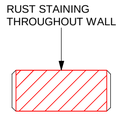
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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



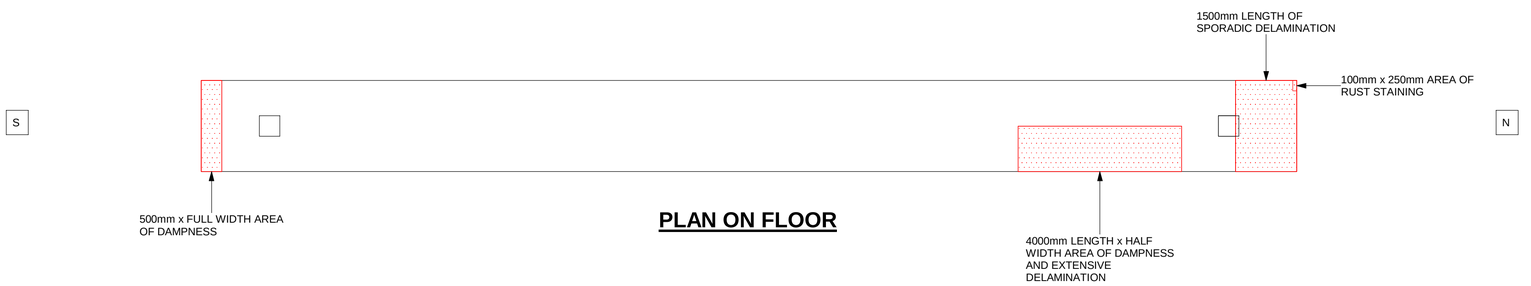
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

Last Plotted: 29/01/2025 13:36:14
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GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 18 VOID B

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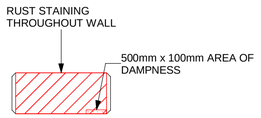
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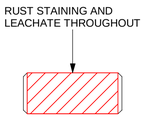
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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID D - INSPECTED
VOID E - INSPECTED

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 18 VOID D

CONSULTANT

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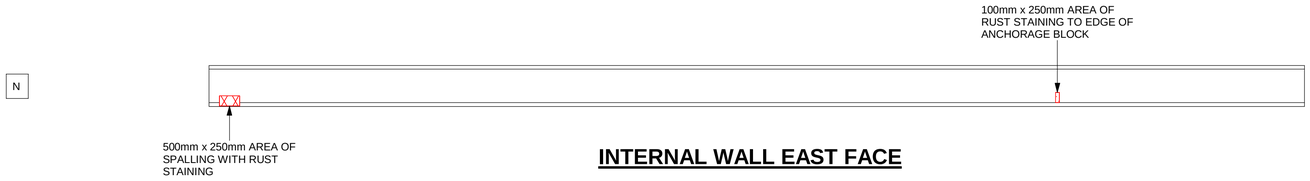
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GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



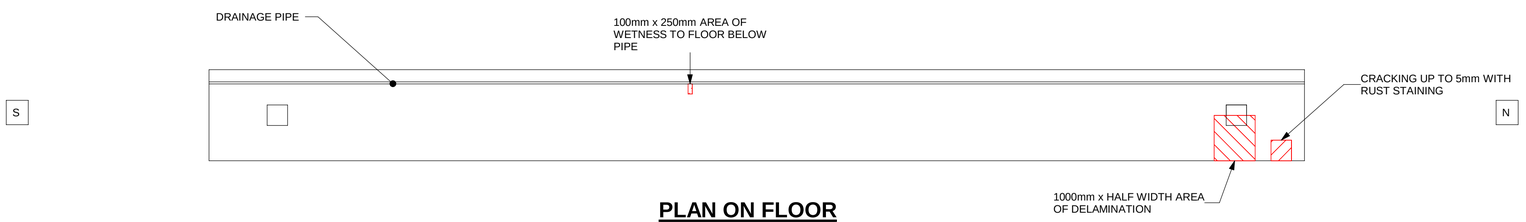
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

VOID A - INSPECTED
VOID B - INSPECTED
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VOID D - INSPECTED
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 18 VOID E

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- EVIDENCE OF DAMPNESS TO BOTTOM OF WEST WALL THROUGHOUT SPAN

N



S

INTERNAL WALL EAST FACE

NORTH FACE OF WALL

WEST FACE GENERAL DEFECTS:

- SALT STAINING TO BOTTOM OF WEST WALL THROUGHOUT SPAN

SOUTH FACE OF WALL

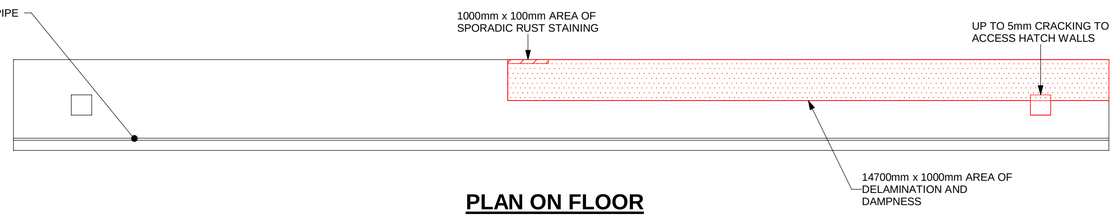
S



INTERNAL WALL WEST FACE

N

S



N

PLAN ON FLOOR

S



N

PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 19 VOID A

CONSULTANT

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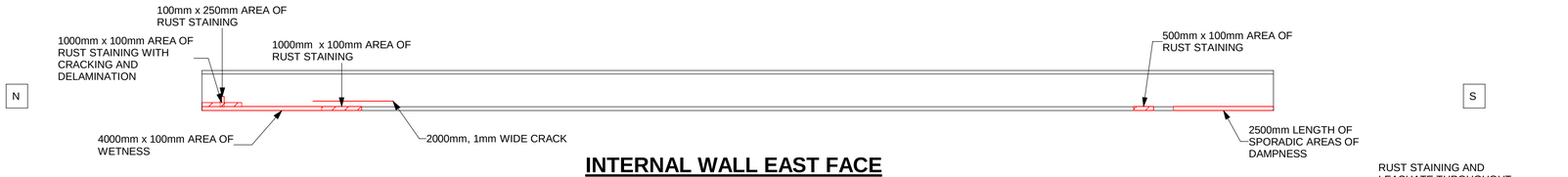
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

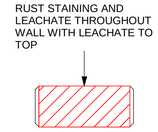
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- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 19 VOID B

CONSULTANT

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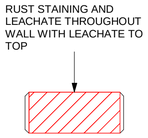
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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS THROUGHOUT SOFFIT



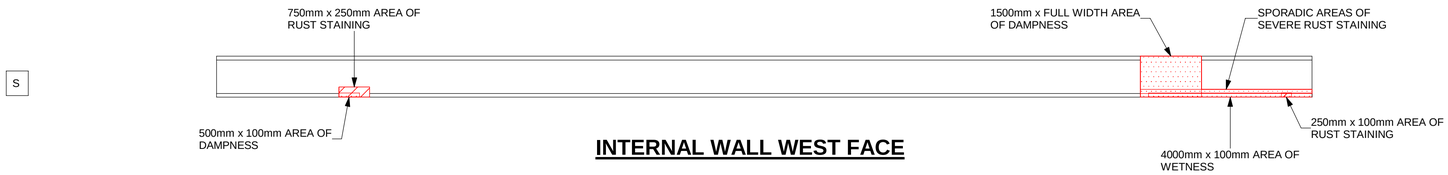
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



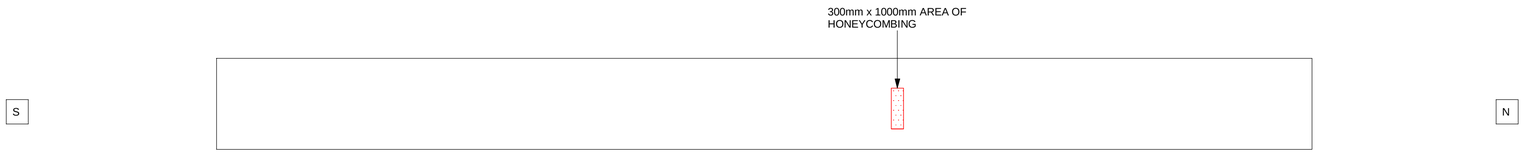
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



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SHEET TITLE

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SPAN 19 VOID D

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SHEET NUMBER

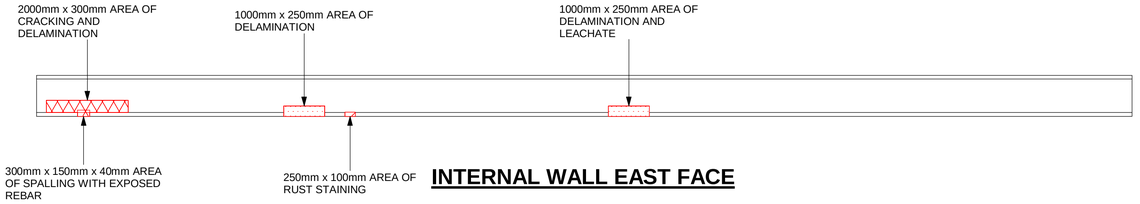
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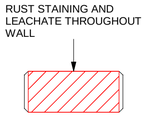
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



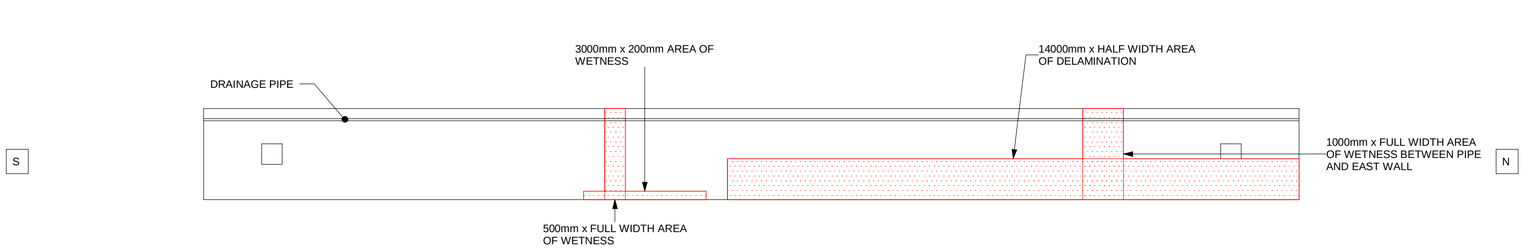
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 19 VOID E

CONSULTANT

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GENERAL DEFECTS:

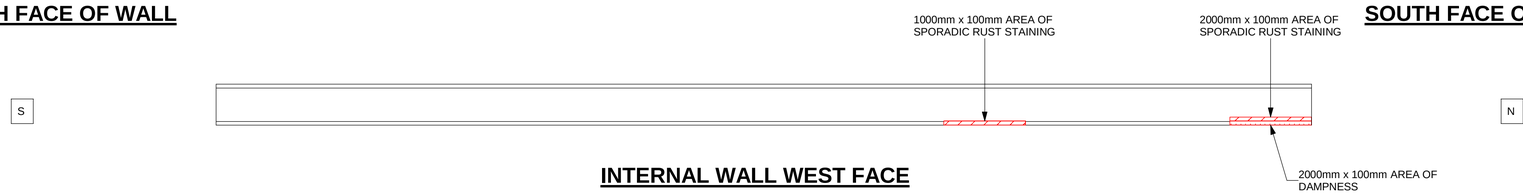
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



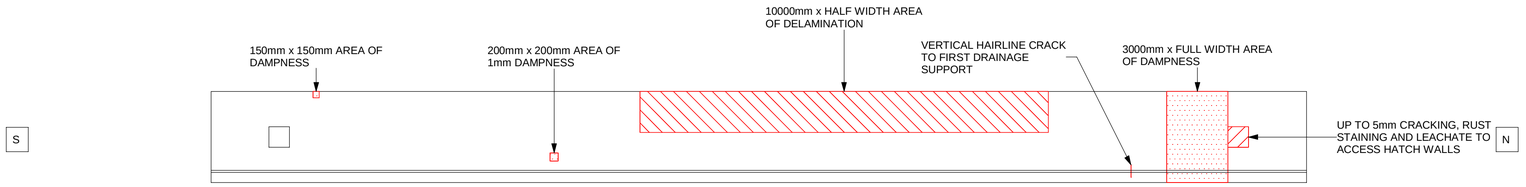
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 20 VOID A

CONSULTANT

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SHEET NUMBER

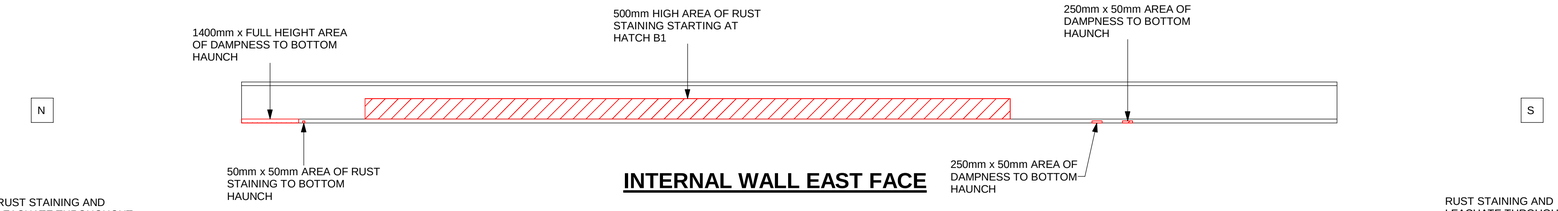
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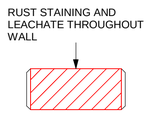
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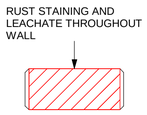
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- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



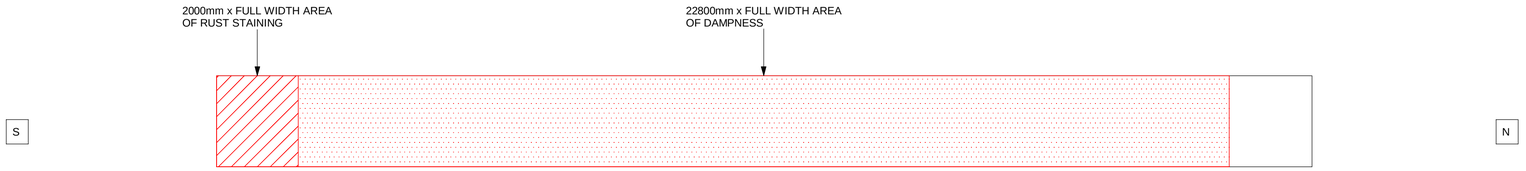
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 20 VOID B

CONSULTANT

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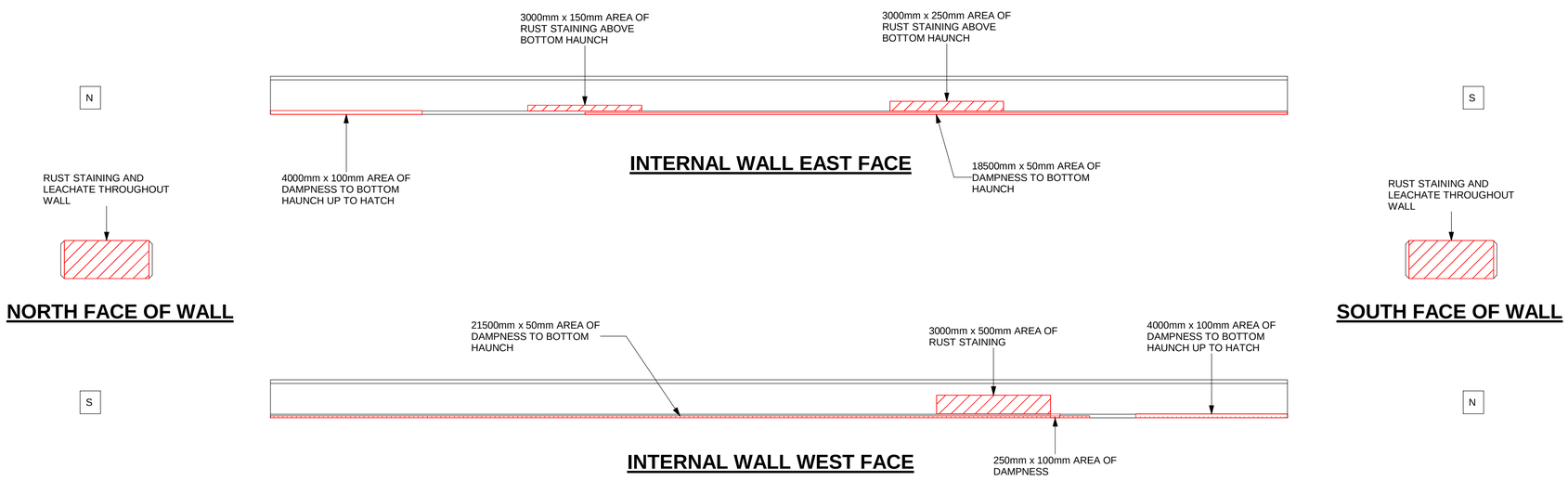
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT





PLAN ON FLOOR

SOFFIT GENERAL DEFECTS:

- DAMPNESS THROUGHOUT CEILING BETWEEN SOUTH END AND NORTH HATCH



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 20 VOID D

CONSULTANT

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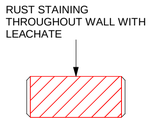
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GENERAL DEFECTS:

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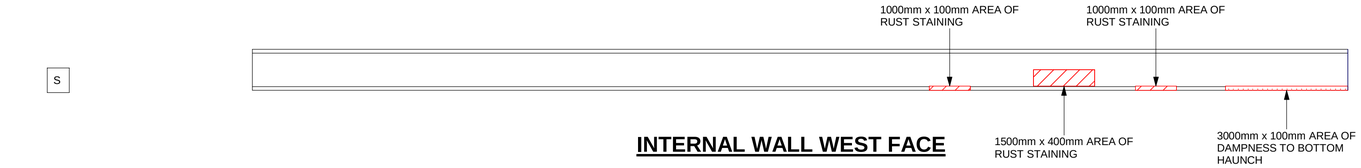
INTERNAL WALL EAST FACE



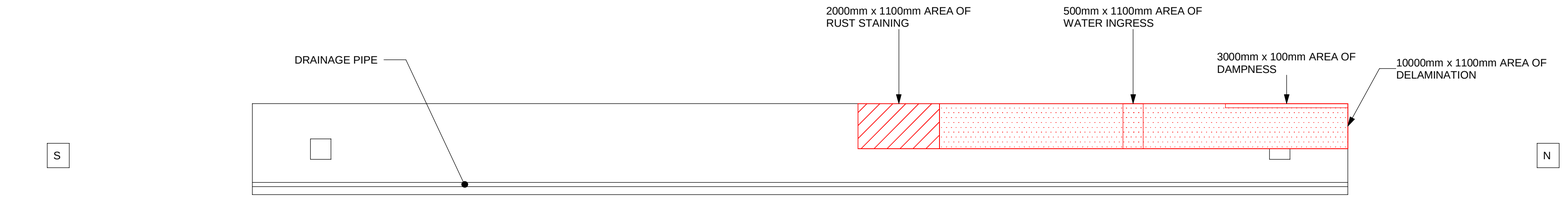
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 21 VOID A

CONSULTANT

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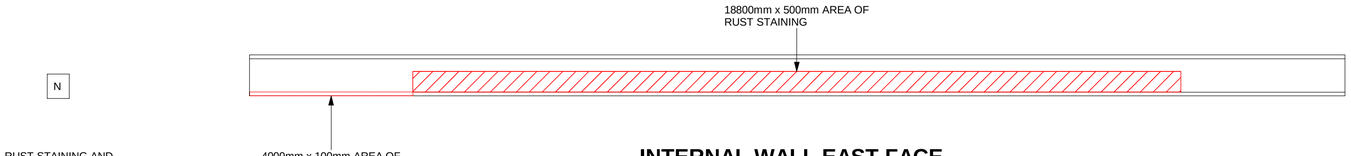
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GENERAL DEFECTS:

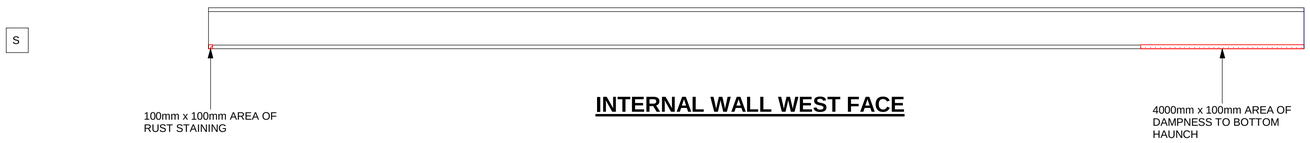
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INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE

PLAN ON FLOOR



PLAN ON SOFFIT

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 21 VOID B

CONSULTANT

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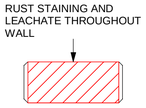
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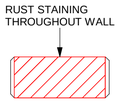
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INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

Last Plotted: 29/01/2025 13:36:19
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 21 VOID D

CONSULTANT

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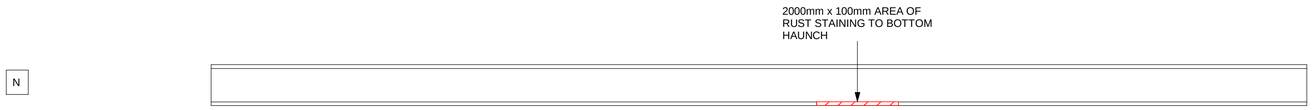
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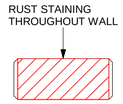
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE

PLAN ON FLOOR



PLAN ON SOFFIT

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VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 21 VOID E

CONSULTANT

AECOM
One Trinity Gardens
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www.aecom.com

SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000215 __P01

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Filename: Autodesk Docs://TR_EURI_(UKI)_60713768_Gateshead Viaduct PI 2023/60713768-ACM-GV-M3-CE-000001_P01.rvt

Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
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INTERNAL WALL EAST FACE



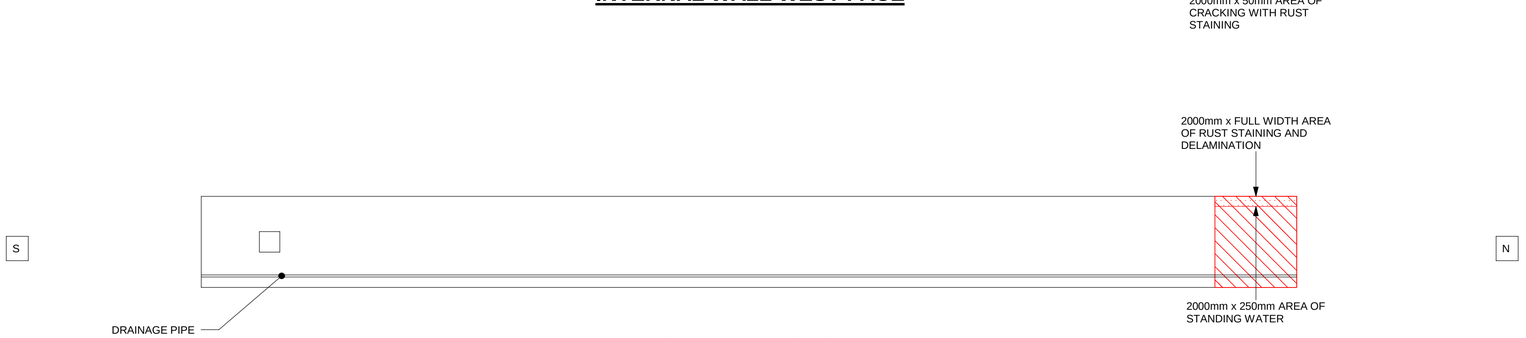
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 22 VOID A

CONSULTANT

AECOM
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SHEET NUMBER

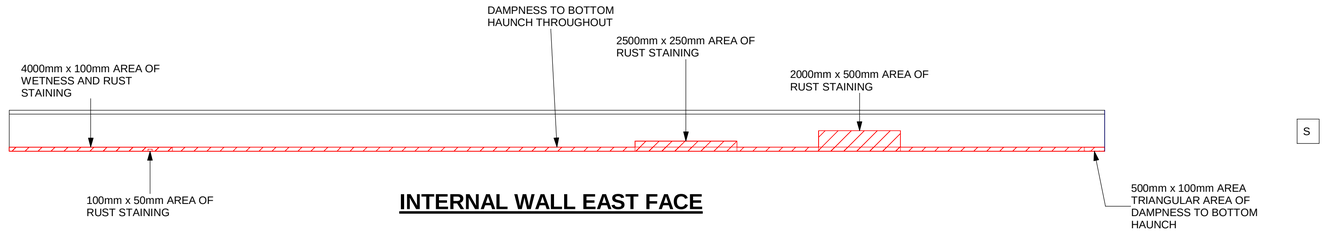
60713768 -ACM -XX -GV -M3 -CE -000222 __P01

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



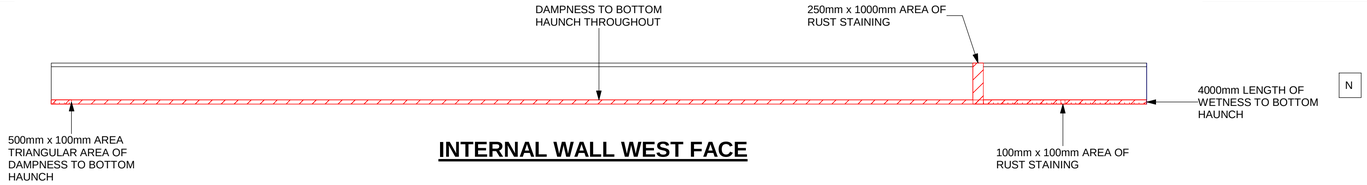
INTERNAL WALL EAST FACE



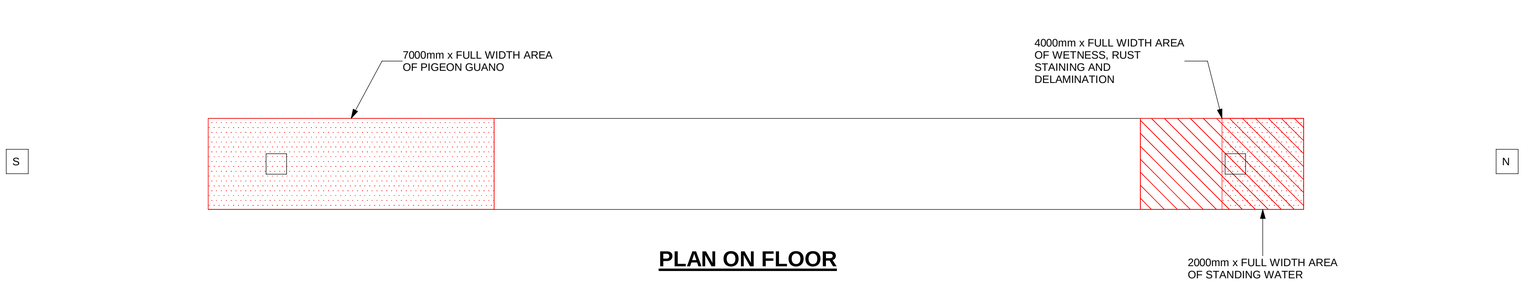
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 22 VOID B

CONSULTANT

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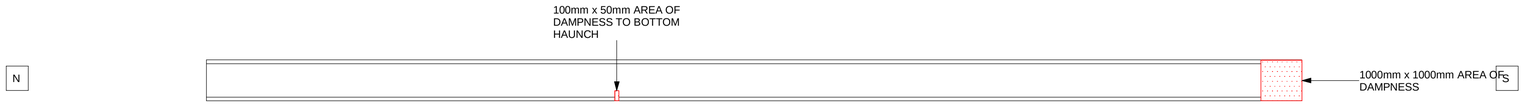
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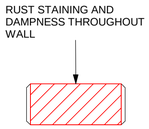
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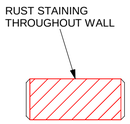
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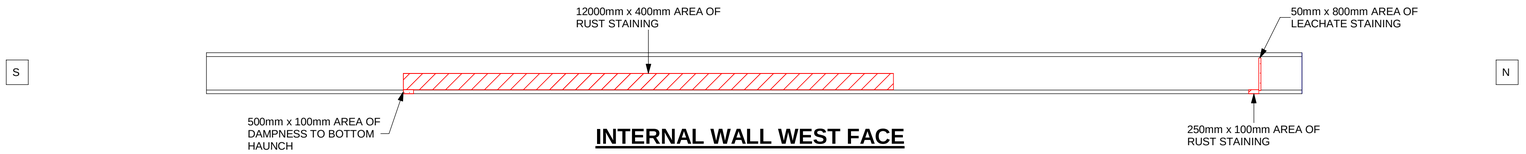
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE

SOFFIT GENERAL DEFECTS:

- DAMPNESS THROUGHOUT SOFFIT



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - INSPECTED

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 22 VOID D

CONSULTANT

AECOM
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T: 0191 224 6500 F: 0191 224 6599
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SHEET NUMBER

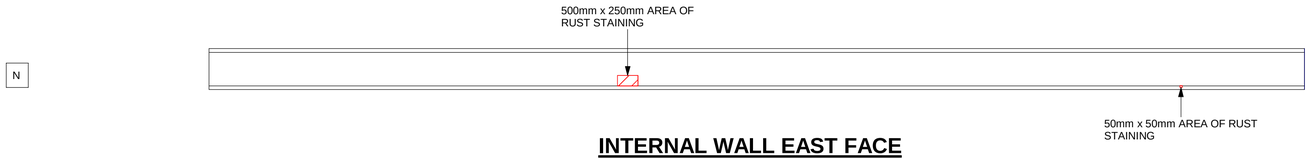
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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INTERNAL WALL EAST FACE



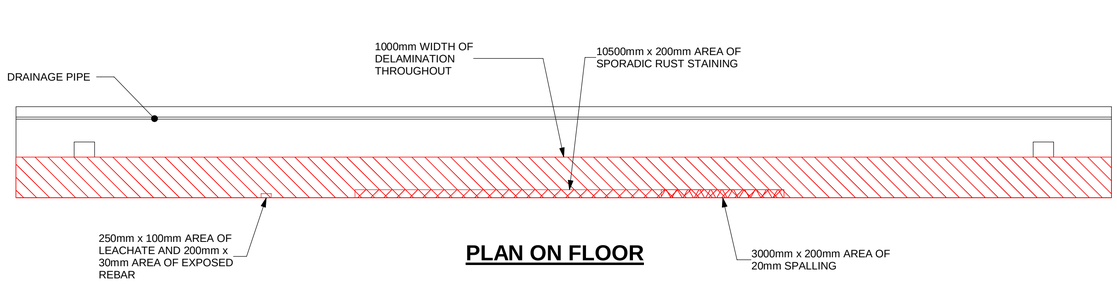
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 22 VOID E

CONSULTANT

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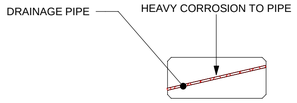
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GENERAL DEFECTS:

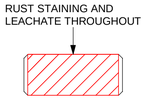
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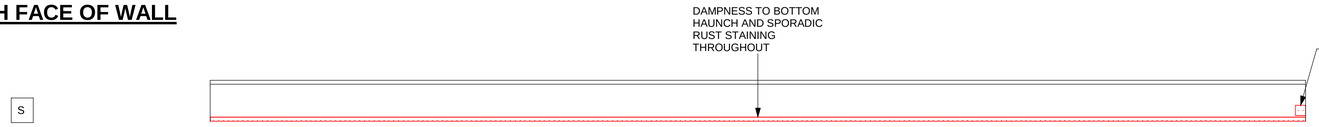
INTERNAL WALL EAST FACE



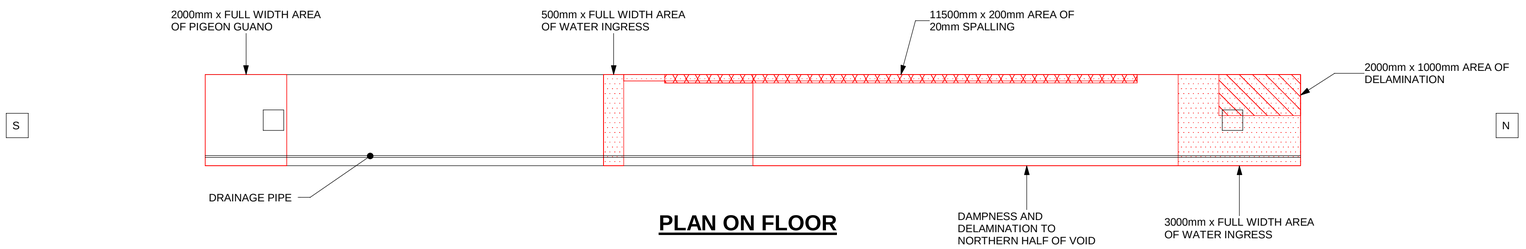
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

Last Plotted: 29/01/2025 13:36:21
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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 23 VOID A

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000232 __P01

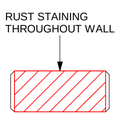
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GENERAL DEFECTS:

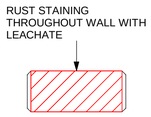
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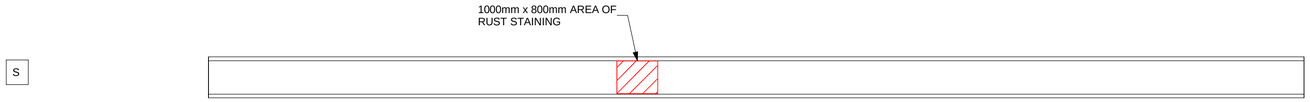
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 23 VOID B

CONSULTANT

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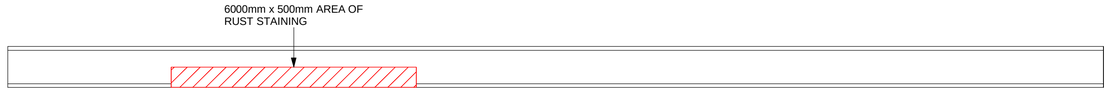
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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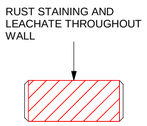
N

INTERNAL WALL EAST FACE

S



NORTH FACE OF WALL



SOUTH FACE OF WALL



S

INTERNAL WALL WEST FACE

N



S

PLAN ON FLOOR

N



S

PLAN ON SOFFIT

N

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VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 23 VOID D

CONSULTANT

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SHEET NUMBER

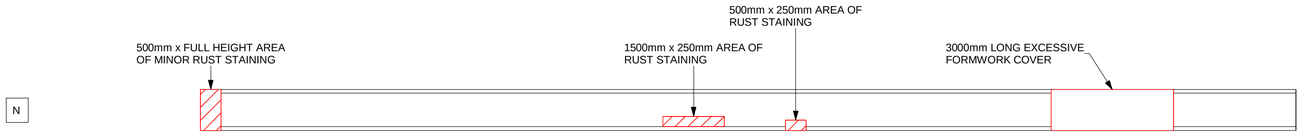
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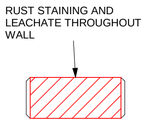
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INTERNAL WALL EAST FACE



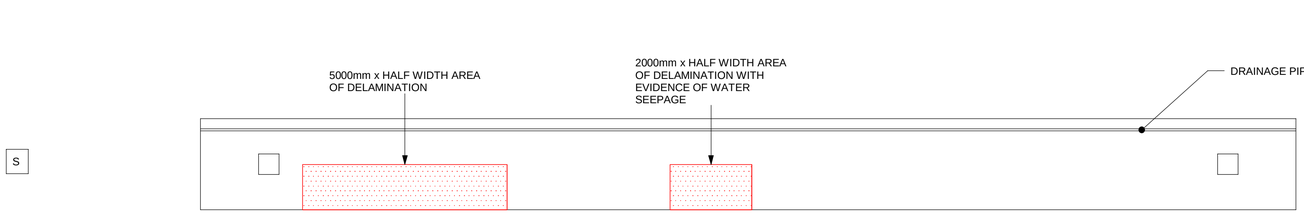
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

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Gateshead Council

PROJECT

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SHEET TITLE

DEFECTS SCHEDULE
SPAN 23 VOID E

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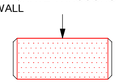
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N

S

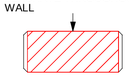
INTERNAL WALL EAST FACE

LEACHATE THROUGHOUT WALL



NORTH FACE OF WALL

RUST STAINING AND LEACHATE THROUGHOUT WALL



SOUTH FACE OF WALL

S

1000mm x 100mm AREA OF RUST STAINING TO BOTTOM HAUNCH



50mm x 100mm AREA OF RUST STAINING

INTERNAL WALL WEST FACE

N

GENERAL DEFECTS:

- DELAMINATION THROUGHOUT FLOOR

300mm x 1000mm AREA OF DAMPNESS

14800mm x 1000mm AREA OF WATER INGRESS

S



N

DRAINAGE PIPE

PLAN ON FLOOR

S



N

50mm x 150mm AREA OF LEACHATE

PLAN ON SOFFIT

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VOID D - NOT INSPECTED, ACCESS HATCH D1 INACCESSIBLE DUE TO BOUNDARY FENCE AND ACCESS HATCH D2 COULD NOT BE OPENED
VOID E - INSPECTED

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 24 VOID A

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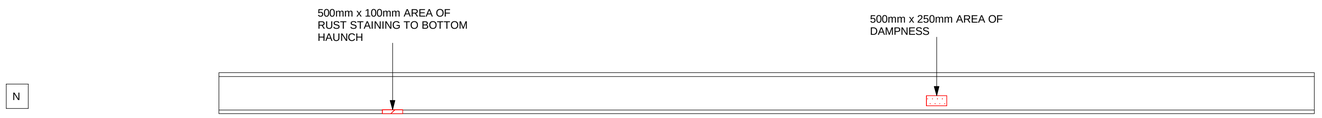
60713768 -ACM -XX -GV -M3 -CE -000242 __P01

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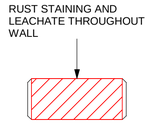
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INTERNAL WALL EAST FACE



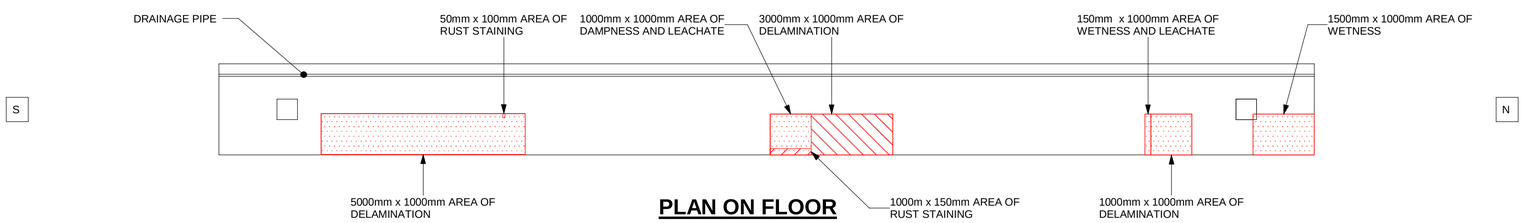
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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-S3-INTERNAL REVIEW AND COMMENT

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PROJECT

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SHEET TITLE

DEFECTS SCHEDULE
SPAN 24 VOID E

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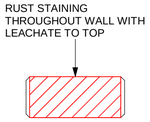
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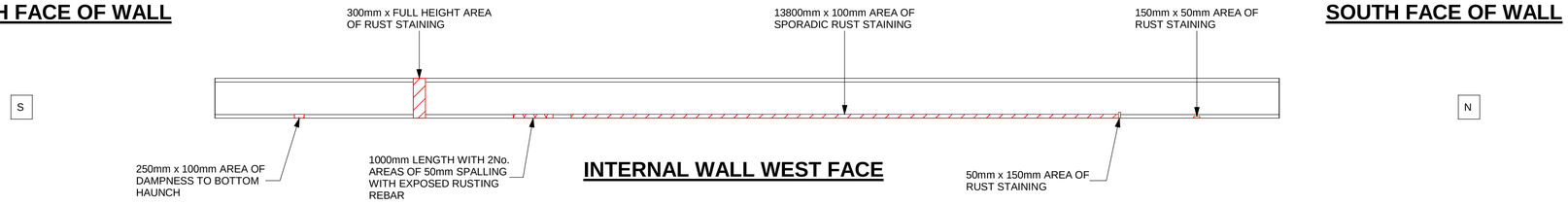
INTERNAL WALL EAST FACE



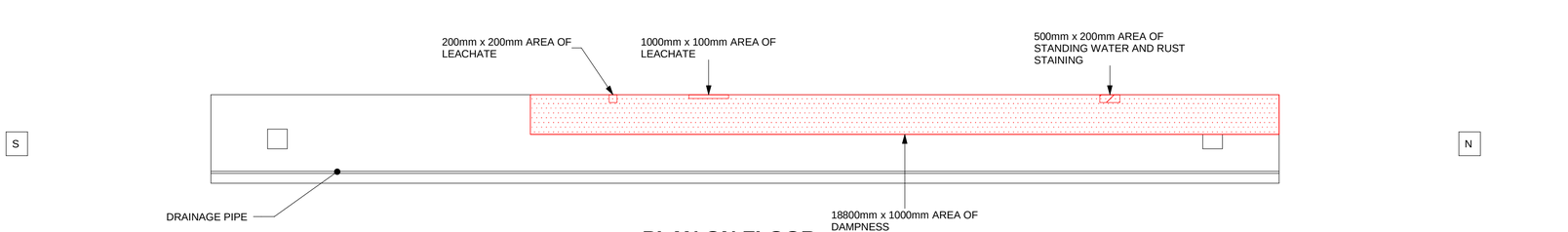
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 25 VOID A

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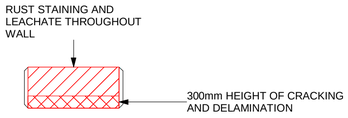
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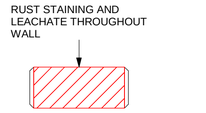
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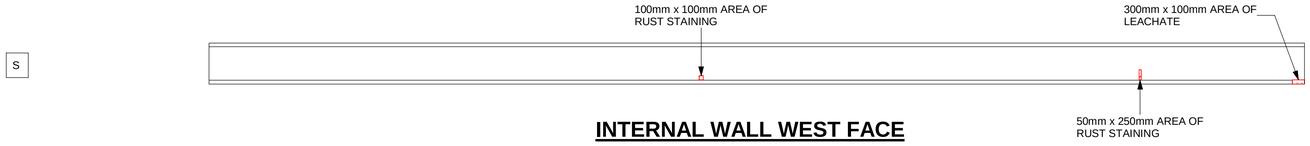
INTERNAL WALL EAST FACE



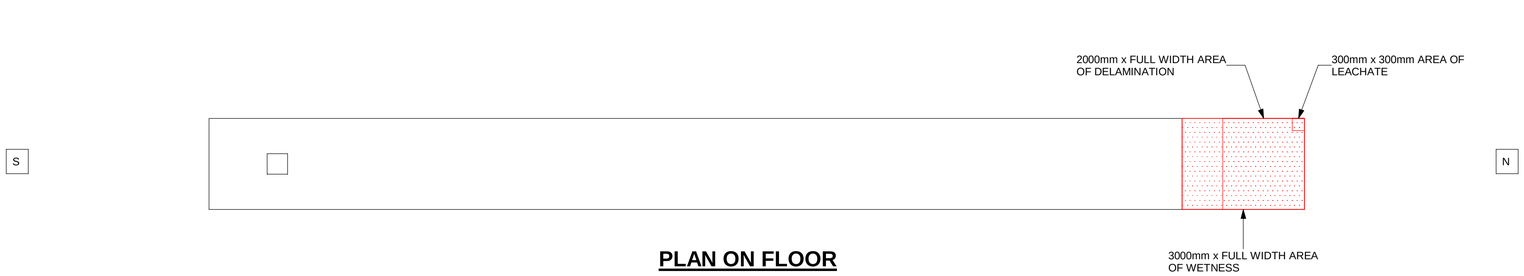
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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GATESHEAD
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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 25 VOID B

CONSULTANT

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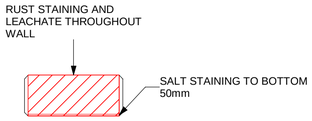
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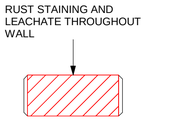
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INTERNAL WALL EAST FACE



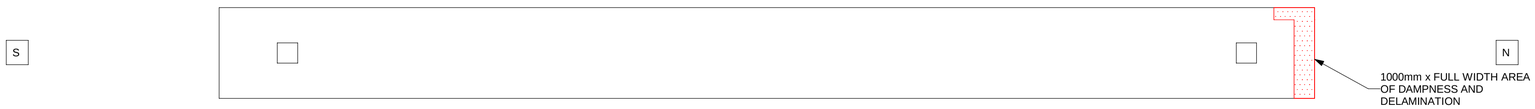
NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



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PROJECT

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SHEET TITLE

DEFECTS SCHEDULE
SPAN 25 VOID D

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SHEET NUMBER

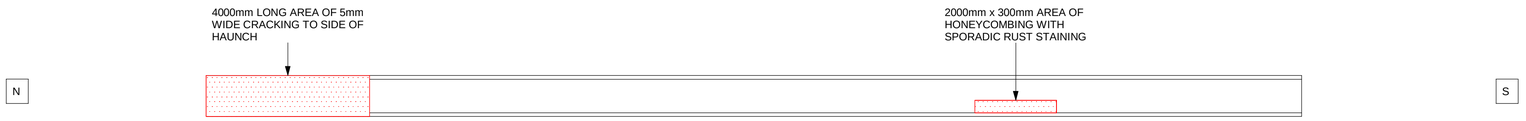
60713768 -ACM -XX -GV -M3 -CE -000254 __P01

