NR21

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Level 2

Level crossing asset inspection and implementation of minimum action codes

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User information

This Network Rail standard contains colour-coding according to the following Red–Amber–Green classification.

Red requirements – *No variations, could stop the railway*

- **Red requirements shall** always be complied with and achieved.
- Red requirements shall be presented in a red box with the word "shall" or expressed as a direct instruction.
- Accountability for the efficacy of red requirements lies with the Professional Head/Standard Owner.
- Red requirements are monitored for compliance.
- Corrective actions shall be enforced if variations are discovered through functional checks (e.g. engineering verification visits, audit or Operations Self-Assurance).

Amber requirements – *Controlled variations, approved risk analysis and mitigation*

- **Amber requirements shall** be complied with unless variation has been approved in advance.
- Amber requirements shall be presented with an amber sidebar and with the word "shall" or expressed as a direct instruction.
- Accountability for the efficacy of these requirements lies with the Professional Head/Standard Owner, or their nominated Delegated Authority.
- Amber requirements are monitored for compliance.
- Variations **may** be permitted. Variations are approved by the Standard Owner or through existing Delegated Authority arrangements.
- Corrective actions shall be enforced if **non-approved** variations are discovered through functional checks (e.g. engineering verification visits, audit or Operations Self-Assurance).

Green – *Guidance*

- Guidance is based on good practice. Guidance represents supporting information to help achieve Red and Amber requirements.
- Guidance shall be presented with a dotted green sidebar and with the word "should" (usually in notes) or as a direct instruction.
- Guidance is **not mandatory** and is not monitored for compliance.
- Alternative solutions may be used. Alternative solutions do not need to be formally approved.
- Decisions made by a competent person to use alternative solutions should be backed up by appropriate evidence or documentation.

Issue record

Issue	Date	Comments
1	April 2004	First Issue
2	Feb 2006	Revised to reflect use of dedicated Level Crossing Inspectors
3	26/08/2008	Revised to reflect new posts in organisational change
4	01/12/2008	Revised after review to correct inconsistencies and to include reference to Sleeping Dogs and Mothballed Crossings plus a dedicated check sheet for Surface Systems (Level Crossing Decks)[Later withdrawn due to anomalies].
5	04/12/2010	Revision of document to be up issued to Issue 5 and also to include recommendations from RAIB reports, detail from TI 142, revised LXi28 Surface Systems (Level Crossing Decks) and new decking profile checksheet.
6	04/06/2011	Standard reissued as import and export from DOORs corrupted issue 5.
7	27/05/2014	Revised to clarify process, change responsibilities for inspections to Level Crossing Managers and introduce assurance appendices.

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 6 September 2014.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 3 (Option Selection) to continue to comply with the issue of any relevant Network Rail standards current when GRIP Stage 3 was completed and not to comply with requirements contained herein, unless stipulated otherwise in the scope of this standard.

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1 Purpose

This document provides Level Crossing Managers (LCMs) and Delivery Unit staff, see RACI in clause 4, with acceptable means of compliance for the inspection of level crossing assets.

This document assists in the mitigation of the following high level risk:

- Level Crossings: vehicle, person or animal on the line at risk of collision.

The inspections form part of a multi-disciplinary process that demonstrate that level crossings remain safe, reliable and legally compliant.

2 Scope

This process describes a method of inspecting level crossings on Network Rail Managed Infrastructure. It includes:

a) preparing for inspections;

b) undertaking inspections, identifying defects and the minimum actions to be taken on site;

c) recording inspections and defects identified; and

d) managing defect repairs.

It does not apply to authorised walking routes that cross the railway unless they are classified as a staff crossing with white lights. It does not apply to road rail access points or track access points.

Assurance requirements are given in Appendices:

- A – Annual check that the inspection frequencies in Ellipse are correct
- B – Checking the quality of repairs to level crossing defects
- C – Monitoring the timescales for rectifying level crossing defects
- D – Checking the quality of level crossing inspections

