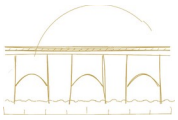
Sample Rail
INFRASTRUCTURE



REPORT · CIVIL STRUCTURES

Structure inspection report, initial inspection before commissioning

Documentation of the initial structure inspection of UB-114 with regard to structural safety, traffic safety and durability before commissioning. Recording of component-related findings, measured values, condition assessment, measures and inspection intervals as the basis for operator takeover.

1 Document type

Discipline / cluster	Civil structures
Document class	Report
Standard reference	BS EN 1337-10; BS EN 1337-1; BS EN 1992-2 with UK National Annex; Network Rail NR/L3/CIV/006; ROGS 2006; infrastructure manager's standards

2 Document control (to be completed · • = mandatory)

• Project number	• Project title
e.g. P-2418	*e.g. upgraded line North Field–Middlebrook, planning section 2*
Plant / site / bay	**Component / designation (KKS / RDS-PP)**
e.g. railway overbridge UB-114, line 9999, km 21.400	*e.g. superstructure, substructures, bearings, joints, drainage*
• Document number	**• Revision / version**
suggested automatically	*e.g. 00*
Document status (draft/…)	**• Date**
Draft / under review / approved	*DD.MM.YYYY*
• Client / operator	**• Contractor / author**
e.g. Sample Rail Infrastructure	*e.g. Civil Engineering South Ltd, lot 2*

QR · DMS RESOLVER

DMS RESOLVER
Link back from paper / PDF → digital DMS object
`https://dms.sample.example/r/template/KB-D-010`
Sample Rail Infrastructure · SAMPLE · Illustrative template

SAMPLE

1 Key data

• Structure identifier	*e.g. UB-114*
• Line	*e.g. 9999, North Field–Middlebrook*
• Structure location	*e.g. km 21.400, Middlebrook valley*
• Structure type	*e.g. prestressed concrete continuous girder, 3 spans*
• Spans	*e.g. 28.00 + 40.00 + 28.00 = 96.00 m*
• Traffic design	*e.g. 2 tracks, D4, 160 km/h, 25 kV 50 Hz*
• Initial inspection date	*e.g. 15.05.2028*
• Commissioning	*e.g. 26.05.2028*

2.1 Inspection order and inspection basis

Test type	☒ *Initial inspection before commissioning* ☐ *Special inspection*
Client	*e.g. Sample Rail Infrastructure Ltd*
Inspection responsibility	*e.g. structure inspector BP-01*
Inspection period	*e.g. 13.05.2028–15.05.2028*
Inspection basis	*e.g. as-built plans, checked statics, structure book, measurement and acceptance records*
Scope of inspection	☒ *Visual inspection* ☐ *Load test* ☒ *Measurements* ☒ *Document review*

2.2 Structure description and construction

Structural system	*e.g. three-span prestressed concrete continuous girder, total length 96.00 m*
Span arrangement	*e.g. 28.00 / 40.00 / 28.00 m; axes A–D*
Substructures	*e.g. abutments A and D, piers B and C*
Foundation	*e.g. deep foundation according to checked statics*
Bearing arrangement	*e.g. bearing axes A–D; fixed point and guides according to bearing plan*
Equipment	*e.g. drainage, expansion joints, railings, OCL connection*

2.3 Execution and accessibility

Inspection conditions	*e.g. 15.05.2028, dry, 18 °C, daylight*
Inspection equipment	*e.g. crack magnifier, crack width gauge, level, feeler gauge, tape measure*
Accessibility	☒ *Superstructure* ☒ *Bearings* ☒ *Piers* ☒ *Abutments* ☐ *restricted*
Inspection safety	*e.g. track possession, secured access, release of the work site*
Inspection coverage	☒ *Complete* ☐ *Partial* ☐ *Follow-up inspection required*
Document comparison	☒ *Completed* ☐ *Deviations documented*