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



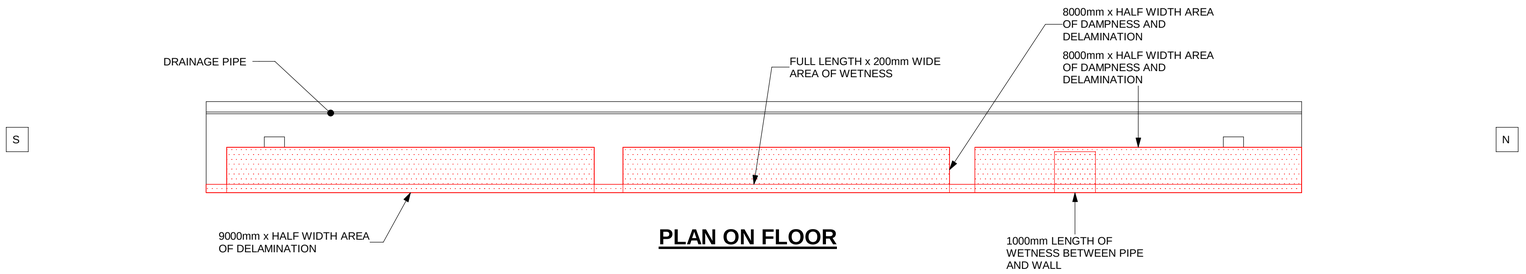
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

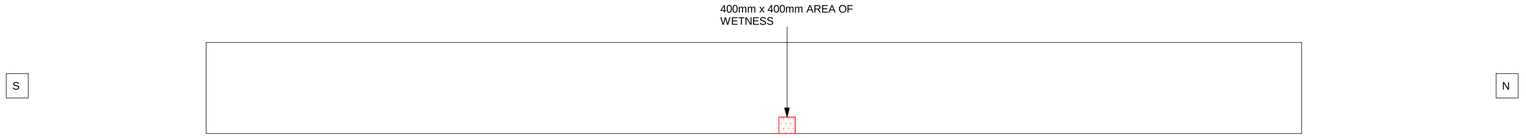
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 25 VOID E

CONSULTANT

AECOM
One Trinity Gardens
Newcastle upon Tyne
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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000255 __P01

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Filename: Autodesk Docs://TR_EURI_(UKI)_60713768_Gateshead Viaduct PI 2023/60713768-ACM-GV-M3-CE-000001_P01.rvt

Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

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- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
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- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE



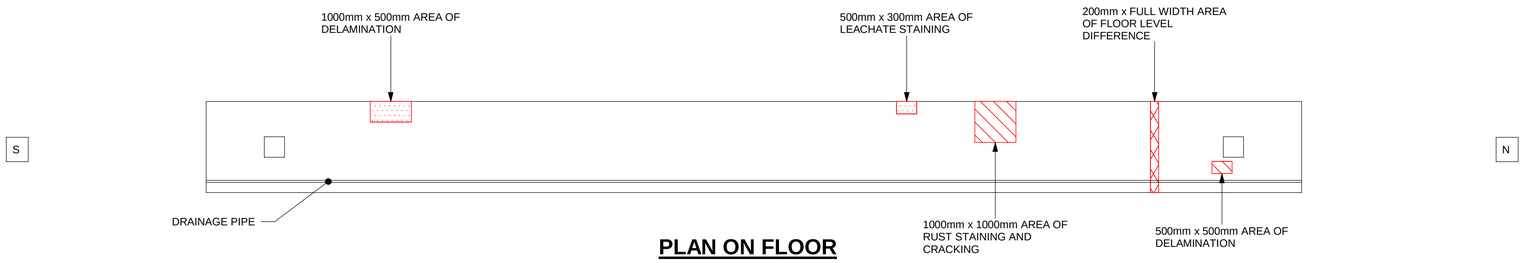
NORTH FACE OF WALL



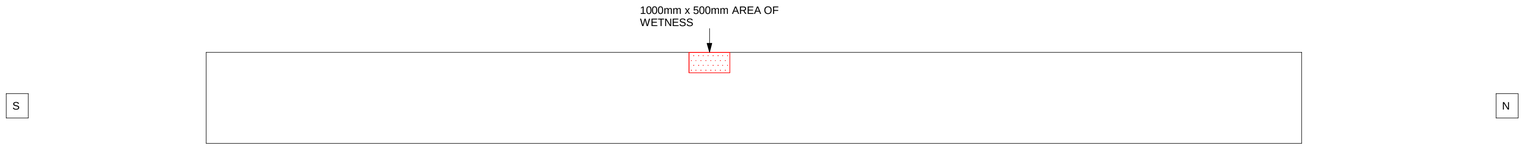
INTERNAL WALL WEST FACE



SOUTH FACE OF WALL



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 26 VOID A

CONSULTANT

AECOM
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SHEET NUMBER

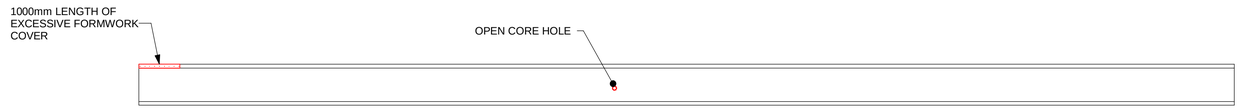
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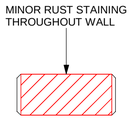
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GENERAL DEFECTS:

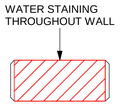
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- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



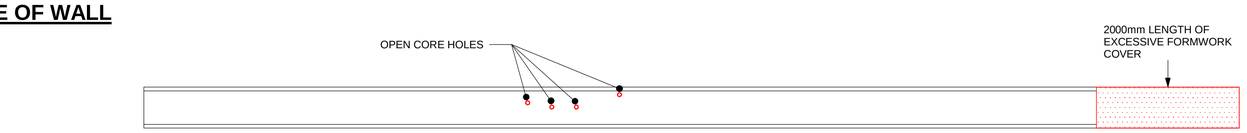
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 26 VOID B

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000263 __P01

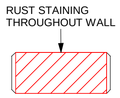
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GENERAL DEFECTS:

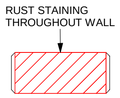
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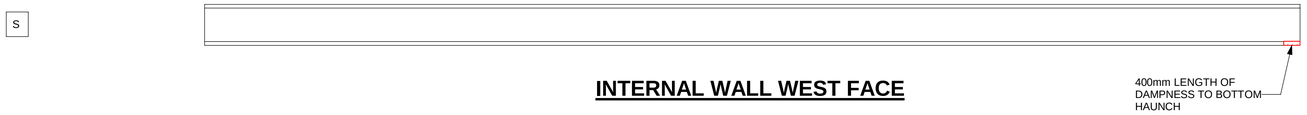
INTERNAL WALL EAST FACE



NORTH FACE OF WALL



SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - INSPECTED

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 26 VOID D

CONSULTANT

AECOM
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SHEET NUMBER

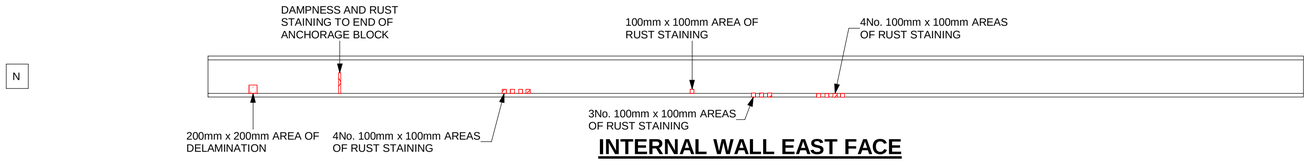
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
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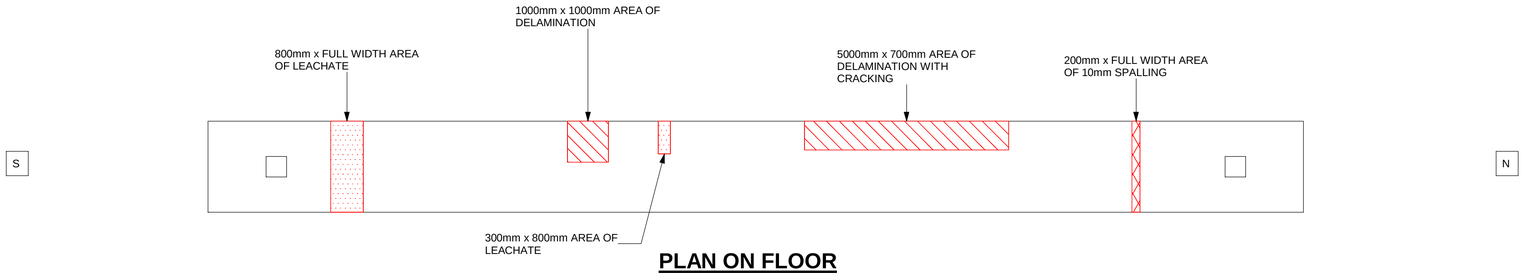
INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID E - INSPECTED

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 26 VOID E

CONSULTANT

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SHEET NUMBER

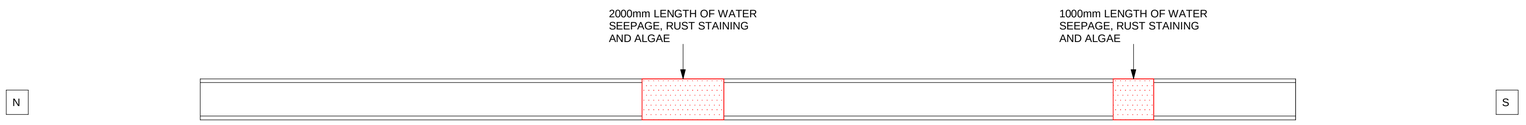
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

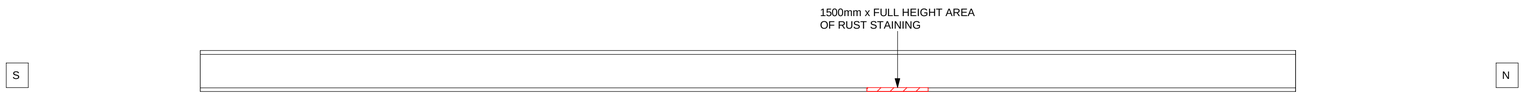
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INTERNAL WALL EAST FACE

NORTH FACE OF WALL

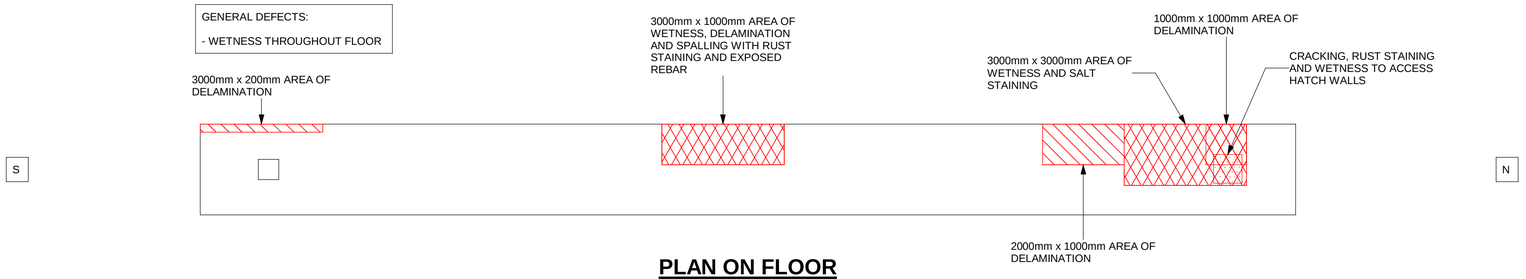
SOUTH FACE OF WALL



INTERNAL WALL WEST FACE

GENERAL DEFECTS:

- WETNESS THROUGHOUT FLOOR



PLAN ON FLOOR



PLAN ON SOFFIT

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
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SUITABILITY

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CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 27 VOID A

CONSULTANT

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SHEET NUMBER

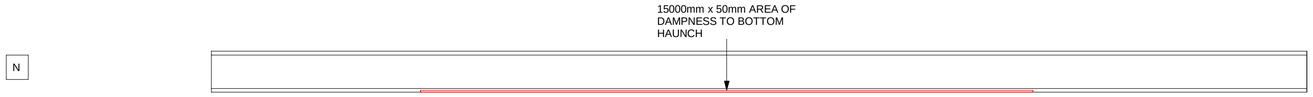
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

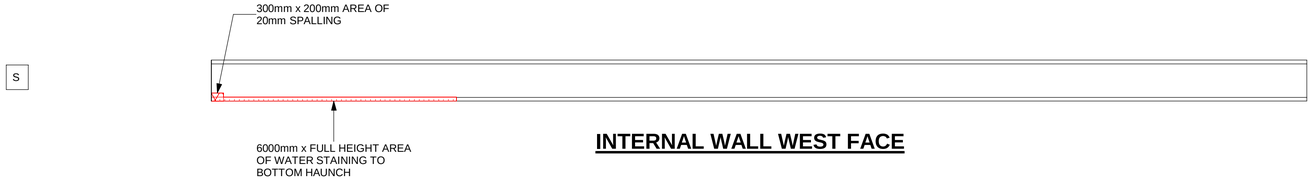
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INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 27 VOID B

CONSULTANT

AECOM
One Trinity Gardens
Newcastle upon Tyne
T: 0191 224 6500 F: 0191 224 6599
www.aecom.com

SHEET NUMBER

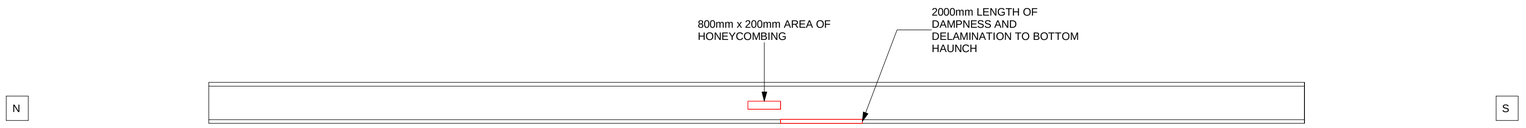
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

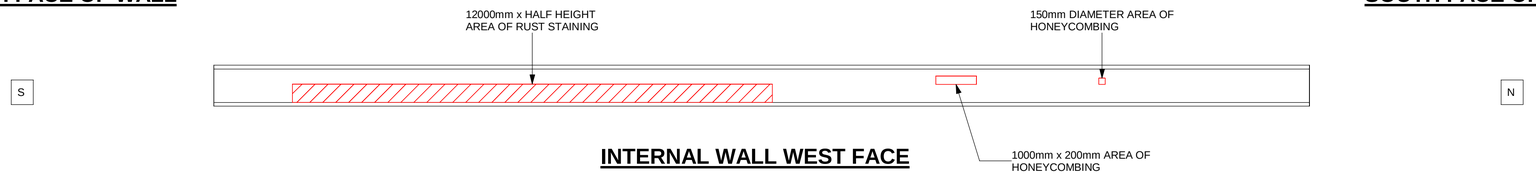
- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

Last Plotted: 29/01/2025 13:36:27
Filename: Autodesk Docs://TR_EURI_(UKI)_60713768_Gateshead Viaduct PI 2023/60713768-ACM-GV-M3-CE-000001_P01.rvt

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VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 27 VOID D

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000273 __P01

Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

- POOR FINISHING TO ALL INTERNAL SURFACES WITH UNEVEN SURFACING THROUGHOUT
- AREAS OF EXCESSIVE FORMWORK COVER THROUGHOUT
- MINOR RUST STAINING AND TIE WIRES THROUGHOUT SOFFIT
- SPALLING AROUND FORMWORK HOLES THROUGHOUT SOFFIT
- DAMPNESS TO FLOOR AND BOTH BOTTOM HAUNCHES THROUGHOUT



INTERNAL WALL EAST FACE

NORTH FACE OF WALL

SOUTH FACE OF WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

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SPAN 27 VOID E

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Appendix B . 3 – Defect Drawings Topside Internal

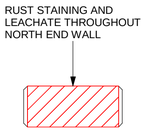
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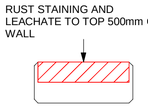
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



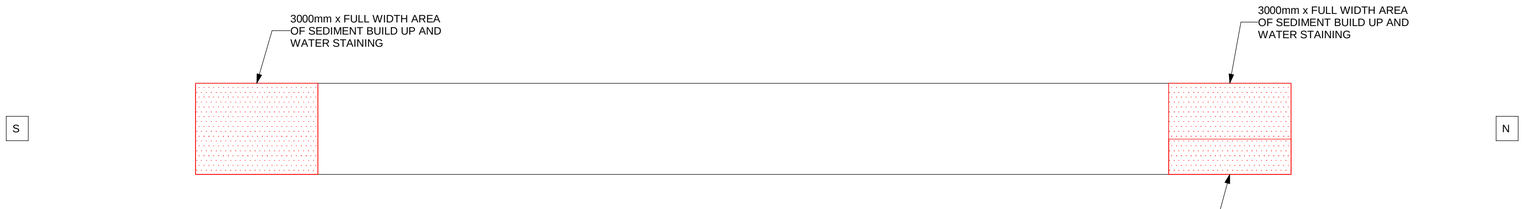
NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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Gateshead Council

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SHEET TITLE

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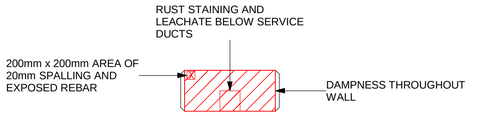
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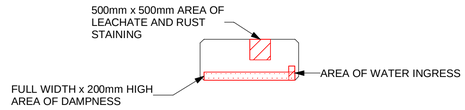
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



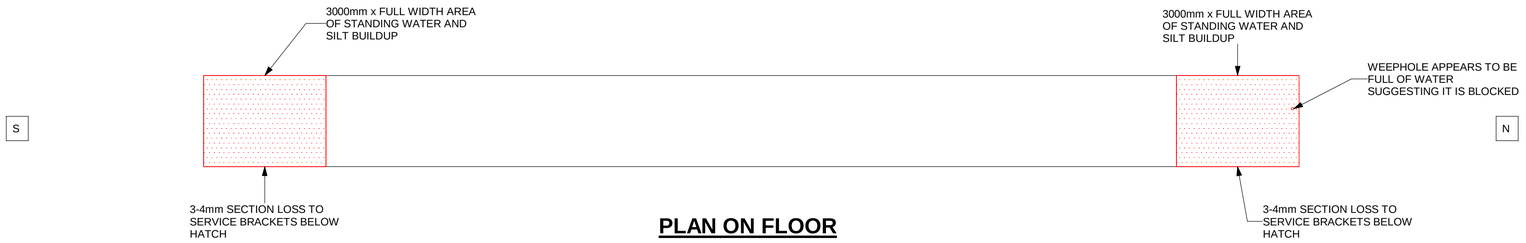
NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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CONSULTANT

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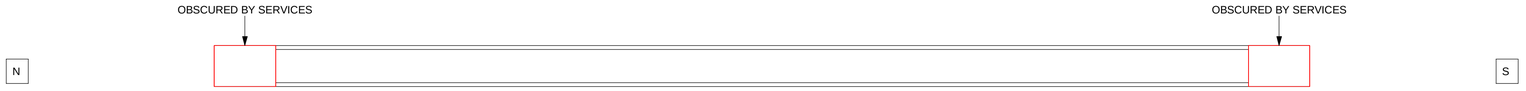
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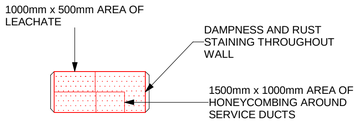
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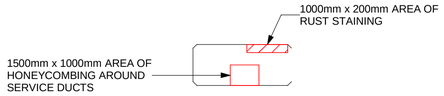
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



NORTH END WALL



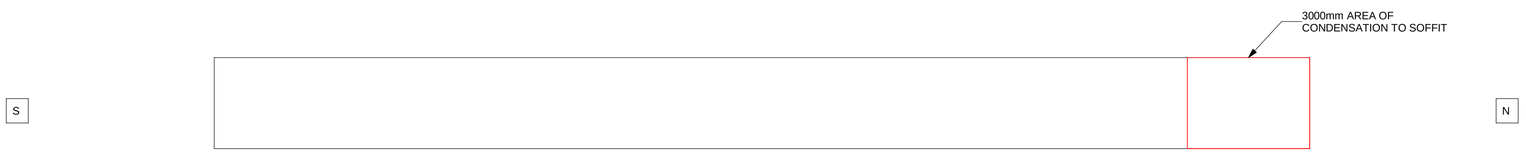
SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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NE8 1HH

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GATESHEAD VIADUCT

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SPAN 6 CENTRAL VOID

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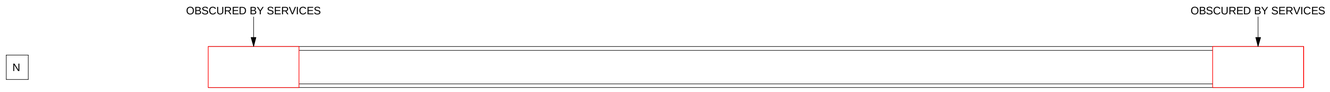
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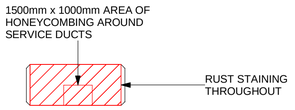
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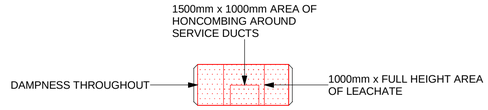
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- RUST AND LEACHATE SURROUNDING MANHOLES



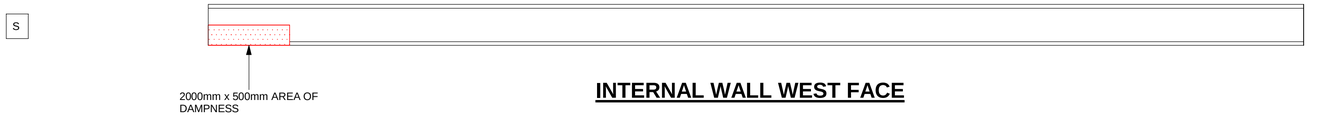
INTERNAL WALL EAST FACE



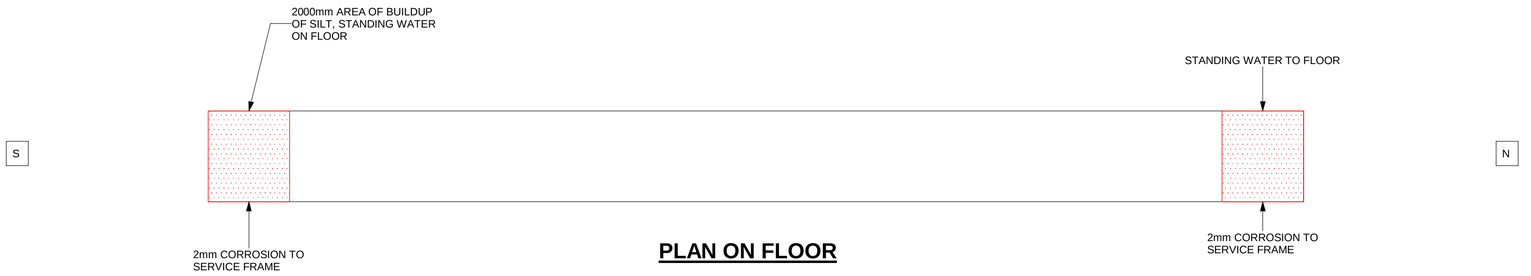
NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
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CONSULTANT

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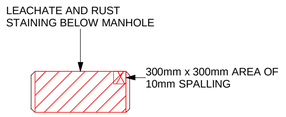
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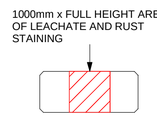
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
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- RUST AND LEACHATE SURROUNDING MANHOLES



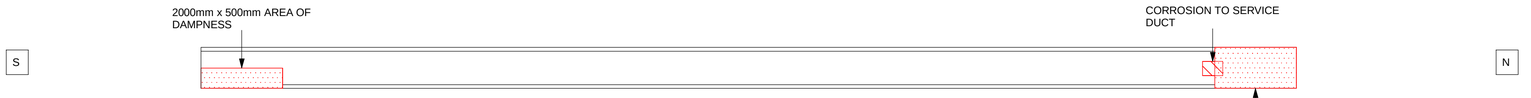
INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

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NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
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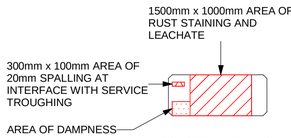
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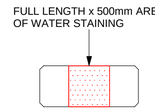
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

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DEFECTS SCHEDULE
SPAN 9 CENTRAL VOID

CONSULTANT

One Trinity Gardens
Newcastle upon Tyne
T: 0191 224 6500 F: 0191 224 6599
www.aecom.com

SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000096 __P01

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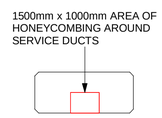
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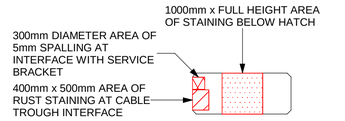
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 10 CENTRAL VOID

CONSULTANT

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SHEET NUMBER

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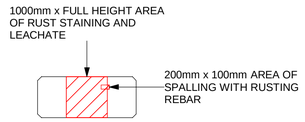
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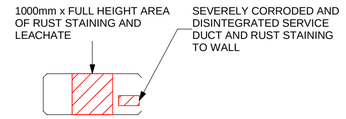
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- RUST AND LEACHATE SURROUNDING MANHOLES



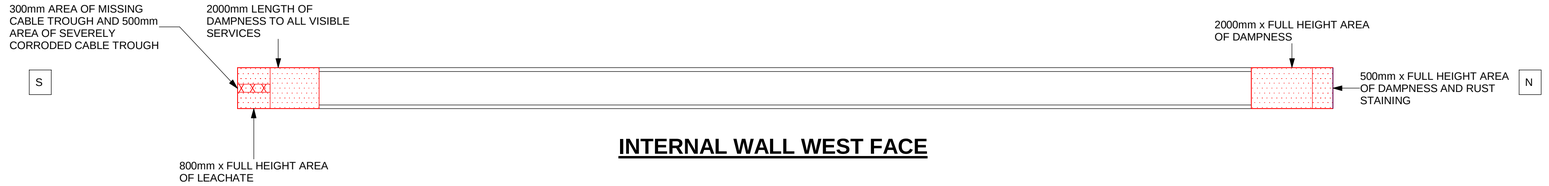
INTERNAL WALL EAST FACE



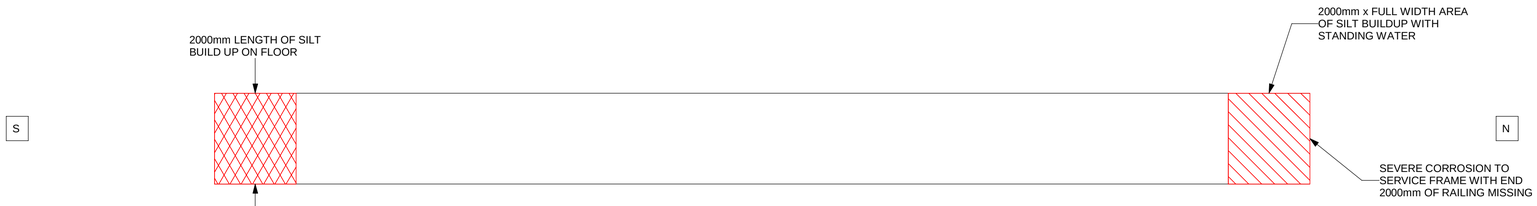
NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

AECOM

NOTES

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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CIVIC CENTRE,
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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 11 CENTRAL VOID

CONSULTANT

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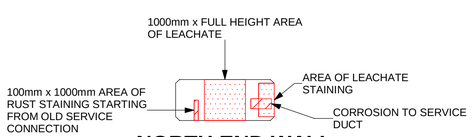
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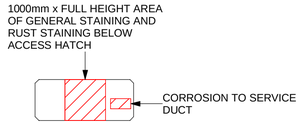
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- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



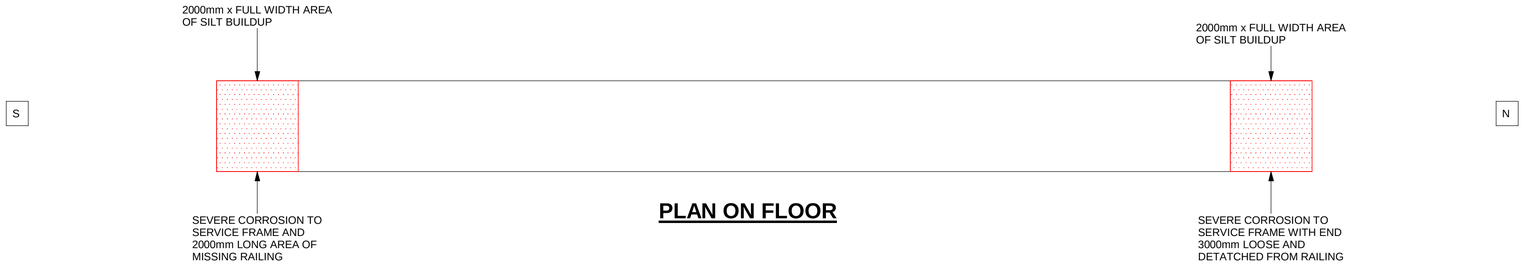
NORTH END WALL



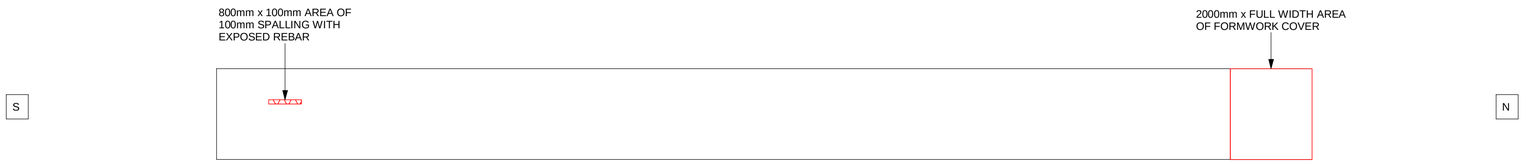
SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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REGENT TERRACE,
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NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 12 CENTRAL VOID

CONSULTANT

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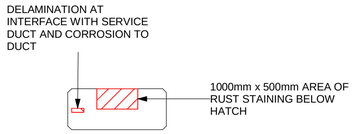
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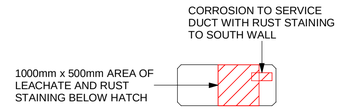
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- RUST AND LEACHATE SURROUNDING MANHOLES



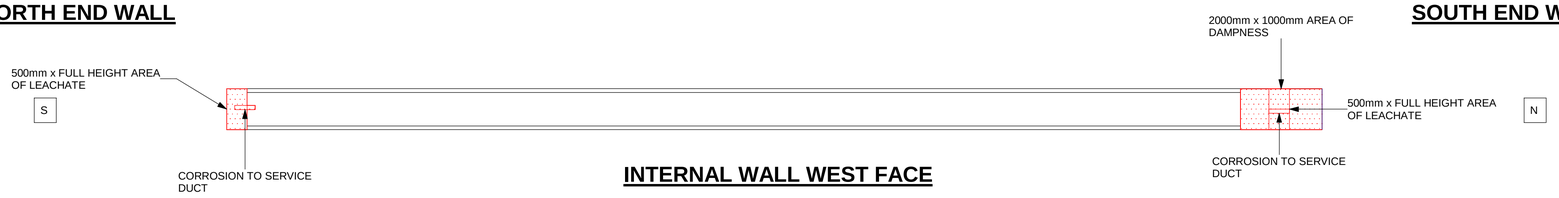
INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 13 CENTRAL VOID

CONSULTANT

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SHEET NUMBER

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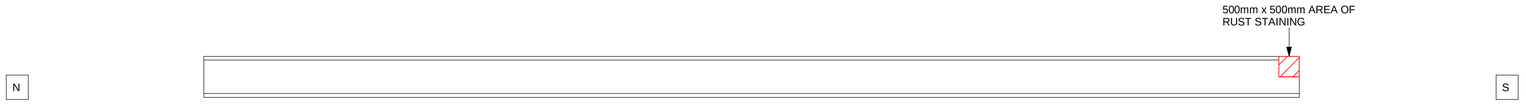
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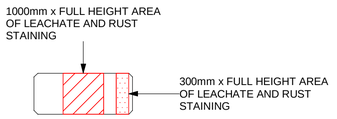
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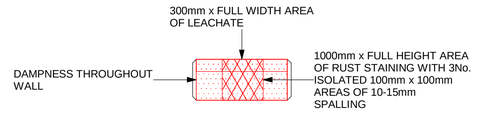
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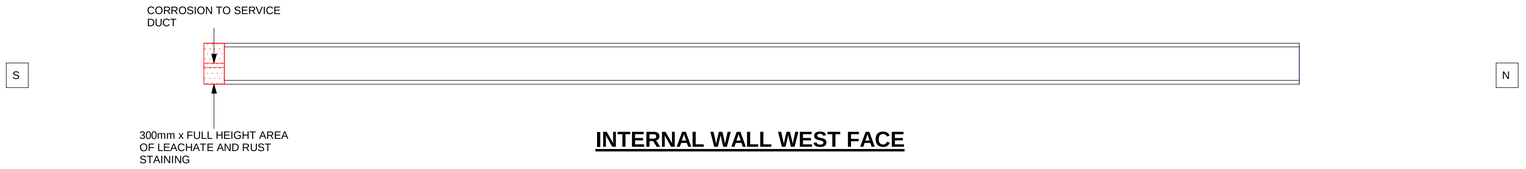
INTERNAL WALL EAST FACE



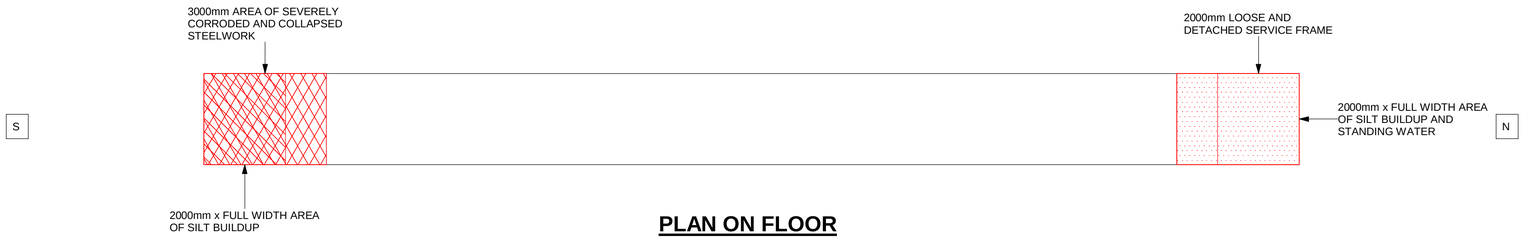
NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 14 CENTRAL VOID

CONSULTANT

AECOM
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Newcastle upon Tyne
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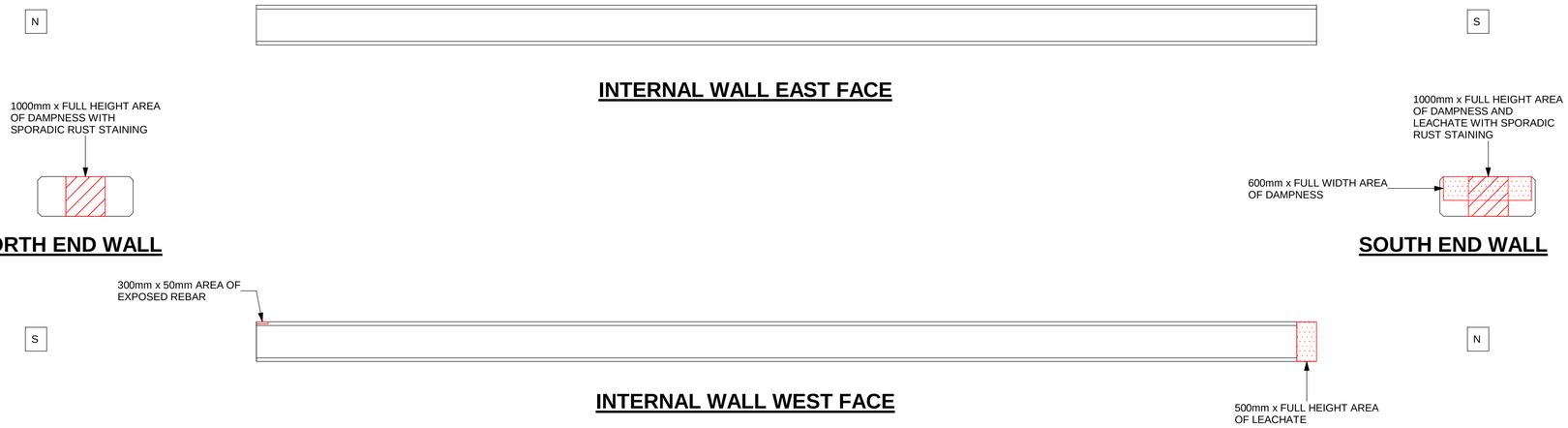
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GENERAL DEFECTS:

- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
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VOID A - INSPECTED
VOID B - INSPECTED
VOID C - INSPECTED AT MANHOLES ONLY (SEE APPENDIX B4)
VOID D - INSPECTED
VOID E - INSPECTED
VOID F - INSPECTED
VOID G - NO ACCESS HATCHES
VOID H - NO ACCESS HATCHES
VOID I - NO ACCESS HATCHES
VOID J - NO ACCESS HATCHES
VOID K - INSPECTED

ISSUE/REVISION

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SUITABILITY

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CLIENT

GATESHEAD COUNCIL
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REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 CENTRAL VOID

CONSULTANT

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SHEET NUMBER

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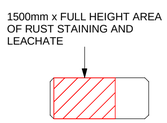
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GENERAL DEFECTS:

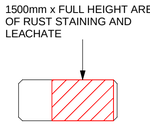
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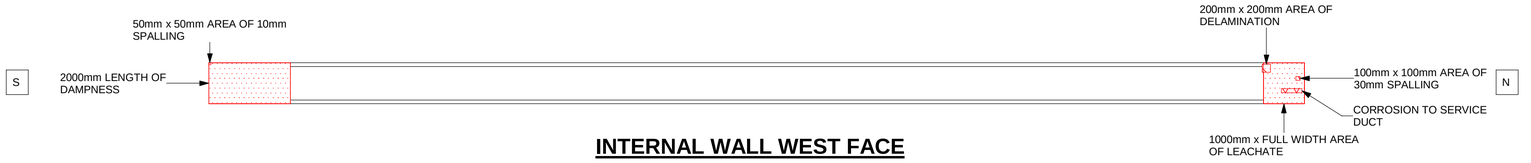
INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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CLIENT

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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 16 CENTRAL VOID

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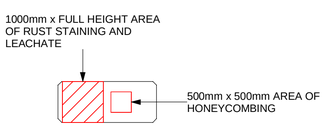
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GENERAL DEFECTS:

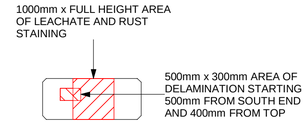
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



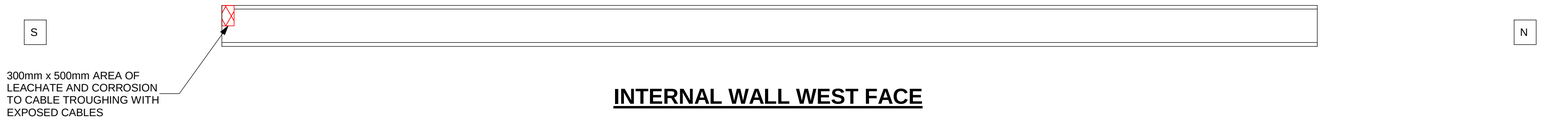
INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
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3. WALLS, SOFFIT AND FLOOR OF THE CELLS ARE SHOWN INDICATIVELY, ACTUAL DIMENSIONS/SIZES MAY DIFFER

ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 17 CENTRAL VOID

CONSULTANT

One Trinity Gardens
Newcastle upon Tyne
T: 0191 224 6500 F: 0191 224 6599
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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000178 __P01

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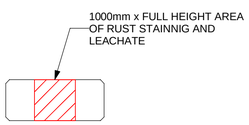
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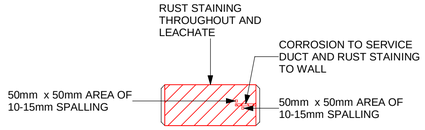
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- CONDENSATION AND DAMPNESS PRESENT TO ALL VISIBLE FACES AT BOTH ENDS OF THE VOID
- RUST AND LEACHATE SURROUNDING MANHOLES



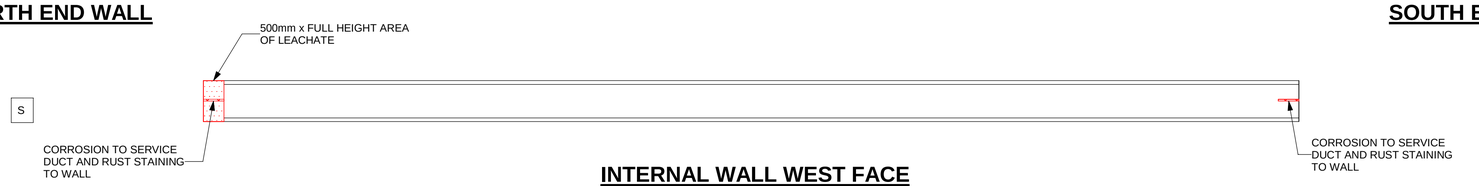
INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

AECOM

NOTES

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 18 CENTRAL VOID

CONSULTANT

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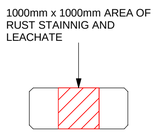
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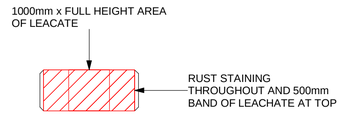
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

AECOM

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 19 CENTRAL VOID

CONSULTANT

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Newcastle upon Tyne
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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000196 __P01

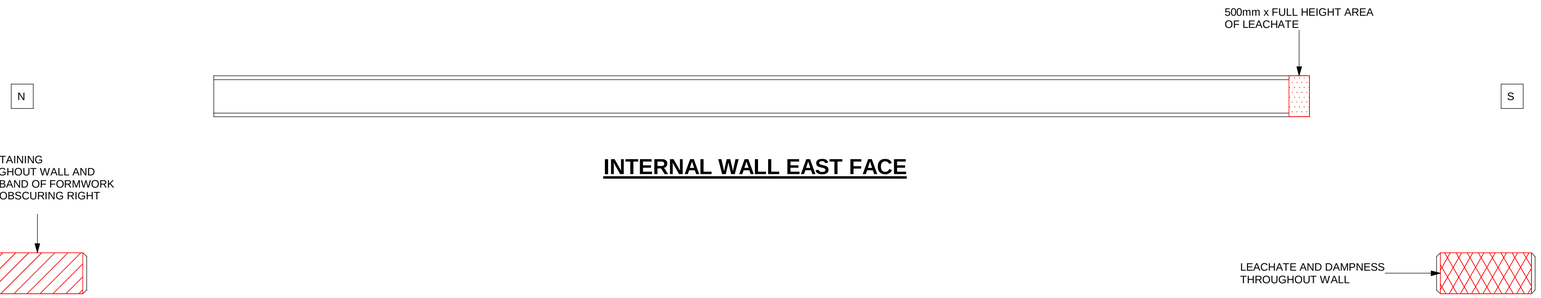
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

GENERAL DEFECTS:

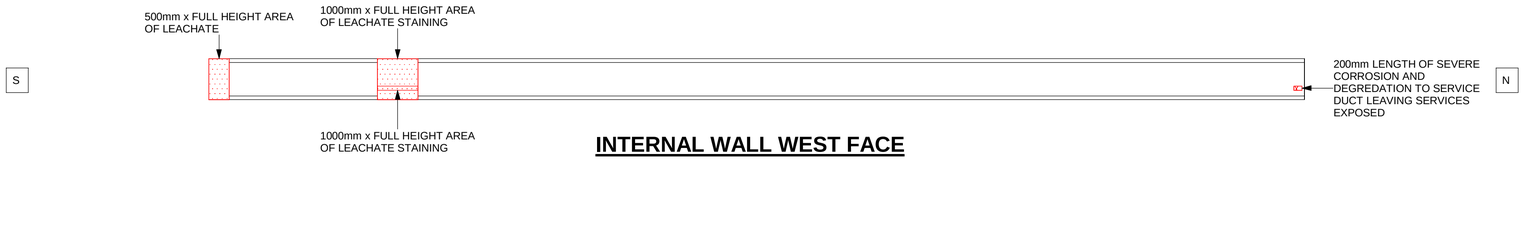
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



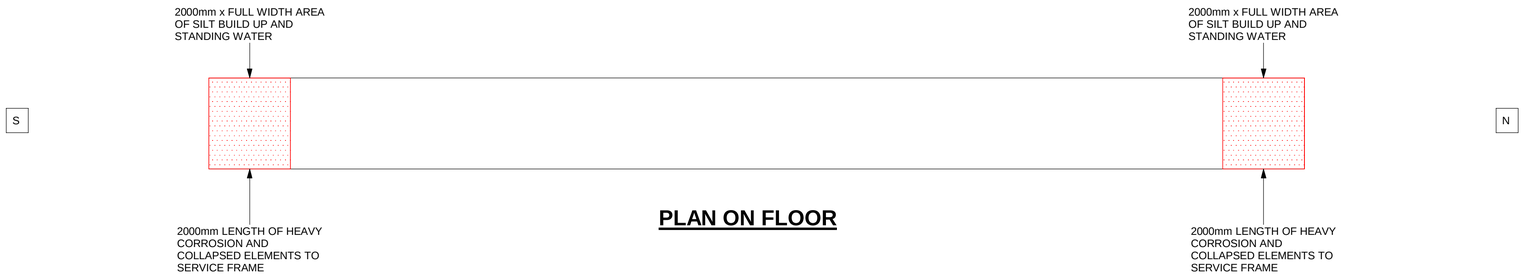
INTERNAL WALL EAST FACE

NORTH END WALL

SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 20 CENTRAL VOID

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000205 __P01

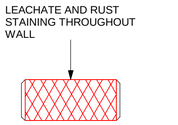
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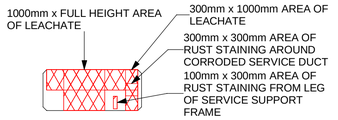
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