3 Level crossing inspection and defect rectification process

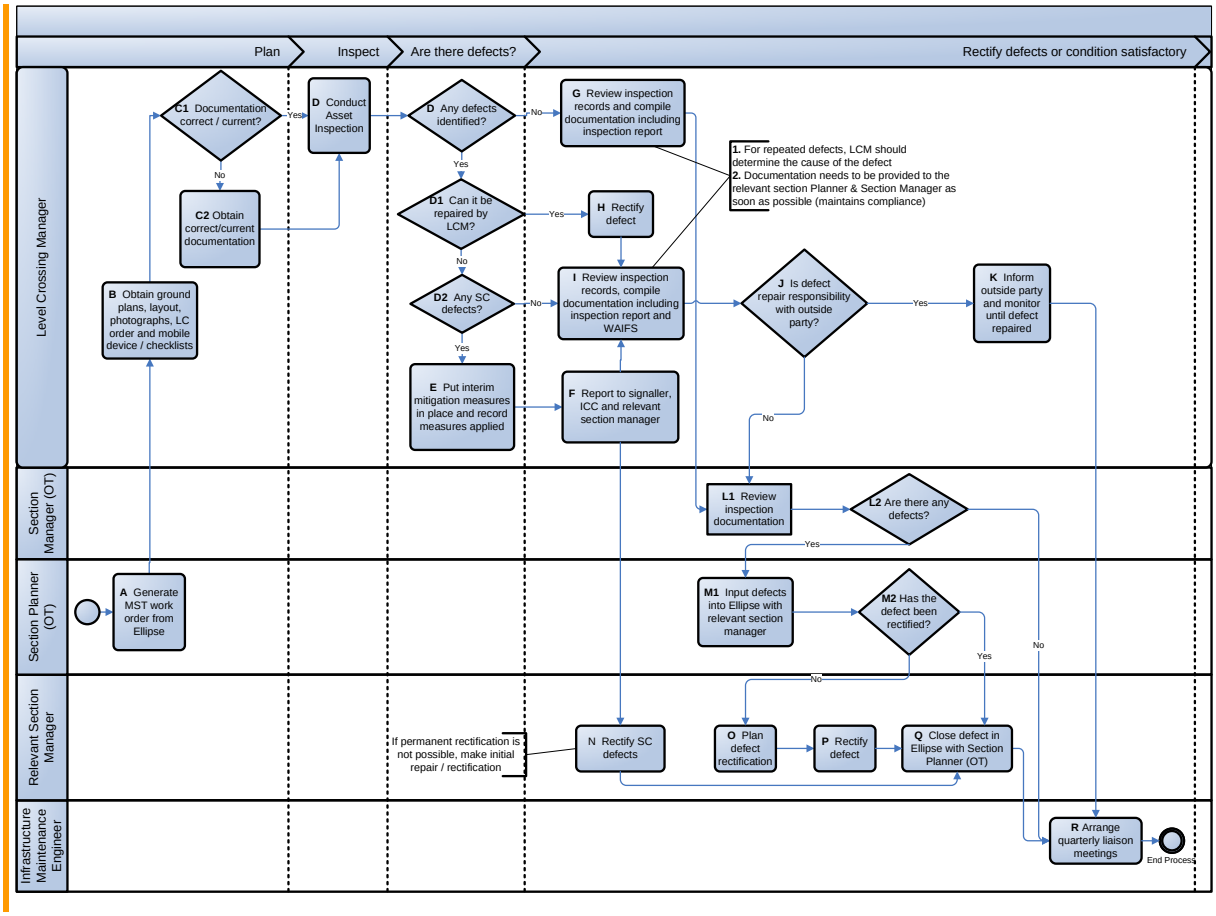


Figure 1 – Process flow chart

Sub-task	Responsible	Information
A	*Section Planner (Off-track)*	*Work orders shall be generated using MSTs in Ellipse.* *NOTE Wherever possible, any crossing that uses sighting distance as the main risk mitigation measure should be scheduled for inspection during the vegetation growing period.* *<u>Frequency of inspections</u>:* *The maximum intervals for level crossing inspections are given in Table 7.* *A seven-day tolerance is permitted for re-scheduling in cases of sickness and emergency.* *No other extension to the inspection intervals is permitted.* *Non-standard inspection frequencies are allocated to the relevant inspection MSTs in Ellipse.*

