

LATTICE GIRDER TOP CHORD

Example 1
- Span 5, north truss



Corrosion product to top of top flange

Example 2
- Span 4, south truss



Loss of section at inner top flange, at support

Example 3
- Span 4, north truss



External stiffener

Example 4
- Span 2, south truss



Loss of section and loose material

Example 5
- Span 1, south truss



Loss of section, knife edging, spiked rivets

Example 6
- Span 6, north truss



External stiffener

DEFECT EXAMPLES

NTS

NOTE: Defect examples taken from Balfour 2020 survey (covering spans 2-8 inclusive), Balfour 2024 survey (only span 1), and Carillion 2012 survey (spans 1-8). Each represents a discrete defect for a unique location. Defect locations to be identified by re-survey.

LATTICE GIRDER BOTTOM CHORD

Example 1
- Span 3, south truss



Loss of section to chord flange

Example 2
- Span 1, south truss



Loss of section to chord flange

Example 3
- Span 4, south truss



Loss of section to bottom flange

Example 4
- Span 7, south truss



Loss of section to bottom flange

Example 5
- Span 3, north truss



Loss of section to bottom flange

Example 6
- Span 4, north truss



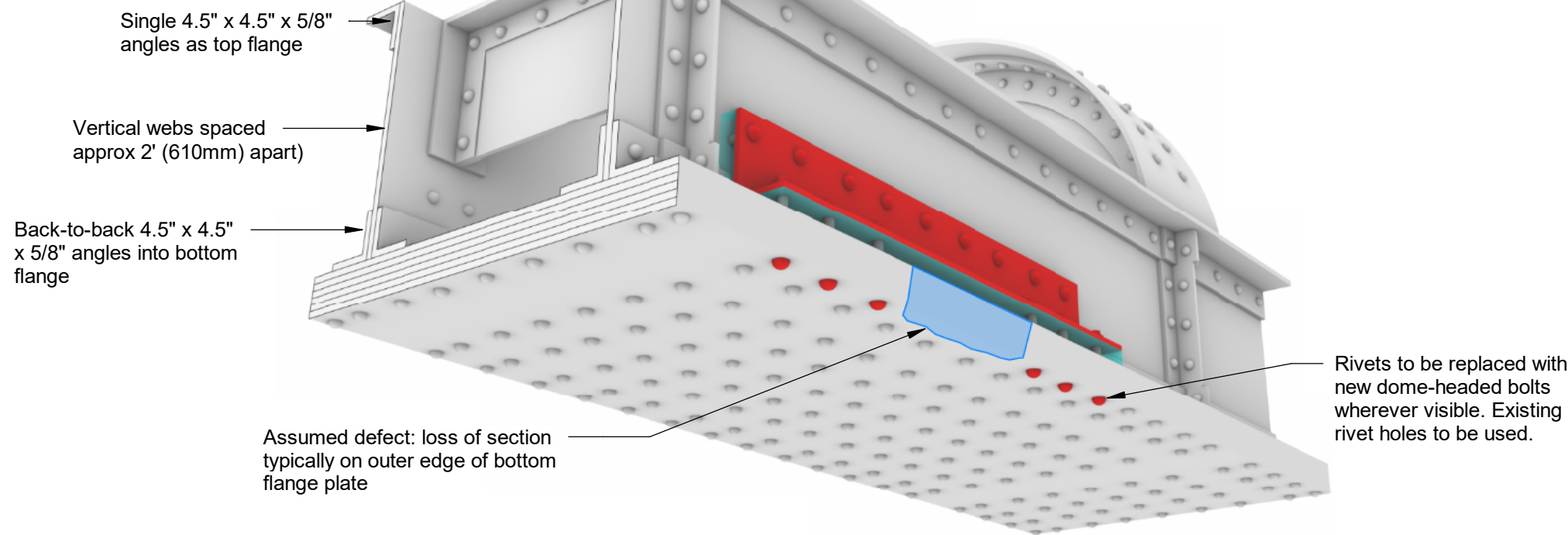
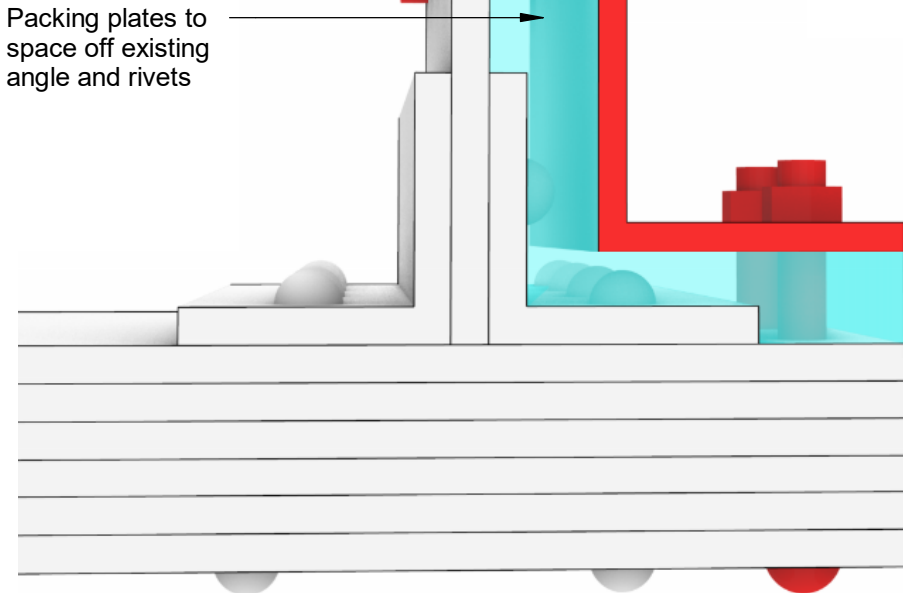
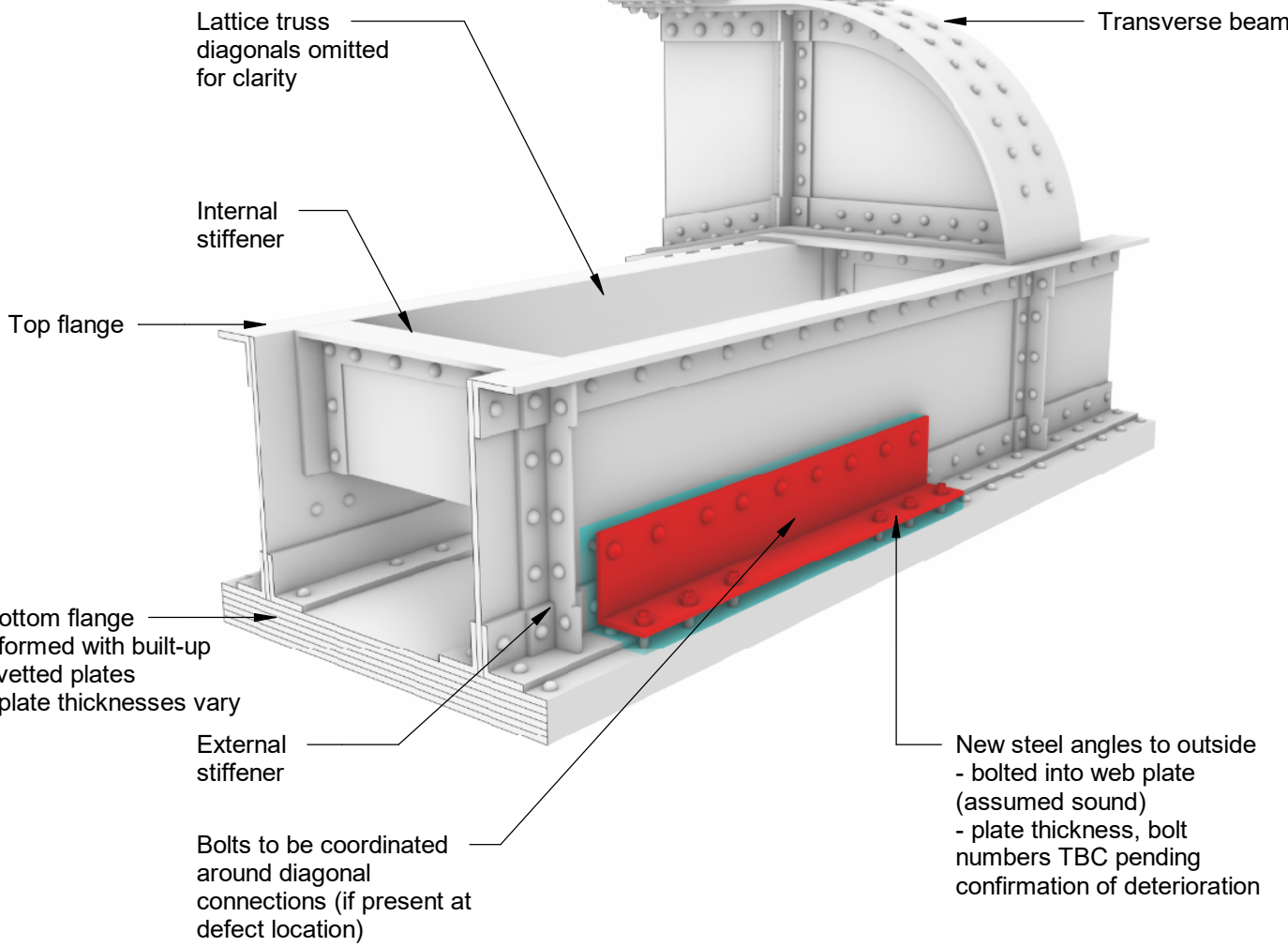
Loss of section to bottom flange