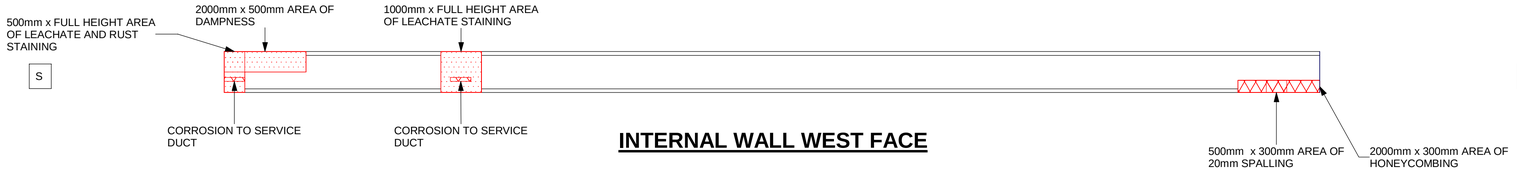
INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

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ISSUE/REVISION

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 21 CENTRAL VOID

CONSULTANT

One Trinity Gardens
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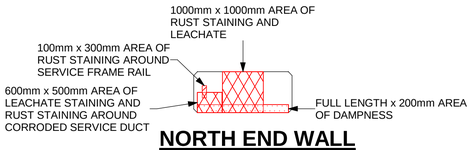
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GENERAL DEFECTS:

- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES

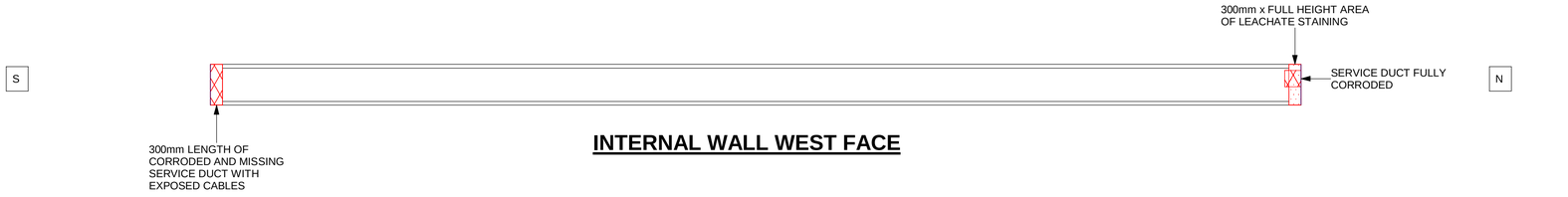


INTERNAL WALL EAST FACE



NORTH END WALL

SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 22 CENTRAL VOID

CONSULTANT

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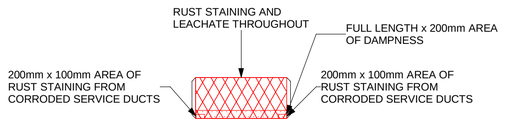
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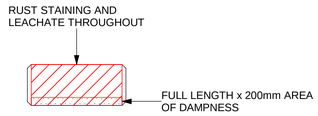
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



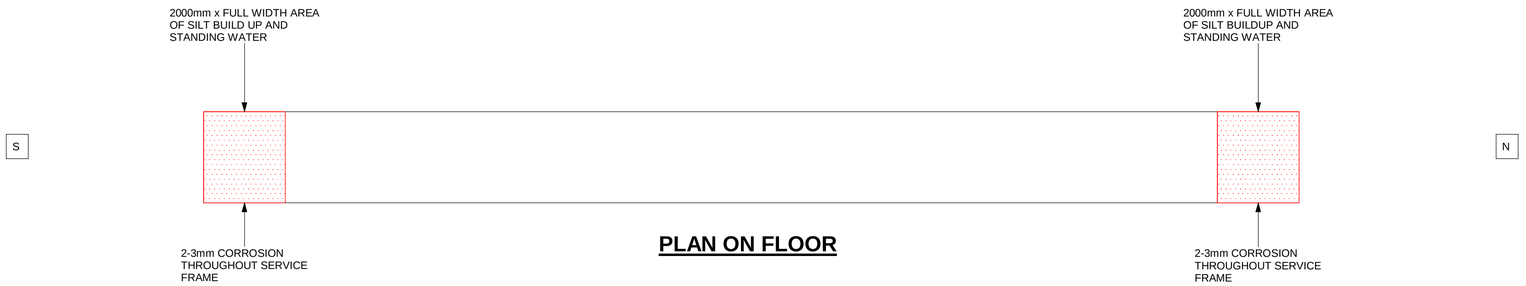
NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

NOTES

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ISSUE/REVISION

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 23 CENTRAL VOID

CONSULTANT

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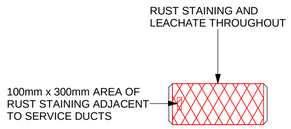
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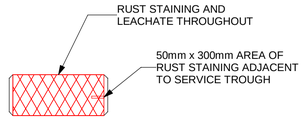
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



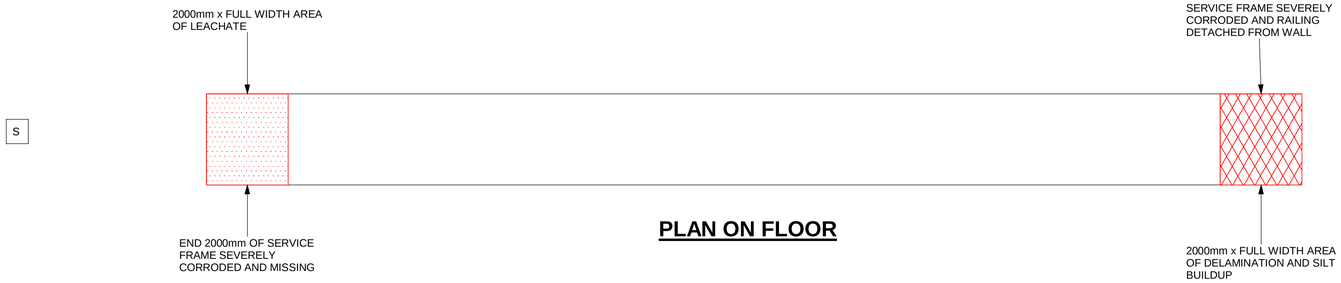
NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 24 CENTRAL VOID

CONSULTANT

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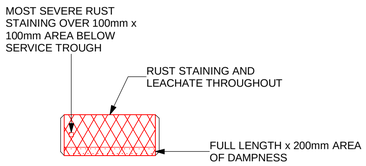
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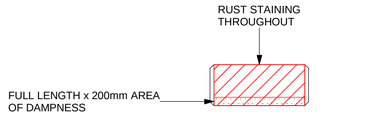
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 25 CENTRAL VOID

CONSULTANT

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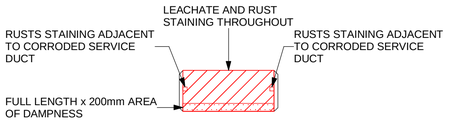
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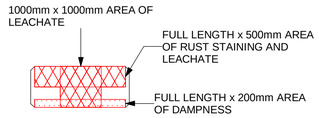
- WATER INGRESS, RUST STAINING, LEACHATE AND BUILD UP OF STALACTITES ON CEILING SURROUNDING ACCESS HATCHES AND END WALL BELOW ACCESS HATCH
- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



INTERNAL WALL EAST FACE



NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SUITABILITY

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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 26 CENTRAL VOID

CONSULTANT

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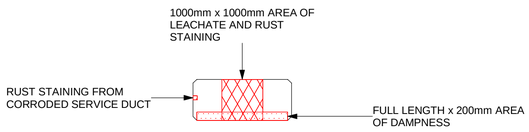
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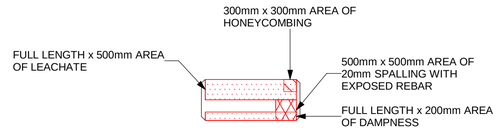
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- BOTTOM 200mm OF ALL SURFACES DAMP WHERE VISIBLE
- RUST AND LEACHATE SURROUNDING MANHOLES



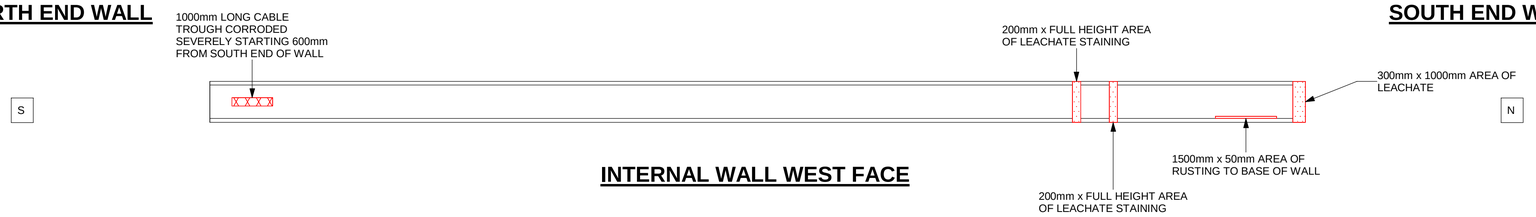
INTERNAL WALL EAST FACE



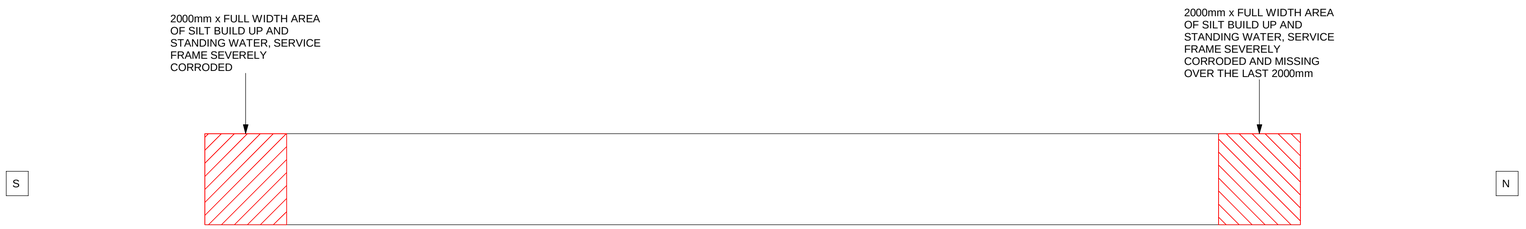
NORTH END WALL



SOUTH END WALL



INTERNAL WALL WEST FACE



PLAN ON FLOOR



PLAN ON SOFFIT

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SPAN 27 CENTRAL VOID

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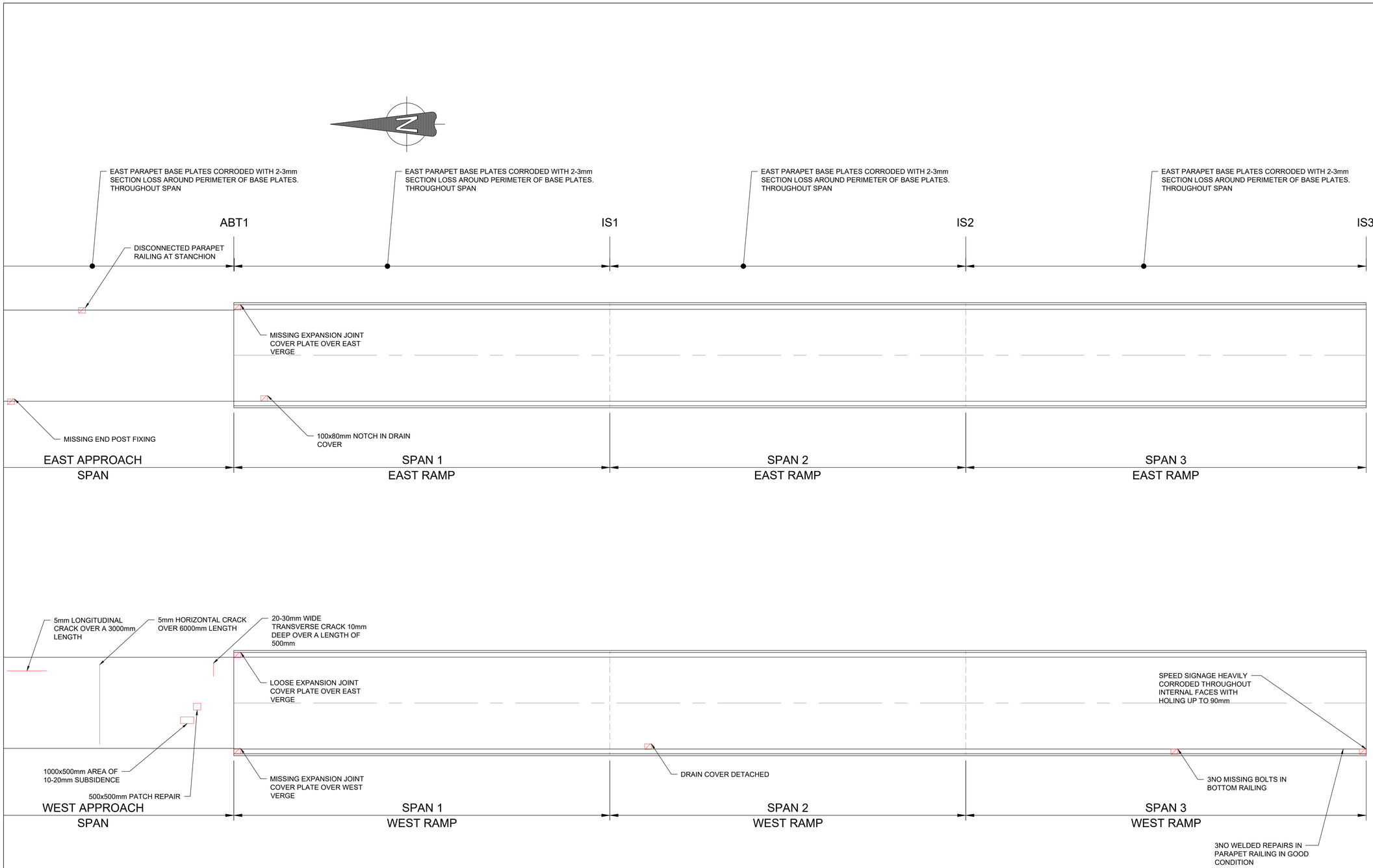
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Appendix B . 4 – Defect Drawings Topside External



PLAN FOR SPANS 1, 2 & 3

GENERAL DEFECTS:
- ALL DRAINS BLOCKED WITH VEGETATION /DEBRIS THROUGHOUT ALL SPANS.
- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.

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SPANS 1-3 TOPSIDE DEFECTS

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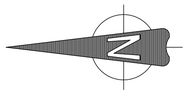
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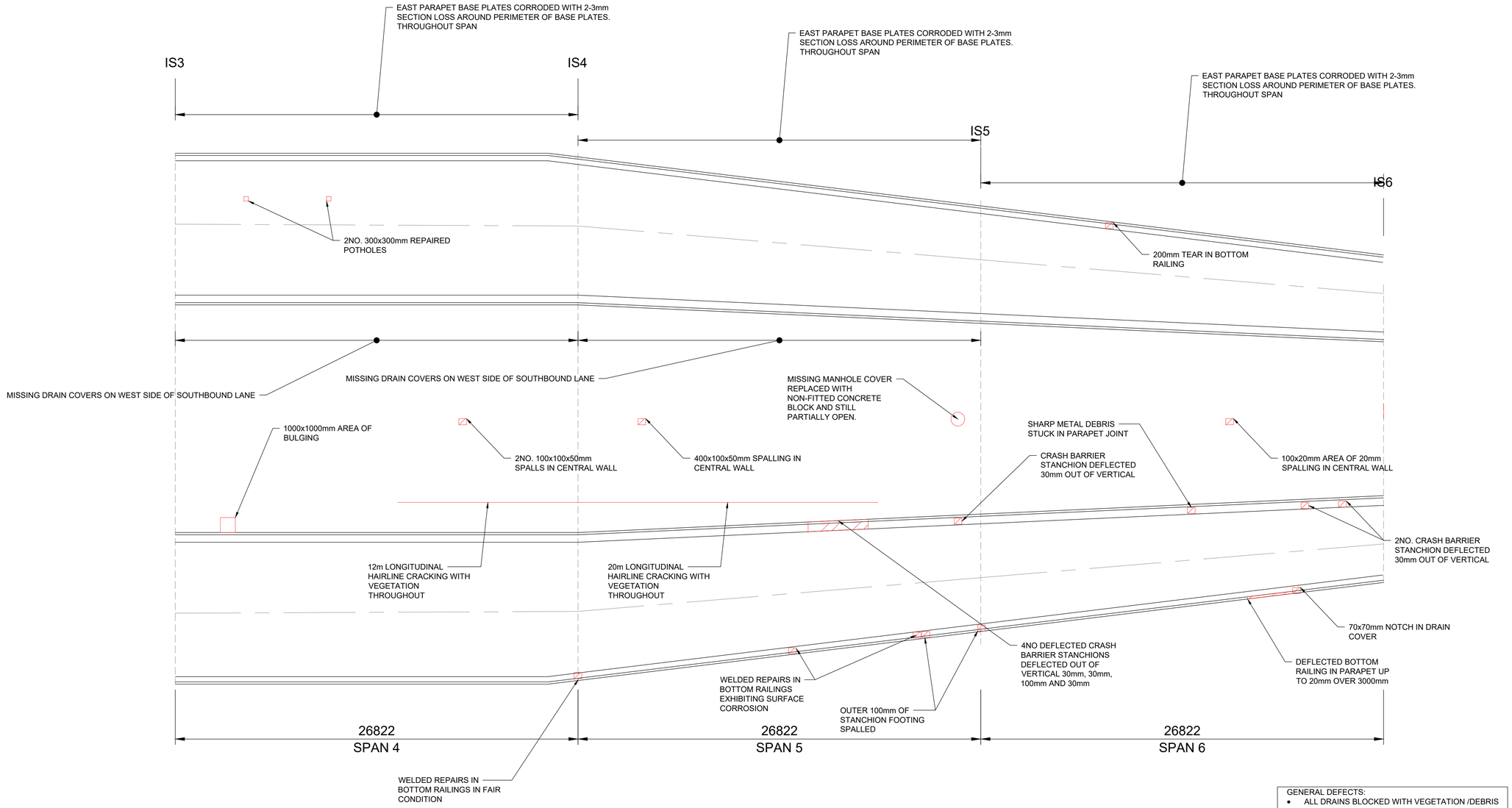
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KAI.HARROP Last Plotted: 2025-01-29





PLAN FOR SPANS 4, 5 & 6

GENERAL DEFECTS:

- ALL DRAINS BLOCKED WITH VEGETATION /DEBRIS THROUGHOUT ALL SPANS.
- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.
- PREVIOUS STANCHION FOOTINGS ARE VISIBLE THROUGHOUT THE CENTRAL RESERVE.
- 1-2m OF VEGETATION/DEBRIS BUILD UP SURROUNDING PERIMETER OF CENTRE WALL AND CARRIAGEWAY
- THE PROTECTIVE COATING TO THE CENTRAL RESERVE CRASH BARRIER BASEPLATES WITHIN SPAN 4 HAS STARTED TO DETERIORATE AND IS SHOWING SIGNS OF SURFACE CORROSION

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SHEET TITLE

SPANS 4-6 TOPSIDE DEFECTS

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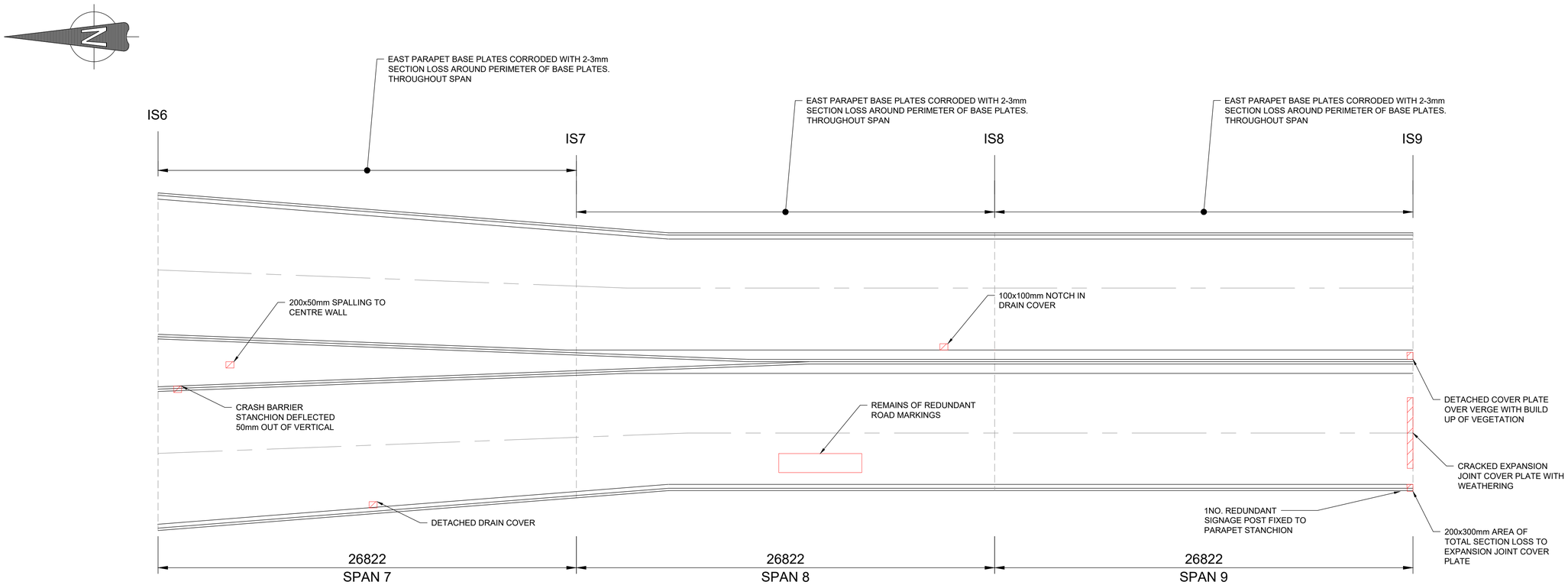
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PLAN FOR SPANS 7, 8 & 9

GENERAL DEFECTS:
- ALL DRAINS BLOCKED WITH VEGETATION /DEBRIS THROUGHOUT ALL SPANS.
- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.
- PREVIOUS STANCHION FOOTINGS ARE VISIBLE THROUGHOUT THE CENTRAL RESERVE.

NOTES

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SPANS 7-9 TOPSIDE DEFECTS

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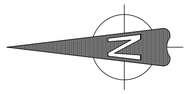
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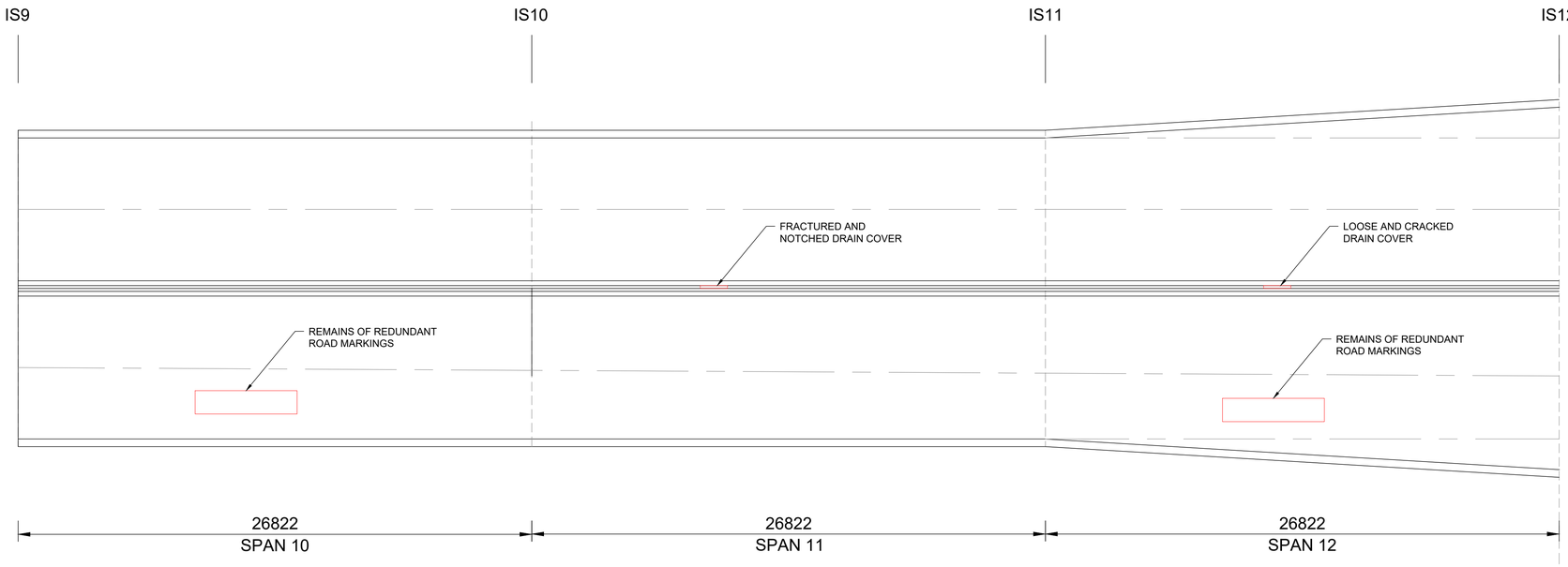
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PLAN FOR SPANS 10, 11 & 12

GENERAL DEFECTS:
- ALL DRAINS BLOCKED WITH VEGETATION /DEBRIS THROUGHOUT ALL SPANS.
- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.
- PREVIOUS STANCHION FOOTINGS ARE VISIBLE THROUGHOUT THE CENTRAL RESERVE.

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SHEET TITLE

SPANS 1-3 TOPSIDE DEFECTS

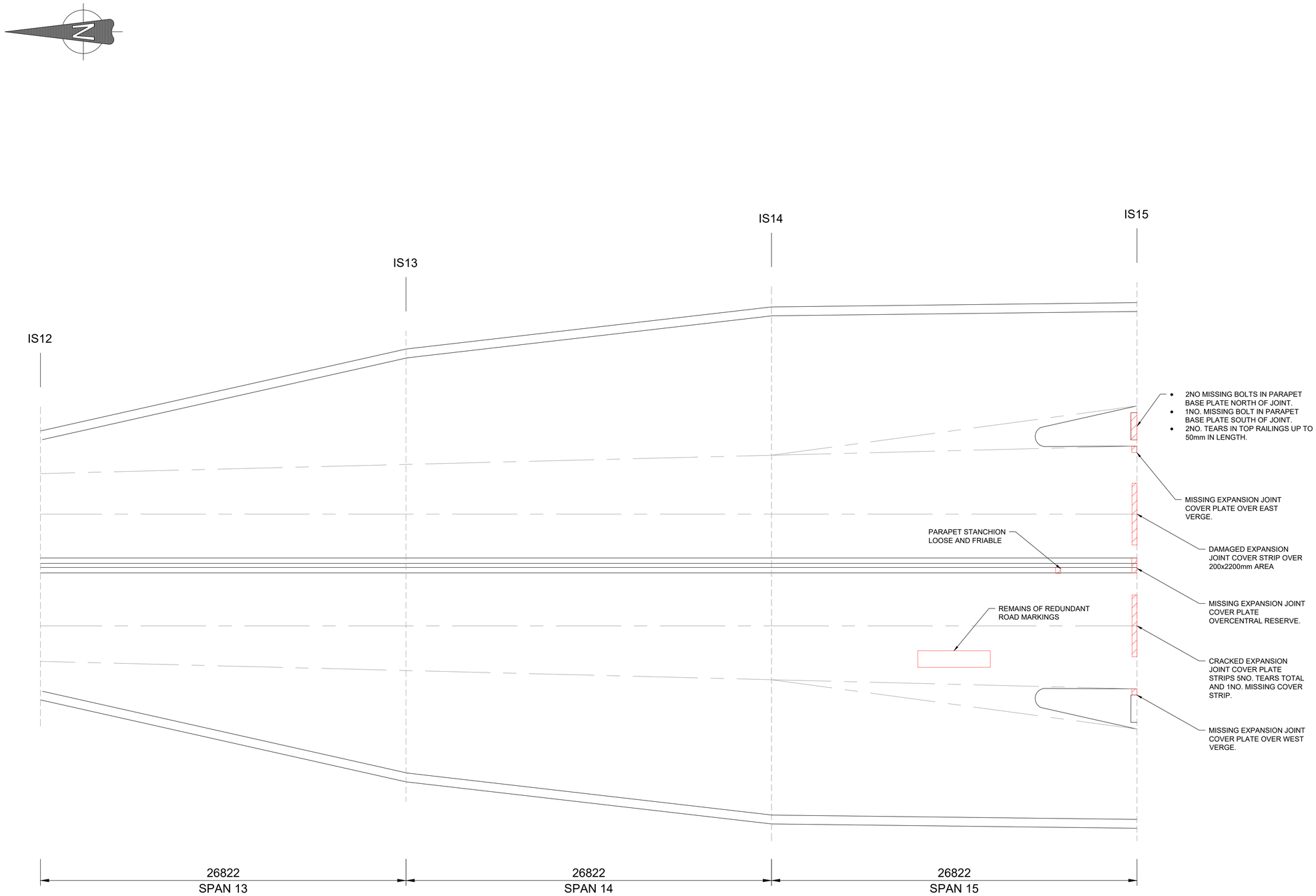
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PLAN FOR SPANS 13, 14 & 15

GENERAL DEFECTS:
- ALL DRAINS BLOCKED WITH VEGETATION /DEBRIS THROUGHOUT ALL SPANS.
- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.
- PREVIOUS STANCHION FOOTINGS ARE VISIBLE THROUGHOUT THE CENTRAL RESERVE.

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SPANS 13-15 TOPSIDE DEFECTS

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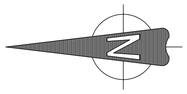
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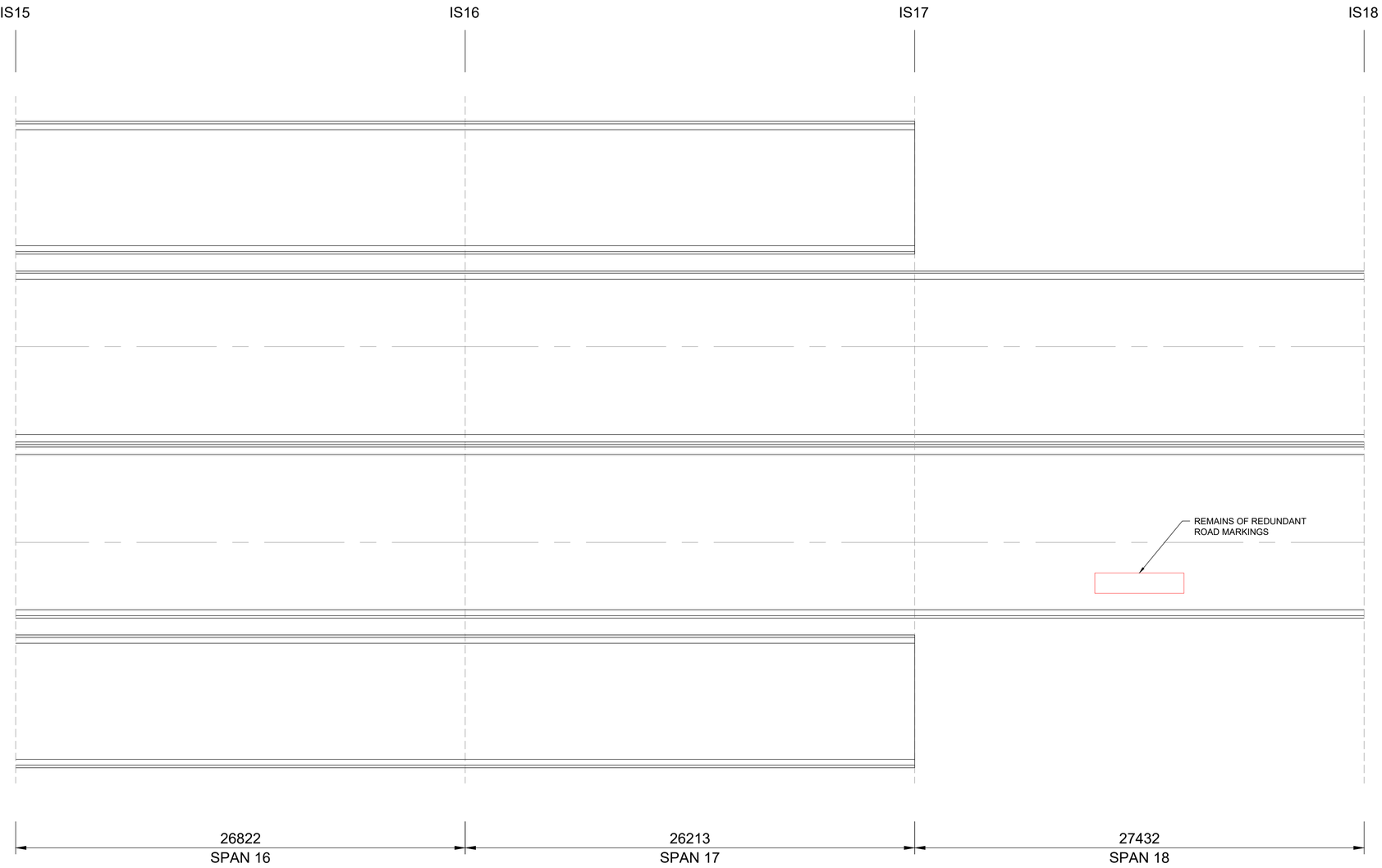
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GENERAL DEFECTS:
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- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.
- PREVIOUS STANCHION FOOTINGS ARE VISIBLE THROUGHOUT THE CENTRAL RESERVE.

PLAN ON SOFFIT FOR SPANS 16, 17 & 18

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SHEET TITLE

SPANS 16-18 TOPSIDE DEFECTS

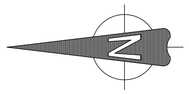
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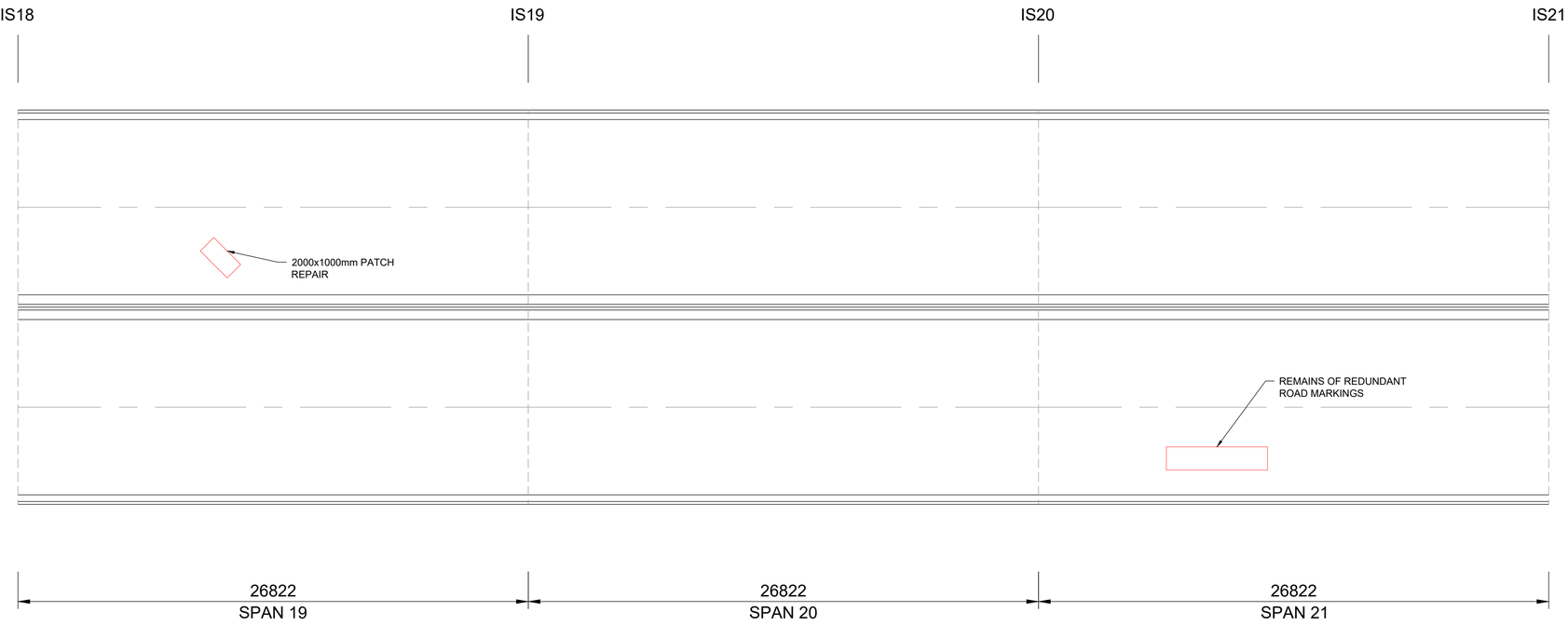
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PLAN ON SOFFIT FOR SPANS 19, 20 & 21

GENERAL DEFECTS:
- ALL DRAINS BLOCKED WITH VEGETATION /DEBRIS THROUGHOUT ALL SPANS.
- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.
- PREVIOUS STANCHION FOOTINGS ARE VISIBLE THROUGHOUT THE CENTRAL RESERVE.

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GATESHEAD VIADUCT

SHEET TITLE

SPANS 19-21 TOPSIDE DEFECTS

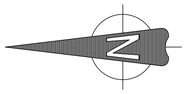
CONSULTANT

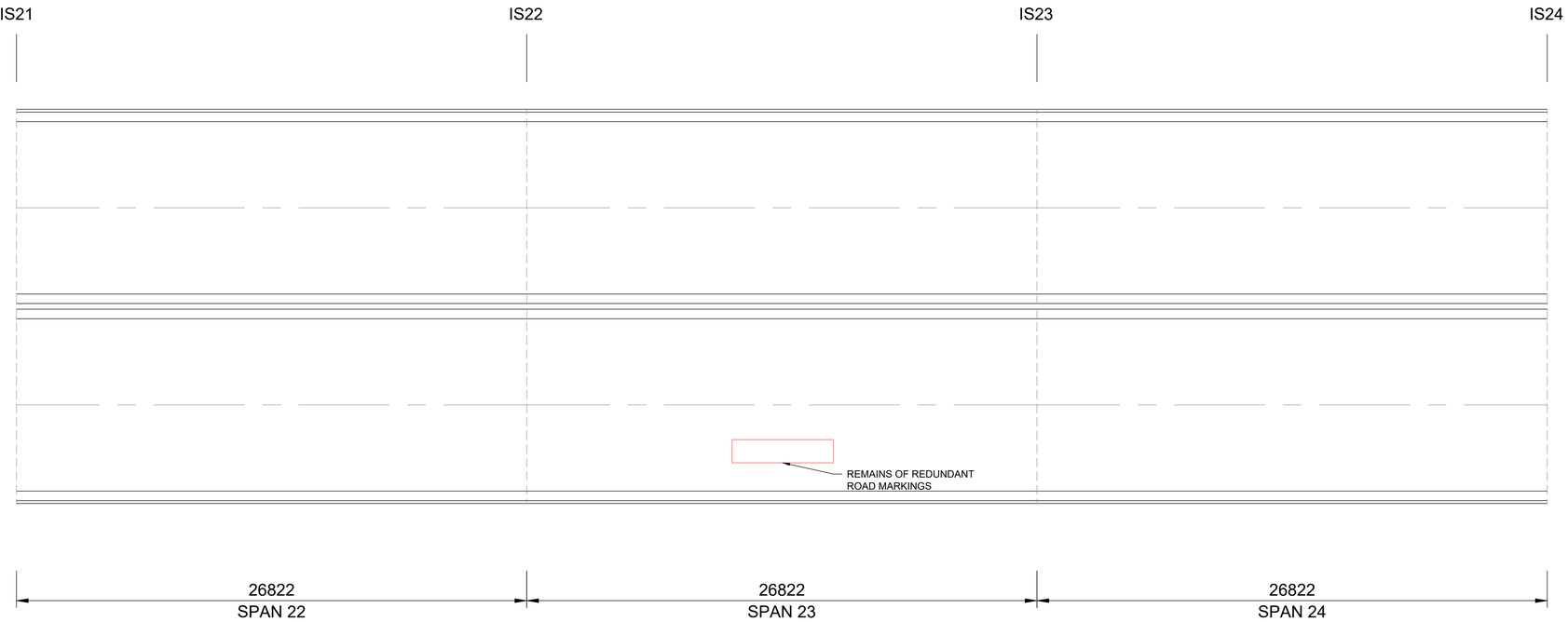
AECOM
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Newcastle upon Tyne
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SHEET NUMBER

60713768-ACM-XX-GV-DR-CE-000197

Filename: C:\USERS\KAI.HARROP\AECOM\60713768 GATESHEAD VIADUCT PI 2023 - DOCUMENTS\900_CAD\911_STRUCTURES\1_WIP\PDF\2024-04-30 TOPSIDETOPSIDE DEFECT DRAWINGS.DWG Last saved by: KAI.HARROP Last Plotted: 2025-01-29
Technician:SGB Engineer:SGB Checker:AL Approver:AL





PLAN FOR SPANS 22, 23 & 24

GENERAL DEFECTS:
- ALL DRAINS BLOCKED WITH VEGETATION /DEBRIS THROUGHOUT ALL SPANS.
- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.
- PREVIOUS STANCHION FOOTINGS ARE VISIBLE THROUGHOUT THE CENTRAL RESERVE.

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
A01	29/01/2025	FIRST ISSUE
P01	01/05/2024	PRINCIPAL INSPECTION

CLIENT

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

SPANS 22-24 TOPSIDE DEFECTS

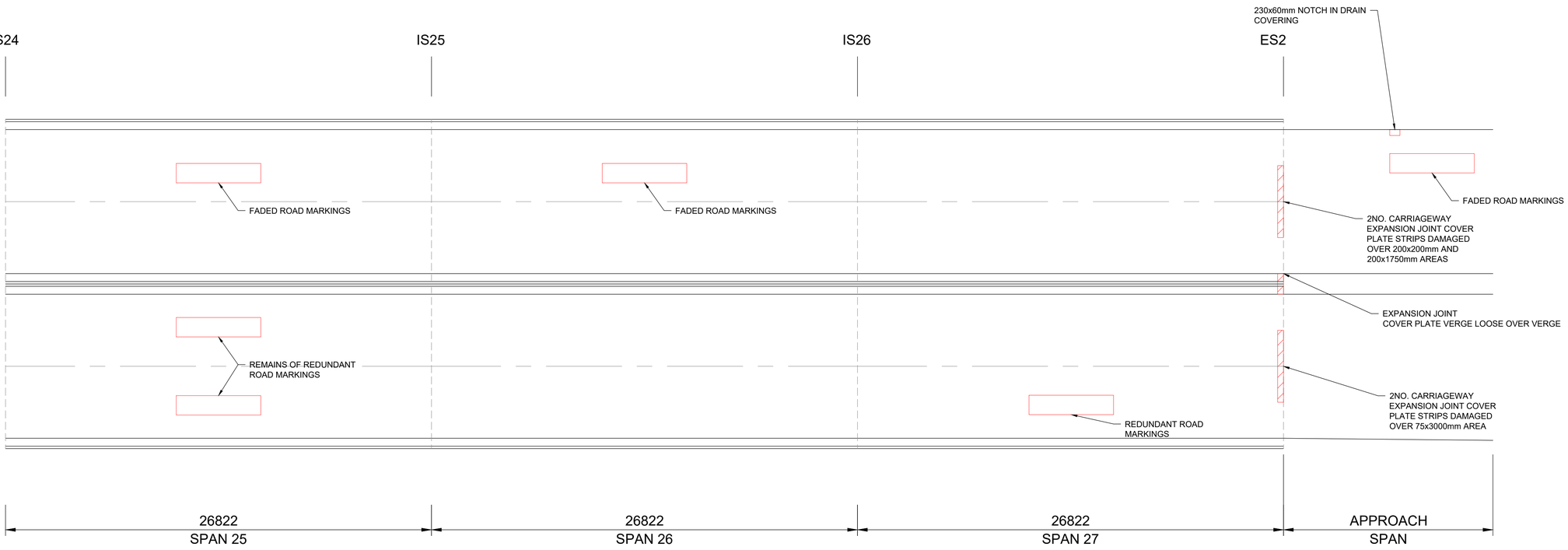
CONSULTANT

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0191 224 6500 tel
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SHEET NUMBER

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Filename: C:\USERS\KAI.HARROP\AECOM\60713768 GATESHEAD VIADUCT PI 2023 - DOCUMENTS\900_CAD\911_STRUCTURES\1_WIP\PDF\2024-04-30 TOPSIDETOPSIDE DEFECT DRAWINGS.DWG Last saved by: KAI.HARROP Last Plotted: 2025-01-29
Technician:SGB Engineer:SGB Checker:AL Approver:AL



PLAN FOR SPANS 25, 26 & 27

GENERAL DEFECTS:
- ALL DRAINS BLOCKED WITH VEGETATION /DEBRIS THROUGHOUT ALL SPANS.
- VEGETATION GROWTH PRESENT THROUGHOUT BOTH VERGES AND CENTRAL RESERVE.
- PREVIOUS STANCHION FOOTINGS ARE VISIBLE THROUGHOUT THE CENTRAL RESERVE.