Sub-task	Responsible	Information
B, C (C1 and C2)	Level Crossing Manager (LCM)	LCMs shall prepare for inspections by gathering the relevant documentation and equipment. This shall include: a) ground plan or crossing sketch and layout photographs; b) Level Crossing Order where relevant; c) signalling plan; and d) mobile device. The LCM may include previous inspection records as a reminder of previously identified defects. *NOTE Inspection records are currently kept on TEF 3243.*
D (D1 and D2)	LCM	Conduct asset inspection. LCMs shall use a mobile device when undertaking inspections. LCMs shall use the mobile device to record the results of inspections. *NOTE The mobile device will present LCMs with the relevant questions for the crossing being inspected. Dropdown menus will provide LCMs with the available options to record the results of the inspection.* If the mobile device fails, LCMs shall undertake the inspections using the level crossing inspection checklists selected. The checklists contain a check box for each item on the checklist. The check boxes shall be completed in accordance with Table 3. In case of mobile device failure, LCMs shall take copies of the level crossing checklists to site. If the checklists need to be used, LCMs shall select the appropriate checklists using the guidance given in the *Level crossing inspection checklists and* Table 2. The checklists selected shall cover all the functionality and infrastructure elements of the level crossing to be inspected.
D, E	LCM	LCMs, as part of the inspection process, shall identify any defects needing repair. Defects identified shall be prioritised in accordance with Table 7. Actions taken on site shall comply with Table 7. It gives the minimum actions to be taken on site. It includes mitigation measures that can be applied and temporary repairs to be made when full repair is not possible.
D2, E, H	LCM	Repair defects: Where possible, defects shall be repaired as they are identified. This includes those that are not the responsibility of Network Rail and which can be safely, easily and quickly rectified providing the activity does not require a change to the Highways Interface process. These repairs shall be included on the defect forms. Factors to take into account when assessing if a repair is possible at the time of inspection include having a safe system of work, the availability of materials and individual competence. Examples of defects that are not the responsibility of Network Rail include loose/skewed road signs, cleaning dirt and graffiti on road signs. Check local arrangements.

Sub-task	Responsible	Information
G, I (I1 and I2)	LCM	Complete inspection records. After every inspection, LCMs shall: a) complete a Level Crossing Inspection Record; b) record all defects identified, including any rectified during the inspection; c) record interim mitigation measures implemented and temporary repairs made; d) where necessary, complete the level crossing inspection checklists; e) prioritise all defects using Table 7; f) produce the supporting Ellipse Work Arising Inspection Forms (WAIFs); and g) pass the completed documentation to the SM(OT). *NOTE 1 Inspection records are currently kept on TEF 3243.* *NOTE 2 Produce WAIFs for defects that are the responsibility of outside parties. The WAIF should be input into Ellipse against the LCM's workgroup with a monitor code.* LCMs shall retain copies of inspection documentation. *NOTE 3 This is to assist with monitoring repeated defects and monitoring defect repair.* LCMs shall lead the investigation of repeated defects to determine the cause of the defect.
L (L1 and L2)	Section Manager (OT)	The SM(OT) shall: a) review all inspection documentation for completeness; b) review defects identified for ownership; c) approve or reject the inspection record; d) escalate any queries to the TME; and e) send all completed WAIFs to the Off track Section Planner for input into Ellipse. The SM(OT) shall retain copies of inspection documentation in accordance with record keeping requirements.
M1 and M2	Section Planner (OT)	Input defects into Ellipse with relevant Section Manager. Close defects that have been rectified already.
O, P, Q	Section Manager	Defects shall be rectified in a timescale according to their assigned priority based on safety risk. Table 5 gives the timescales to be applied. The relevant SM shall plan the delivery of defect repairs to comply with Table 7. This includes temporary repairs which shall be made before the defect can be permanently rectified.
R	Infrastructure Maintenance Engineer	The IME shall arrange regular review meetings between themselves, their functional engineers and relevant LCMs to monitor the progress of defect rectification. The meetings shall take place at least four times a year. Invite external bodies if necessary. Records of the meetings shall be kept.