SAMPLE

2.4 Component findings and damage assessment

Basis of assessment	*e.g. structural safety S, traffic safety V, durability D*
Damage class	*e.g. DC 0 no finding; DC 1 minor; DC 2 relevant; DC 3 critical*
Superstructure	*e.g. DC 1; local pore formation without exposed reinforcement*
Substructures	*e.g. DC 0; no inspection-relevant cracks or deformations*
Bearings and expansion joints	*e.g. DC 1; slight soiling at bearing A*
Documentation	*e.g. list of findings BL-UB-114-01, photo documentation FD-UB-114-01*

2.5 Measurements and target/actual comparison

Bearing measurements	*e.g. all values within bearing tolerances*
Joint measurements	*e.g. joint widths A/D within target ranges*
Settlement measurements	*e.g. max. settlement change 1.2 mm; limit 3.0 mm*
Crack widths	*e.g. individual finding 0.10 mm; limit according to crack assessment 0.20 mm*
Measuring equipment	*e.g. measurement record MP-UB-114-01 with instrument identifiers*
Assessment	☒ *Within limits* ☐ *Limit exceeded*

2.6 Overall assessment and measures

Overall condition rating	*e.g. 1.3 – good; project-specific rating scheme*
Structural safety	☒ *No concerns* ☐ *Evidence required*
Traffic safety	☒ *No concerns* ☐ *Restriction required*
Durability	☒ *Minor findings* ☐ *Significant impairment*
Measure status	☒ *Minor defects* ☐ *Safety-relevant defects*
Inspection result	☒ *No objections* ☐ *Follow-up inspection required*

2.7 Inspection intervals, documentation and completion

Initial inspection report	*e.g. BP-UB-114-EP-001, revision 00, 17.05.2028*
Measure control	*e.g. 31.05.2028; soiling and concrete surface*
Next main inspection	*e.g. 15.05.2034, subject to operator inspection plan*
Intermediate inspection	*e.g. 15.05.2031, type according to operator inspection plan*
Special inspection triggers	*e.g. impact, flood, settlement anomaly, exceptional damage*
Handover of structure file	☒ *Scheduled for 22.05.2028* ☐ *Completed*

SAMPLE

3 Test points and acceptance criteria

No.	Test characteristic	Target / tolerance (source)	Evidence	Actual / finding	OK	In case of deviation
1	**As-built documents and structure identity**	Completeness and consistency according to as-built drawing list BPV-UB-114.	Drawing list, structure book, statics	*complete; component identifiers match*	☐	Request documents; assess components separately.
2	**Superstructure and prestressed concrete**	No safety-relevant damage; crack limit according to crack assessment, e.g. 0.20 mm.	Visual finding, crack record, photos	*Crack 0.10 mm; DC 1; S0/V0/D1*	☐	Map the crack pattern; check structural relevance.
3	**Abutments, piers and foundation**	No impermissible deformations; settlement change e.g. ≤ 3.0 mm.	Visual record, levelling	*max. 1.2 mm; DC 0*	☐	Repeat measurement; shorten inspection interval.
4	**Bearings and mobility**	Bearings free to move; position deviation according to bearing plan, e.g. ± 5 mm (BS EN 1337-10).	Bearing record, as-built plans	*+2.0 mm; bearing A dirty; DC 1*	☐	Clean the bearing; re-measure the installed position.
5	**Expansion joints and joints**	Functional; joint width according to joint plan, e.g. 40 ± 10 mm at reference temperature.	Joint measurement sheet, temperature record	*Joint A/D: 43/38 mm at 18 °C; DC 0*	☐	Re-adjust the joint; check function again.
6	**Drainage and waterproofing**	Tightness and free drainage according to drainage plan.	Visual record, drainage test	*Drainage clear; no traces of moisture*	☐	Clean inlets; repair waterproofing.
7	**Edge beams, railings and accesses**	Fixings and fall protection complete according to as-built plan.	Visual inspection, acceptance records	*free of defects; DC 0*	☐	Close accesses; rework fixings.
8	**Track support area and interfaces**	Track geometry and OCL interfaces according to specialist designs.	Track acceptance, OCL records	*no damage; specialist acceptances referenced*	☐	Handed over to the responsible specialists.
9	**Overall condition**	No critical findings; assessment according to the IM's inspection scheme.	List of findings, measures register	*DC max. 1; rating 1.3*	☐	Inform operator; define follow-up inspection.