NOTES

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
A01	29/01/2025	FIRST ISSUE
P01	01/05/2024	PRINCIPAL INSPECTION

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GATESHEAD VIADUCT

SHEET TITLE

SPANS 25-27 TOPSIDE DEFECTS

CONSULTANT

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Technician:SGB Engineer:SGB Checker:AL Approver:AL

Appendix B . 5 – Defect Drawings Underside External

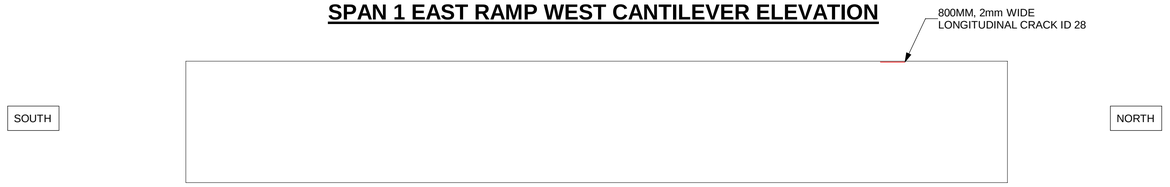
Designer: KGH Checked: AL Approved: PMR ISO A1 594mm x 841mm

EAST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

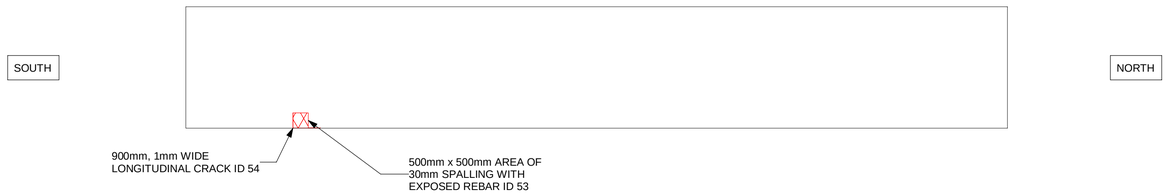
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 1 EAST RAMP WEST CANTILEVER ELEVATION



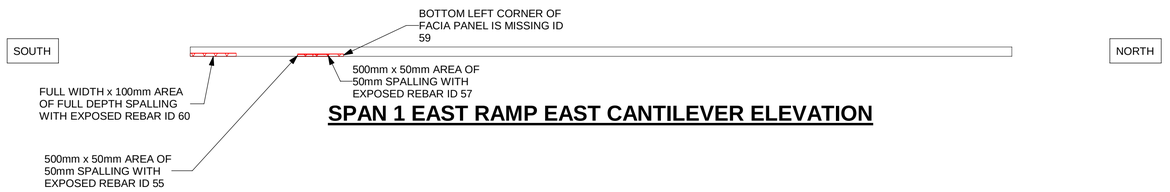
SPAN 1 EAST RAMP WEST CANTILEVER



SPAN 1 EAST RAMP EAST CANTILEVER

EAST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

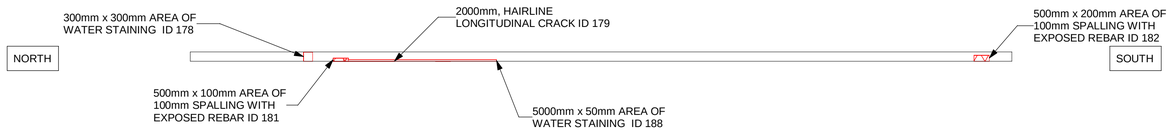
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 1 EAST RAMP EAST CANTILEVER ELEVATION

WEST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

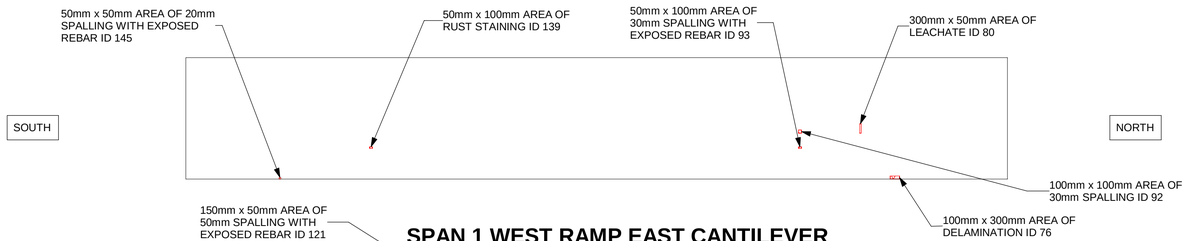
- WATER STAINING THROUGHOUT SPAN



SPAN 1 WEST RAMP WEST CANTILEVER ELEVATION



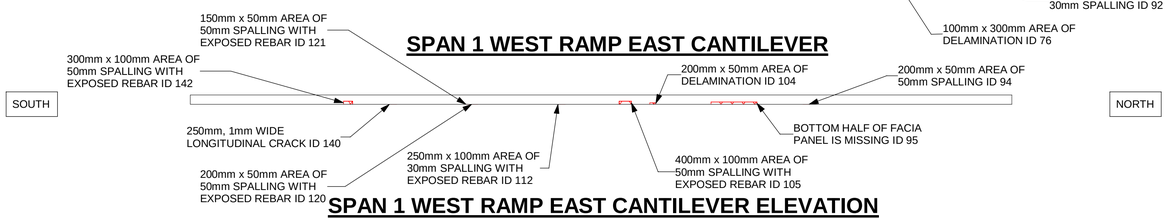
SPAN 1 WEST RAMP WEST CANTILEVER



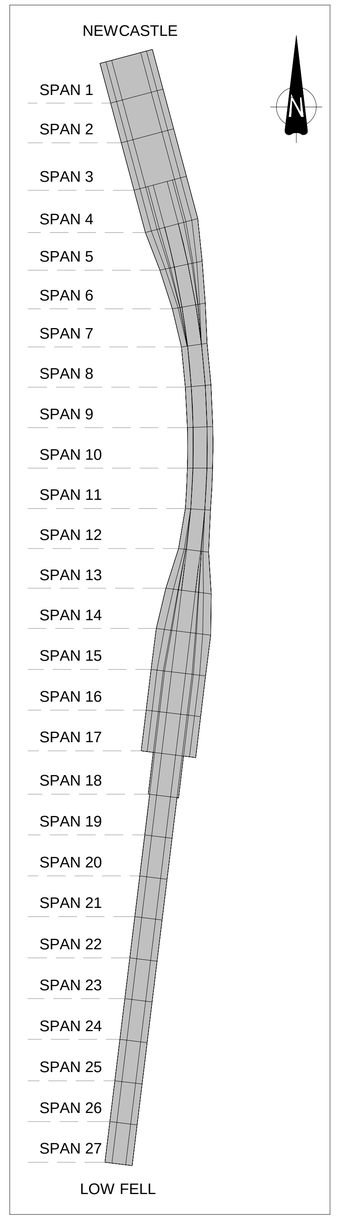
SPAN 1 WEST RAMP EAST CANTILEVER

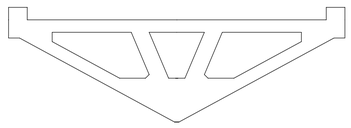
WEST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS
- LIGHT FITTINGS DAMAGED AND NOT WORKING THROUGHOUT SPAN



SPAN 1 WEST RAMP EAST CANTILEVER ELEVATION





SPAN 1-3 & 16-17 SECTION

NOTES

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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 1 SOFFIT ELEMENTS
DECK

CONSULTANT

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Filename: Autodesk Docs://TR_EURI_(UKI)_60713768_Gateshead Viaduct PI 2023/60713768-ACM-GV-M3-CE-000001_P01.rvt

Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

EAST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

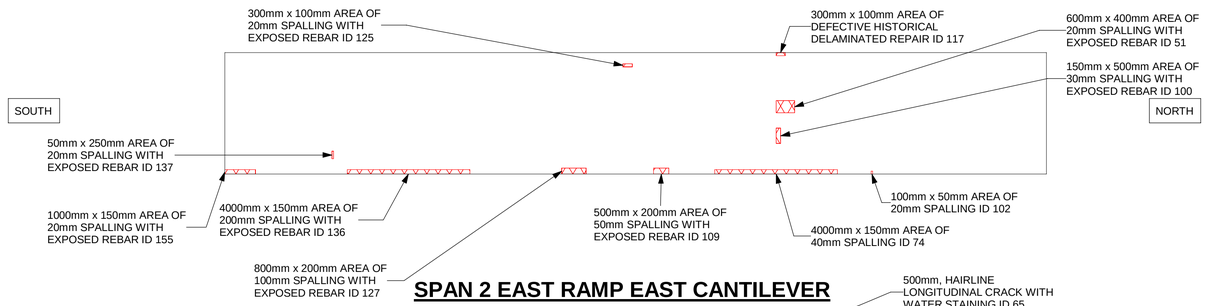
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 2 EAST RAMP WEST CANTILEVER ELEVATION



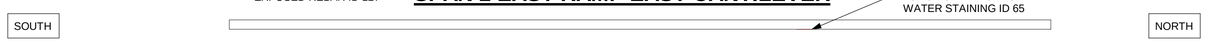
SPAN 2 EAST RAMP WEST CANTILEVER



SPAN 2 EAST RAMP EAST CANTILEVER

EAST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

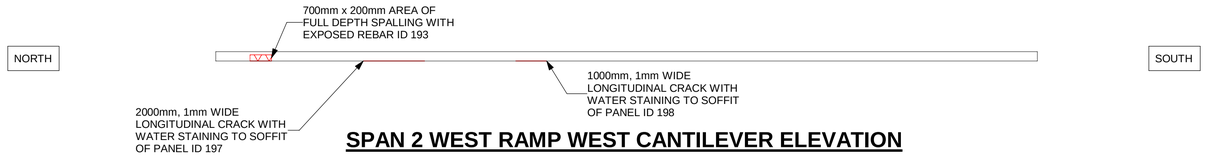
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 2 EAST RAMP EAST CANTILEVER ELEVATION

WEST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

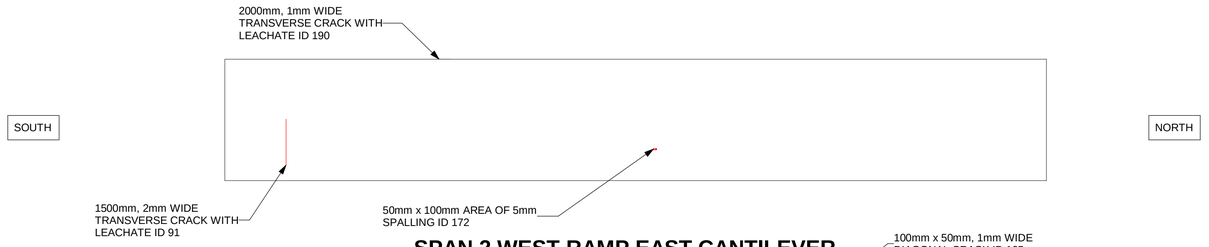
- WATER STAINING THROUGHOUT SPAN



SPAN 2 WEST RAMP WEST CANTILEVER ELEVATION



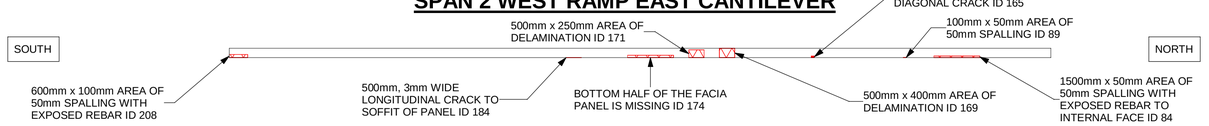
SPAN 2 WEST RAMP WEST CANTILEVER



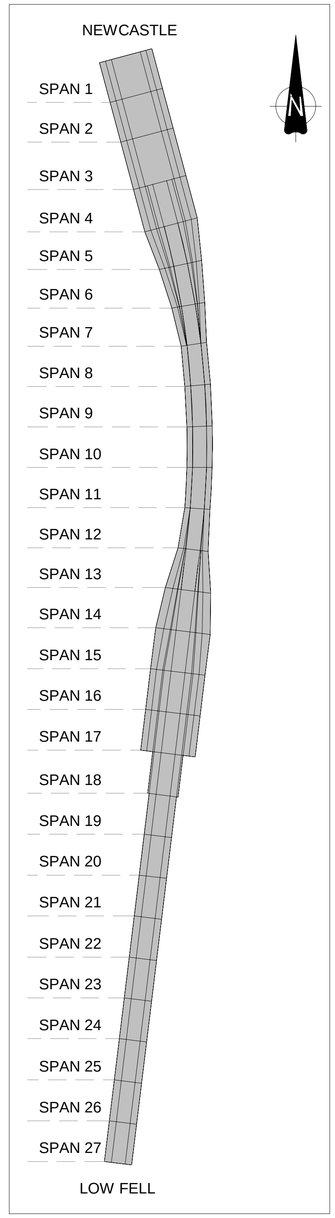
SPAN 2 WEST RAMP EAST CANTILEVER

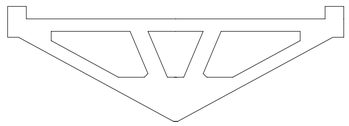
WEST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 2 WEST RAMP EAST CANTILEVER ELEVATION





SPAN 1-3 & 16-17 SECTION

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ISSUE/REVISION

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 2 SOFFIT ELEMENTS
DECK

CONSULTANT

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

EAST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS



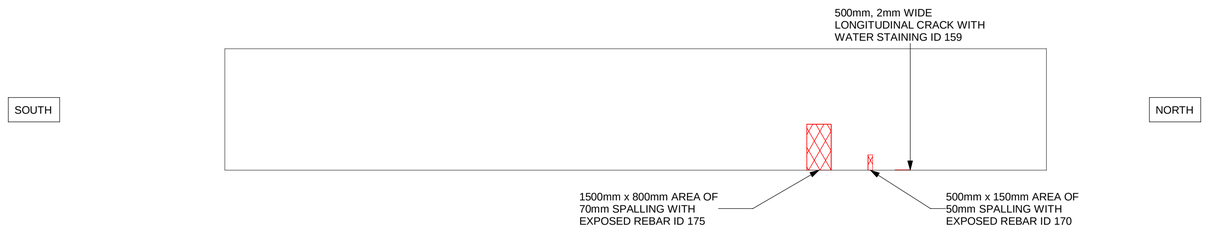
SPAN 3 EAST RAMP WEST CANTILEVER ELEVATION



SPAN 3 EAST RAMP WEST CANTILEVER

EAST RAMP EAST CANTILEVER
SOFFIT GENERAL DEFECTS:

- LOOSE TIES THROUGHOUT SPAN



SPAN 3 EAST RAMP EAST CANTILEVER

EAST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 3 EAST RAMP EAST CANTILEVER ELEVATION

WEST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS
- 100mm HIGH BAND OF WATER STAINING THROUGHOUT ELEVATION AT BOTTOM OF FACIA PANELS

SPAN 3 WEST RAMP WEST CANTILEVER ELEVATION



SPAN 3 WEST RAMP WEST CANTILEVER



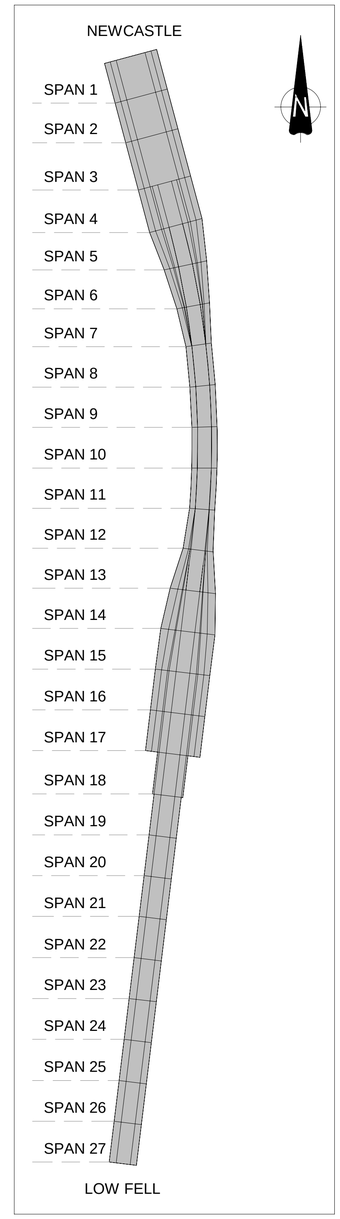
SPAN 3 WEST RAMP EAST CANTILEVER

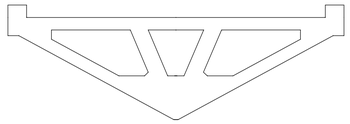
WEST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 3 WEST RAMP EAST CANTILEVER ELEVATION





SPAN 1-3 & 16-17 SECTION

NOTES

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A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 3 SOFFIT ELEMENTS
DECK

CONSULTANT

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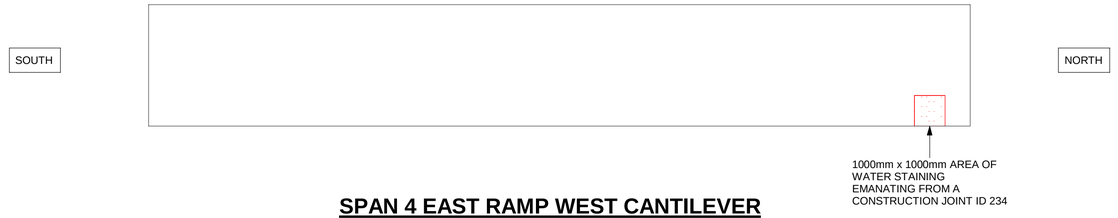
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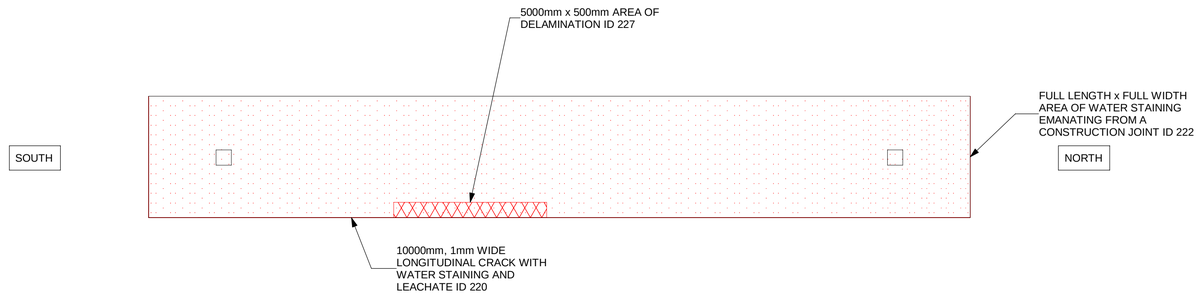
Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

EAST RAMP WEST CANTILEVER
SOFFIT GENERAL DEFECTS:

- LOOSE TIE WIRE THROUHGOUT SPAN



SPAN 4 EAST RAMP WEST CANTILEVER



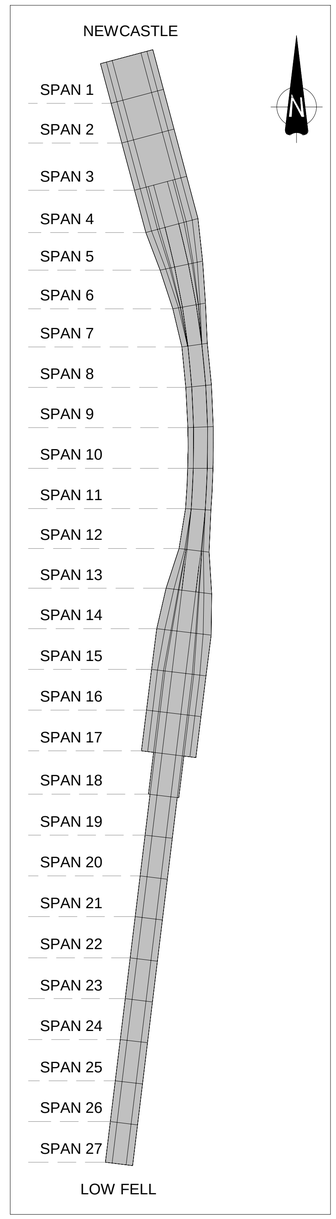
SPAN 4 EAST RAMP EAST CANTILEVER

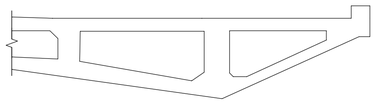
EAST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- 100mm HIGH BAND OF WATER STAINING THROUGHOUT SPAN
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 4 EAST RAMP EAST CANTILEVER ELEVATION





SPAN 4-6 & 14-15 EAST SECTION

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 4 EAST SOFFIT ELEMENTS
DECK

CONSULTANT

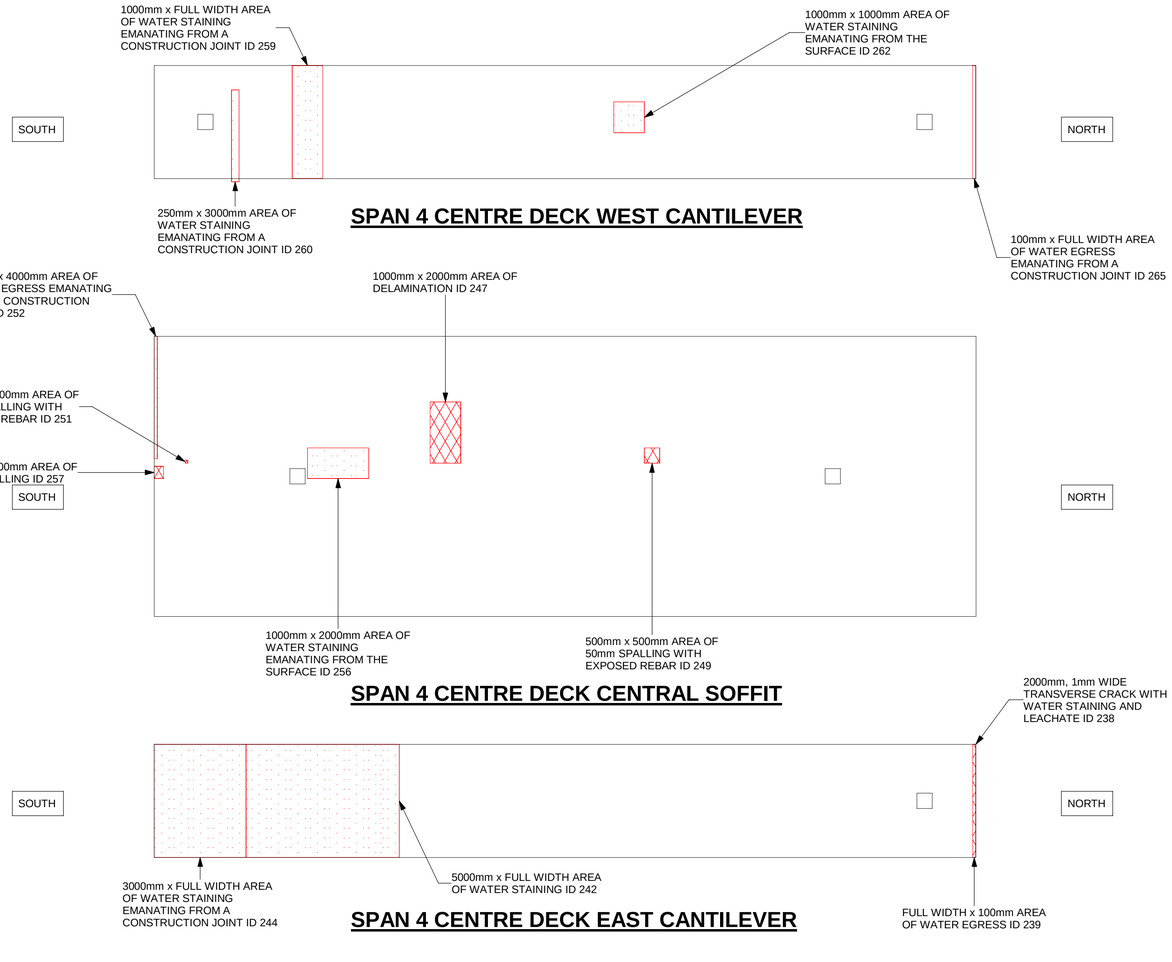
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60713768 -ACM -XX -GV -M3 -CE -000040 __P01

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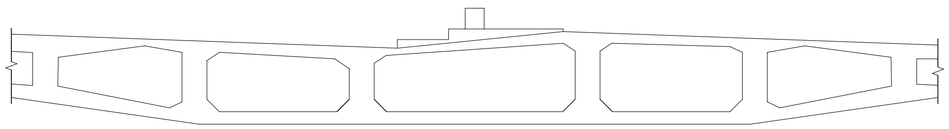
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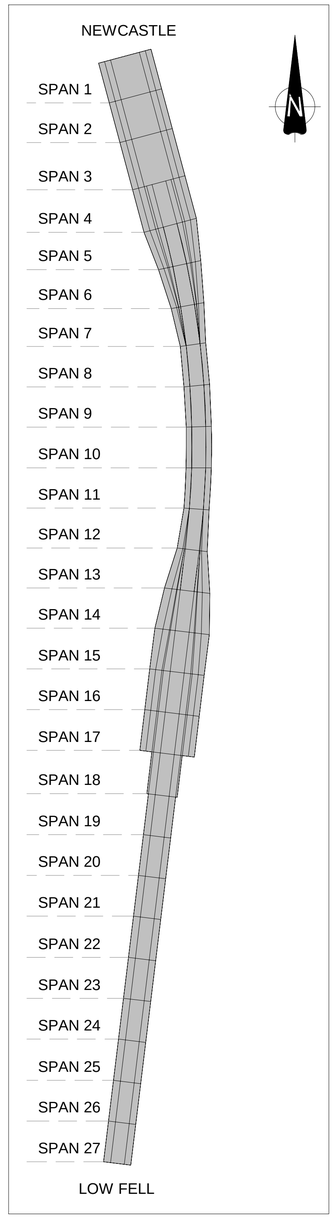
SPAN 4 CENTRE DECK WEST CANTILEVER

SPAN 4 CENTRE DECK CENTRAL SOFFIT

SPAN 4 CENTRE DECK EAST CANTILEVER



SPAN 4-6 & 14-15 CENTRAL SECTION



NOTES

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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 4 CENTRE SOFFIT ELEMENTS
DECK

CONSULTANT

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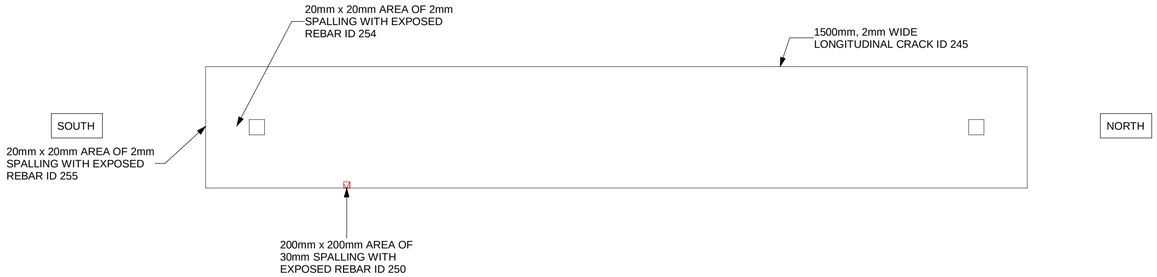
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WEST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

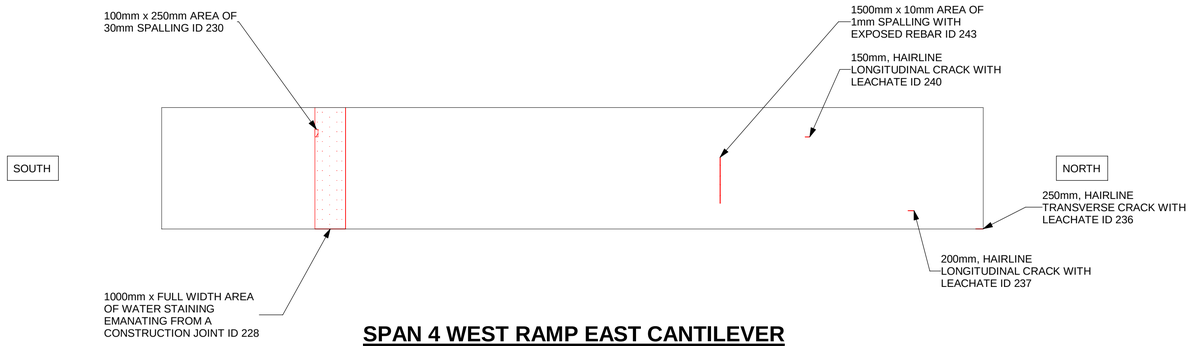
- SPORADIC SPALLING TO REAR FACE OF FACIA PANELS



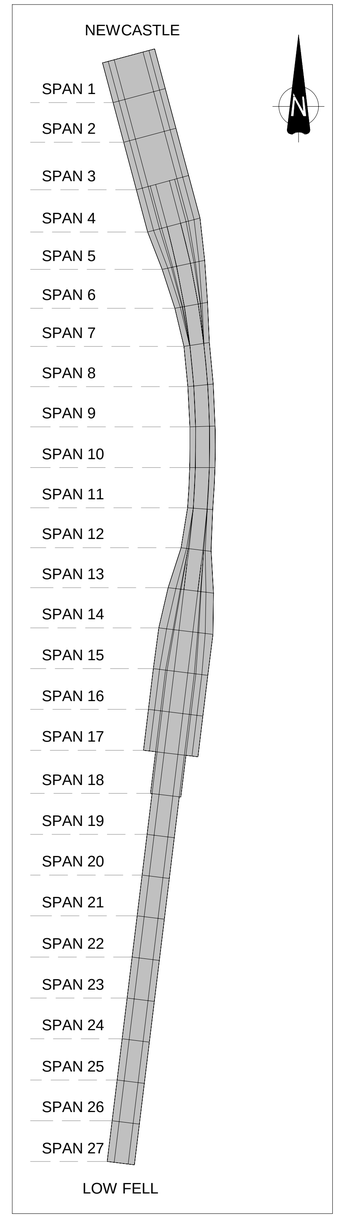
SPAN 4 WEST RAMP WEST CANTILEVER ELEVATION

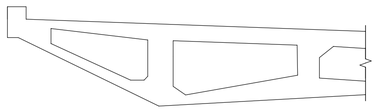


SPAN 4 WEST RAMP WEST CANTILEVER



SPAN 4 WEST RAMP EAST CANTILEVER





SPAN 4-6 & 14-15 WEST SECTION

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SPAN 4 WEST SOFFIT ELEMENTS
DECK

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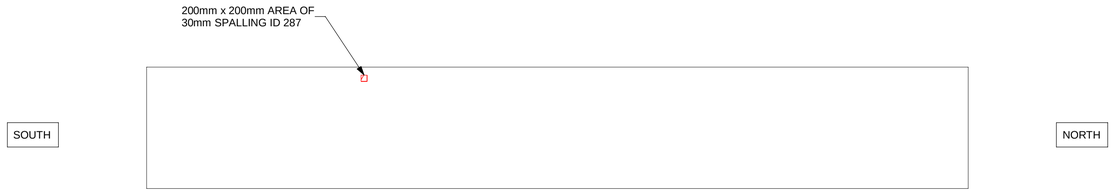
SHEET NUMBER

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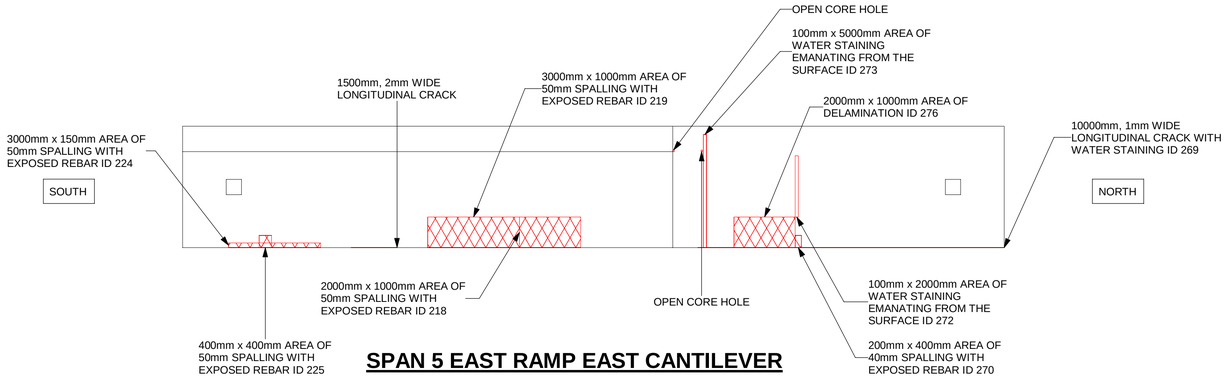
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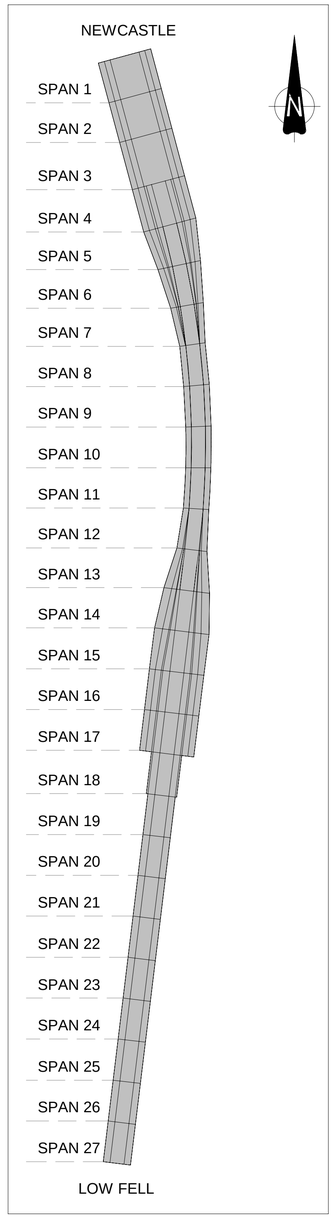
SPAN 5 EAST RAMP WEST CANTILEVER

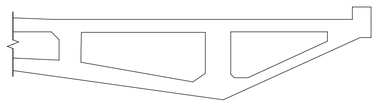


SPAN 5 EAST RAMP EAST CANTILEVER



SPAN 5 EAST RAMP EAST CANTILEVER ELEVATION





SPAN 4-6 & 14-15 EAST SECTION

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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 5 EAST SOFFIT ELEMENTS
DECK

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

SOUTH

NORTH

SPAN 5 CENTRE DECK WEST CANTILEVER

1000mm x 1500mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 307

400mm x 800mm AREA OF 30mm SPALLING ID 296

100mm x 100mm AREA OF DEFECTIVE HISTORICAL REPAIR ID 309

500mm x 500mm AREA OF DELAMINATION ID 291

SOUTH

NORTH

CENTRAL SOFFIT
GENERAL DEFECTS:

- WATER STAINING THROUGHOUT SPAN

6500mm x 1000mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 304

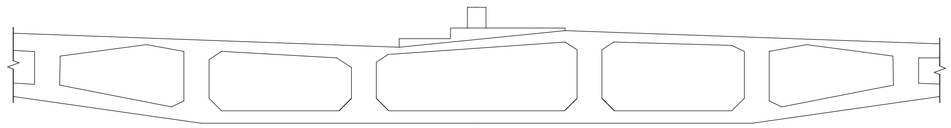
10000mm x 3000mm AREA OF DEFECTIVE HISTORICAL REPAIRS, WET THROUGHOUT WITH MAP CRACKING AND RUST STAINING ID 302

SPAN 5 CENTRE DECK CENTRAL SOFFIT

SOUTH

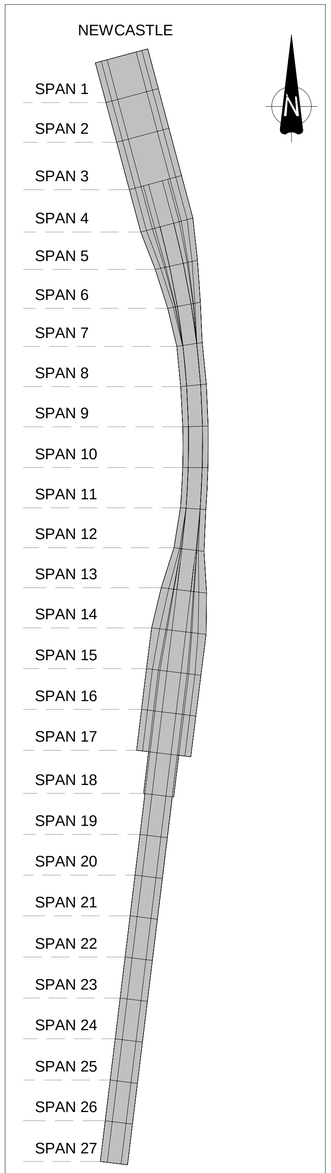
NORTH

SPAN 5 CENTRE DECK EAST CANTILEVER



SPAN 4-6 & 14-15 CENTRAL SECTION

NEWCASTLE



LOW FELL

NOTES

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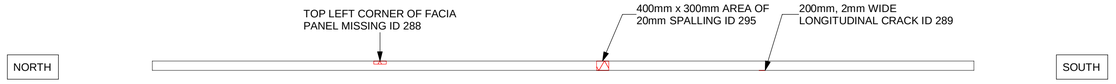
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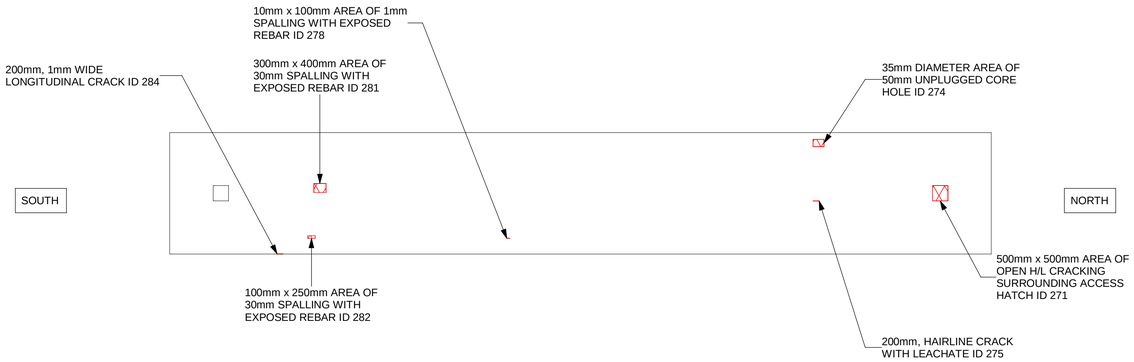
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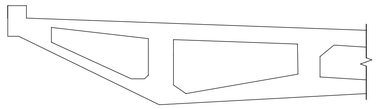
SPAN 5 WEST RAMP WEST CANTILEVER ELEVATION



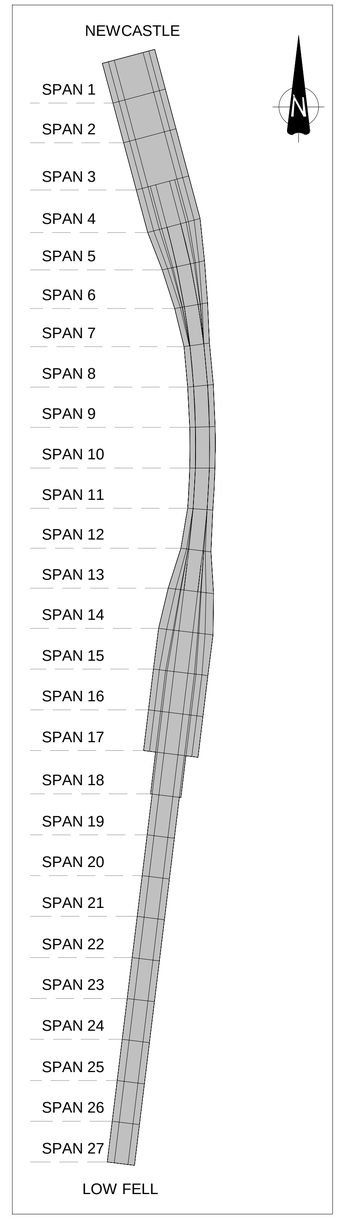
SPAN 5 WEST RAMP WEST CANTILEVER



SPAN 5 WEST RAMP EAST CANTILEVER



SPAN 4-6 & 14-15 WEST SECTION



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SUITABILITY

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 5 WEST SOFFIT ELEMENTS
DECK

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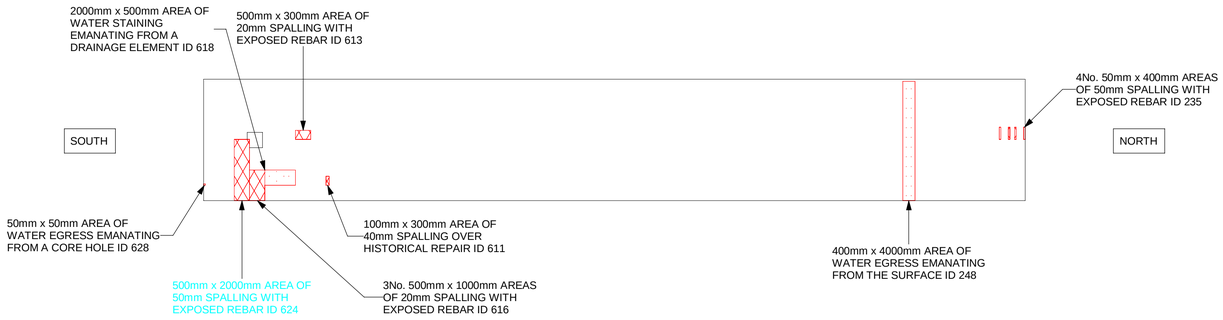
Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

EAST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS



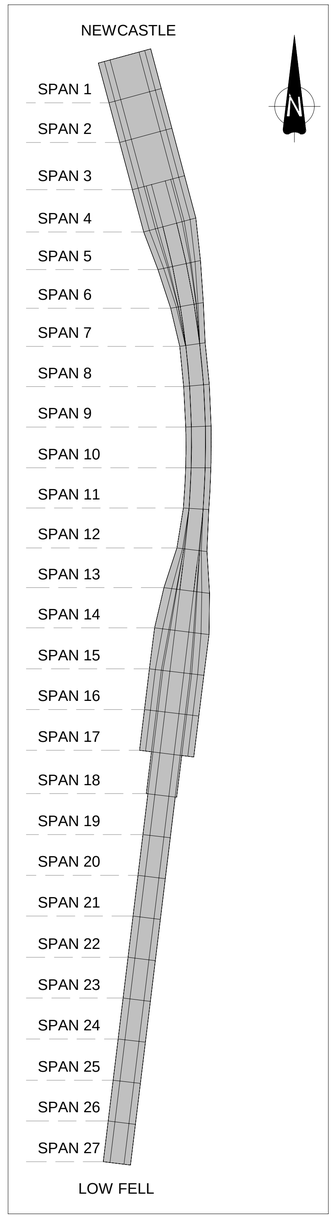
SPAN 6 EAST RAMP WEST CANTILEVER

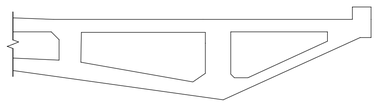


SPAN 6 EAST RAMP EAST CANTILEVER



SPAN 6 EAST RAMP EAST CANTILEVER ELEVATION





SPAN 4-6 & 14-15 EAST SECTION

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GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

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DEFECTS SCHEDULE
SPAN 6 EAST SOFFIT ELEMENTS
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