Table 1 – Key to process flow chart

Checklist	Title	AHBC	ABCL	AOCL+B	AOCL	AOCR	MCB all types	MG	UWC	OC	TMO	FP & BW	Barrow	SD
LXi01	Road Arrangements	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-
LXi02	Road Signals	✓	✓	✓	✓	✓	✓	✓	-	-	✓	-	-	-
LXi03	Booms / Barriers	✓	✓	✓	-	-	✓	-	✓	-	✓	-	-	-
LXi04	Manned Gates	-	-	-	-	-	-	✓	-	-	✓	-	-	-
LXi05	Telephone Systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
LXi06	Road Signals & Signs, MSL /MWL	-	-	-	-	-	-	-	✓	-	-	✓	✓	-
LXi07	Road Signs AHBC, ABCL & AOCL+B	✓	✓	✓	-	-	-	-	-	-	-	-	-	-
LXi08	Road Signs AOCL / AOCR	-	-	-	✓	✓	-	-	-	-	-	-	-	-
LXi09	Road Signs MCB all types	-	-	-	-	-	✓	-	-	-	✓	-	-	-
LXi10	Road Signs Manned Gates	-	-	-	-	-	-	✓	-	-	-	-	-	-
LXi11	Road Signs Open Crossings	-	-	-	-	-	-	-	-	✓	-	-	-	-
LXi12	Road Signs UWC	-	-	-	-	-	-	-	✓	-	-	-	-	-
LXi13	Road Signs Footpath & Bridleway	-	-	-	-	-	-	-	-	-	-	✓	-	-
LXi14	Road Signs Station Barrow	-	-	-	-	-	-	-	-	-	-	-	✓	-
LXi15	Rail Signs AHBC / MSL / MWL / AOCR	✓	-	-	-	✓	-	-	✓	-	-	✓	-	-
LXi16	Rail Signs Traincrew Operated	-	-	-	-	-	-	-	-	-	✓	-	-	-
LXi17	Rail Signs AOCL / AOCL+B / ABCL / OC	-	✓	✓	✓	-	-	-	-	✓	-	-	-	-
LXi18	Whistle Boards	✓	-	-	-	-	-	-	✓	-	-	✓	✓	-
LXi19	Barrier crossings operation including AHBC, ABCL & AOCL+B	✓	✓	✓	-	-	-	-	-	-	-	-	-	-
LXi20	Open crossings operation including AOCL & AOCR	-	-	-	✓	✓	-	-	-	-	-	-	-	-
LXi21	MCB Operation all types	-	-	-	-	-	✓	-	-	-	-	-	-	-
LXi22	Manned Gates Operation	-	-	-	-	-	-	✓	-	-	-	-	-	-
LXi23	Gates / Barriers Operation	-	-	-	-	-	-	-	✓	-	-	✓	✓	-

Checklist	Title	AHBC	ABCL	AOCL+B	AOCL	AOCR	MCB all types	MG	UWC	OC	TMO	FP & BW	Barrow	SD
LXi24	Traincrew Operated Operation	-	-	-	-	-	-	-	-	-	✓	-	-	-
LXi25	Station Barrow Operation	-	-	-	-	-	-	-	-	-	-	-	✓	-
LXi26	Sleeping Dog	-	-	-	-	-	-	-	-	-	-	-	-	✓
LXi27	Crossings on Mothballed Lines	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	-
LXi28	Surface Systems (Crossing Decks)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2 – Level crossing inspection checklists and checklist selection

Mark	Status
X	Unacceptable
R	Acceptable – defect repaired
C	Acceptable
T	Unacceptable – temporary repair made
N/A	Not applicable

Table 3 – Marks for completing inspection checklists

Description	Maximum Inspection Interval
Automatic Half Barrier Crossings	7 weeks
Automatic Half Barrier Crossings Locally Monitored	7 weeks
Automatic Full Barrier Crossings	7 weeks
Automatic Open Crossings Locally Monitored	7 weeks
Automatic Open Crossings Remotely Monitored	7 weeks
Miniature Stop / Warning Lights	7 weeks
Manually Controlled Barriers all types	3 months
Traincrew Operated Crossings	3 months
Manned Gated Level Crossings	3 months
Station, Barrow or foot Crossings with White Lights	3 months
Open Crossings	6 months
User Worked Crossings	6 months
Footpath and Bridleway Crossings	6 months
Station, Barrow or Foot Crossings without White Lights	6 months
Sleeping Dog Crossing	6 Months
Crossings on Mothballed lines	In accord with specific crossing type

Table 4 – Maximum inspection intervals

Defect code	Timescale
SC	Within 36 hours
SI	Within 7 days
M1	Within 4 weeks
M2	Within 7 weeks
M3	Within 13 weeks
M6	Within 26 weeks
M12	Within 52 weeks
M24	Within 104 weeks

Table 5 – Defect codes, timescales and limits

4 RACI

Sub-Task	Route Level Crossing Manager / ORA	Level Crossing Manager	Infrastructure Maintenance Engineer	Functional Maintenance Engineer(s)	Section Manager [Off track]	Section Planner	System Support Manager	Signaller	Operations Manager / LOM	Integrated Control Centre	Section Manager [other]	Infrastructure Maintenance Services Manager	Maintenance Protection Coordinator	Outside Party
A					A	R								
B	A	R												
C1	A	R												
C2	A	R												
D, D1 & D2	A	R												
E	A, C	R		C	C			I	C	C				
F	A	R		I	I			I		I	I			
G & I	A	R		I	I	I								
H	A	R			I									
J & K	A	R			I	I					I		I	I
L1 & L2		C		A	R	I								
M1 & M2	I	C			A	R					C			
N		I	A	R										
O				A	R						R			
Q				A	R	R								
R	C	C	A	C	C						C			C