DEFECT EXAMPLES

NTS

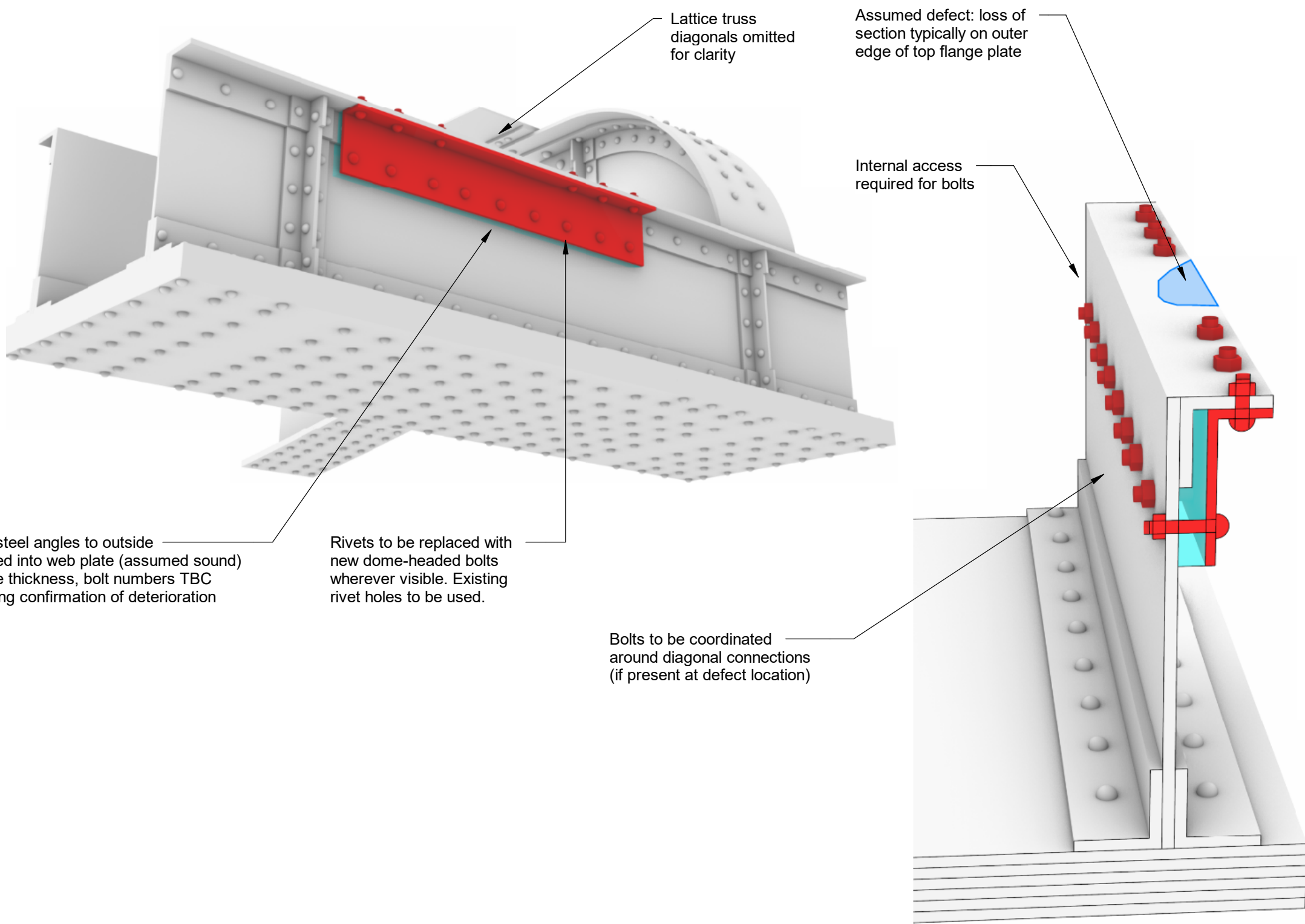
NOTE: Defect examples taken from Arup 2024 MEWP survey (covering spans 2-4 inclusive), Balfour 2020 survey (covering spans 2-8 inclusive) and Carillion 2012 survey (spans 1-8). Each represents a discrete defect for a unique beam. Defect locations to be identified by re-survey.