SOUTH

NORTH

SPAN 6 CENTRE DECK WEST CANTILEVER

2000mm x 2000mm AREA OF WATER STAINING EMANATING FROM A DRAINAGE ELEMENT ID 605

300mm x 300mm AREA OF 70 SPALLING WITH EXPOSED REBAR ID 263

3000mm x 2000mm AREA OF HAIRLINE MAP CRACKING ID 258

500mm x 3000mm AREA OF EXPOSED TIE WIRES ID 610

SOUTH

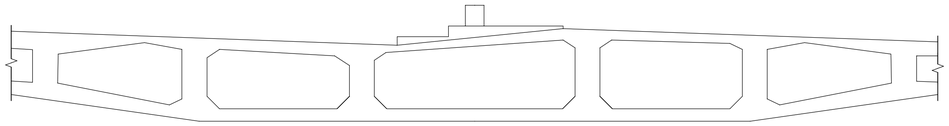
NORTH

SPAN 6 CENTRE DECK CENTRAL SOFFIT

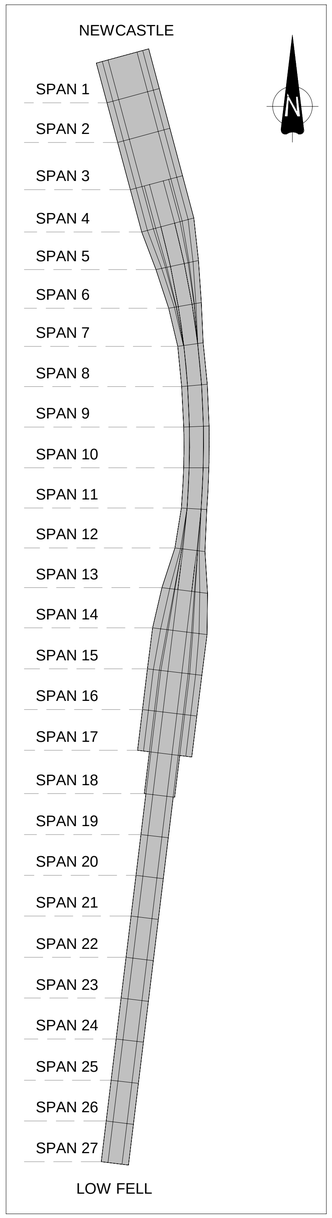
SOUTH

NORTH

SPAN 6 CENTRE DECK EAST CANTILEVER



SPAN 4-6 & 14-15 CENTRAL SECTION



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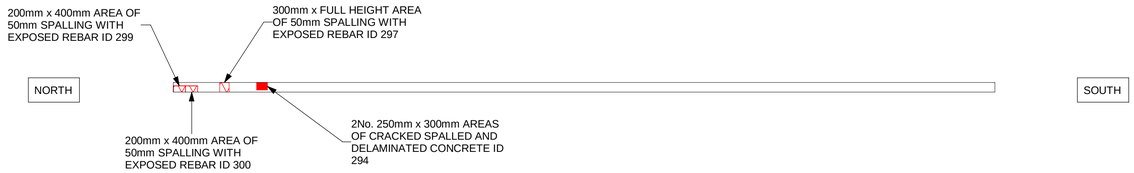
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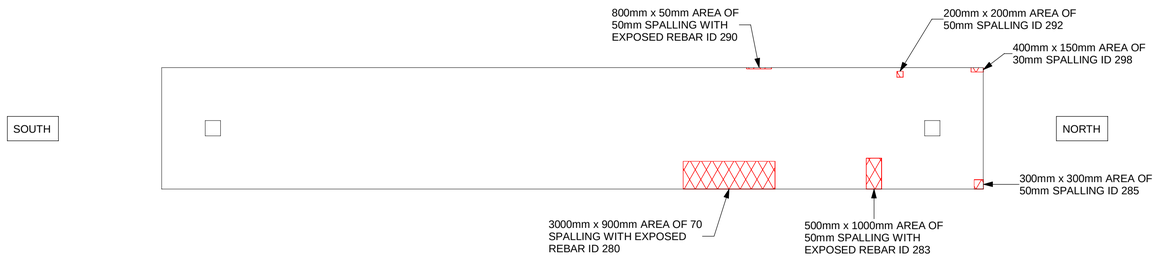
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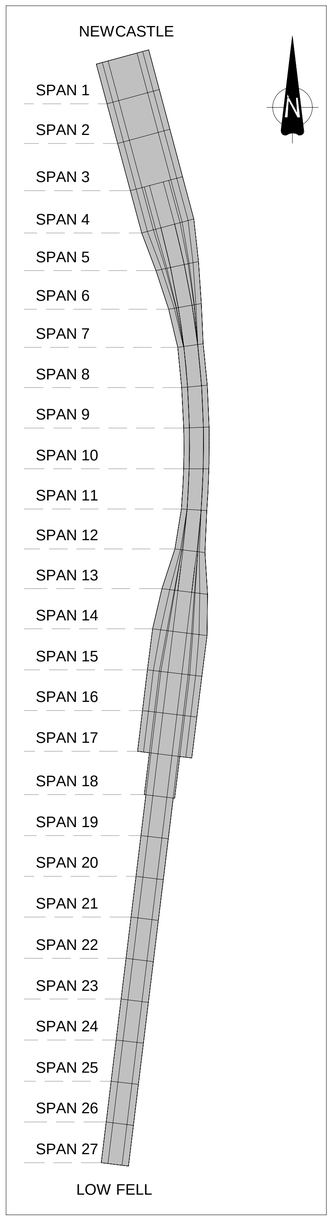
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SPAN 6 WEST RAMP WEST CANTILEVER ELEVATION



SPAN 6 WEST RAMP WEST CANTILEVER

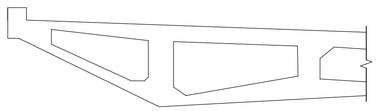


WEST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 6 WEST RAMP EAST CANTILEVER



SPAN 4-6 & 14-15 WEST SECTION

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I/R	DATE	BY	DESCRIPTION	CHK	APP
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P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 6 WEST SOFFIT ELEMENTS
DECK

CONSULTANT

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

NORTH

SOUTH

SPAN 7 CENTRE DECK WEST CANTILEVER ELEVATION

SOUTH

NORTH

400mm x 400mm AREA OF
50mm SPALLING ID 615

100mm x 300mm AREA OF
DRUMMY,DEFECTIVE
HISTORICAL REPAIR ID 603

100mm x 3000mm AREA OF
WATER EGRESS EMANATING
FROM THE SURFACE ID 606

ANCHORAGE BLOCKS IN
CROSSHEAD OVER PIER 7
ALL EXHIBITING
DRUMMYNESS AND MAP
CRACKING

SPAN 7 WEST RAMP WEST CANTILEVER

1000mm x 1000mm AREA OF
1mm DRUMMY CONCRETE ID
643

SOUTH

NORTH

WATER EGRESS FROM
WEEPHOLES

WATER EGRESS FROM
WEEPHOLES

50mm x 300mm AREA OF 1mm
RUST STAINING ID 641

SPAN 7 CENTRE DECK CENTRAL SOFFIT

ANCHORAGE BLOCKS IN
CROSSHEAD OVER PIER 7
ALL EXHIBITING
DRUMMYNESS AND MAP
CRACKING

2000mm x 300mm AREA OF
100mm SPALLING WITH
EXPOSED REBAR ID 640

SOUTH

NORTH

SPAN 7 EAST RAMP EAST CANTILEVER

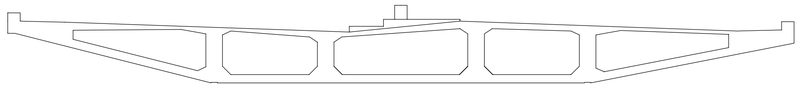
CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

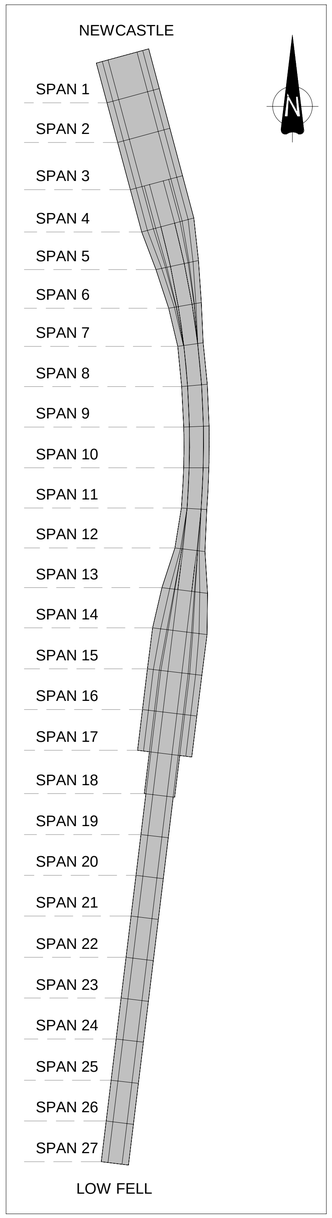
SOUTH

NORTH

SPAN 7 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 7-13 SECTION



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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 7 SOFFIT ELEMENTS
DECK

CONSULTANT

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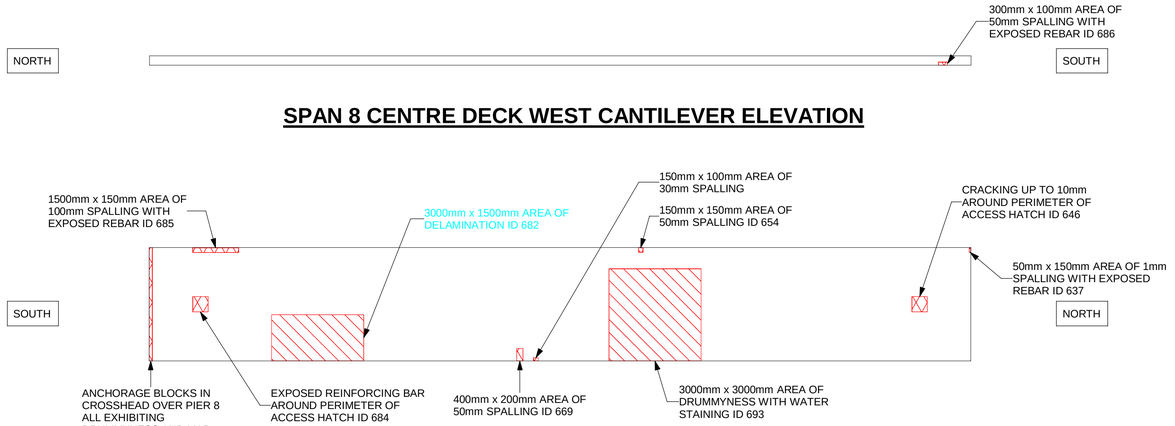
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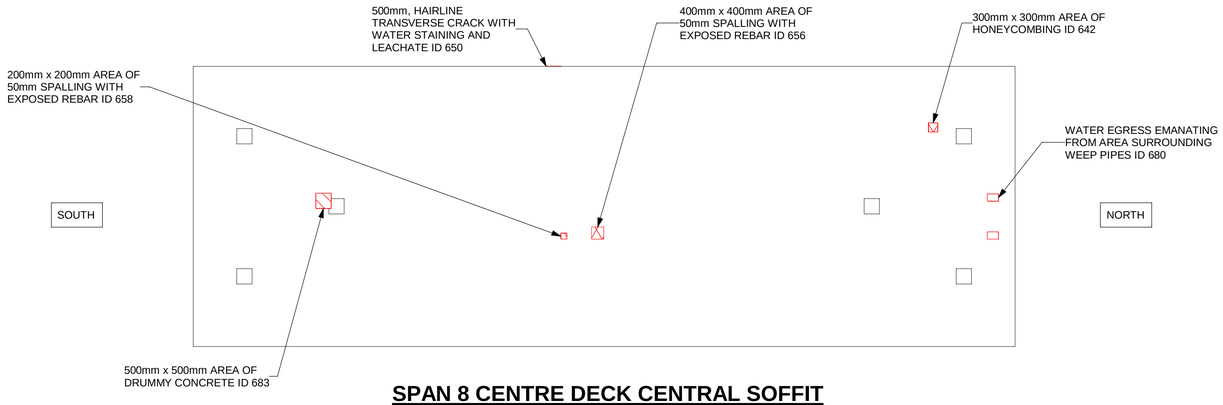
CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

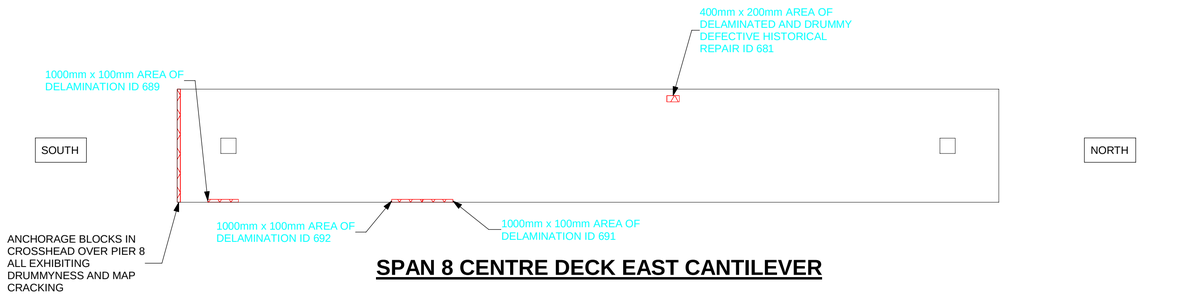


SPAN 8 CENTRE DECK WEST CANTILEVER ELEVATION

SPAN 8 CENTRE DECK WEST CANTILEVER



SPAN 8 CENTRE DECK CENTRAL SOFFIT



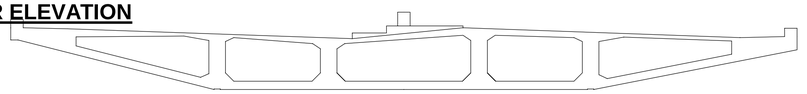
SPAN 8 CENTRE DECK EAST CANTILEVER

CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

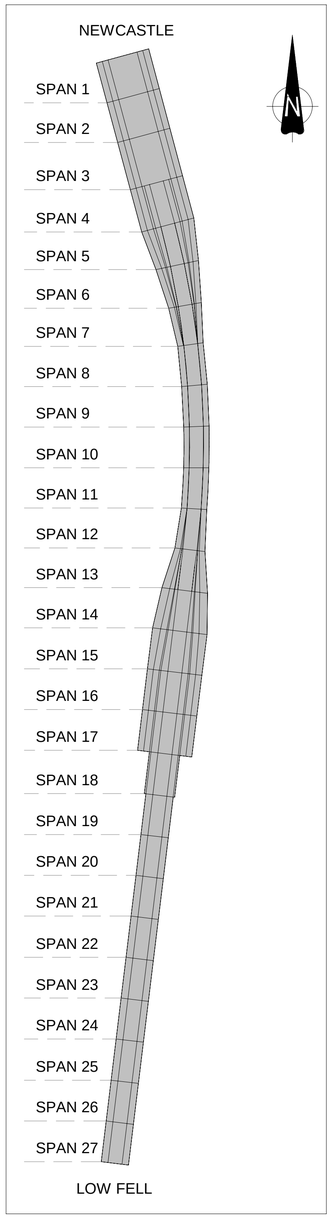
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 8 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 7-13 SECTION



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GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 8 SOFFIT ELEMENTS
DECK

CONSULTANT

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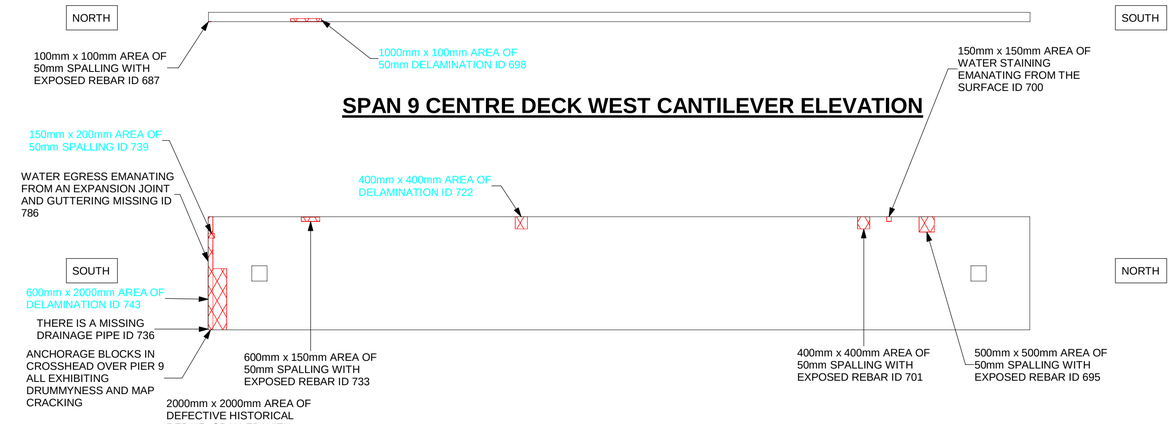
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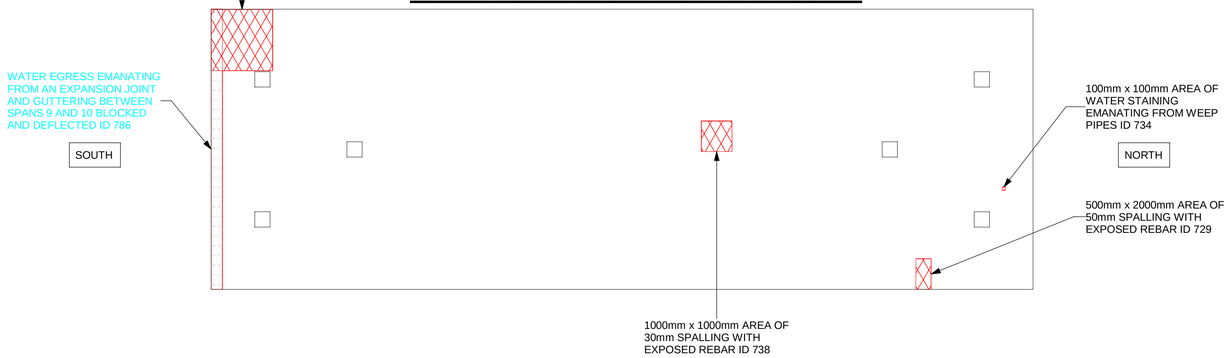
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CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

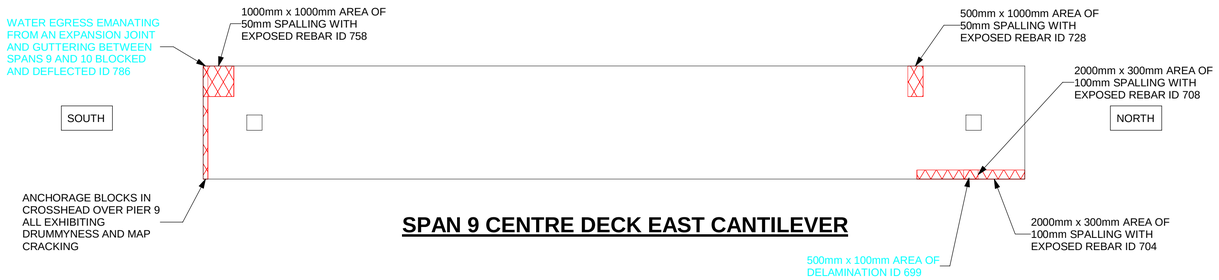
- SPORADIC MISSING CORNERS OF FACIA PANELS
- CRACKING WITH WATER STAINING PRESENT TO THE SOFFIT OF THE FACIA PANELS THROUGHOUT THE SPAN



SPAN 9 CENTRE DECK WEST CANTILEVER ELEVATION



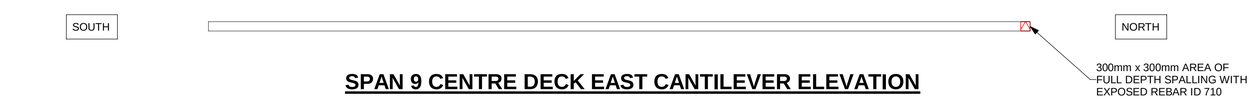
SPAN 9 CENTRE DECK WEST CANTILEVER



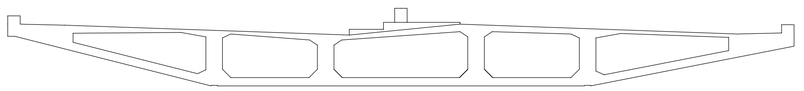
SPAN 9 CENTRE DECK EAST CANTILEVER

CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

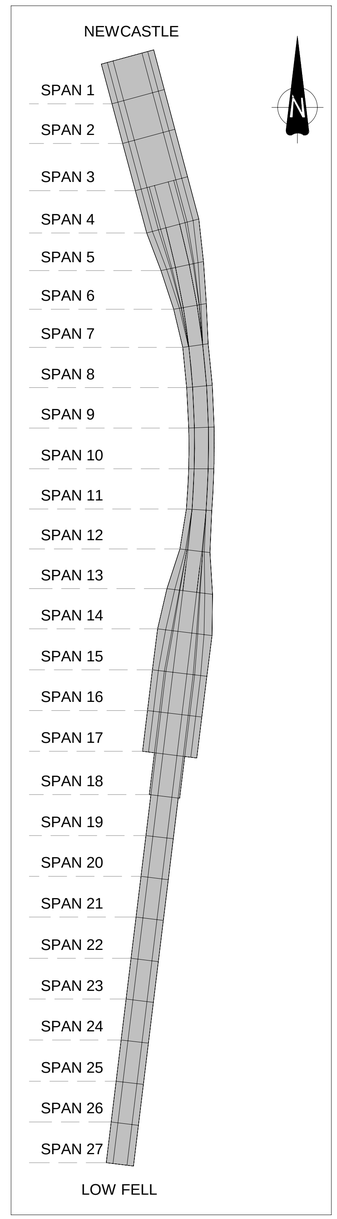
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 9 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 7-13 SECTION



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NE8 1HH

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SPAN 9 SOFFIT ELEMENTS
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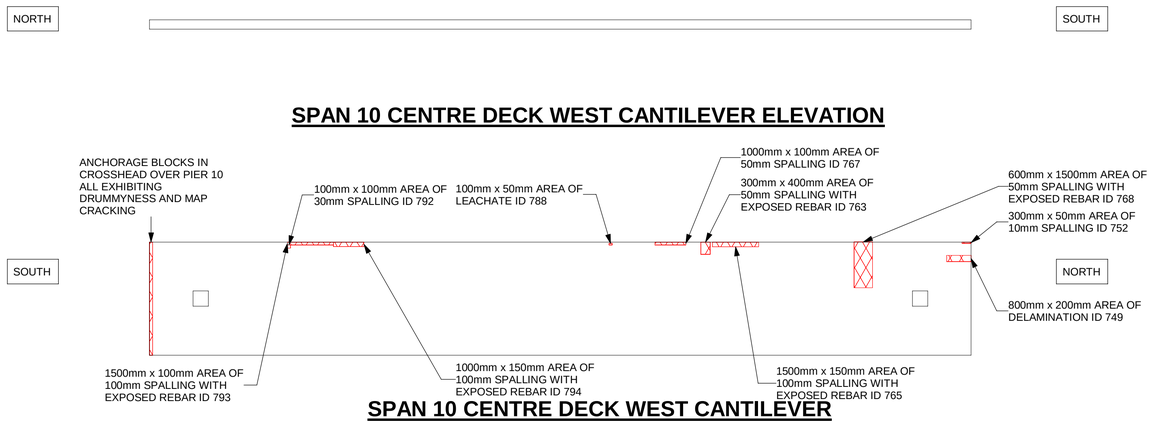
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CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

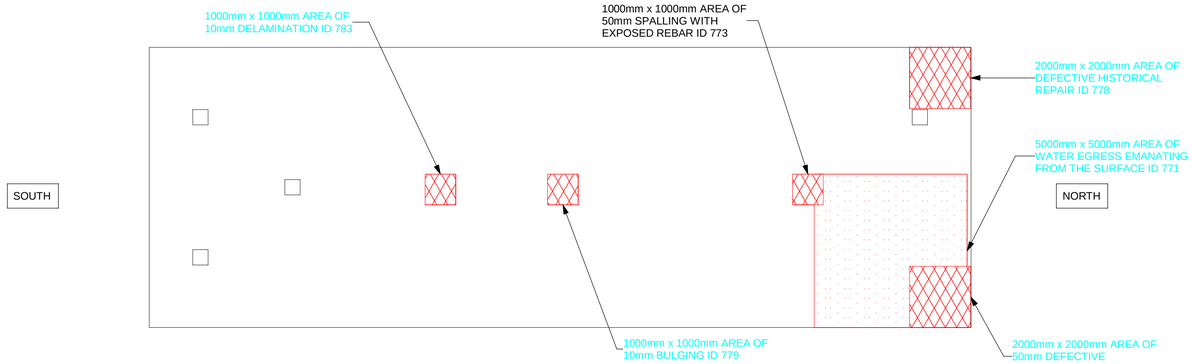
- SPORADIC MISSING CORNERS OF FACIA PANELS



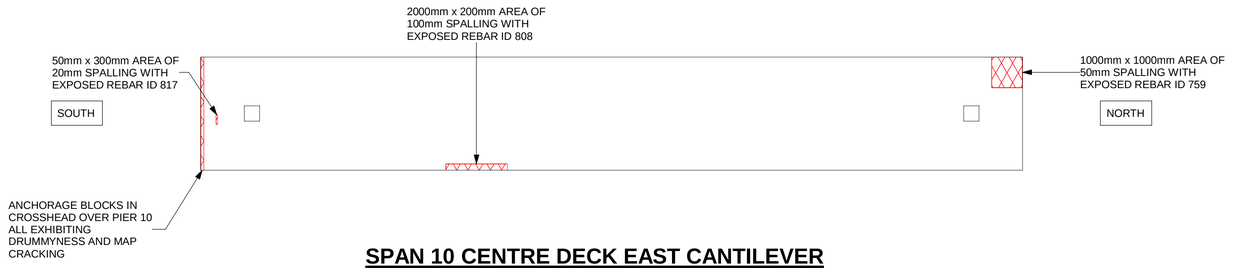
SPAN 10 CENTRE DECK WEST CANTILEVER ELEVATION

CENTRAL SOFFIT
GENERAL DEFECTS:

- THE GUTTERING OVER THE EXPANSION JOINT BETWEEN SPAN 9 AND SPAN 10 IS BLOCKED AND DEFLECTED



SPAN 10 CENTRE DECK CENTRAL SOFFIT



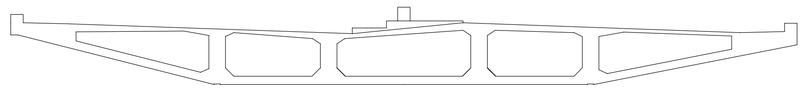
SPAN 10 CENTRE DECK EAST CANTILEVER

CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

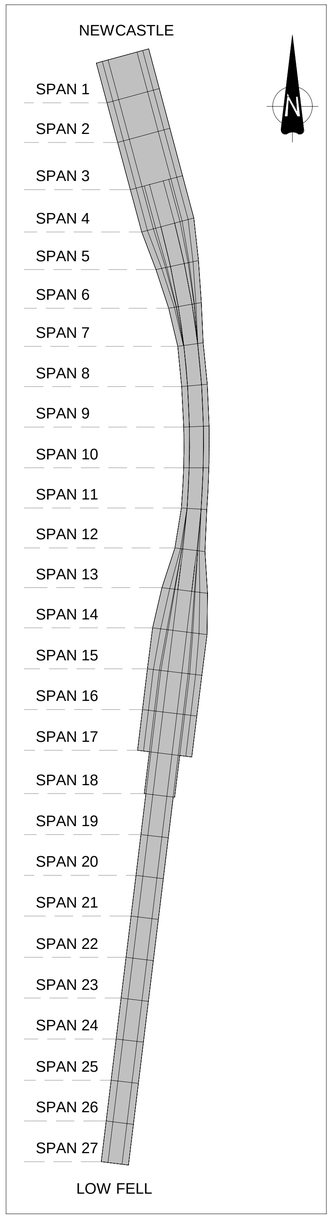
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 10 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 7-13 SECTION



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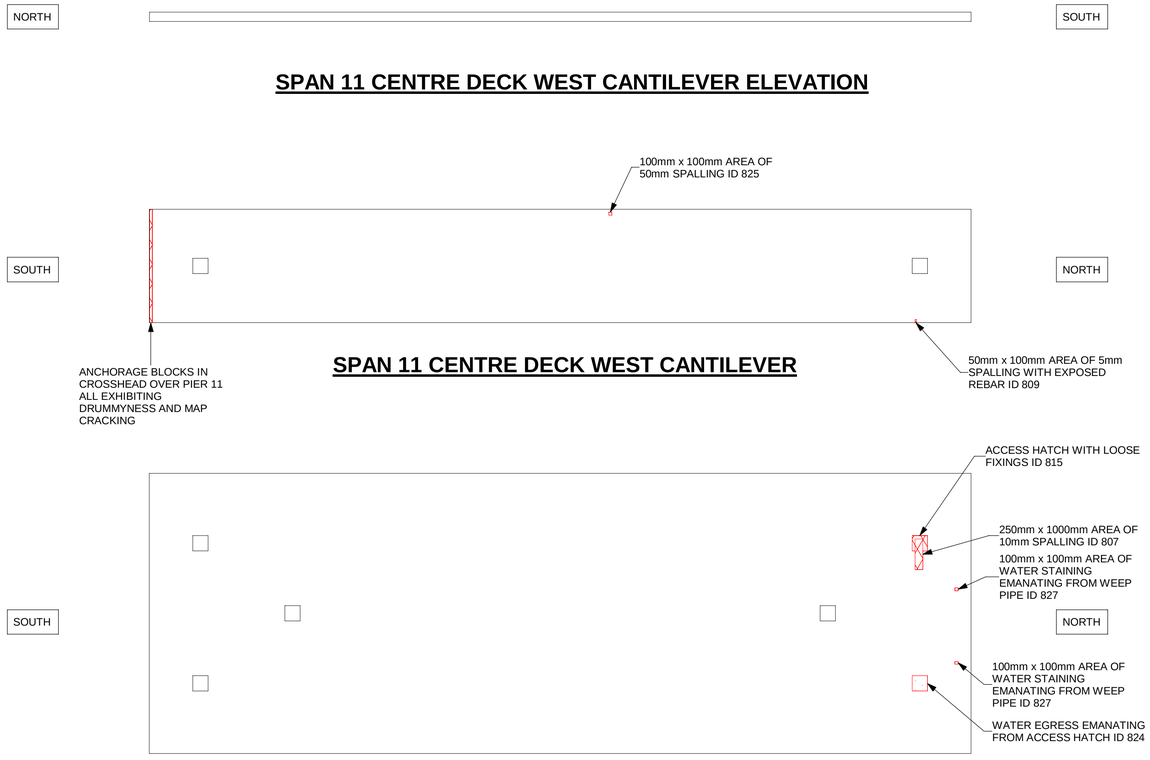
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

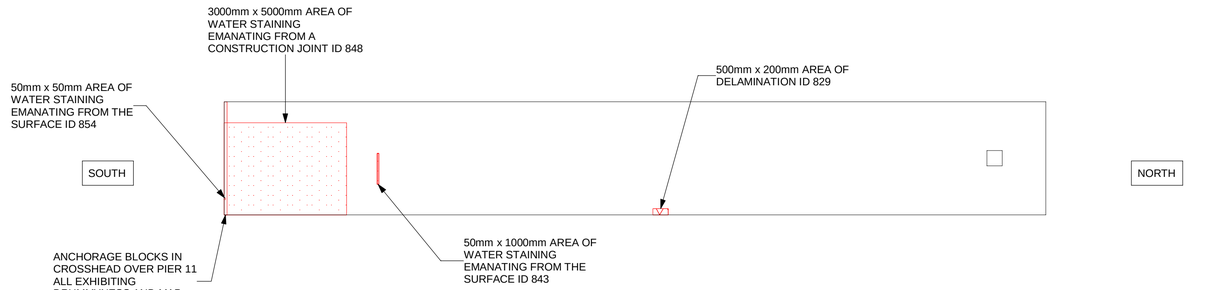
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 11 CENTRE DECK WEST CANTILEVER ELEVATION

SPAN 11 CENTRE DECK WEST CANTILEVER

SPAN 11 CENTRE DECK CENTRAL SOFFIT



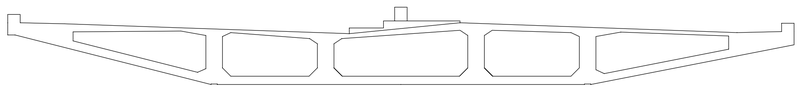
SPAN 11 CENTRE DECK EAST CANTILEVER

CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

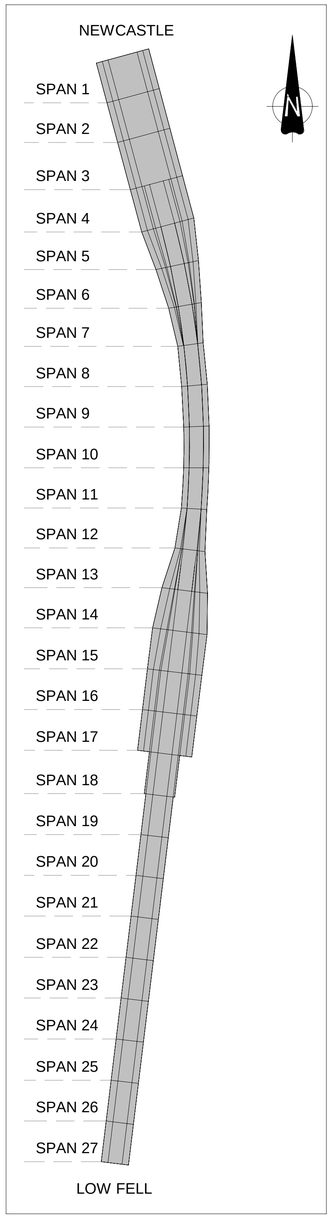
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 11 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 7-13 SECTION



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ISSUE/REVISION

I/R	DATE	BY	DESCRIPTION	CHK	APP
A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 11 SOFFIT ELEMENTS
DECK

CONSULTANT

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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000110 __P01

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Filename: Autodesk Docs://TR_EURI_(UKI)_60713768_Gateshead Viaduct PI 2023/60713768-ACM-GV-M3-CE-000001_P01.rvt

Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

WEST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

NORTH

SOUTH

SPAN 12 WEST RAMP WEST CANTILEVER ELEVATION

300mm x 300mm AREA OF 10mm ISOLATED SPALLS WITH EXPOSED REBAR TO ANCHORAGE BLOCK

1000mm, 1mm WIDE TRANSVERSE CRACK ID 879

100mm x 100mm AREA OF 30mm SPALLING ID 870

100mm HEIGHT BAND OF 50mm SPALLING TO SURROUND OF ACCESS HATCH ID 852

SOUTH

NORTH

1000mm, 1mm WIDE TRANSVERSE CRACK ID 880

400mm x 500mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 868

100mm x 100mm AREA OF 30mm SPALLING ID 845

ANCHORAGE BLOCKS IN CROSSHEAD OVER PIER 12 ALL EXHIBITING DRUMMYNESS AND MAP CRACKING

SPAN 12 WEST RAMP WEST CANTILEVER

500mm x 700mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 866

1500mm x 1500mm AREA OF DRUMMY, DEFECTIVE HISTORICAL REPAIR ID 862

SOUTH

NORTH

800mm x 800mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 864

SPAN 12 CENTRE DECK CENTRAL SOFFIT

100mm x 50mm AREA OF WATER STAINING EMANATING FROM THE SURFACE ID 869

500mm x 500mm AREA OF 40mm SPALLING AND DRUMMYNESS ID 865

300mm x 300mm AREA OF WATER STAINING EMANATING FROM THE SURFACE ID 876

SOUTH

NORTH

WATER STAINING EMANATING FROM HATCH

ANCHORAGE BLOCKS IN CROSSHEAD OVER PIER 12 ALL EXHIBITING DRUMMYNESS AND MAP CRACKING

SPAN 12 EAST RAMP EAST CANTILEVER

300mm x 300mm AREA OF WATER STAINING EMANATING FROM THE SURFACE ID 867

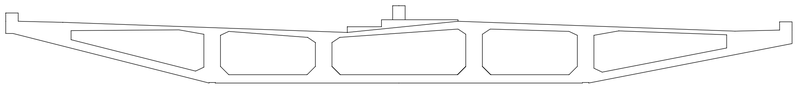
EAST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

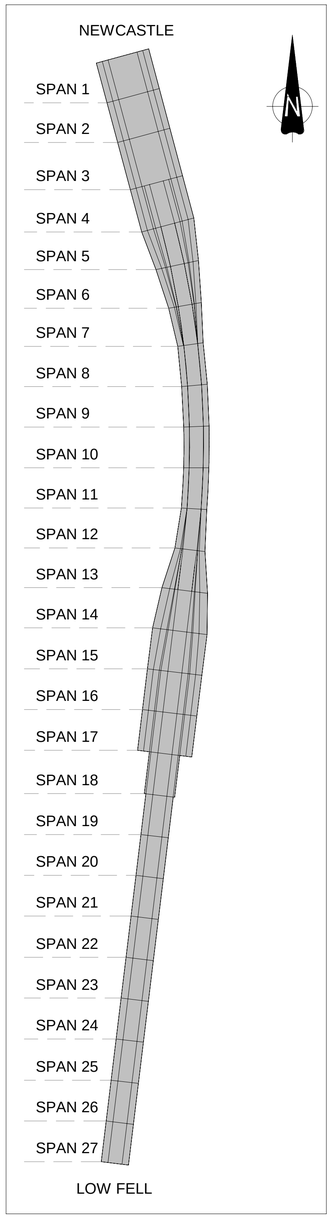
SOUTH

NORTH

SPAN 12 EAST RAMP EAST CANTILEVER ELEVATION



SPAN 7-13 SECTION



NOTES

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

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CIVIC CENTRE,
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NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 12 SOFFIT ELEMENTS
DECK

CONSULTANT

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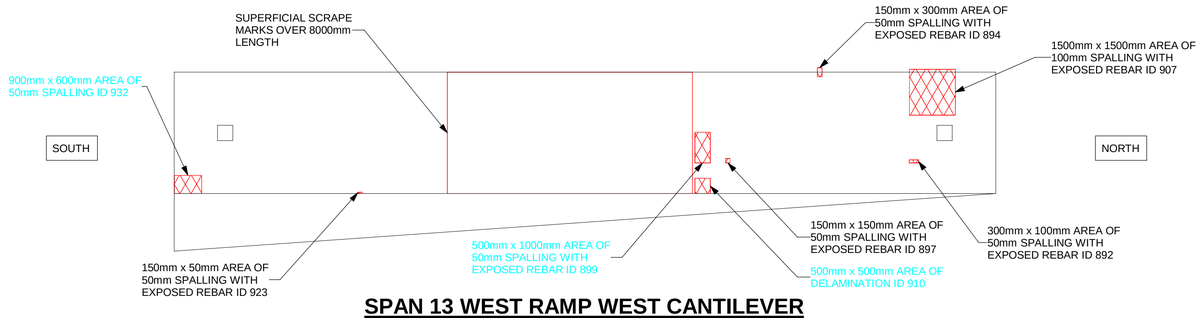
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

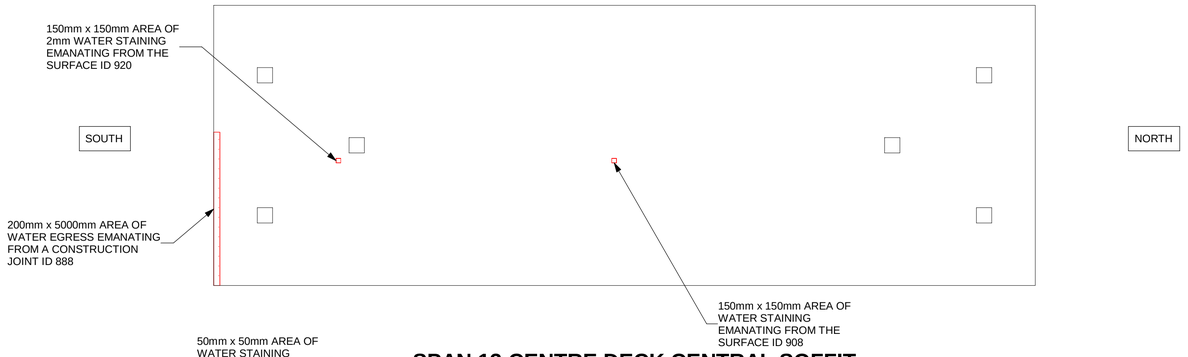
NORTH

SOUTH

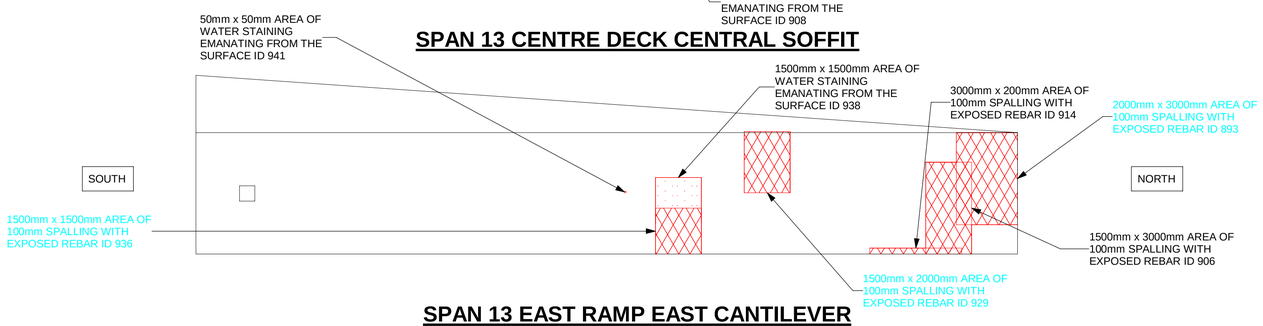
SPAN 13 WEST RAMP WEST CANTILEVER ELEVATION



SPAN 13 WEST RAMP WEST CANTILEVER



SPAN 13 CENTRE DECK CENTRAL SOFFIT



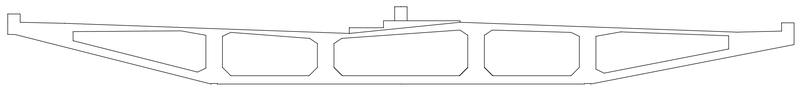
SPAN 13 EAST RAMP EAST CANTILEVER

SOUTH

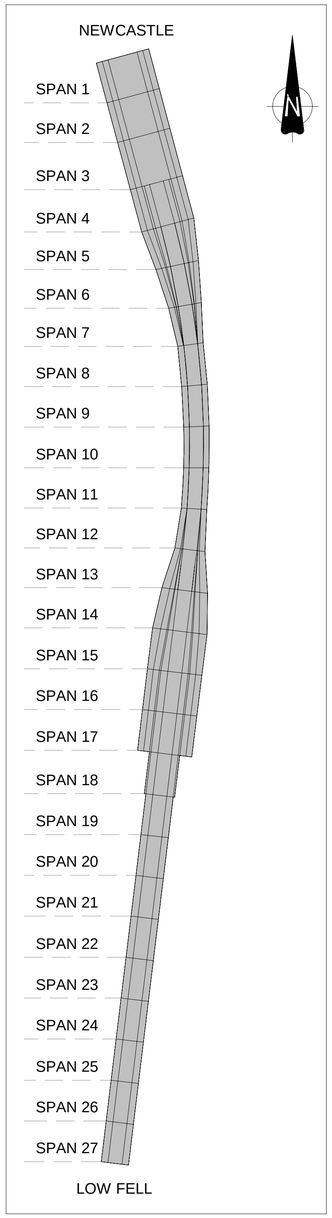
NORTH

BOTH CORNERS OF FACIA PANELS SPALLED

SPAN 13 EAST RAMP EAST CANTILEVER ELEVATION



SPAN 7-13 SECTION



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NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 13 SOFFIT ELEMENTS
DECK

CONSULTANT

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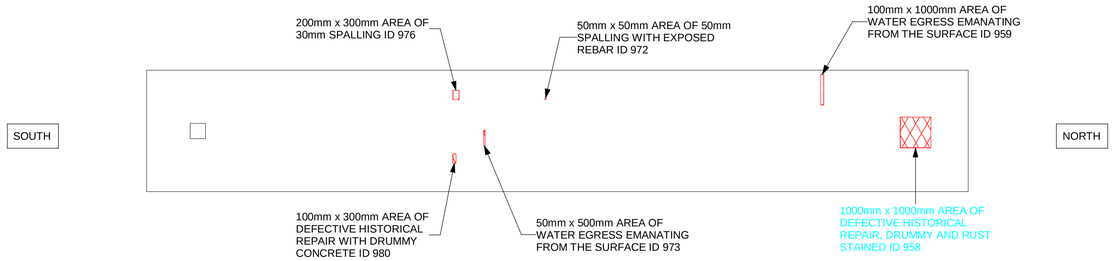
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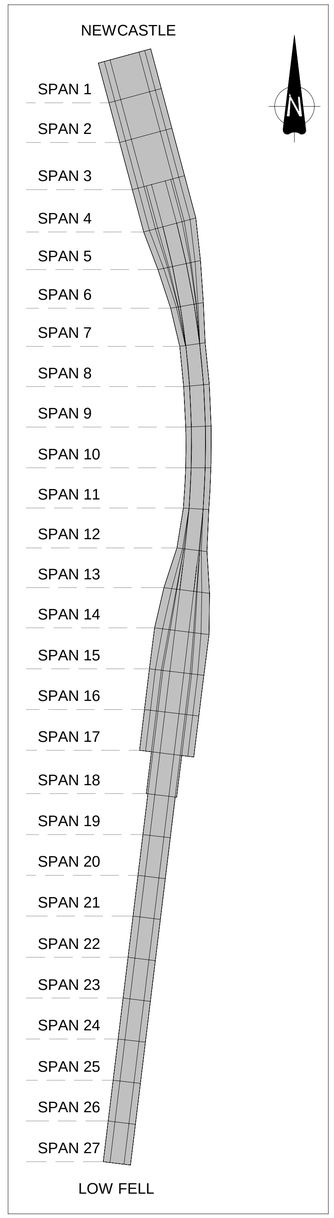
SPAN 14 EAST RAMP EAST CANTILEVER ELEVATION

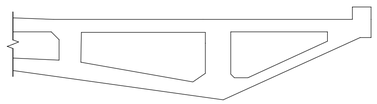


SPAN 14 EAST RAMP EAST CANTILEVER



SPAN 14 EAST RAMP WEST CANTILEVER





SPAN 4-6 & 14-15 EAST SECTION

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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 14 EAST SOFFIT ELEMENTS
DECK

CONSULTANT

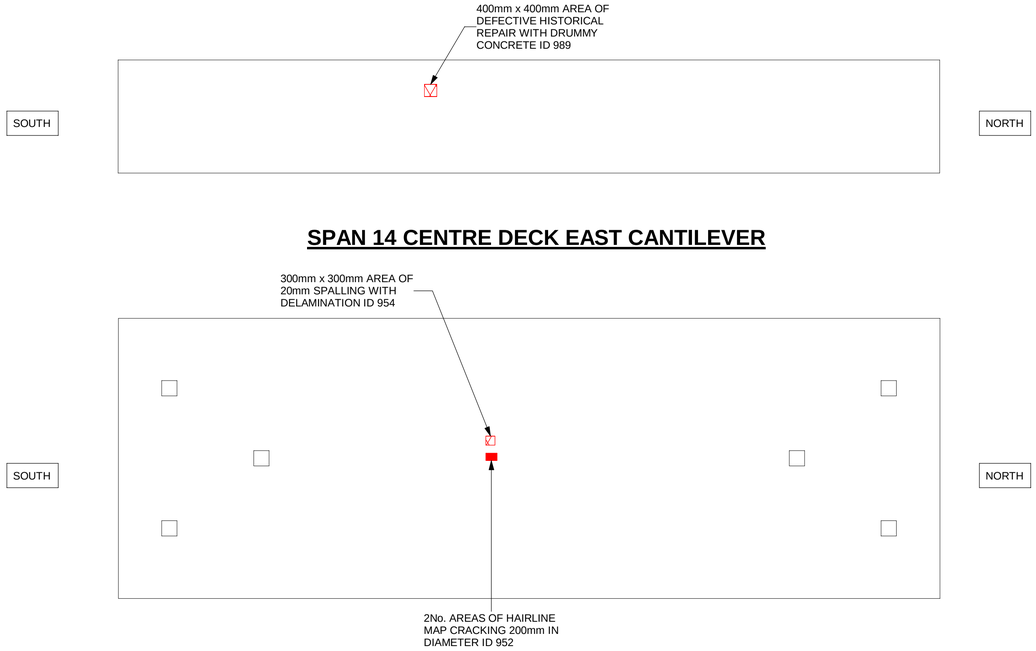
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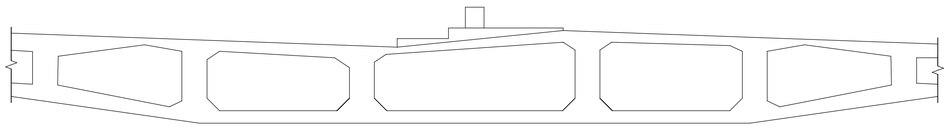