5 Process assurance

Responsible	Question	Frequency	Control effective?		
			Yes	No	
LCM **Plan**	Are all level crossings entered in Ellipse and are their inspection frequencies correct?	Annual			Inspect level crossings, check that all level crossing assets are in Ellipse and have the correct inspection frequencies. Keep records of this check. See supporting material, ***Assurance module 2: How to check that the level crossing inspection frequencies in Ellipse are correct*** If not following this assurance module, document alternative arrangements that can be evidenced. Obtain approval of these arrangements from the person accountable for this means of control.
IME **Check**	Are inspections conducted on time?	Weekly			Work outstanding report identifies overdue inspections. Escalate to RLCM / ORA. This check is made at the weekly Section Manager review meeting.
RLCM / ORA / IME **Check**	Are inspections of acceptable quality?	Annual			Monitor the quality of asset inspections. Keep records of this check. See supporting material, ***Assurance module 1: How to check the quality of level crossing asset inspections***. If not following this assurance module, document alternative arrangements that can be evidenced. Obtain approval of these arrangements from the person accountable for this means of control.
SM / LCM **Check**	Are defects repaired and closed in Ellipse to timescale?	Weekly / Ongoing			Repair defects: the SM shall monitor that defects are rectified as planned. LCMs Monitor level crossing defect rectification timescales. Keep records of this check. See supporting material, ***Assurance module 4: Guidance on how to monitor level crossing defect rectification timescales*** If not following this assurance module, document alternative arrangements that can be evidenced. Obtain approval of these arrangements from the person accountable for this means of control.
Functional	Are defect repairs of an	Annual			Repair defects: Functional Delivery

Delivery Unit Engineers / LCM **Check**	acceptable quality?				Unit Engineers monitor the quality of repairs. Keep records of this check. See supporting material, ***Assurance module 3: How to check the quality of level crossing defect repair***. If not following this assurance module, document alternative arrangements that can be evidenced. Obtain approval of these arrangements from the person accountable for this means of control**.**
IME **Act**	Are Liaison meetings taking place and defects being repaired to timescales?	Quarterly			Level crossing inspection liaison meetings: The IME arranges regular review meetings between themselves, their functional engineers and the relevant LCMs to monitor the progress of defect rectification. The meetings take place at least four times a year. External bodies are invited if necessary. Keep records of meetings.

Table 6 – Process assurance questions

Appendix A
How to check the quality of level crossing asset inspections

A.1 Introduction

This supporting material document provides Route Level Crossing Managers (RLCMs) where appointed, Operations Risk Advisors (ORAs) and Infrastructure Maintenance Engineers (IMEs) with a means of assurance for checking the quality of level crossing asset inspections. It includes providing feedback on the quality of inspections to Level Crossing Managers (LCMs).

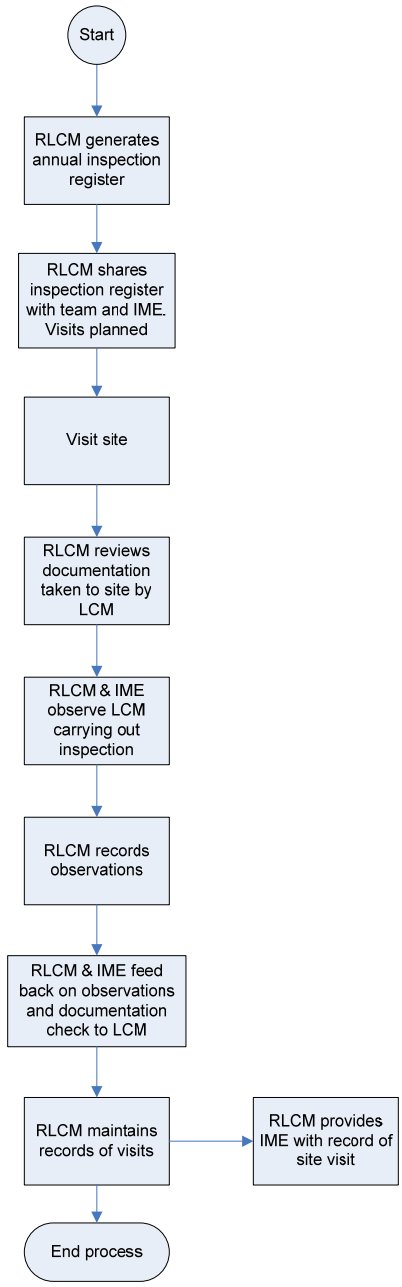
It describes a process for RLCMs, ORAs and IMEs to check the quality of level crossing asset inspections.

This document assists in the mitigation of the following high level risk:

- Vehicle, person or animal on the line at risk of collision

This document supports the process for the inspection and maintenance of level crossing assets.