NOTE:
Truss top and bottom chords vary between spans and along each span. Remedials drawn for generic example at bottom chord top and bottom flanges - top chord equivalents would be similar.



REMEDIAL DETAIL A - BOTTOM FLANGE

NTS



REMEDIAL DETAIL B - TOP FLANGE

NTS

Notes:

- These drawings shall be read in conjunction with all relevant Engineer's and Architect's drawings and with all relevant specifications.
- Existing condition drawings with dimensions from original archive drawings. All existing dimensions to be verified by the Contractor prior to fabrication or construction.
- Drawing to be read in colour.
- Do not scale from this drawing
- For structural nomenclature refer to drawing CVI-ARUP-ZZ-ZZ-DR-S-1055. For structural notation of spans/beams/piers refer to drawing CVI-ARUP-ZZ-ZZ-DR-S-1056

H&S / CDM Risks:

- existing paintwork contains lead
 - limited structural capacity of viaduct deck plates
 - existing ballast contaminated with lead and hydrocarbons
 - working at height above water and public areas
- Refer to Arup risk register for further details.

Legend:

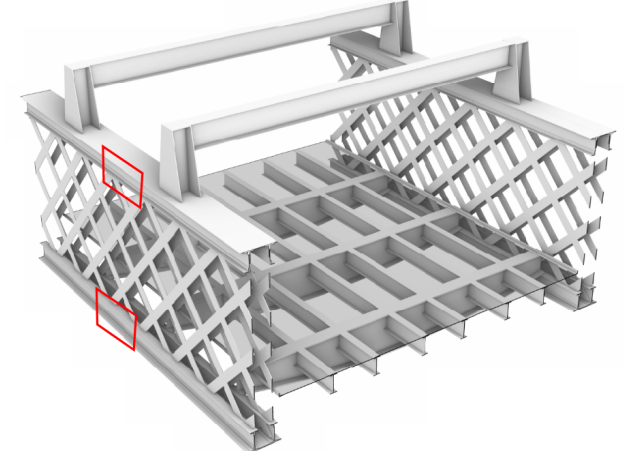
- Existing structure
- unchanged unless noted otherwise
- Proposed remedial
- Indicative extent of defect
 - typical loss of section or thickness due to corrosion
- Indicative packing plates
 - where required

NOTE:
The remedial details shown consider the most likely corrective intervention based on the expected type/extent of defect. Extent of defect to be confirmed pending future brush down, removal of debris, and subsequent tactile surveys. Further defect types and consequent remedials may also be identified.

LOCATION / NUMBER OF REMEDIALS REQUIRED:

- TBC
- Refer to general notes drawing CVI-ARUP-ZZ-XX-DR-S-0001 for background context for proposed remedials

KEY PLAN:



T2	15/11/24	RR	GH	IWS4 Issue
T1	14/08/24	RR	GH	Preliminary Issue
Rev	Date	Chkd	Appd	Issue Notes

ARUP

6th Floor, 3 Piccadilly Place
Manchester, M1 3BN
Tel +44(0)161 228 2331 Fax +44(0)161 228 6879
www.arup.com

Client
The National Trust

Project Title
Castlefield Viaduct
Phase 2

Drawing Title
Remedials
Lattice Girders
Top & Bottom Chords

Scale at A1	1 : 100	Drawn By	OD
Role	Structural		
Status	S2 - For Information		
Arup Job No	282210	Rev	T2
ID	CVI-ARUP-ZZ-ZZ-DR-S-4014		