SPAN 14 CENTRE DECK EAST CANTILEVER

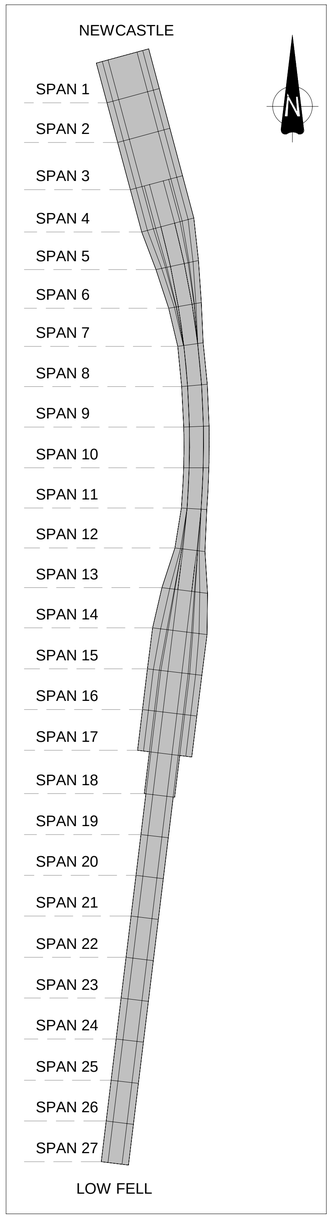
SPAN 14 CENTRE DECK CENTRAL SOFFIT



SPAN 14 CENTRE DECK WEST CANTILEVER



SPAN 4-6 & 14-15 CENTRAL SECTION



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-S3-INTERNAL REVIEW AND COMMENT

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REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 14 CENTRE SOFFIT ELEMENTS
DECK

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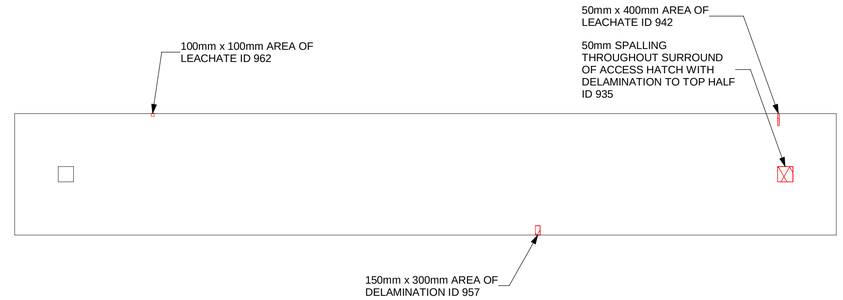
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NORTH

SOUTH

SPAN 14 WEST RAMP WEST CANTILEVER ELEVATION



SOUTH

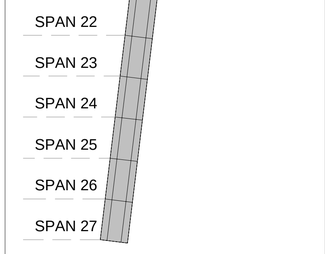
NORTH

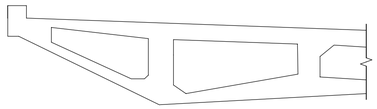
SPAN 14 WEST RAMP WEST CANTILEVER

NORTH

SOUTH

SPAN 14 WEST RAMP EAST CANTILEVER





SPAN 4-6 & 14-15 WEST SECTION

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SUITABILITY

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GATESHEAD COUNCIL
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REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 14 WEST SOFFIT ELEMENTS
DECK

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

EAST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS



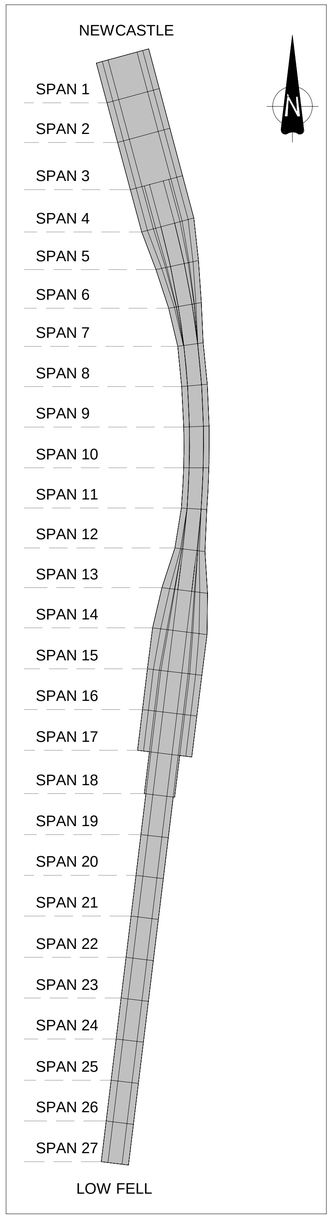
SPAN 15 EAST RAMP EAST CANTILEVER ELEVATION

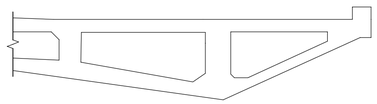


SPAN 15 EAST RAMP EAST CANTILEVER



SPAN 15 EAST RAMP WEST CANTILEVER





SPAN 4-6 & 14-15 EAST SECTION

NOTES

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NE8 1HH

PROJECT

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DEFECTS SCHEDULE
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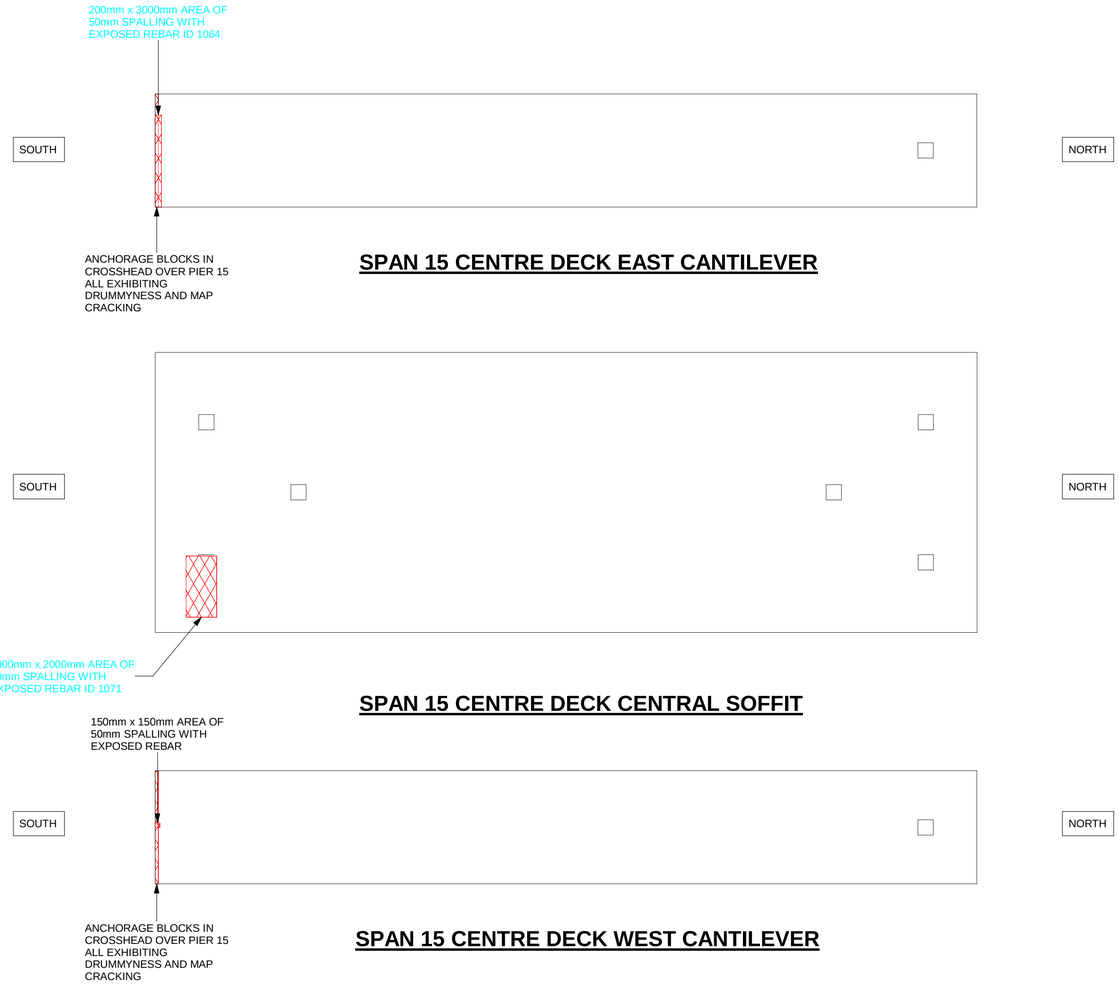
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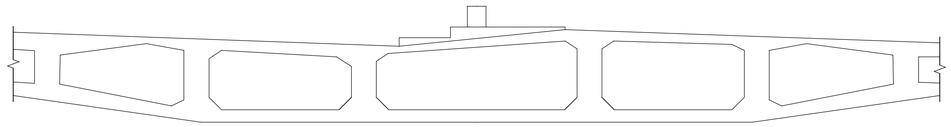
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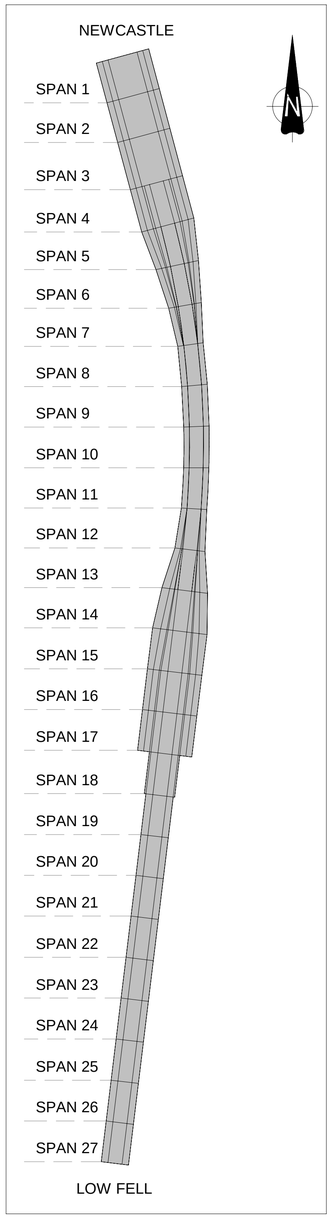
SPAN 15 CENTRE DECK EAST CANTILEVER

SPAN 15 CENTRE DECK CENTRAL SOFFIT

SPAN 15 CENTRE DECK WEST CANTILEVER



SPAN 4-6 & 14-15 CENTRAL SECTION



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NOTES

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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
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I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 CENTRE SOFFIT ELEMENTS
DECK

CONSULTANT

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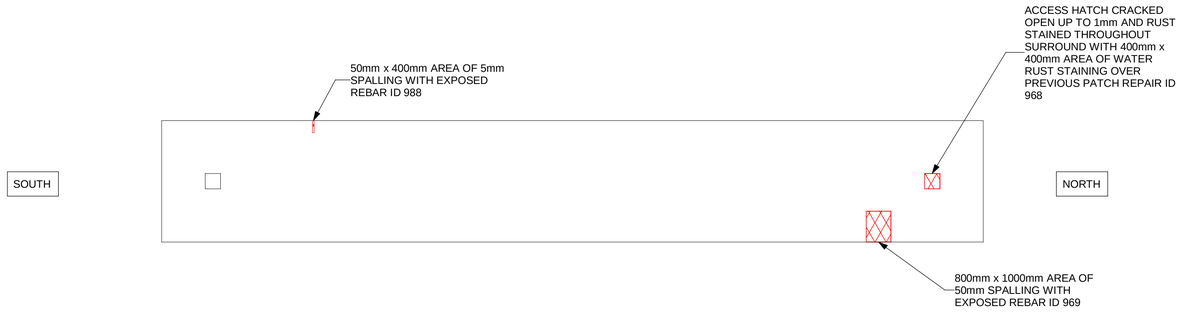
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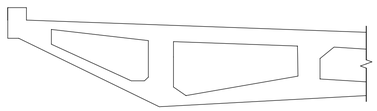
SPAN 15 WEST RAMP WEST CANTILEVER ELEVATION



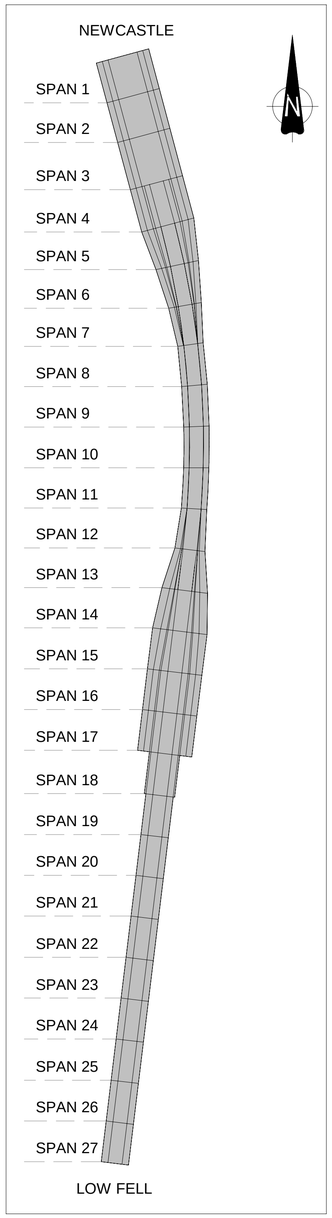
SPAN 15 WEST RAMP WEST CANTILEVER



SPAN 15 WEST RAMP EAST CANTILEVER



SPAN 4-6 & 14-15 WEST SECTION



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Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 15 WEST SOFFIT ELEMENTS
DECK

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

NORTH

SOUTH

SPAN 16 EAST RAMP WEST CANTILEVER ELEVATION

1000mm x 200mm AREA OF
50mm SPALLING WITH
EXPOSED REBAR ID 1086

SOUTH

NORTH

SPAN 16 EAST RAMP WEST CANTILEVER

SOUTH

NORTH

SPAN 16 EAST RAMP EAST CANTILEVER

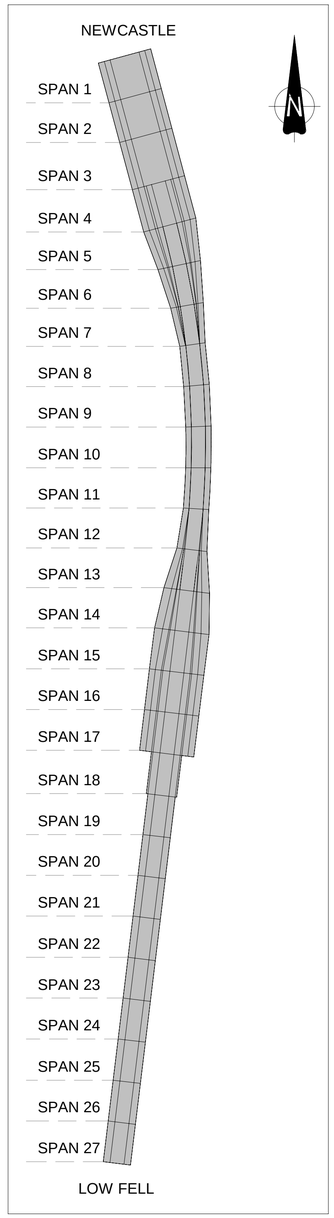
EAST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

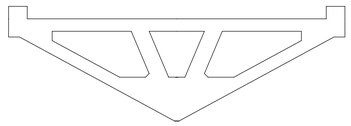
- SPORADIC MISSING CORNERS OF FACIA PANELS

SOUTH

NORTH

SPAN 16 EAST RAMP EAST CANTILEVER ELEVATION





SPAN 1-3 & 16-17 SECTION

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NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 16 EAST SOFFIT ELEMENTS
DECK

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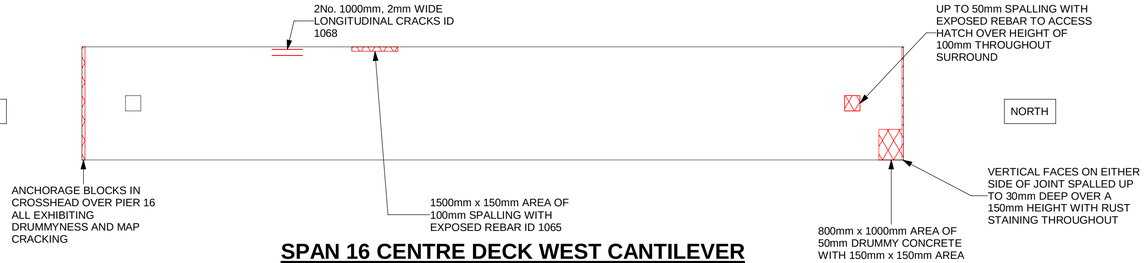
CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

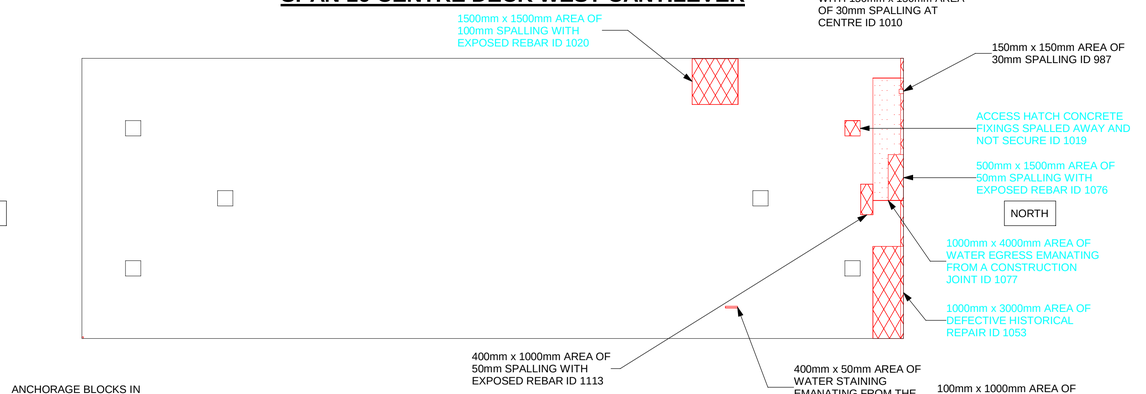
NORTH

SOUTH

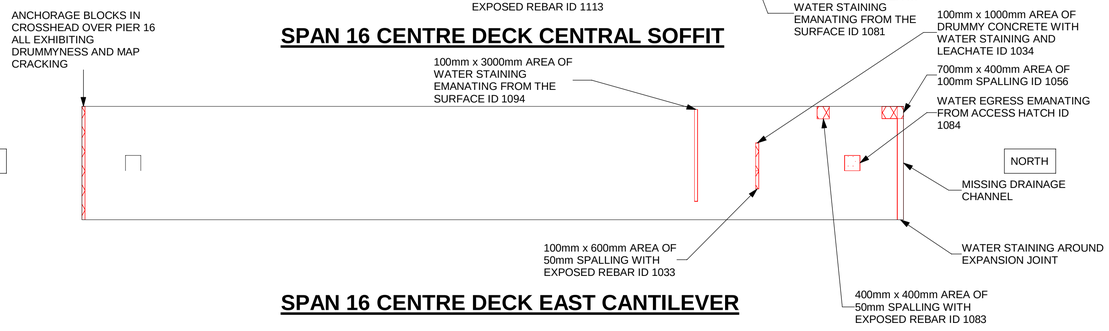
SPAN 16 CENTRE DECK WEST CANTILEVER ELEVATION



SPAN 16 CENTRE DECK WEST CANTILEVER



SPAN 16 CENTRE DECK CENTRAL SOFFIT



SPAN 16 CENTRE DECK EAST CANTILEVER

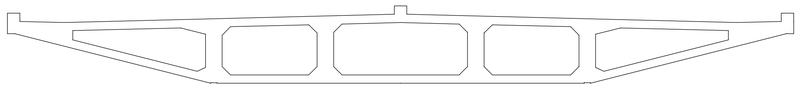
CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

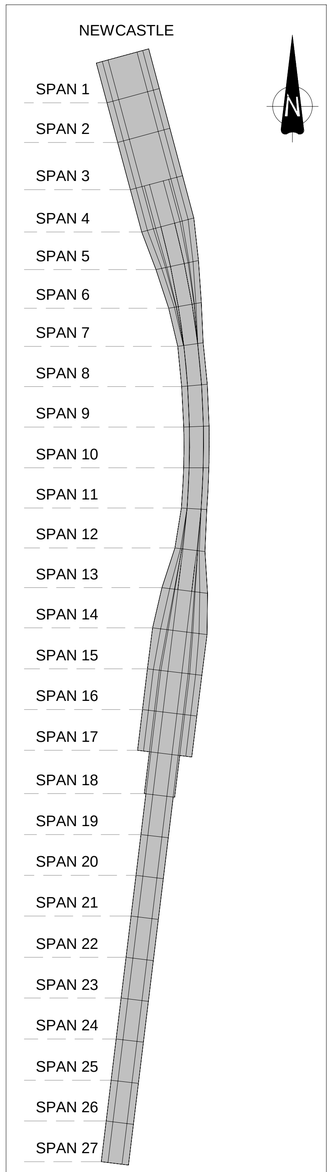
SOUTH

NORTH

SPAN 16 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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SUITABILITY

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 16 CENTRE SOFFIT ELEMENTS DECK

CONSULTANT

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WEST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

NORTH

SOUTH

SPAN 16 WEST RAMP WEST CANTILEVER ELEVATION

100mm x 100mm AREA OF
HONEYCOMBING ID 1061

SOUTH

NORTH

SPAN 16 WEST RAMP WEST CANTILEVER

SOUTH

NORTH

500mm x 100mm AREA OF
100mm SPALLING WITH
EXPOSED REBAR ID 995

SPAN 16 WEST RAMP EAST CANTILEVER

WEST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

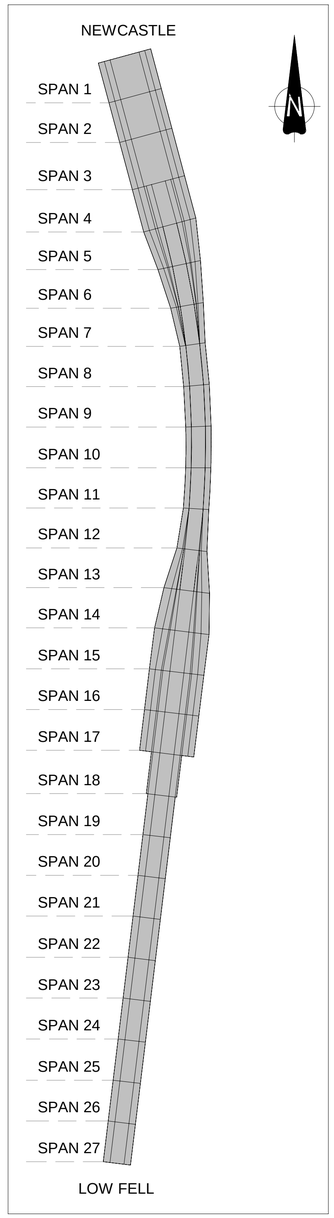
- SPORADIC MISSING CORNERS OF FACIA PANELS

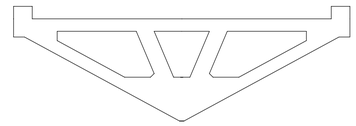
SOUTH

NORTH

500mm x 100mm AREA OF
FULL DEPTH SPALLING WITH
EXPOSED REBAR ID 1027

SPAN 16 WEST RAMP EAST CANTILEVER ELEVATION





SPAN 1-3 & 16-17 SECTION

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SHEET TITLE

DEFECTS SCHEDULE
SPAN 16 WEST SOFFIT ELEMENTS
DECK

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EAST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

NORTH

SOUTH

SPAN 17 EAST RAMP WEST CANTILEVER ELEVATION

SOUTH

NORTH

SPAN 17 EAST RAMP WEST CANTILEVER

500mm x 5000mm AREA OF
WATER EGRESS EMANATING
FROM A CONSTRUCTION
JOINT ID 1143

SOUTH

NORTH

SPAN 17 EAST RAMP EAST CANTILEVER

EAST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

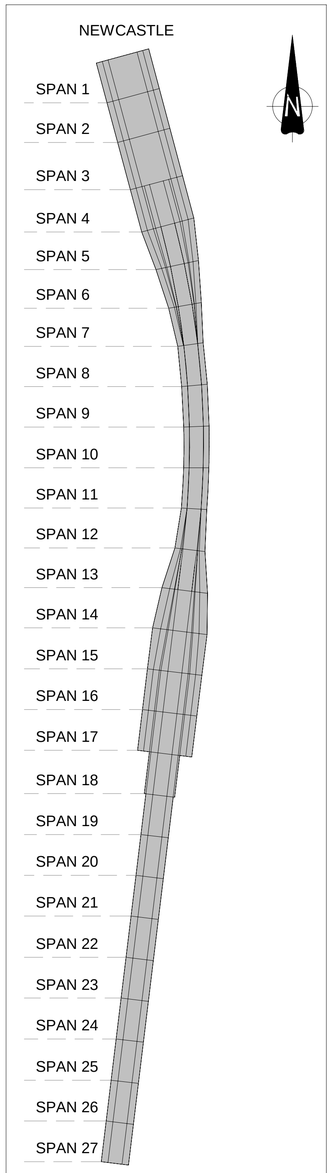
- SPORADIC MISSING CORNERS OF FACIA PANELS

SOUTH

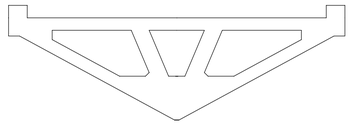
NORTH

SPAN 17 EAST RAMP EAST CANTILEVER ELEVATION

NEWCASTLE



LOW FELL



SPAN 1-3 & 16-17 SECTION

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SPAN 17 EAST SOFFIT ELEMENTS
DECK

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CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

NORTH

SOUTH

SPAN 17 CENTRE DECK WEST CANTILEVER ELEVATION

ANCHORAGE BLOCKS IN CROSSHEAD OVER PIER 17 ALL EXHIBITING DRUMMYNESS AND MAP CRACKING

SOUTH

NORTH

150mm x 500mm AREA OF 40mm SPALLING ID 1134

700mm x 800mm AREA OF DRUMMY CONCRETE ID 1087

DRUMMY CONCRETE SURROUNDING ACCESS HATCH WITH UP TO 5mm CRACKING THROUGHOUT PERIMETER OF HATCH ID 1088

100mm x 100mm AREA OF WATER STAINING FROM OPEN CORE HOLE

SPAN 17 CENTRE DECK WEST CANTILEVER

1000mm x 1500mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 1154

600mm x 500mm AREA OF 30mm SPALLING ID 1085

1000mm x 2000mm AREA OF 50mm SPALLING WITH EXPOSED REBAR WITH WETNESS AND EXPOSED WIRES ID 1082

30mm WIDTH BAND OF DAMPNESS AND DRUMMYNESS

300mm x 1000mm AREA OF 30mm SPALLING WITH EXPOSED REBAR ID 1079

SOUTH

NORTH

500mm x 4000mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 1114

200mm x 1000mm AREA OF DELAMINATION ID 1124

1000mm x 1000mm AREA OF DELAMINATION ID 1121

SPAN 17 CENTRE DECK CENTRAL SOFFIT

ANCHORAGE BLOCKS IN CROSSHEAD OVER PIER 17 ALL EXHIBITING DRUMMYNESS AND MAP CRACKING

3000mm x 1000mm AREA OF WATER STAINING EMANATING FROM A CONSTRUCTION JOINT ID 1161

400mm x 700mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 1117

200mm x 400mm AREA OF 50mm SPALLING WITH EXPOSED REBAR ID 1128

100mm x 100mm AREA OF WATER STAINING EMANATING FROM OPEN CORE HOLE ID 1109

SOUTH

NORTH

100mm x 100mm AREA OF WATER EGRESS EMANATING FROM THE SURFACE ID 1162

1000mm x 4000mm AREA OF WATER STAINING EMANATING FROM A CONSTRUCTION JOINT ID 1108

100mm x 2000mm AREA OF WATER EGRESS EMANATING FROM THE SURFACE ID 1131

SPAN 17 CENTRE DECK EAST CANTILEVER

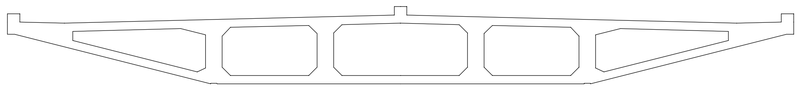
CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

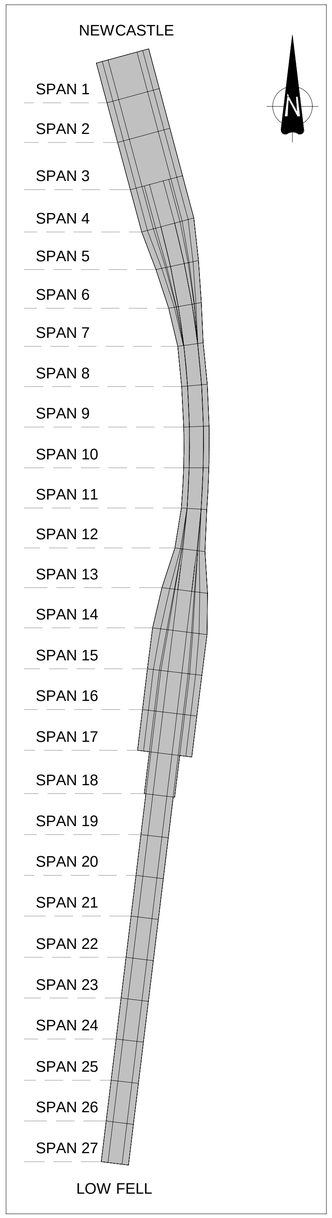
SOUTH

NORTH

SPAN 17 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 17 CENTRE SOFFIT ELEMENTS DECK

CONSULTANT

One Trinity Gardens
Newcastle upon Tyne
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SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000171 __P01

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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm

WEST RAMP WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

NORTH

SOUTH

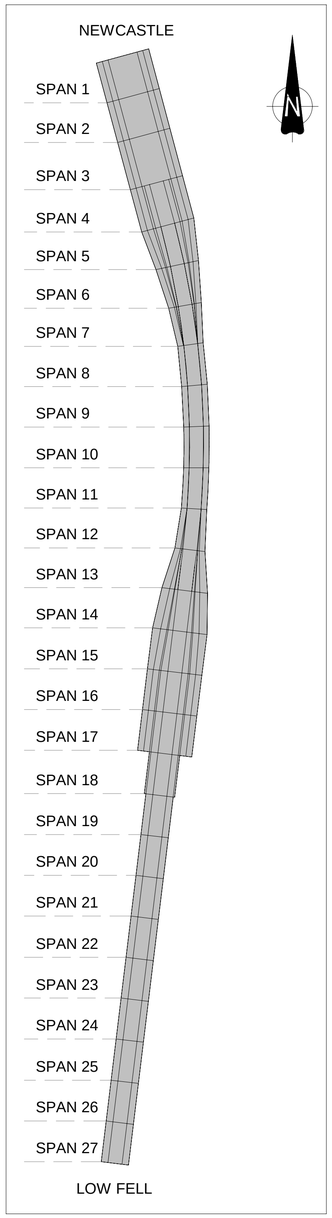
SPAN 17 WEST RAMP WEST CANTILEVER ELEVATION

SOUTH

NORTH

SPAN 17 WEST RAMP WEST CANTILEVER

NEWCASTLE



LOW FELL

SOUTH

NORTH

SPAN 17 WEST RAMP EAST CANTILEVER

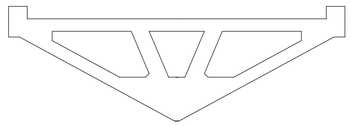
WEST RAMP EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

SOUTH

NORTH

SPAN 17 WEST RAMP EAST CANTILEVER ELEVATION



SPAN 1-3 & 16-17 SECTION

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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 17 WEST SOFFIT ELEMENTS
DECK

CONSULTANT

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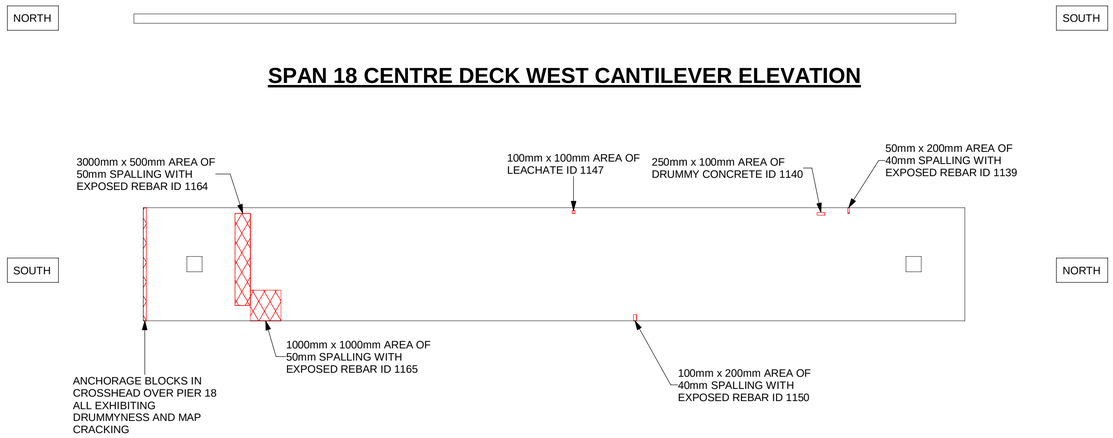
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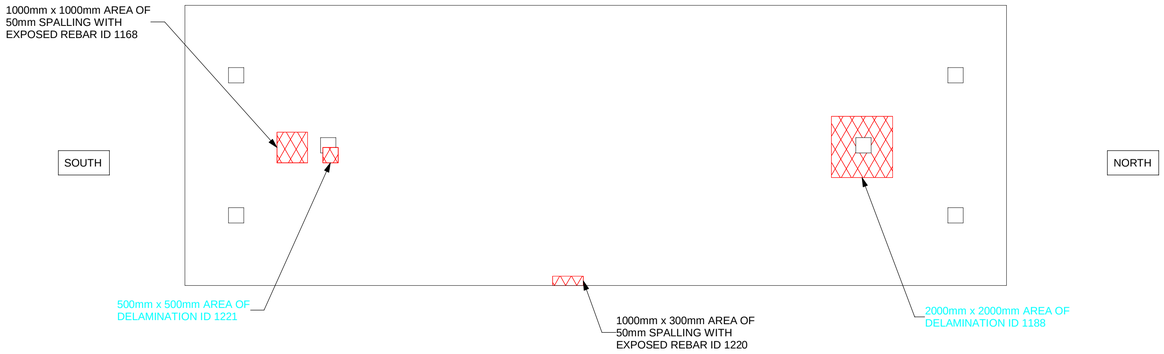
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CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

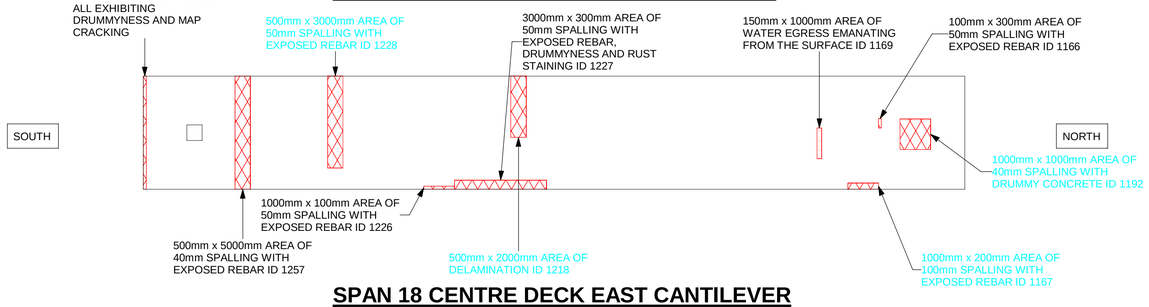
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 18 CENTRE DECK WEST CANTILEVER ELEVATION



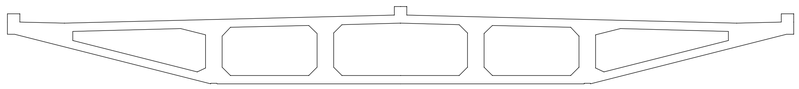
SPAN 18 CENTRE DECK CENTRAL SOFFIT



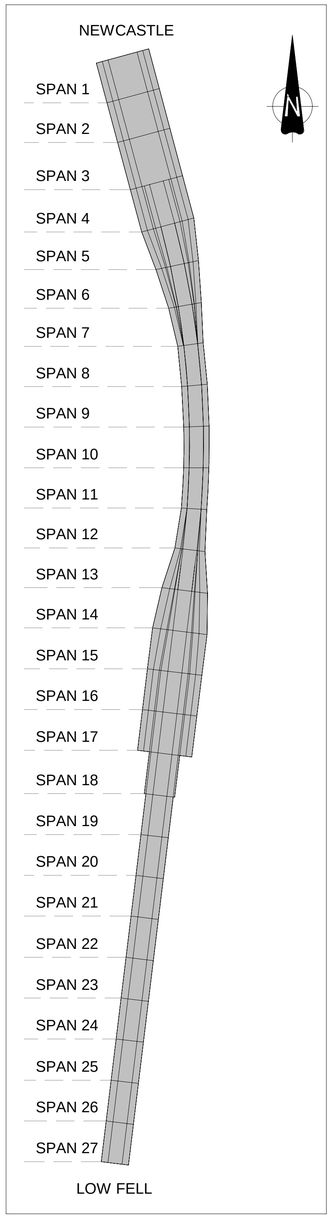
SPAN 18 CENTRE DECK EAST CANTILEVER



SPAN 18 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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I/R	DATE	BY	DESCRIPTION	CHK	APP

SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 18 SOFFIT ELEMENTS
DECK

CONSULTANT

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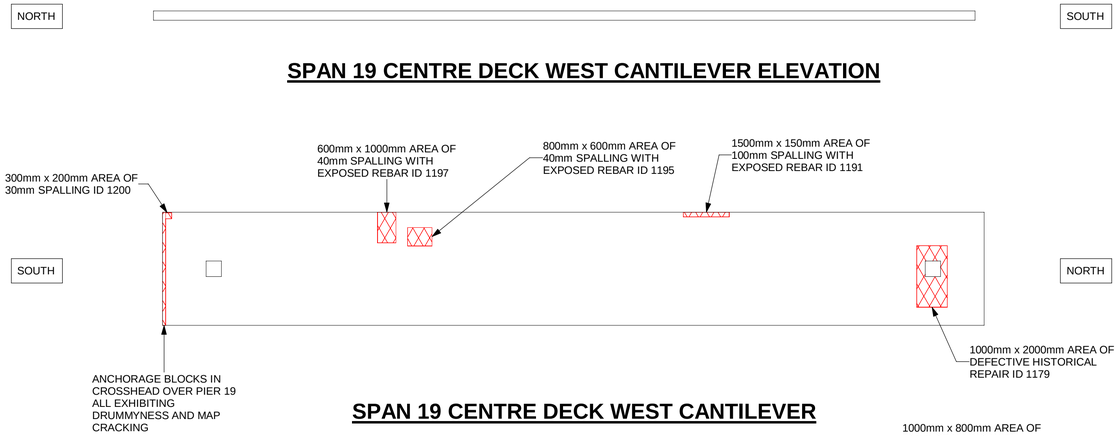
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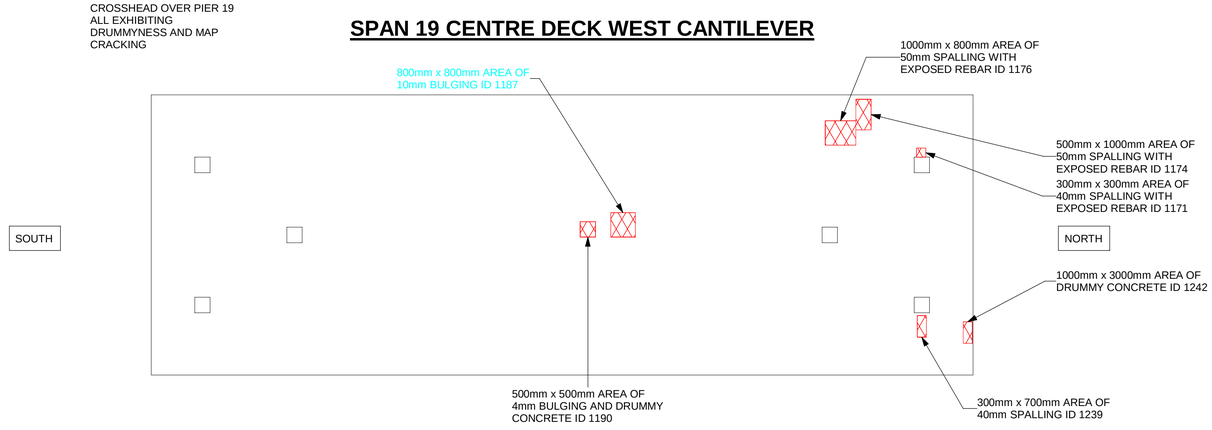
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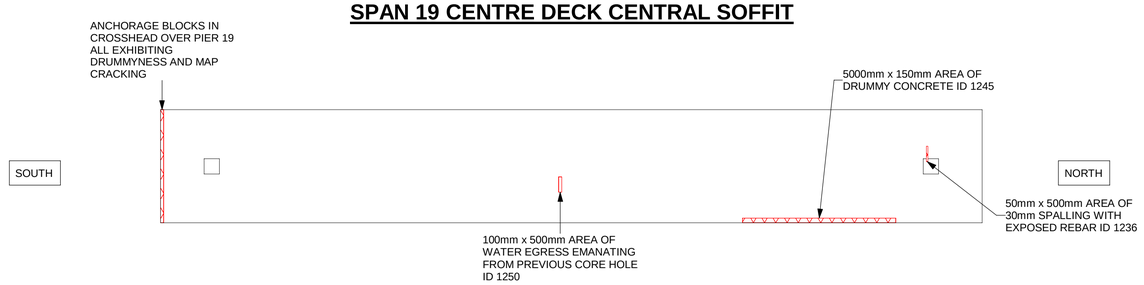
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CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS

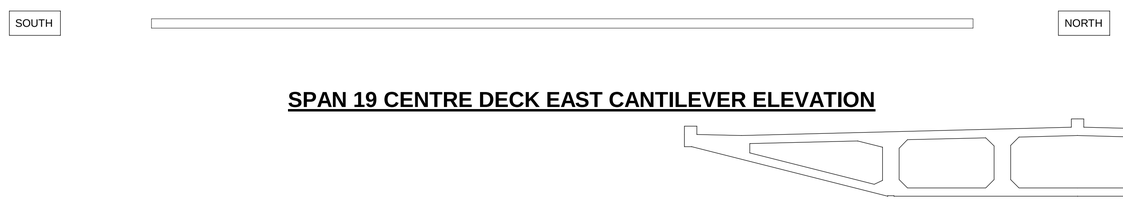


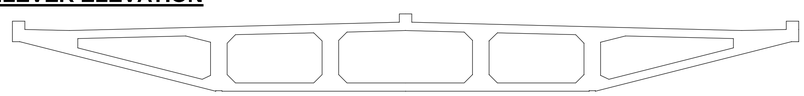


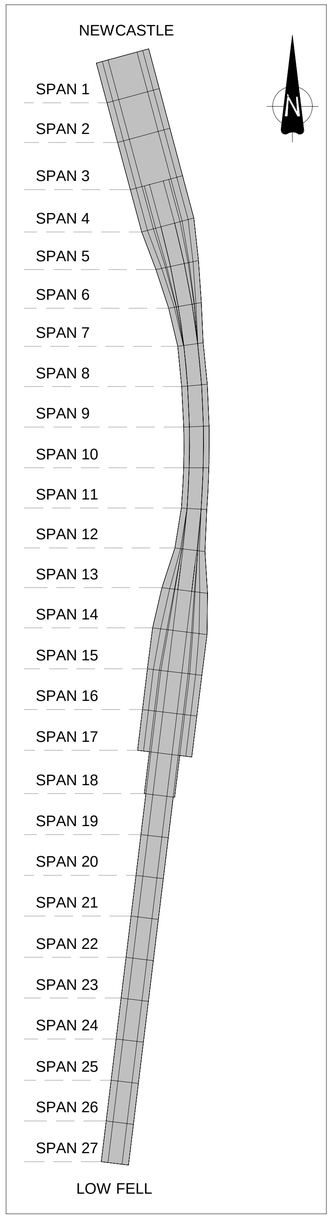


CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- SPORADIC MISSING CORNERS OF FACIA PANELS







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SUITABILITY

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CLIENT

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 19 SOFFIT ELEMENTS
DECK

CONSULTANT

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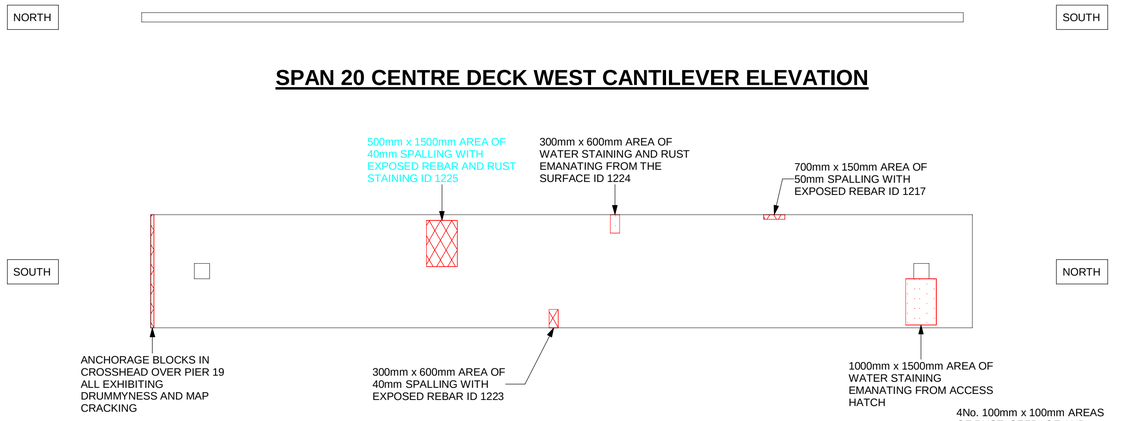
SHEET NUMBER