If not following this assurance module, document alternative arrangements that can be evidenced. Obtain approval of these arrangements from the person accountable for this means of control.



A.2 Process

A.2.1

Each RLCM should carry out an annual physical check of the quality of level crossing asset inspections. This should be a 5% check of all crossings in a Route. It should:

a) cover all crossing types where possible; and

b) include crossings that are the responsibility of each LCM.

NOTE 1 It is good practice to visit the same number of crossings with each LCM.

Where Routes have not appointed RLCMs, the checks should be carried out by ORAs.

NOTE 2 Where appointed, checks should be carried out by RLCMs.

A.2.2

The RLCM should generate an annual inspection register for the crossings to be visited.

NOTE The crossings to be visited should be rotated each year so that a broad range of crossings are visited over several years.

A.2.3

The RLCM should share the inspections register with their LCMs and IMEs. Visits should be planned so that they align with LCMs' existing workbanks.

IMEs should be invited to attend inspection visits.

NOTE 1 Do not plan additional visits as part of this process.

NOTE 2 IMEs may delegate responsibility to attend visits to functional engineers.

A.2.4

During the visit the RLCM and IME / functional engineer should observe the LCM carry out the inspection. Activities to check, observe and record include:

a) check if the documentation mandated in table 1 is available and used;

NOTE It is good practice for LCMs to include other relevant documentation .e.g. AU details, previous inspection record forms and details of future work planned.

b) record if all defects have been identified;

c) record if all questions were answered on site;

d) record if a mobile device is used;

e) record if appropriate tools are used, e.g. measuring wheel;

f) observe if defect rectification is of acceptable quality where applicable; and

g) record if all defects that could have been rectified on site were rectified.

The RLCM should use Form NR/L2/SIG/19608 /F1 to record the results of the check.

A.2.5

The RLCM and IME / functional engineer should provide feedback to the LCM on the quality of the inspection.

NOTE This should be done on the day of the site visit and at the crossing where possible.

A.2.6

The RLCM should maintain records of the checks undertaken using form NR/L2/SIG/19608 /F1. The RLCM should provide the IME with a copy of NR/L2/SIG/19608 /F1.

NOTE Records can be kept in electronic or paper format.

Appendix B
How to check that the level crossing asset inspection frequencies in Ellipse are correct

B.1 Introduction

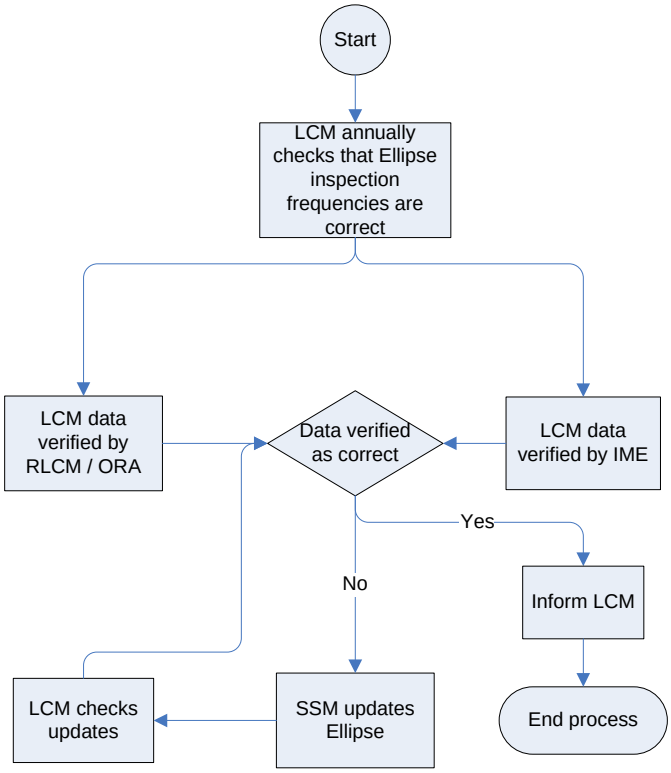
This supporting material provides Level Crossing Managers, Route Level Crossing Managers and Infrastructure Maintenance Engineers with a means of assurance to check that the asset inspection frequencies for level crossings held in Ellipse are correct.

This document describes an annual check of level crossing asset inspection frequencies held in Ellipse.