4 Component-related finding and damage assessment

Component	Position	Finding	DC	S/V/D	Action	Status
Superstructure	*Span 2*	*Pores, crack 0.10 mm*	*1*	*0/0/1*	*Rework surface*	☐ *Open*
Bearing A	*Axis A*	*slight soiling*	*1*	*0/0/1*	*Clean bearing area*	☐ *Open*
Piers B/C	*Axes B/C*	*no damage*	*0*	*0/0/0*	*none*	☒ *Done*

SAMPLE

5 Measured values bearings, joints and settlements

Measured variable	Measuring point	Target/reference	Actual value	Limit	Difference	Assessment
Bearing position	*Bearing A*	*0,0 mm*	*+2,0 mm*	*±5,0 mm*	*+2,0 mm*	*☒ OK*
Joint width	*Joint A*	*40,0 mm*	*43,0 mm*	*30–50 mm*	*+3,0 mm*	*☒ OK*
Settlement	*Pier B*	*0,0 mm*	*−1,2 mm*	*±3,0 mm*	*−1,2 mm*	*☒ OK*

6 Measures register

No.	Finding	Action	Priority	Responsible	Due date	Status
M-01	*Pores superstructure*	*Rework surface*	*P3*	*Lot 2*	*24.05.2028*	*☐ Open*
M-02	*Bearing A dirty*	*clean, photo evidence*	*P3*	*Lot 2*	*24.05.2028*	*☐ Open*
M-03	*Structure file*	*Measured values, plans handed over*	*P2*	*PL*	*22.05.2028*	*☐ Open*

SAMPLE

7 Completion notes

- The initial inspection is a condition assessment and replaces neither the structural check nor construction acceptance or commissioning approval.
- DC, S/V/D and condition rating follow a project-specific rating scheme.
- Take limit values from checked statics, as-built and bearing planning or monitoring concept.
- Inspection intervals are proposals; the IM's inspection and monitoring plan is authoritative.
- Assess open measures before operator approval with regard to safety relevance and deadline.

8 Applicable documents

- Structure book UB-114, BW-UB-114-001
- As-built drawing list BPV-UB-114
- Checked structural analysis ST-UB-114
- Bearing and joint plan LF-UB-114
- Measurement record MP-UB-114-01
- Crack record RP-UB-114-01
- List of findings BL-UB-114-01
- Photo documentation FD-UB-114-01
- Foundation and settlement records GS-UB-114
- Measures register MR-UB-114-01

9 Standards and regulations

Rules (edition)	Application in this document
BS EN 1337-10	Structural bearings – inspection and maintenance.
BS EN 1337-1	Structural bearings – general rules.
BS EN 1992-2 with UK National Annex	Concrete bridges – design.
Network Rail NR/L3/CIV/006	Examination of structures, tunnels and operational property (methodological orientation).
Infrastructure manager's standards	Technical requirements for railway bridges and other structures (reference to be specified per project).
ROGS 2006	Railways and Other Guided Transport Systems (Safety) Regulations 2006: safety management.

The edition agreed in the project is authoritative; deviations in the contract or in the grid operator's technical specifications take precedence.

Approval / signatures

Role	Name	Date	Signature
Inspection: structure inspector (BP-01)		*DD.MM.YYYY*	
Co-inspection: structural specialist inspector (FP-01)		*DD.MM.YYYY*	
Measure tracking: site supervision (SS-01)		*DD.MM.YYYY*	
Takeover: IM asset responsibility		*DD.MM.YYYY*	

SAMPLE

Revision history

Rev	Date	Description	Author	Approval
00	*DD.MM.YYYY*	Initial issue (template)		

SAMPLE