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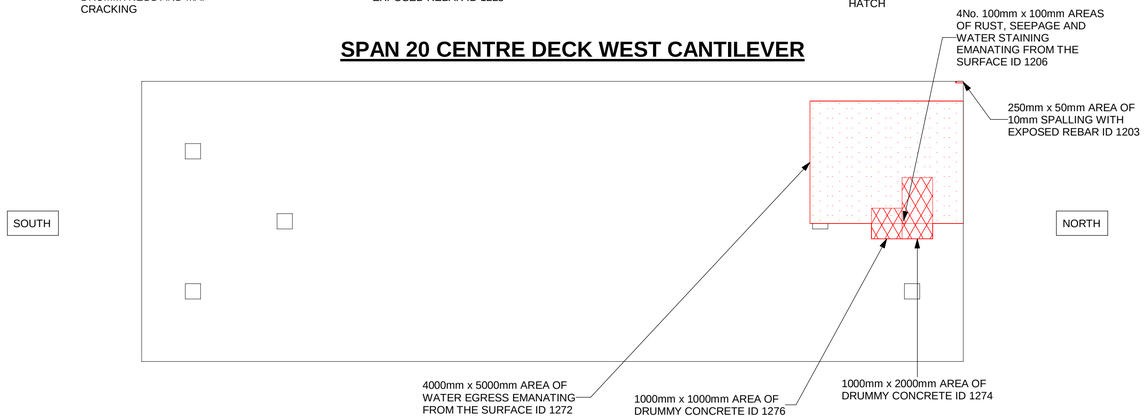
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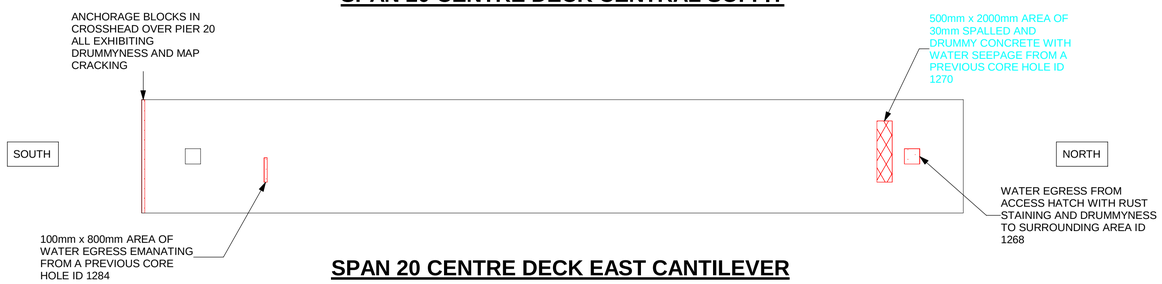


SPAN 20 CENTRE DECK WEST CANTILEVER ELEVATION



SPAN 20 CENTRE DECK WEST CANTILEVER

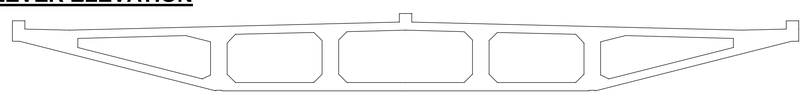
SPAN 20 CENTRE DECK CENTRAL SOFFIT



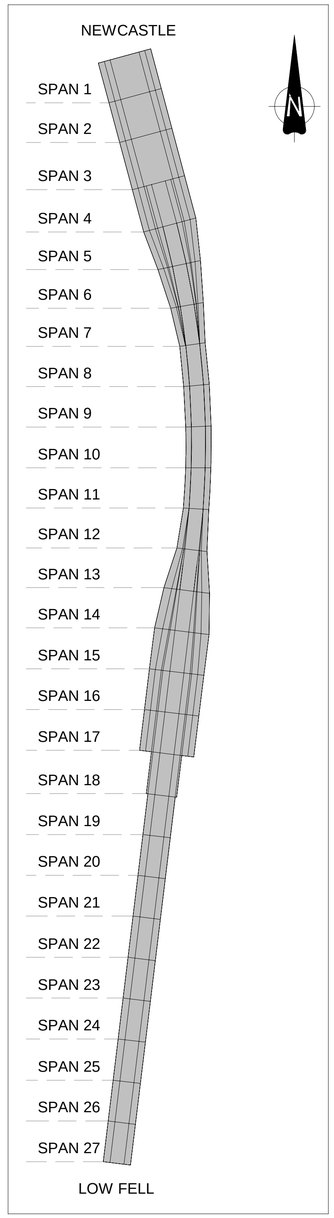
SPAN 20 CENTRE DECK EAST CANTILEVER



SPAN 20 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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SUITABILITY

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 20 SOFFIT ELEMENTS
DECK

CONSULTANT

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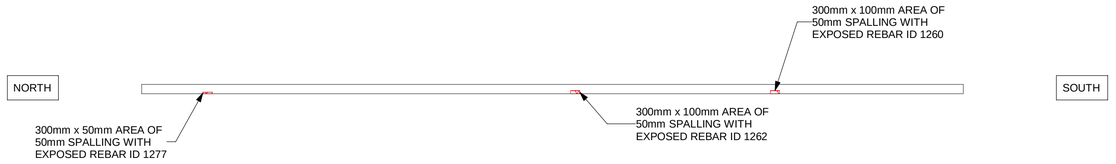
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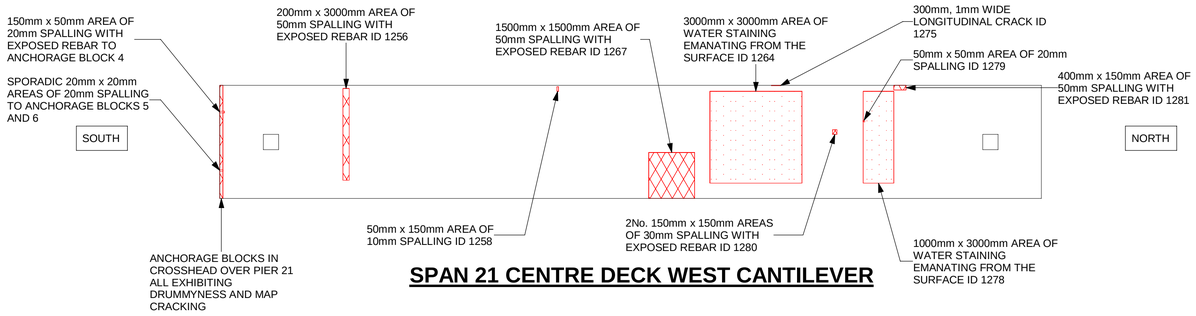
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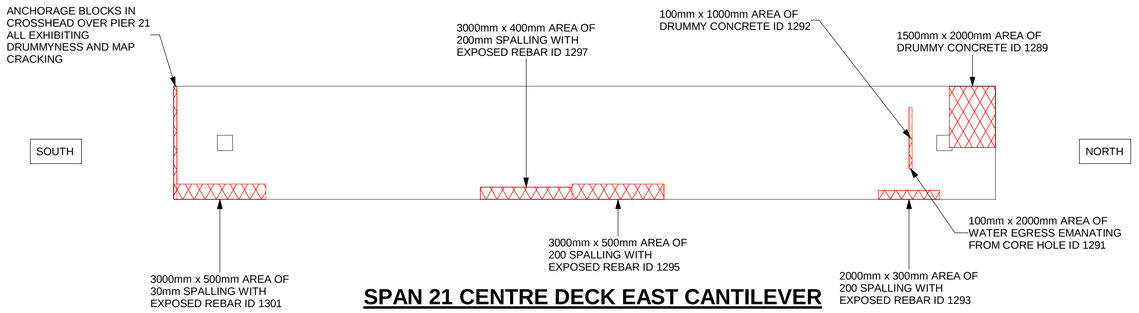
SPAN 21 CENTRE DECK WEST CANTILEVER ELEVATION



SPAN 21 CENTRE DECK WEST CANTILEVER



SPAN 21 CENTRE DECK CENTRAL SOFFIT



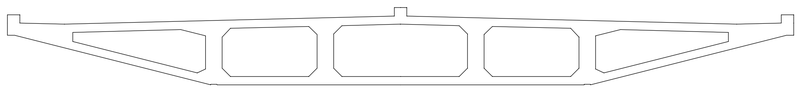
SPAN 21 CENTRE DECK EAST CANTILEVER

CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

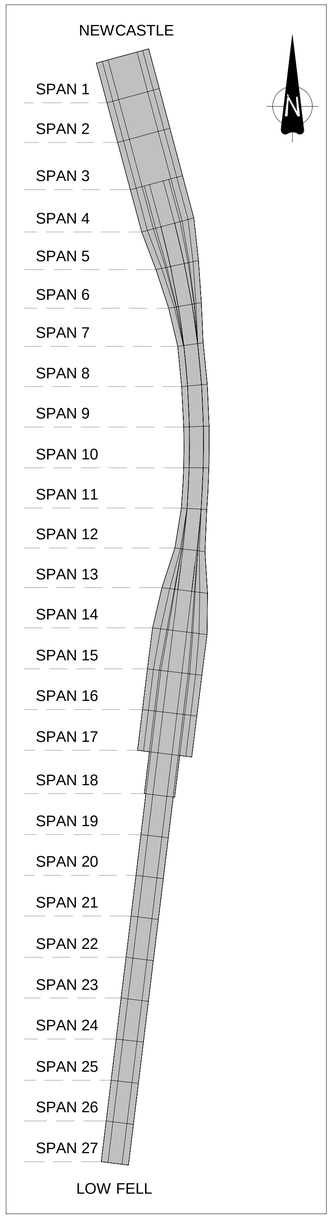
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 21 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 21 SOFFIT ELEMENTS
DECK

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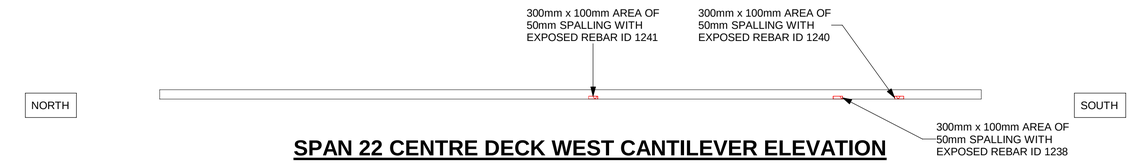
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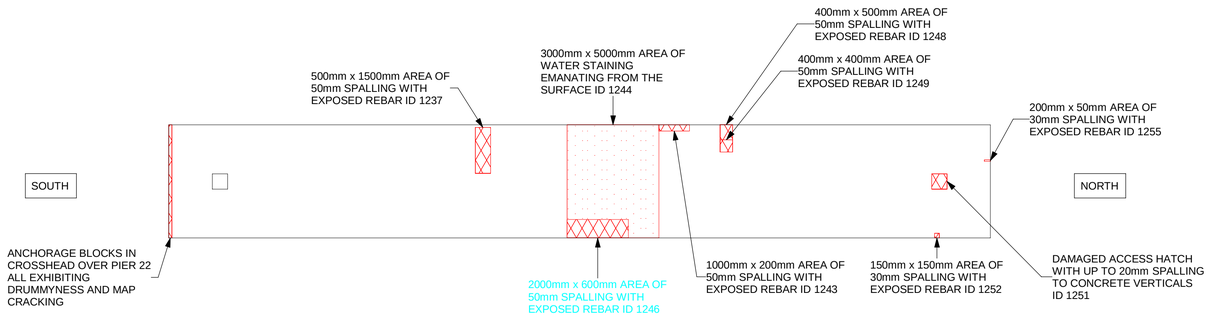
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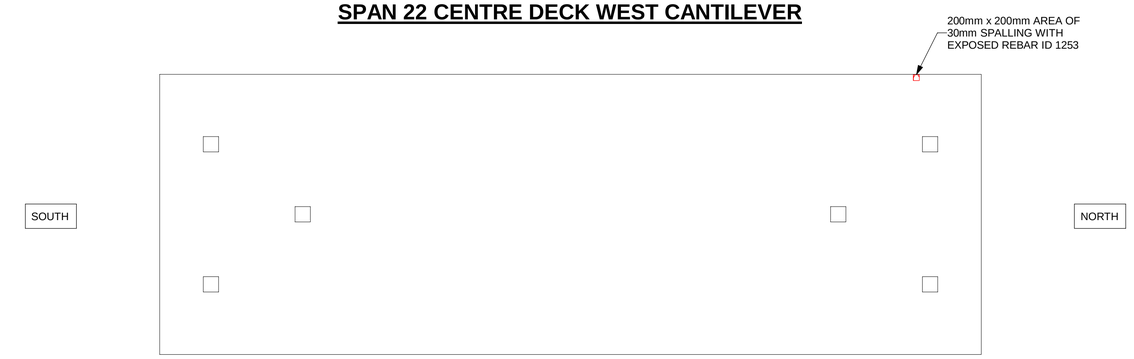
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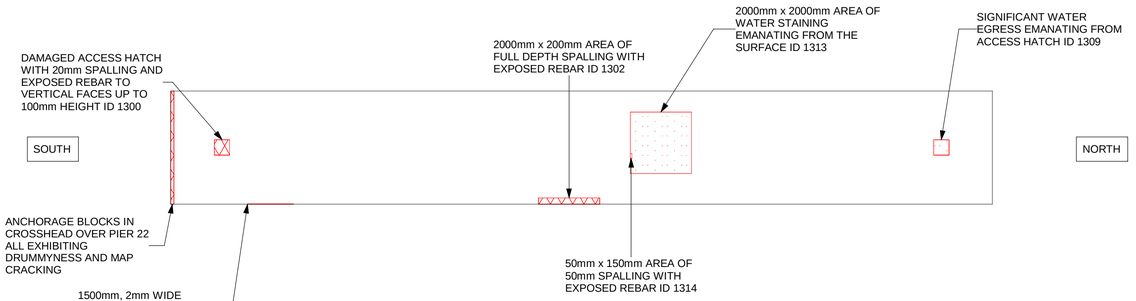
SPAN 22 CENTRE DECK WEST CANTILEVER ELEVATION



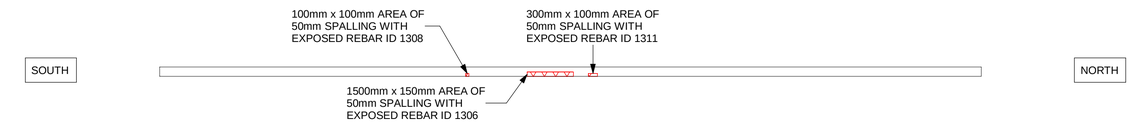
SPAN 22 CENTRE DECK WEST CANTILEVER



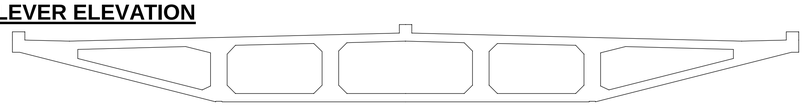
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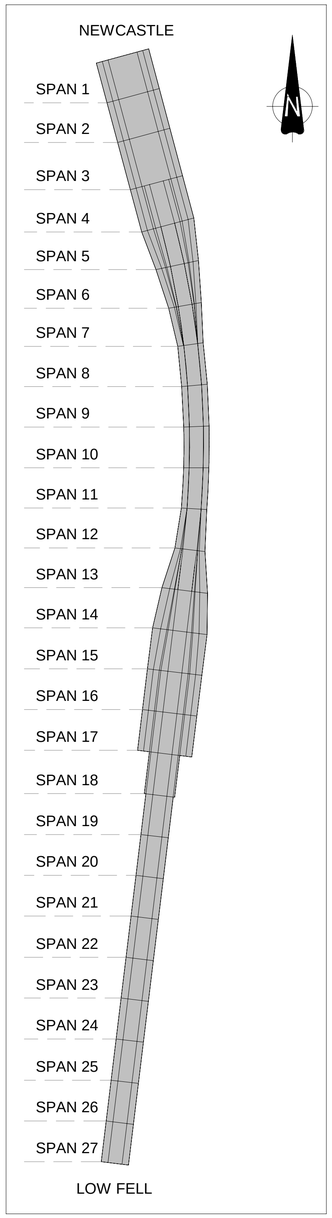
SPAN 22 CENTRE DECK EAST CANTILEVER



SPAN 22 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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ISSUE/REVISION

A01	29/01/25	KGH	FIRST ISSUE	AL	PMR
P01	02/12/24	KGH	DRAFT ISSUE	AL	PMR
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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 22 SOFFIT ELEMENTS
DECK

CONSULTANT

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One Trinity Gardens
Newcastle upon Tyne
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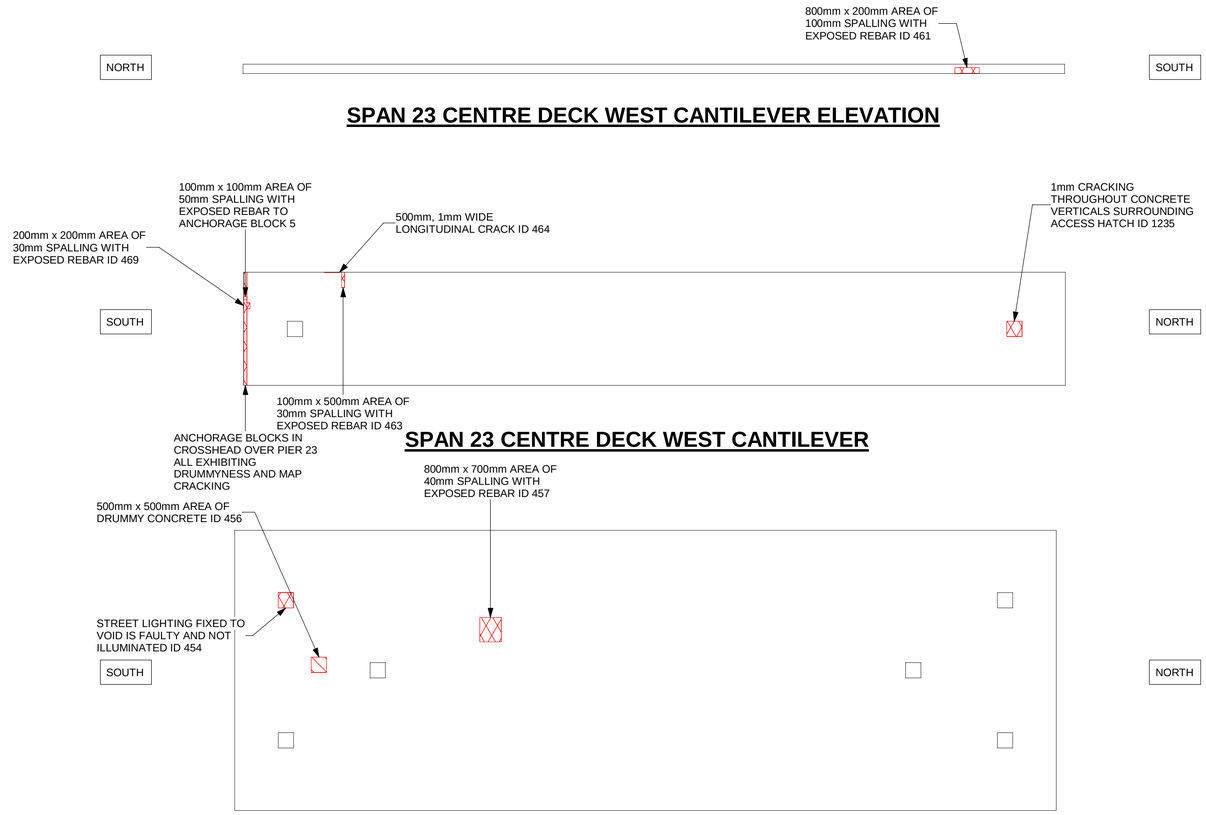
SHEET NUMBER

60713768 -ACM -XX -GV -M3 -CE -000220 __P01

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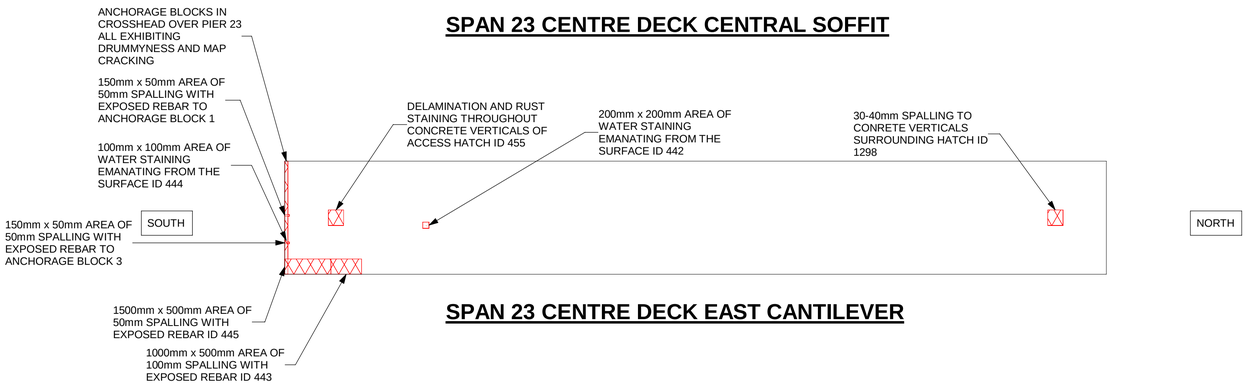
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SPAN 23 CENTRE DECK WEST CANTILEVER ELEVATION

SPAN 23 CENTRE DECK WEST CANTILEVER

SPAN 23 CENTRE DECK CENTRAL SOFFIT



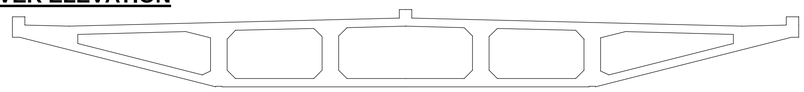
SPAN 23 CENTRE DECK EAST CANTILEVER

CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

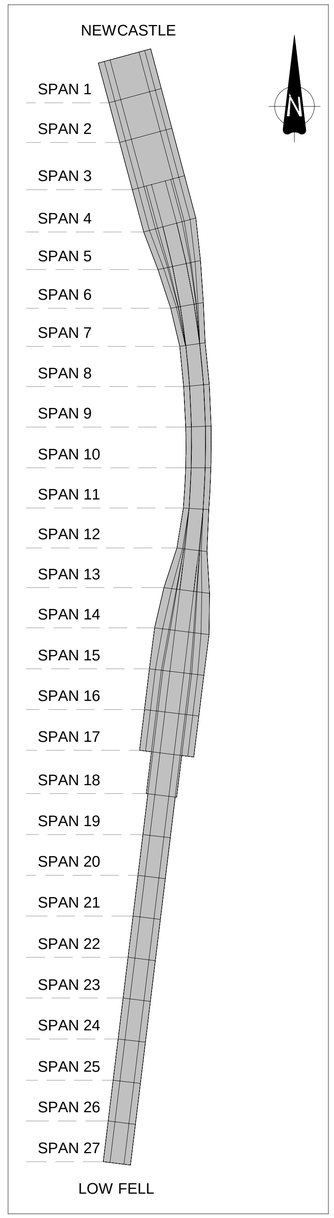
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 23 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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SUITABILITY

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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 23 SOFFIT ELEMENTS
DECK

CONSULTANT

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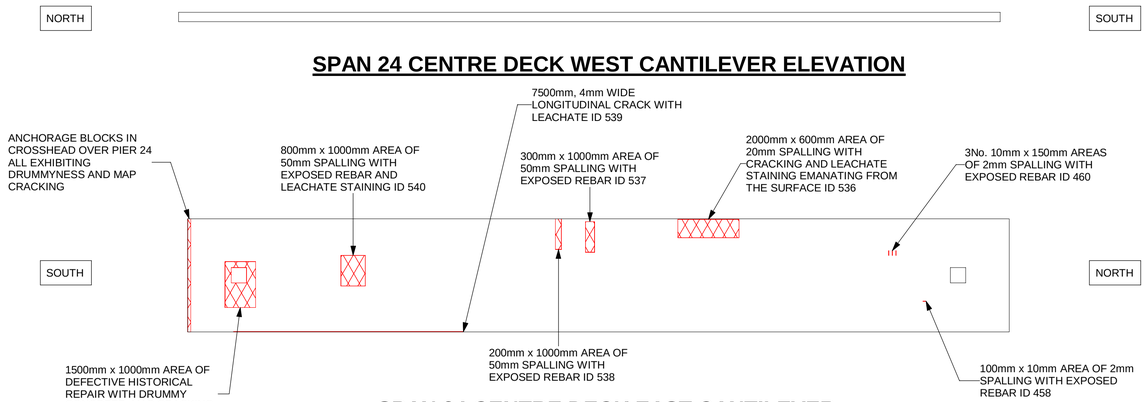
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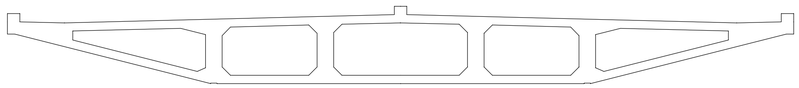
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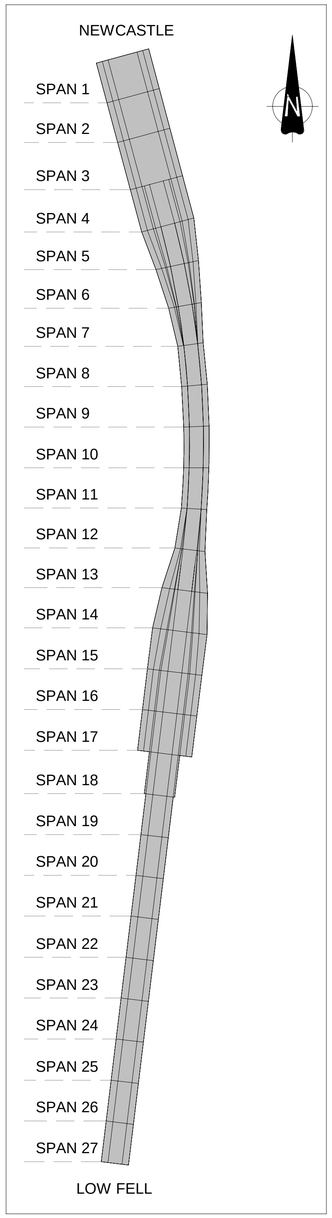
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Designer: Designer Checked: Checker Approved: Approver ISO A1 594mm x 841mm





SPAN 16-27 SECTION



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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 24 SOFFIT ELEMENTS
DECK

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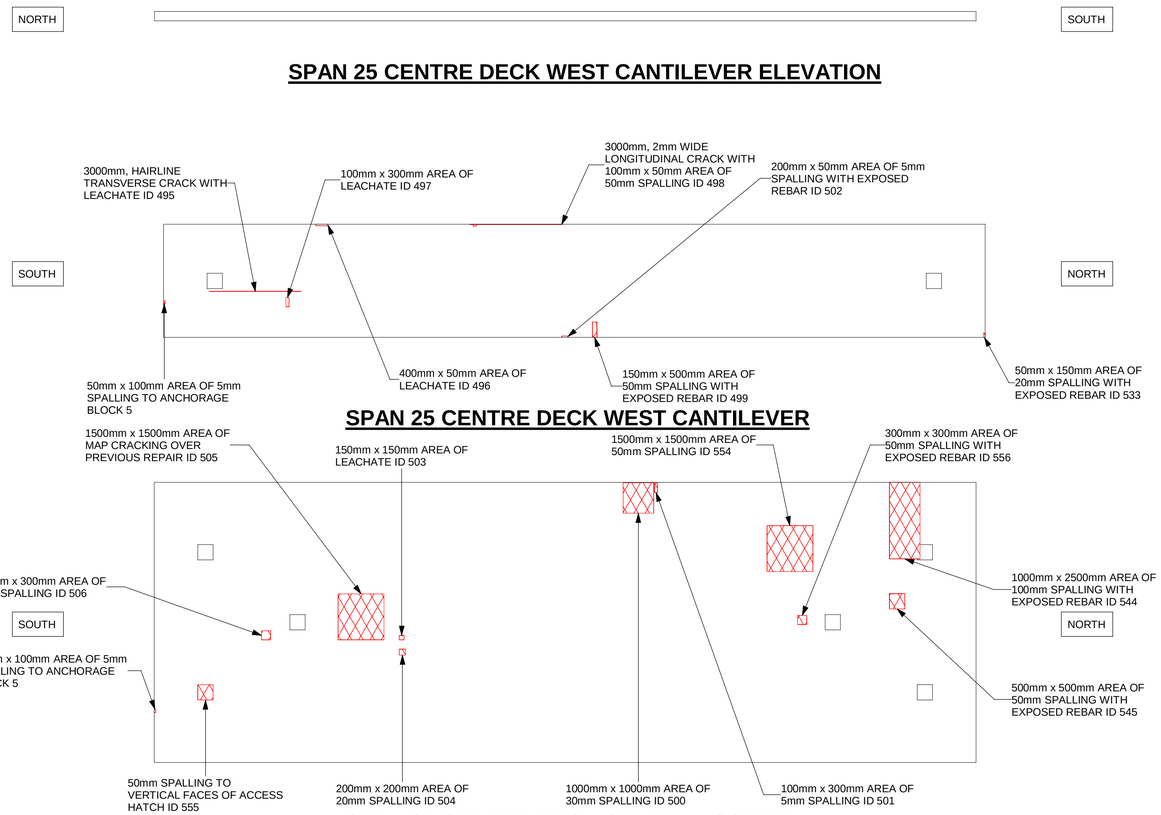
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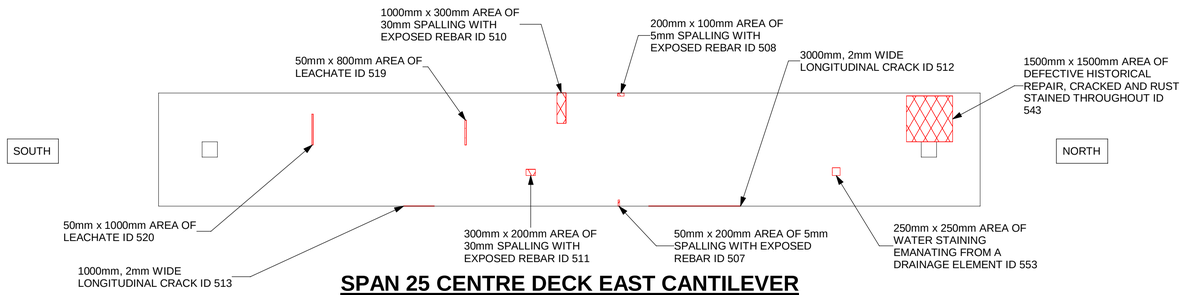
CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

- ELEVATION OBSCURED BY VEGETATION



SPAN 25 CENTRE DECK WEST CANTILEVER ELEVATION

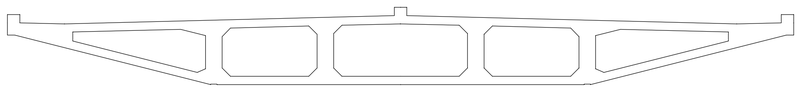
SPAN 25 CENTRE DECK CENTRAL SOFFIT



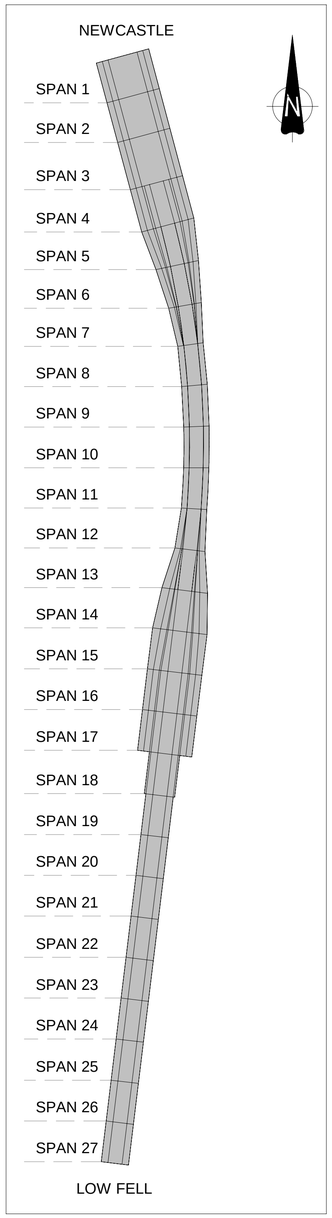
SPAN 25 CENTRE DECK EAST CANTILEVER



SPAN 25 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 25 SOFFIT ELEMENTS
DECK

CONSULTANT

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One Trinity Gardens
Newcastle upon Tyne
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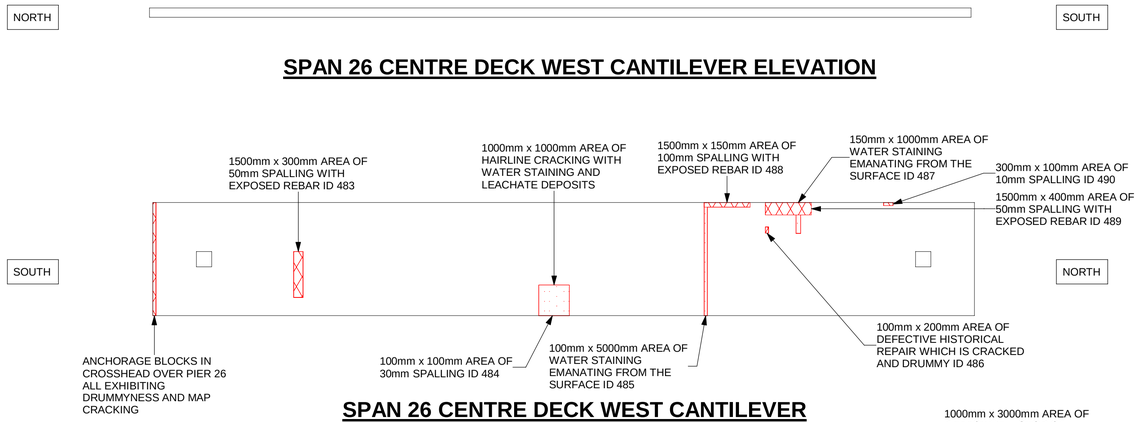
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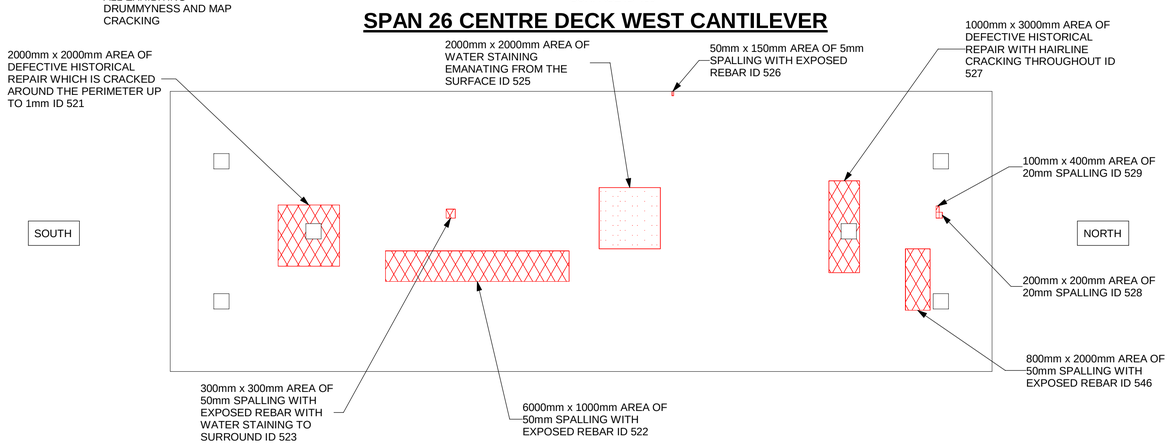
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CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

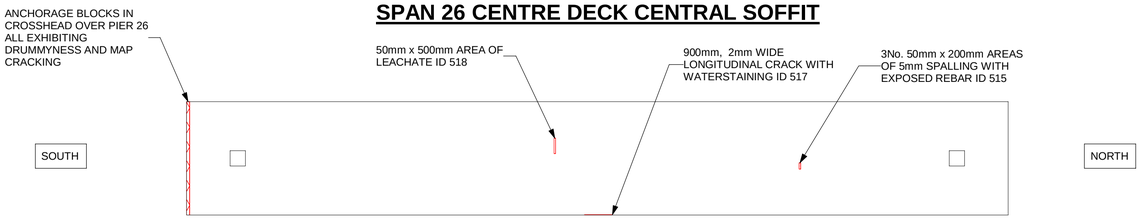
- ELEVATION OBSCURED BY VEGETATION



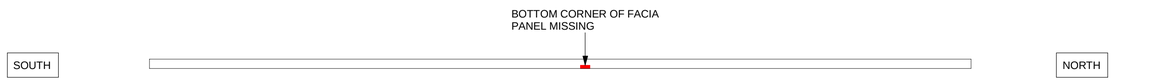
SPAN 26 CENTRE DECK WEST CANTILEVER ELEVATION



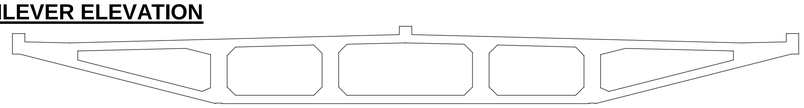
SPAN 26 CENTRE DECK CENTRAL SOFFIT



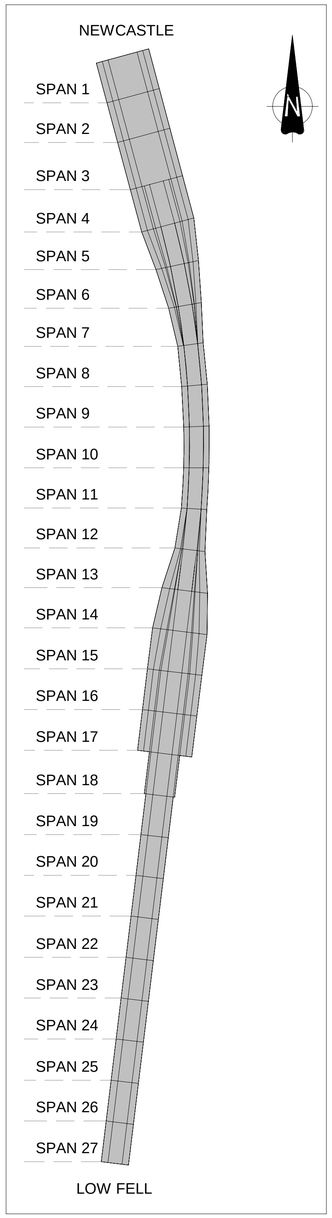
SPAN 26 CENTRE DECK EAST CANTILEVER



SPAN 26 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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SUITABILITY

-S3-INTERNAL REVIEW AND COMMENT

CLIENT

GATESHEAD COUNCIL
CIVIC CENTRE,
REGENT TERRACE,
GATESHEAD
NE8 1HH

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 26 SOFFIT ELEMENTS
DECK

CONSULTANT

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Newcastle upon Tyne
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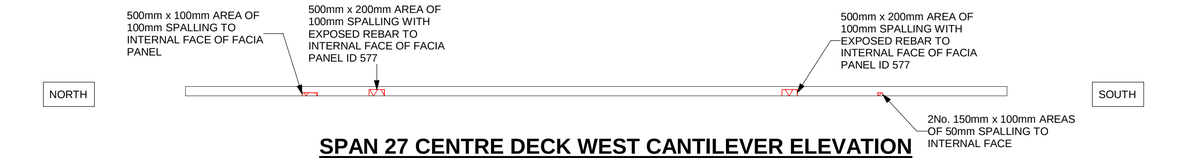
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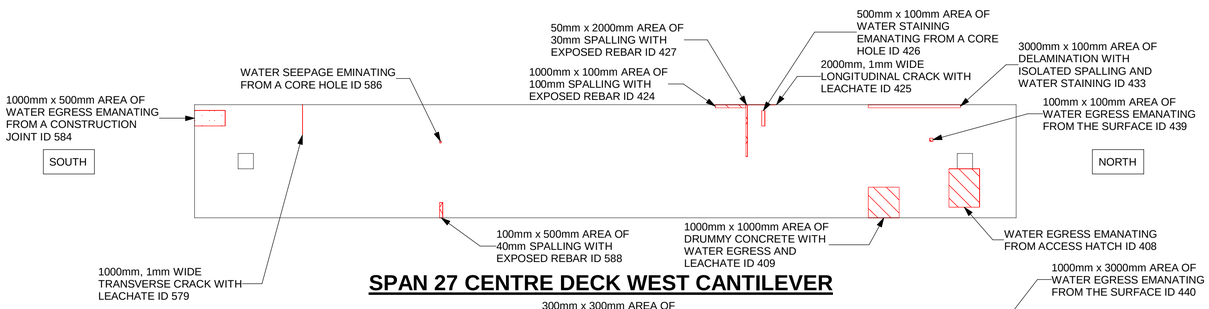
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CENTRAL SOFFIT WEST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

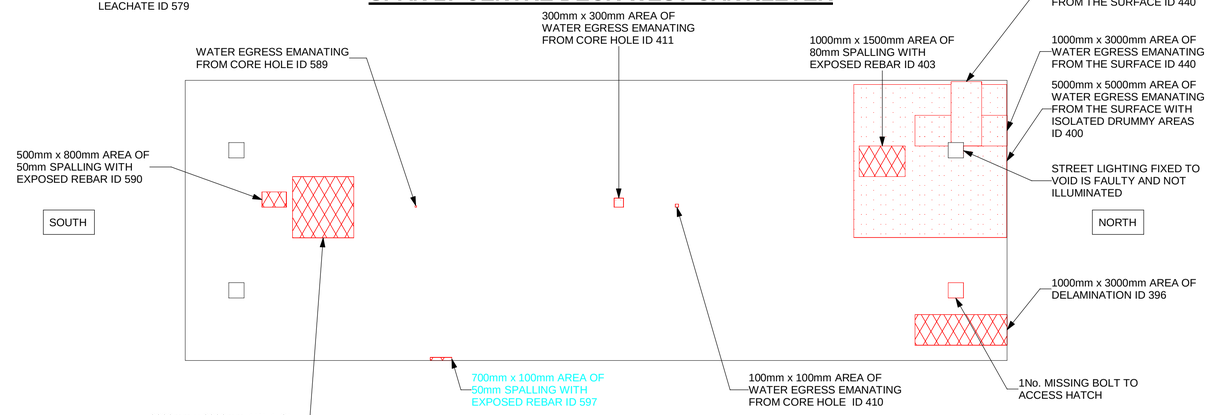
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 27 CENTRE DECK WEST CANTILEVER ELEVATION



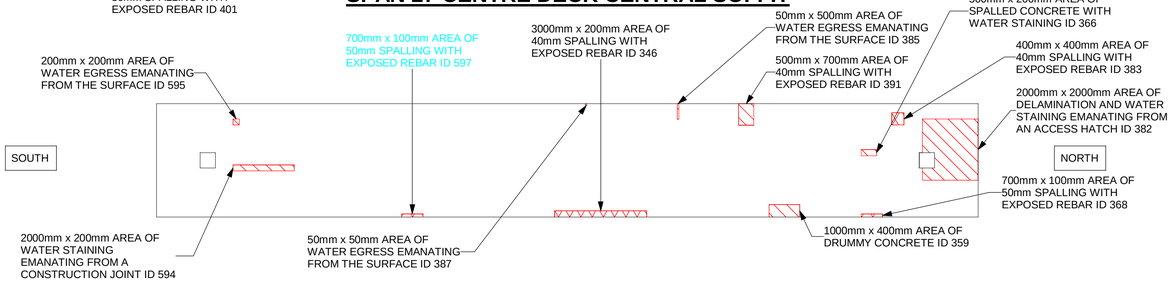
SPAN 27 CENTRE DECK WEST CANTILEVER



SPAN 27 CENTRE DECK CENTRAL SOFFIT

SOFFIT GENERAL DEFECTS:

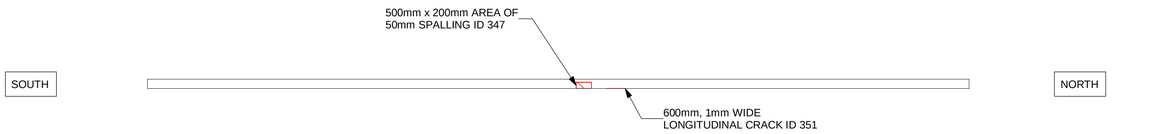
- THERE ARE A NUMBER OF OPEN CORE HOLES AND REPAIRED CORE HOLES THROUGHOUT THE SPAN, MANY OF WHICH ARE EXHIBITING EVIDENCE OF WATER SEEPAGE AND LEACHATE STAINING