This document assists in the mitigation of the following high level risk:

- Vehicle, person or animal on the line at risk of collision

If not following this assurance module, document alternative arrangements that can be evidenced. Obtain approval of these arrangements from the person accountable for this means of control**.**



B.2 Process

B.2.1

The Level Crossing Manager (LCM) should obtain a report of the asset inspection frequencies contained in Ellipse for the level crossings within their responsibility. The LCM should use the report to make the following checks:

a) that all level crossings within their responsibility are included in Ellipse;

b) that the asset inspection frequencies in Ellipse comply with the requirements of table 4; and

c) that the asset inspection frequencies in Ellipse take account of any level crossings that require different inspection intervals as a result of risk assessment.

B.2.2

The LCM should send the report, including any changes identified, to the relevant Infrastructure Maintenance Engineer (IME) and Route Level Crossing Manager /Operations Risk Advisor (RLCM/ORA) for their approval.

The IME and RLCM/ORA should check the report and inform the LCM of any further changes identified. If no further changes are needed, the IME and RLCM/ORA should each inform the LCM that they approve the report.

B.2.3

The LCM should inform the Systems Support Manager (SSM) of any changes that need to be made to Ellipse.

B.2.4

The SSM should update Ellipse as requested by the LCM. The SSM should inform the LCM when the updates have been completed.

B.2.5

The LCM should check that any changes to Ellipse have been made correctly.

The LCM should inform the SSM if any further changes are needed.

Appendix C
How to check the quality of level crossing defect repair

C.1
Introduction

This supporting material provides Track Maintenance Engineers (TMEs) with a means of assurance for the checking of the quality of repairs made to level crossing defects. It includes providing feedback on the quality of repairs to Section Managers, Route Level Crossing Managers / Operations Risk Advisors and Level Crossing Managers.

This document describes a process for Delivery Unit engineers to check the quality of repairs that are made to level crossings.

This document assists in the mitigation of the following high level risk:

- Vehicle, person or animal on the line at risk of collision

If not following this assurance module, document alternative arrangements that can be evidenced. Obtain approval of these arrangements from the person accountable for this means of control.

C.2 Process

C.2.1

TMEs should carry out a physical 5% inspection of all crossings annually.

NOTE The crossings to be visited should be rotated each year so that a broad range of crossings are visited over several years.

The previous inspection records for the crossings should be reviewed. The check should include an assessment of the repair of defects identified as part of level crossing inspections undertaken during the previous 12 months.

The check should determine if:

a) defects identified during level crossing inspections have been repaired; and

b) repairs made are of an acceptable quality.

C.2.2

The TME should provide feedback to the relevant Section Manager, Level Crossing Manager and Route Level Crossing Manager / Operations Risk Advisor. The feedback should include an assessment of the quality of repairs made.

NOTE Feedback can include an assessment:

a) of the suitability of repairs made; and

b) if repairs could have been made by the LCM during inspection visits.

C.2.3

The TME should decide if further defect repair is needed.

C.2.4

The TME should inform the relevant Section Manager of any further defect repairs needed.

C.2.5

The Section Manager [off track] and the Section Planner should input the defects into Ellipse. The defects should be prioritised using Table 7.

C.2.6

The relevant SM should manage defect repairs.

Appendix D
Guidance on how to monitor level crossing defect rectification timescales

D.1 Guidance

This supporting material provides Level Crossing Managers (LCMs) with guidance on checking the timescales for level crossing defects to be rectified.

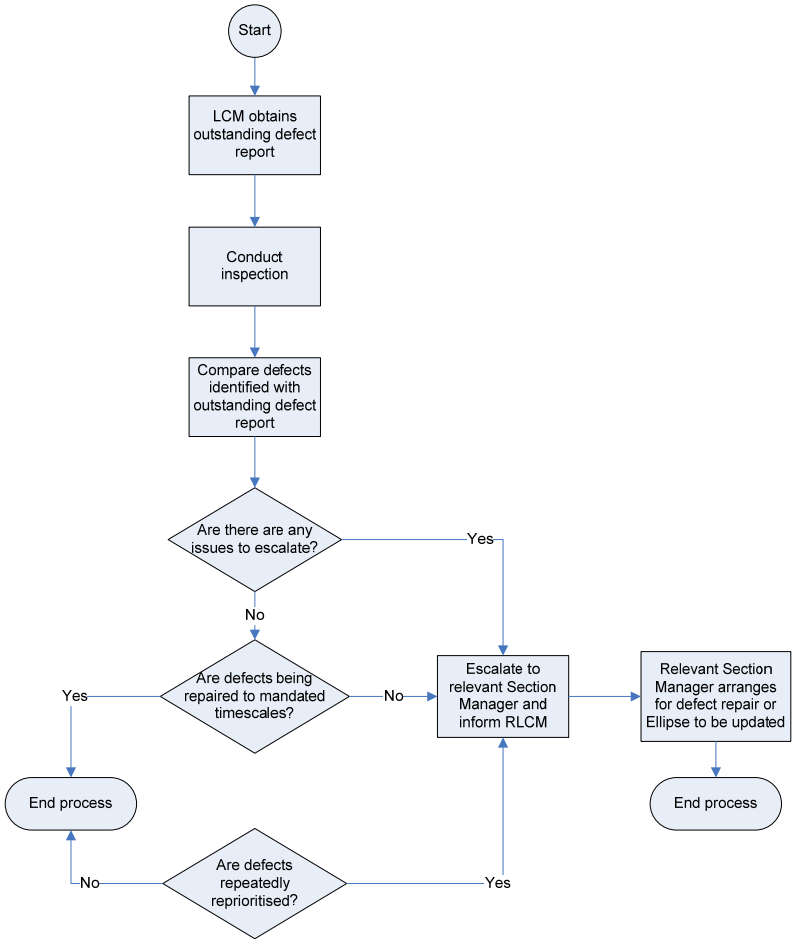
This document describes a process for LCMs to monitor the timescales for the rectification of level crossing defects.