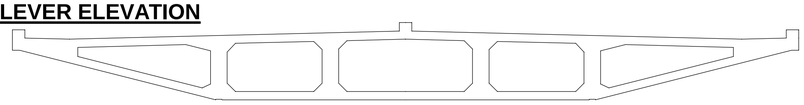
SPAN 27 CENTRE DECK EAST CANTILEVER

CENTRAL SOFFIT EAST CANTILEVER
FACIA PANELS GENERAL DEFECTS:

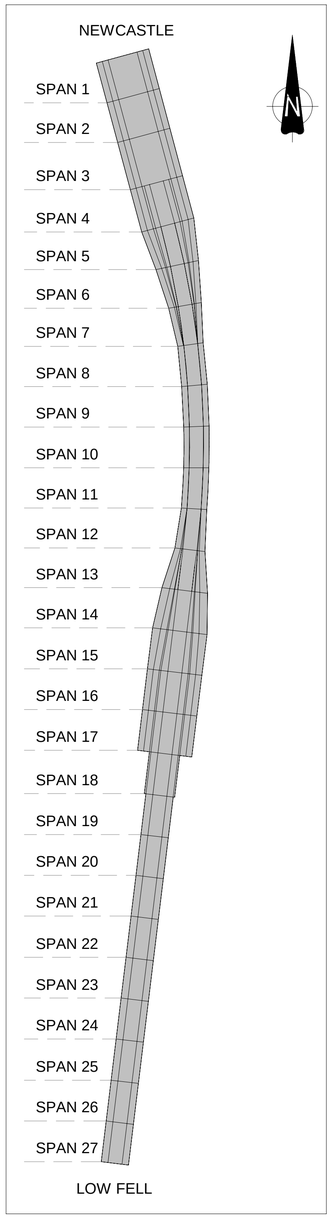
- SPORADIC MISSING CORNERS OF FACIA PANELS



SPAN 27 CENTRE DECK EAST CANTILEVER ELEVATION



SPAN 16-27 SECTION



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SUITABILITY

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CLIENT

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CIVIC CENTRE,
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GATESHEAD
NE8 1HH

Gateshead Council

PROJECT

GATESHEAD VIADUCT

SHEET TITLE

DEFECTS SCHEDULE
SPAN 27 SOFFIT ELEMENTS
DECK

CONSULTANT

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Appendix C – BCI Form

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 1 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct		Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167
Map Ref: NZ	O.S.E 257	O.S.N 632	**Bridge Code**
Span 1 East Ramp	Span Width (m): 7.9	Span Length (m): 26.8	
All above ground elements inspected: YES ☐ NO ☒		Photographs? YES ☒ NO ☐	
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)			

Bridge Code	
Primary deck form Table 2	12
Primary deck material Table 4	C
Secondary deck form Table 3	20
Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	B	2.3	N			Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments	3	C	M	R	H	2,000,000	R.C. Abutment
	10	Spandrel wall/head wall							
	11	Pier	1	A	2.2	N			R.C. Pier (Pier 1 East)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier, abutment bearings have not been inspected due to access.
	14	Bearing shelf	-	-	-	B			Concrete bearing shelves over abutments access restricted by pigeon mesh
Durability Elements	15	Superstructure drainage	4	E	M	C	H	500' 000	Metallic surface water drains at carriageway edges
	16	Substructure drainage	1	A	8.4	N			Weep pipes in wingwalls
	17	Waterproofing	4	E	14.2	B	H	2'500'000	
	18	Expansion joints	4	C	10.8	C	M	20,000	Proprietary expansion joint at north abutment, covered by metallic plates apart from where missing
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	5000	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	5000	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See No. 24	Concrete verge
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls	3	B	M	R	H	See No. 9	R.C. Wing Walls.
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Underpass streetlights on soffit of structure
	38	Services							
	39	Deck facia panels	4	D	M	C	H	1'000'000	Precast concrete facia panels fixed to the edges of the deck

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
9	3	C	2.5	2	C	8.2				areas of delamination, and water egress from the access door.
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
31	3	B	2.5	2	B	2.2				Isolated areas of delamination and spalling in several locations
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
39	2	C	8.2							

INSPECTOR'S COMMENTS

1	The Internal surfaces of the voids have not been inspected within the span as there are no available access hatches within the span. The external soffit of the structure has some minor cracking present.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
9	Only the external face of the abutment has been inspected due to the presence of asbestos within the structure. A relatively large area of delamination has been noted to the abutment face.
11	There is some minor graffiti over the pier surface, but no structural defects noted to the reinforced concrete.
13	The bearings have minor surface corrosion which is similar throughout the structure.
14	The bearing shelf over the abutment as not had any tactile examination undertaken as access is restricted by the limited clearance to the structure and pigeon mesh
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
16	There are weep pipes present at the base of the wingwalls which do not show signs of any blockages, however there is evidence of water egress from the abutment access door.
17	The waterproofing system is buried and the interior of the void has not been inspected within the span so it is not possible to comment of the watertightness of the structure within this span specifically, however as a general comment based on adjacent spans through the structure, signs of water egress and leachate throughout several voids suggest that any waterproofing system if present is ineffective
18	Expansion joint cover plates are missing over the abutment joint.
21	The baseplates of the parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges
31	There are several isolated areas of delamination and spalling throughout the wingwall, no more than 5% of the total surface area is affected.
37	Lighting is present along the soffit of the structure which is functioning as intended
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS	
1	There are some minor cracks present to the external soffit of the span, no immediate action is required but review should be undertaken during the next inspection.
9	It is recommended that concrete repairs are carried out to the delaminated area. Gateshead Council may wish to arrange for the removal of the sediment build up by the abutment access hatch.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	There is evidence indicating that water is infiltrating the deck and entering into the voids throughout the length of the structure. A full deck re-waterproofing scheme should be considered in order to help prolong the useful life of the structure.
18	The abutment expansion joint is missing a cover plate on the east verge. Although the expansion joint is in a better condition than the others on the structure, given that the joints were all installed at the same time and a number of joints are now demonstrating that they are life expired, it is recommended that all joints be replaced at the same time.
21	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration.
24 & 25	There is light vegetation/moss growth throughout the verges of the structure, it is recommended that these areas are cleared to prevent debris entering the drainage system
31	The delamination and spalling present on the wingwall surfaces should have concrete repairs undertaken
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
9 & 31	Carry out concrete repairs to the delaminated and spalled areas of the abutment and wingwalls (cost estimate for concrete repairs to entire viaduct)	H	£2'000'000	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	£500'000	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	£2'500'000	
18	Replace expansion joint	M	£20,000	
21	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	£5000	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	£5'000	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	£1'000'000	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 2 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 1 West Ramp	Span Width (m): 7.9	Span Length (m): 26.8
All above ground elements inspected: YES ☐ NO ☒		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	2	A	2.2	R	H	See Form 1/34 No. 9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments	3	B	2.5	N			R.C. Abutment
	10	Spandrel wall/head wall							
	11	Pier	1	A	2.2	N			R.C. Pier (Pier 1 West)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier, abutment bearings have not been inspected due to access.
	14	Bearing shelf	-	-	-	B			Concrete bearing shelves over abutments access restricted by pigeon mesh
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage	1	A	8.4	N			Weep pipes in wingwalls
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints	4	C	10.8	C	M	20,000	Proprietary expansion joint at north abutment, covered by metallic plates apart from where missing
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	3	B	2.2	R	H	2000	Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls	3	B	M	R	H	See Form 1/34	R.C. Wing Walls.
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	5	D	-	R	H	500	Underpass streetlights on soffit of structure
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
31	3	B	2.5	2	B	2.2				Isolated areas of delamination and spalling in several locations
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
39	2	C	8.2							

INSPECTOR'S COMMENTS

1	The Internal surfaces of the voids have not been inspected within the span as there are no available access hatches within the span. The external soffit of the structure has some minor spalls and delamination present
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
9	Only the external face of the abutment has been inspected due to the presence of asbestos within the structure.
11	There is some minor graffiti over the pier surface, but no structural defects noted to the reinforced concrete.
13	The bearings have minor surface corrosion which is similar throughout the structure.
14	The bearing shelf over the abutment has not had any tactile examination undertaken as access is restricted by the limited clearance to the structure and pigeon mesh
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
16	There are weep pipes present at the base of the wingwalls which do not show signs of any blockages, however there is evidence of water egress from the abutment access door.
17	The waterproofing system is buried and the interior of the void has not been inspected within the span so it is not possible to comment of the watertightness of the structure within this span.
18	Expansion joint cover plates are missing over the abutment joint.
23	There is 1No. undermined stanchion footing present which has exposed holding down bolts.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges
31	There are several isolated areas of delamination and spalling throughout the wingwall, no more than 5% of the total surface area is affected.
37	Lighting is present along the soffit of the structure, lighting the entrance to the subway beneath, 1No light is not illuminating.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
18	The abutment expansion joint is missing a cover plate on the east verge. Although the expansion joint is in a better condition than the others on the structure, given that the joints were all installed at the same time and a number of joints are now demonstrating that they are life expired, it is recommended that all joints be replaced at the same time.
23	It is recommended that repairs are undertaken to the undermined stanchion footing as there is a risk of reduced containment in the event of a collision.
24 & 25	There is light vegetation/moss growth throughout the verges of the structure, it is recommended that these areas are cleared to debris entering the drainage system
31	The delamination and spalling present on the wingwall surfaces should have concrete repairs undertaken

39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below	
Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 31	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and substructure.	H	See Form 1 of 34	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
18	Replace expansion joint	M	£20,000	
23	Parapet footing repairs	H	£2000	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
37	Repair faulty lighting	H	£500	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 3 of 34 for this bridge**
Inspector: S. Bayliss		Date: November 2023		Next Inspection Type/Date: General November 2025
Bridge Name: Gateshead Viaduct			Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167
Map Ref: NZ	O.S.E 257		O.S.N 632	
Span 2 East Ramp	Span Width (m): 7.9		Span Length (m): 26.8	
All above ground elements inspected: YES ☒ NO ☐			Photographs? YES ☒ NO ☐	
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	3	B	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	1	A	2.2	N			R.C. Pier (Pier 2 East)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting							
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	B	2.5	3	E	8.3	External: Areas of spalling exposing reinforcement present and delaminated areas. Internal: wetness throughout the floor surfaces and some areas of delamination
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
39	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness and delaminated areas. The external soffit of the structure some minor spalls and delamination
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	There is an area with exposed metal ties visible but no major defects to the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is buried and the interior of the void has not been inspected within the span so it is not possible to comment of the watertightness of the structure within this span.
21	The baseplates of the parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	Carry out concrete repairs to the delaminated and spalled areas of the superstructure.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
21	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration.
24 & 25	There is light vegetation/moss growth throughout the verges of the structure, it is recommended that these areas are cleared to debris entering the drainage system
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
21	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	

24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 4 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 2 West Ramp	Span Width (m): 7.9	Span Length (m): 26.8		
All above ground elements inspected: YES ☐ NO ☒	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	B	2.5	N			R.C. Pier (Pier 2 West)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting							
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	2	B	2.2	4	B	2.3	3	C	2.5	External: Minor spalls and cracking around access hatch perimeter Internal: wetness throughout the floor surfaces and several large areas of delamination
	3	E	8.3							
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
39	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have only been partially viewed from the access hatch, however it appears that there is wetness and large areas of delamination throughout the floor surfaces The external soffit of the structure has several areas of spalling with exposed rebar and delamination present
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	Minor drummyness at the base of the pier
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.1No. drain cover is detached at the south end of the span
17	The waterproofing system is buried and the interior of the void has not been inspected within the span so it is not possible to comment of the watertightness of the structure within this span.
21 & 23	The parapet stanchions in the span on the west ramp are in fair condition
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	The drummy areas are small and localised towards the base of the pier however it is recommended that these are repaired at the same time as the other recommended concrete repairs.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
24 & 25	There is light vegetation/moss growth throughout the verges of the structure, it is recommended that these areas are cleared to debris entering the drainage system
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges	L	See Form 1	

	(estimate for entire structure)		of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 5 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 3 East Ramp	Span Width (m): 7.9	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	B	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	D	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 3 East and Centre)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	2	B	2.2	4	B	2.3	3	B	2.5	External: Areas of spalling exposing reinforcement and cracks Internal: wetness throughout the floor surfaces and several areas of delamination
	3	E	8.3							
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
11	3	D	8.2	3	B	2.5				Large areas of water staining and minor delamination present on centre pier, east pier has no notable defects
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
39	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination and some minor cracking. The external soffit of the structure has several areas of spalling with exposed rebar and delamination present
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	Note that Centre Pier 3 is included in this BCI form. The centre pier has a large amount of water staining and some signs of delamination at the base, the east pier has no notable defects
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally. 1No. drain cover is detached at the south end of the span
17	The waterproofing system is not visible and has not been exposed as part of the inspection
21	The baseplates of the parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges
37	Lighting is present along the soffit of the structure which is functioning as intended
38	There are drainage pipes and electrical cables known to be present throughout the internal voids, these have not been inspected within the span due to access limitations.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	On the centre pier it is recommended that concrete repairs are undertaken to the delaminated areas of concrete. The east pier is in fair condition and is not in need of any outstanding works, the condition of the pier should be reviewed during the next inspection.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
21	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration.
24 & 25	There is light vegetation/moss growth throughout the verges of the structure, it is recommended that these areas are cleared to debris entering the drainage system
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling

	and causing injury or damage to vehicles or pedestrians below		
Name: S Bayliss		Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and piers	H	See Form 1 of 34 No. 9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
21	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss		Signed: Sam Bayliss	Date: January 2025	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 6 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 3 West Ramp	Span Width (m): 7.9	Span Length (m): 26.8		
All above ground elements inspected: YES ☐ NO ☒	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	1	A	2.2	N			Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	B	2.5	N	H	See form 1/34 – No.9	R.C. Pier (Pier 3 West)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	R	H	200	Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs	5	E	1.2	C	M	750	Speed limit signage
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
39	2	C	8.2							

INSPECTOR'S COMMENTS

1	The Internal surfaces of the voids have not been inspected within the span as the access hatches were not accessible during the inspection. The external soffit of the structure has an area of very minor spalling
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The drummy areas are small and localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is buried and the interior of the void has not been inspected within the span so it is not possible to comment of the watertightness of the structure within this span.
23	There are 3No missing bolts in the bottom rail of the west parapet.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges
36	Signage is holed towards the top with heavy corrosion to the internal face of the post.
37	Lighting is present along the soffit of the structure which is functioning as intended
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	There are some signs of spalling and delamination present to the external soffit of the span. It is recommended these are repaired at the same time as the other recommended concrete repairs on the structure.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
21 & 23	There are 3No missing bolts which should be replaced as a high priority to maintain the containment of the parapet.
24 & 25	There is light vegetation/moss growth throughout the verges of the structure, it is recommended that these areas are cleared to debris entering the drainage system
36	Replacement signage should be installed.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated, drummy and spalled areas of the structure and piers.	H	See Form 1 of 34 No. 9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
23	Replace missing parapet bolts	H	£200	

24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
36	Replace speed signage	M	£750	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 7 of 34 for this bridge**
Inspector: S. Bayliss		Date: November 2023		Next Inspection Type/Date: General November 2025
Bridge Name: Gateshead Viaduct			Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167
Map Ref: NZ	O.S.E 257		O.S.N 632	
Span 4	Span Width (m): 35.4		Span Length (m): 26.8	
All above ground elements inspected: YES ☒ NO ☐			Photographs? YES ☒ NO ☐	
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	B	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	B	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 4)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	M	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
An cill	35	Approach rails/barriers/walls							
	36	Signs							

37	Lighting								
38	Services	5	C	1.2	R	M	50,000	Services within centre deck void.	
39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck	
40									

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	B	2.5	4	B	2.3	Internal: Areas of spalling with exposed rebar, and water staining. Centre void is wet throughout. External: cracking, delamination and spalling, and water staining throughout several parts of the soffit of the structure.
	3	E	8.3							
11	2	B	2.2	3	B	2.5				Areas of spalling and delamination present
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
25	2	E	5.2	3	C	9.1	3	C	9.5	Minor vegetation over verges, central reserve has some deterioration with bulging and cracks and a build up of vegetation and debris mainly towards the central wall.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have some isolated areas of spalling with exposed reinforcement and typically has water staining over most surfaces. The centre internal void is very wet with leachate throughout The external elements have cracking, delamination and spalls exposing reinforcement over the soffit.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The piers have areas of spalling and delamination generally localised towards ground level
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21	The baseplates of the east parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
11	The areas of spalling and delamination to the piers are minor but repair works could be undertaken at the same time as soffit repairs, otherwise no action is needed and the defective areas should be monitored

	during the next inspection
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
21	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
21	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	£50,000	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 8 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 5	Span Width (m): 26.8	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	D	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	B	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 5)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	3	C	13.1	C	H	5000	Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	3	C	M	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting							
	38	Services	5	D	-	C	H	1000 + see 7of 34	Manhole Covers to deck void access and services within Deck Void C.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	B	2.5	4	D	2.3	Internal: Fair condition apart from centre void which is wet throughout. External: large cracks and areas of map cracking, delamination and spalling, and water staining throughout several parts of the soffit of the structure.
	3	E	8.3							
11	2	B	2.2	3	B	2.5				Areas of spalling and delamination present generally localised towards base of piers
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
25	2	E	5.2	3	C	9.1	3	C	9.5	Minor vegetation over verges, central reserve has some cracking and a build-up of vegetation and debris mainly towards the central wall.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces are in fair condition apart from the centre internal void is very wet with leachate throughout. The external soffit has cracking, delamination and spalls exposing reinforcement over the soffit.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The piers have areas of spalling and delamination generally localised towards ground level
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The baseplates of the east parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended. Several of the crash barrier stanchions on the northbound central reserve are deflected inwards up to 100mm. 2No.parapet footings are spalled on the west parapet
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There is 1No. missing manhole on the access hatch for Void C, which has been replaced with a rectangular concrete paving slab leaving the void partly exposed. There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	The areas of spalling and delamination to the piers are minor but repair works could be undertaken at the same time as soffit repairs, otherwise no action is needed and the defective areas should be monitored during the next inspection
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
21 & 23	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration. The length of deflected crash barrier should be replaced, and the defective western footings should be repaired.

24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	The manhole cover over void C should be replaced with a properly fitting cover to both keep potential contamination contained and prevent falling. It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
21	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	
23	Replace deflected length of crash barrier and repair defective parapet footings	H	£5000	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace missing manhole cover	H	£1000	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 9 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 6	Span Width (m): 18.2	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	B	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	B	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 6)
	12	Cross-head/capping beam							
	13	Bearings							
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	3	C	13.1	C	H	2000	Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	M	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	B	2.5	4	B	2.3	Internal: Isolated areas of spalling and rust staining. Centre void is wet throughout External: cracks and areas of map cracking, delamination and spalling, and water staining throughout several parts of the soffit of the structure.
	3	E	8.3							
11	2	B	2.2	3	B	2.5				Areas of spalling and delamination present generally localised towards base of pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
25	2	E	5.2	3	C	9.1	3	C	9.5	Minor vegetation over verges, central reserve has some cracking and a build up of vegetation and debris mainly towards the central wall.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have small Isolated areas of spalling and rust staining. The centre internal void is very wet with leachate throughout. The external soffit has cracking, delamination and spalls exposing reinforcement over the soffit.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The piers have areas of spalling and delamination generally localised towards ground level
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The baseplates of the east parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended. There are 2No deflected crash barrier stanchions on the northbound lane and 1 no deflected parapet railing, on the southbound lane there is a 200mm tear in the parapet railing
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	The areas of spalling and delamination to the piers are minor but repair works could be undertaken at the same time as soffit repairs, otherwise no action is needed and the defective areas should be monitored during the next inspection
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
21 & 23	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration. The deflected crash barrier stanchions do not appear to be affecting the integrity of the crash barrier but should be monitored at the next inspection. The section of torn parapet rail should be replaced

24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No. 9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
21	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	
23	Replace deflected crash barrier stanchions and repair parapet footings and torn section of parapet railing	H	£2000	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 10 of 34 for this bridge**
Inspector: S. Bayliss		Date: November 2023		Next Inspection Type/Date: General November 2025
Bridge Name: Gateshead Viaduct			Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167
Map Ref: NZ	O.S.E 257		O.S.N 632	
Span 7	Span Width (m): 18.2		Span Length (m): 26.8	
All above ground elements inspected: YES ☒ NO ☐			Photographs? YES ☒ NO ☐	
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	3	B	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	B	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 7)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	3	C	13.1	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	3	C	M	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	B	2.5	3	E	8.3	Internal: Isolated areas of spalling and rust staining. Centre void is wet throughout External: cracks and areas of map cracking over the anchorage blocks, delamination and spalling, and water staining throughout several parts of the soffit of the structure.
11	2	B	2.2	3	B	2.5				Areas of spalling and delamination present generally localised towards base of pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
25	2	E	5.2	3	C	9.1	3	C	9.5	Minor vegetation over verges, central reserve has some cracking and a build-up of vegetation and debris mainly towards the central wall.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have small Isolated areas of spalling and rust staining. The centre internal void is very wet with leachate throughout The external soffit has cracking, delamination and spalls exposing reinforcement over the soffit.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The piers have areas of spalling and delamination generally localised towards ground level
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The baseplates of the east parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended. There is 1No deflected crash barrier stanchions on the northbound lane
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are areas of spalling and delamination to the piers that should be repaired to prevent further deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
21 & 23	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration. The deflected crash barrier stanchion does not

	appear to be affecting the integrity of the parapet but this should be monitored at the next inspection.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No. 9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
21	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 11 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 8	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	B	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	B	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 8)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: widespread delamination over the floor surfaces and several areas of water staining. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	B	2.5				Areas of spalling and delamination present generally localised towards base of pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have delamination over the floor surfaces and several areas of water staining. The centre internal void is very wet with leachate throughout. The external soffit has large areas of delamination, with isolated spalls and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The piers have areas of spalling and delamination generally localised towards ground level
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The baseplates of the east parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are areas of spalling and delamination to the piers that should be repaired to prevent further deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
21 & 23	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
21 & 23	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 12 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 9	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code	
Primary deck form Table 2	12
Primary deck material Table 4	C
Secondary deck form Table 3	20
Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	B	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 9)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints	5	B	1.1	C	M	20,000	Proprietary expansion joint at Pier 9 covered by metallic plates
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	4	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs	5	E	1.1	C	L	50	Redundant signpost base
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: widespread dampness and water ingress throughout the span. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling , delamination, cracking and water staining throughout the pier
	3	C	8.2							
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have delamination over the floor surfaces and several areas of water staining. The centre internal void is very wet with leachate throughout The external soffit has large areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The piers have large areas of spalling and widespread delaminated areas with cracking.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
18	An expansion joint cover plate is heavily corroded over the abutment joint. The joint is in fair condition but showing signs of wear.
21 & 23	The baseplates of the east parapet stanchions are corroded up to 2-3mm around the perimeter throughout the span, the protective paintwork in the areas outside of this appears to be functioning as intended.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
36	An old signpost base is clipped to the west parapet, the post is corroded internally.
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are some severe spalls and areas of delamination present on the pier which should be repaired
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
18	Although the expansion joint is in a better condition than the others on the structure, given that the joints were all installed at the same time and a number of joints are now demonstrating that they are life expired, it is recommended that all joints be replaced at the same time.
21 & 23	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically

	prepared and repainted to prevent further deterioration.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
36	The old signpost base is redundant and no longer serves a purpose, the metalwork can be removed to prevent the risk of becoming detached from the structure
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No. 9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
18	Replace expansion joint	M	£20,000	
21 & 23	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
36	Remove old signpost base	L	£200	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 13 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 10	Span Width (m): 18.2	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 10)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: widespread dampness and water ingress throughout the span, minor spalls with exposed rebar. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling , delamination and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have delamination over the floor surfaces and several areas of water staining, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout. The external soffit has large areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 14 of 34 for this bridge**
Inspector: S. Bayliss		Date: November 2023		Next Inspection Type/Date: General November 2028
Bridge Name: Gateshead Viaduct			Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167
Map Ref: NZ	O.S.E 257		O.S.N 632	
Span 11	Span Width (m): 18.2		Span Length (m): 26.8	
All above ground elements inspected: YES ☒ NO ☐			Photographs? YES ☒ NO ☐	
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 11)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: widespread dampness and water ingress throughout the span, minor spalls with exposed rebar. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling , delamination and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have delamination over the floor surfaces and several areas of water staining, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout. The external soffit has large areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 15 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 12	Span Width (m): 18.2	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 12)
	12	Cross-head/capping beam							
	13	Bearings							
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: widespread dampness and water ingress throughout the span, minor spalls with exposed rebar. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have delamination over the floor surfaces and several areas of water staining, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout The external soffit has large areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED				
Ref. No	**Suggested Remedial Work**	**Priority**	**Estimated Cost**	**Action/Work Ordered?**
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 16 of 34 for this bridge**
Inspector: S. Bayliss		Date: November 2023		Next Inspection Type/Date: General November 2025
Bridge Name: Gateshead Viaduct			Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167
Map Ref: NZ	O.S.E 257		O.S.N 632	
Span 13	Span Width (m): 25.1		Span Length (m): 26.8	
All above ground elements inspected: YES ☒ NO ☐			Photographs? YES ☒ NO ☐	
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 13)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination, minor spalls with exposed rebar present. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout. The external soffit has large areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure, the areas of delamination and staining on the internal faces do not require immediate action but should be reviewed during the next inspection.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.

39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below		
Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025	

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 17 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 14	Span Width (m): 25.6	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 14)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B			
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination, minor spalls with exposed rebar present. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout. The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.

39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below		
Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025	

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 18 of 34 for this bridge**
Inspector: S. Bayliss		Date: November 2023		Next Inspection Type/Date: General November 2025
Bridge Name: Gateshead Viaduct			Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167
Map Ref: NZ	O.S.E 257		O.S.N 632	
Span 15	Span Width (m): 34.0		Span Length (m): 26.8	
All above ground elements inspected: YES ☒ NO ☐			Photographs? YES ☒ NO ☐	
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 15)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage	5	E	8.1	C	H	2000	Gutters and downpipes below expansion joint at pier 15
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints	4	C	10.8	C	M	20,000	Proprietary expansion joint at Pier 15 covered by metallic plates apart from where missing
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	B	4.1	P	M	See Form 1/34	Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	4	B	1.3	R	H	800	Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck

40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination, minor spalls with exposed rebar present. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout. The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
16	The guttering and downpipes on the underside of the structure have been removed in several areas.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
18	Missing cover plates for the expansion joint are present in both lanes, the east edge has been replaced with a rubber membrane instead of metallic surface, the central cover strip is damaged in both lanes.
21 & 23	There is minor surface corrosion present on the south end of the southbound lane, there is also 3No Missing bolts in the stanchion footings in the same area. 1No defective parapet footing (friable concrete) at pier 15.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
16	It is recommended that the guttering and downpipes on/adjacent to pier 15 are reinstated to allow for better drainage through the structure.

17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
18	It is recommended the expansion joints are life expired and that they are replaced.
21 & 23	There is a breakdown of the protective paintwork at the bases of the parapet stanchions causing deterioration of the steelwork in these areas, it is recommended that the corroded areas are mechanically prepared and repainted to prevent further deterioration, it is also recommended that the bolts in the parapet footings are reinstated. The defective parapet footing should be repaired.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
16	Replace underside drainage elements (guttering and downpipes)	H	£2000	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
18	Replace expansion joint	M	£20,000	
21 & 23	Mechanically prepare and repaint the bases of the parapet stanchions where the protective paintwork has broken down	M	See Form 1 of 34	
23	Reinstate missing baseplate bolts. Carry out concrete repair for 1No parapet footing	H	£800	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 19 of 34 for this bridge**
Inspector: S. Bayliss		Date: November 2023		Next Inspection Type/Date: General November 2025
Bridge Name: Gateshead Viaduct			Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167
Map Ref: NZ	O.S.E 257		O.S.N 632	
Span 16 East Ramp	Span Width (m): 7.9		Span Length (m): 26.8	
All above ground elements inspected: YES ☒ NO ☐			Photographs? YES ☒ NO ☐	
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	3	B	2.2	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	B	2.5	R	H	See form 1/34 – No.9	R.C. Pier (Pier 16 East)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal deck voids have not been inspected as there is no access to these voids. The external soffit has areas of spalling with exposed rebar.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier exhibits isolated areas of minor drummyness near the base
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 20 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 16 Centre Deck	Span Width (m): 18.2	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 16 Centre)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34 + £5000	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	1	A	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination, minor spalls with exposed rebar present. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination and cracking throughout the pier
15	4	E	8.1	3	B	8.3				Blocked drains and leaking pipe in internal voids.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout. The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally. There is a leak in a service pipe within void E of the centre deck, likely contributing to the delaminated concrete on the floor of the void.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling

	and causing injury or damage to vehicles or pedestrians below		
Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025	

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 21 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 16 West Ramp	Span Width (m): 7.9	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	3	B	2.2	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	1	A	2.5	N			R.C. Pier (Pier 16 West)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B			
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The external soffit has areas a small area of spalling present
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier is in fair condition
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	Although the defects to the external surfaces are limited in size it is recommended that the repairs be carried out at the same time as the other recommended concrete repair works on the structure.
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1	Carry out concrete repairs to the delaminated and spalled areas of external and internal areas of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 22 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 17 East Ramp	Span Width (m): 7.9	Span Length (m): 26.8
All above ground elements inspected: YES ☐ NO ☒		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	B	8.3	N			Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments	3	B	2.2	R	H	See form 1/34 – No.9	East abutment (reinforced concrete)
	10	Spandrel wall/head wall							
	11	Pier							
	12	Cross-head/capping beam							
	13	Bearings							
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints	2	C	10.8	C	M	20,000	Proprietary expansion joint at abutment covered by metallic plates
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls	3	C	M	R	M	See form 1/34 – No.9	East abutment wingwalls (reinforced concrete)
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
31	3	C	2.5	3	C	2.2				Isolated areas of spalling and drummyness over both wingwall faces.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have not been inspected in the west ramp due to these areas being inaccessible as no access hatches are present. The external soffit has signs of water egress
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
9	There are areas of spalling on the abutment face, more severe at ground level.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
18	Missing bolt covers to expansion joint.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
31	Isolated spalls and drummy areas are present to both wingwall faces
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	No immediate action is required but review should be undertaken at the next inspection
9 & 31	It is recommended that concrete repairs are carried out to the spalled and drummy areas of the abutments and wing walls.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
18	Although the expansion joint is in a better condition than the others on the structure, given that the joints were all installed at the same time and a number of joints are now demonstrating that they are life expired, it is recommended that all joints be replaced at the same time.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
9 & 31	Carry out concrete repairs to spalled and drummy areas of the abutment and wing walls.	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
18	Replace expansion joint	M	£20,000	
24 & 25	Clear vegetation/moss growth from the concrete verges	L	See Form 1	

	(estimate for entire structure)		of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 23 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 17 Centre Deck	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 17 Centre)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination, minor spalls with exposed rebar present. Centre void is wet throughout External: Large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout. The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED				
Ref. No	**Suggested Remedial Work**	**Priority**	**Estimated Cost**	**Action/Work Ordered?**
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No. 9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 24 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 17 West Ramp	Span Width (m): 7.9	Span Length (m): 26.8
All above ground elements inspected: YES ☐ NO ☒		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	1	A	2.2	N			Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments	3	C	2.2	R	H	See form 1/34 – No.9	East abutment (reinforced concrete)
	10	Spandrel wall/head wall							
	11	Pier							
	12	Cross-head/capping beam							
	13	Bearings							
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints	2	C	10.8	C	M	20,000	Proprietary expansion joint at abutment covered by metallic plates
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls	3	C	M	R	H	See form 1/34 – No.9	East abutment wingwalls (reinforced concrete)
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services							
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
31	3	C	2.5	3	C	2.2				Isolated areas of spalling and drummyness over both wingwall faces.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have not been inspected in the west ramp due to these areas being inaccessible as no access hatches are present. The external soffit is in fair condition
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
9	There are areas of spalling on the abutment face, more severe at ground level.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
18	Missing bolt covers to expansion joint.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
31	Isolated spalls and drummy areas are present to both wingwall faces
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

9 & 31	It is recommended that concrete repairs are carried out to the spalled and drummy areas of the abutments and wing walls.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
18	Although the expansion joint is in a better condition than the others on the structure, given that the joints were all installed at the same time and a number of joints are now demonstrating that they are life expired, it is recommended that all joints be replaced at the same time.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
9 & 31	Carry out concrete repairs to spalled and drummy areas of the abutment and wing walls.	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
18	Replace expansion joint	M	£20,000	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	

39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: February 2024	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 25 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 18	Span Width (m): 18.2	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code	
Primary deck form Table 2	12
Primary deck material Table 4	C
Secondary deck form Table 3	20
Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 18)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier,
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B			
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination, minor spalls with exposed rebar present. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination, and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several major areas of delamination, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout. The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED				
Ref. No	**Suggested Remedial Work**	**Priority**	**Estimated Cost**	**Action/Work Ordered?**
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 26 of 34 for this bridge**
Inspector: S. Bayliss		Date: November 2023		Next Inspection Type/Date: General November 2025
Bridge Name: Gateshead Viaduct		Bridge Ref/No: Gateshead Viaduct		Road Ref/No: A167
Map Ref: NZ	O.S.E 257	O.S.N 632		**Bridge Code**
Span 19	Span Width (m): 18.2	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐		
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code	
Primary deck form Table 2	12
Primary deck material Table 4	C
Secondary deck form Table 3	20
Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 19)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches

	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination, minor spalls with exposed rebar present. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination, and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.

15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No. 9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 27 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 20	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 20)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination, minor spalls with exposed rebar present. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination, and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination, there are some minor spalls with exposed rebar present. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are areas of delamination with cracking present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED				
Ref. No	**Suggested Remedial Work**	**Priority**	**Estimated Cost**	**Action/Work Ordered?**
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 28 of 34 for this bridge**
Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025		
Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167		
Map Ref: NZ	O.S.E 257	O.S.N 632		
Span 21	Span Width (m): 18.2	Span Length (m): 26.8		
All above ground elements inspected: YES ☒ NO ☐	Photographs? YES ☒ NO ☐			
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)				

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 21)
	12	Cross-head/capping beam							
	13	Bearings							
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination, and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?

1 & 11	Carry out concrete repairs to the delaminated and spalled areas of external soffit of the structure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 29 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 22	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 22)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	4	B	2.3	3	C	2.5				Areas of delamination, and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED				
Ref. No	**Suggested Remedial Work**	**Priority**	**Estimated Cost**	**Action/Work Ordered?**
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 30 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 23	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	4	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 23)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5	4	B	2.3	Areas of spalling, delamination, and cracking throughout the pier
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination and associated cracking generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED				
Ref. No	**Suggested Remedial Work**	**Priority**	**Estimated Cost**	**Action/Work Ordered?**
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 31 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 24	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	2	B	2.2	R	H	See form 1/34 – No.9	R.C. Pier (Pier 24)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier is heavily graffitied and has some minor spalling at the base
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of delamination on the internal faces.
11	The isolated spall should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?

1 & 11	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 32 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 25	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	2	B	2.2	R	H	See form 1/34 – No.9	R.C. Pier (Pier 25)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier is heavily graffitied with minor spalling at the base
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of delamination on the internal faces.
11	There is minor spalling present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?

1 & 11	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 33 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 26	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments							
	10	Spandrel wall/head wall							
	11	Pier	3	C	M	R	H	See form 1/34 – No.9	R.C. Pier (Pier 26)
	12	Cross-head/capping beam							
	13	Bearings	2	E	12.1	N			Steel plate bearings over pier
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage							
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	1	A	0	N			Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
11	2	B	2.2	3	C	2.5				Areas of spalling and delamination
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
11	The pier has spalling with delamination generally localised towards the base of the pier.
13	The bearings have minor surface corrosion which is similar throughout the structure.
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure and the areas of spalling and delamination on the internal faces.
11	There are spalls and areas of delamination present on the pier which should be repaired to prevent future deterioration
13	Minor surface corrosion was noted to the pier bearing as is consistent with other spans, no immediate action is required but review should be undertaken during the next inspection.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

Name: S Bayliss	Signed: Sam Bayliss	Date: January 2025

WORK REQUIRED				
Ref. No	**Suggested Remedial Work**	**Priority**	**Estimated Cost**	**Action/Work Ordered?**
1 & 11	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and piers	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	
Name: S Bayliss	Signed: Sam Bayliss		Date: January 2025	

Bridge Inspection Pro Forma Version: July 2004

☐ Superficial	☐ General	☒ Principal	☐ Special	**Form 34 of 34 for this bridge**

Inspector: S. Bayliss	Date: November 2023	Next Inspection Type/Date: General November 2025

Bridge Name: Gateshead Viaduct	Bridge Ref/No: Gateshead Viaduct	Road Ref/No: A167

Map Ref: NZ	O.S.E 257	O.S.N 632
Span 27	Span Width (m): 18.2	Span Length (m): 26.8
All above ground elements inspected: YES ☒ NO ☐		Photographs? YES ☒ NO ☐
Number of construction forms in bridge / ~~span*~~: 1 ☒ 2 ☐ 3 ☐ more ☐ (*delete as appropriate)		

Bridge Code		
	Primary deck form Table 2	12
	Primary deck material Table 4	C
	Secondary deck form Table 3	20
	Secondary deck material Table 4	P

Set	No	Element Description	S	Ex	Def	W	P	Cost	Comments/Remarks
Deck Elements	1	Primary deck element (Table 2)	4	C	M	R	H	See form 1/34 – No.9	Post-tensioned concrete slab with multiple internal voids
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	-	-	-	B			
	9	Abutments	3	B	M	R	H	See form 1/34 – No.9	South abutment
	10	Spandrel wall/head wall							
	11	Pier							
	12	Cross-head/capping beam							
	13	Bearings	-	-	-	B			Steel plate bearings over abutment
	14	Bearing shelf							
Durability Elements	15	Superstructure drainage	4	E	M	C	H	See Form 1/34	Metallic surface water drains at carriageway edges
	16	Substructure drainage	2	A	8.4	N			Weep pipes in wingwalls
	17	Waterproofing	-	-	-	B		See Form 1/34	
	18	Expansion joints	5	B	1.1	C	M	20,000	Proprietary expansion joint at South Abutment covered by metallic plates
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets	1	A	4.1	N			Painted steel parapets
Safety Elements	22	Access/walkways/gantries							
	23	Parapets	2	B	1.2	N			Post and three-rail steel P2 parapets
	24	Carriageway surfacing	2	E	5.2	R	L	See Form 1/34	Hot rolled asphalt
	25	Footway surfacing	2	E	5.2	R	L	See Form 1/34	Concrete verge and central reserve
Other Bridge Elements	26	Invert/river bed							
	27	Aprons							
	28	Fenders/cutwaters/collision prot.							
	29	River training works							
	30	Revetment/batter paving							
	31	Wing walls	3	B	M	R	M	See form 1/34 – No.9	R.C. Wing Walls.
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary Elements	35	Approach rails/barriers/walls							
	36	Signs							
	37	Lighting	5	D	0	N	H	500	Street lighting within access hatches
	38	Services	5	C	1.2	R	M	See Form 7/34	Services within centre deck void.
	39	Deck facia panels	4	D	M	C	H	See Form 1/34	Precast concrete facia panels fixed to the edges of the deck
	40								

S – severity, **Ex** – extent, **Def** – defect, **W** – work required, **P** – work priority, **Cost** – Cost of work

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	Ex	Def	S	Ex	Def	S	Ex	Def	
1	3	B	2.2	3	C	2.5	4	B	2.3	Internal: wetness throughout the floor surfaces and several areas of delamination. Centre void is wet throughout. External: large areas of delamination, with isolated spalls and cracking on the soffit and map cracking and drummyness throughout anchorage blocks.
	3	E	8.3							
9	2	B	2.2	3	B	2.5				Areas of spalling and delamination, to the abutment face
15	4	E	8.1	3	E	8.3				Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
31	2	B	2.2	3	B	2.3	3	B	2.5	Areas of spalling, delamination, and minor cracking throughout wingwalls
39	4	D	2.2	3	C	2.5	3	B	2.3	Large areas of full depth spalls with exposed reinforcement to the bottoms of the facia panels widespread throughout the span. Several areas of the facia panels are drummy. Widespread water staining to the bases of the panels.
	2	C	8.2							

INSPECTOR'S COMMENTS

1	The internal surfaces have wetness throughout the floor surfaces and several areas of delamination. The centre internal void is very wet with leachate throughout The external soffit has areas of delamination, with associated spalling and cracking and map cracking and drummyness throughout anchorage blocks.
8	The foundations are buried and hence have not been inspected however there is no indication present that there are any issues with the foundation structure.
9	The abutment has some areas of spalling with exposed rebar and delamination present.
13	The bearings are over the abutment have not been viewed due to access restrictions
15	The surface water drains on top of the structure are blocked with vegetation which is similar throughout the structure. Built in pipe in concrete cantilever is leaking, causing structural damage both internally and externally.
16	There is 1No blocked weep pipe in the east wingwall
17	The waterproofing system is not visible and has not been exposed as part of the inspection.
18	The central cover strip is damaged in both lanes.
21 & 23	The parapets within the span are in fair condition.
24 & 25	There are no notable defects to the carriageway within the span, however there is a buildup of moss and vegetation cover to the concrete verges and central reserve
31	The wing walls are both in fair condition but have with some areas of spalling, drummy areas and minor cracking present.
37	There is 1No faulty light in the access hatch of void D1 which is not illuminated.
38	There are electrical cables known to be present throughout the internal voids. There is a supporting frame for services in the centre voids throughout the structure, supporting several unidentified services, thought to be associated with the structure only. Due to access limitations, the full extent of defects to the frames has not been ascertained, but it is clear that severe corrosion is present in all voids, with frequent areas of partial collapse of the frame.
39	The deck facia panels have large areas of full depth spalls with exposed reinforcement to the bottoms widespread throughout the span. Several areas of the facia panels are drummy. There is also widespread water staining to the bases of the panels.

Name: S Bayliss	Signed: Sam Bayliss	Date: February 2024

ENGINEER'S COMMENTS

1	It is recommended that concrete repairs are carried out on the external soffit of the structure, the areas of delamination and staining on the internal faces do not require immediate action but should be reviewed during the next inspection.
9	the areas of spalling and delamination should have concrete repairs carried out.
15	The surface water drains on the top of the structure are consistently blocked with vegetation and debris. The built-in pipe is not accessible and as such not easily rectifiable, this is causing both internal and external damage and possibly damaging the post-tensioning system. It is recommended that these pipes are sealed to prevent further water ingress into the structure and the drainage system be replaced.
16	It is recommended that the blocked weep pipe is cleared at the same time as the repair works are carried out on the substructure.
17	The waterproofing system is hidden, however the areas of water staining within the void suggest that any waterproofing system, if present is ineffective.

18	It is recommended the expansion joints are life expired and that they are replaced.
24 & 25	There is light vegetation/moss growth throughout the verges and central reserve of the structure, it is recommended that these areas are cleared to debris entering the drainage system.
31	the areas of spalling and delamination and cracks should have concrete repairs carried out.
38	It is recommended that the defective areas of service frame are replaced to prevent any damage to the services.
37	It is recommended that the street light in void D1 is repaired.
39	It is recomended that the facia panels are removed from the structure and replaced to prevent debris falling and causing injury or damage to vehicles or pedestrians below

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WORK REQUIRED

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work Ordered?
1, 9 & 31	Carry out concrete repairs to the delaminated and spalled areas of the superstructure and substructures	H	See Form 1 of 34 No.9	
15	Drainage channel replacement with external drainage system (estimate for entire structure)	H	See Form 1 of 34	
17	Re-waterproofing all spans to prevent further water egress into voids (estimate for entire structure)	H	See Form 1 of 34	
18	Replace expansion joint	M	£20,000	
24 & 25	Clear vegetation/moss growth from the concrete verges (estimate for entire structure)	L	See Form 1 of 34	
37	Replace street lighting in void D1	H	£500	
38	Replace defective areas of service support frame in centre deck void C (estimate for entire structure)	M	See Form 7 of 34	
39	Removal and Replacement of existing precast facia panels (estimate for entire structure)	H	See Form 1 of 34	

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Appendix D – Anchorage Block References

Typical configuration (Pier 6, 7, 8, 10, 11 & 16 – 26)

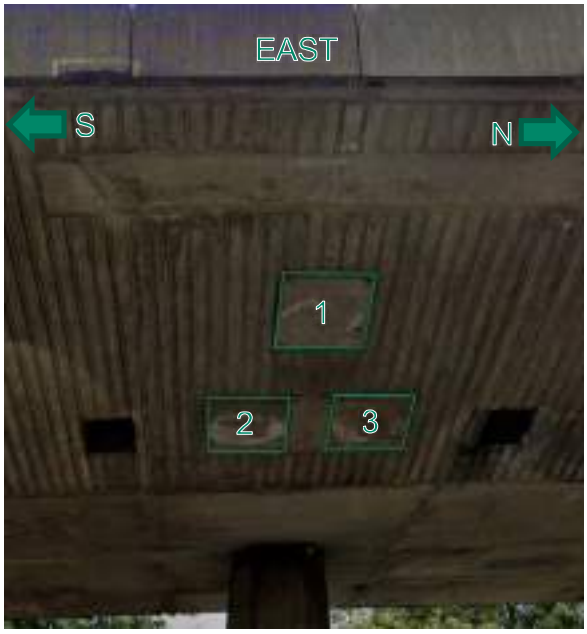


Figure 2: Pier 6 East Anchorage Block Arrangement



Figure 3: Pier 6 West Anchorage Block Arrangement

Pier 9



Figure 4: Pier 9 East Anchorage Block Arrangement



Figure 5: Pier 9 West Anchorage Block Arrangement

Pier 12



Figure 6: Pier 12 East Anchorage Block Arrangement



Figure 7: Pier 12 West Anchorage Block Arrangement

Pier 15



Figure 8: Pier 15 East Anchorage Block Arrangement



Figure 9: Pier 15 West Anchorage Block Arrangement

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