This document assists in the mitigation of the following high level risk:

- Vehicle, person or animal on the line at risk of collision

This document supports the process for the inspection and maintenance of level crossing assets.

If not following this assurance module, document alternative arrangements that can be evidenced. Obtain approval of these arrangements from the person accountable for this means of control.



D.2 Process

D.2.1

After conducting an asset inspection, the LCM should check the status of defects they have previously reported. This can help to check that:

a) defects are being repaired to the appropriate timescales;

b) all previously reported defects have been entered into Ellipse; and

c) defects are not being repeatedly reprioritised.

D.2.2

The LCM should obtain a report of any outstanding defects for the crossing that has been inspected. Reports can be obtained from Business Objects.

NOTE The 'Work order data download' report provides relevant information.

The report should include all outstanding defects and defects rectified since the last visit.

D.2.3

The LCM should compare any defects they identified during the inspection with the outstanding defect report. Anomalies to check for include:

a) defects that have exceeded their rectification timescale;

b) defects which appear on the report and have already been rectified;

c) defects shown as rectified which are still an issue, e.g. LCM thinks the defect has not been adequately repaired;

d) defects previously identified that do not appear on the report; and

e) defects that are being repeatedly reprioritised.

D.2.4

The LCM should decide if there are any issues that need to be escalated. Where there are issues, the LCM should provide the relevant Section Manager with appropriate details.

The LCM should inform their RLCM of any items they have escalated.

D.2.5

The relevant Section Manager should take the appropriate action.

Table 7 – Defect Minimum Actions table

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
1.1 Trespass Guards on Public Road Vehicular Crossings (if required & shown on Legal Order / Ground Plan)			
One or more guards missing or one or more guards damaged and ineffective.	Temporary repair – lift adjacent guard(s) and re-fix at angle so effective measure in place. Permanent repair – install missing / new guard within 26 weeks.	SI	M6
Any number of guards damaged but effective.	Raise WAIF with rectification timescale of 26 weeks.	-	M6
Less than 2.6m but >1.0m 'step over' distance between adjacent sets of guards.	Raise WAIF with rectification timescale of 26 weeks.	-	M6
Less than 1.0m 'step over' distance between adjacent sets of guards at manned crossing. **Note Not including CCTV crossings**	Decide if mitigation of placing watchman or closing crossing to pedestrian traffic is needed. Temporary rectification – install additional length guards to achieve minimum 1.0m step over. Permanent repair – install full length step over for guards within 26 weeks.	M1	M6
Guards installed incorrect length <2.6m but >2.3m.	Permanent rectification – install fully compliant trespass guards within 104 weeks.	-	M24
Guards installed incorrectly e.g. >35mm between timbers but effective.	Raise WAIF with rectification timescale of 104 weeks. Permanent repair – install correctly as standard detail within 104 weeks.	-	M24
Less than 1.0m 'step over' at unmanned or remotely monitored crossing / guards incorrectly installed and not effective / installed less than 2.3m in length.	Notify Integrated Control Centre (ICC) and SM(OT). Decide if mitigation of placing watchman or closing crossing to pedestrian traffic is needed. Temporary rectification – install minimum 1.0m of guards to create effective measure. Permanent rectification – install fully compliant trespass guards within 26 weeks.	SC	M6
Trespass guards do not extend to fence line	Notify Integrated Control Centre (ICC) and SM(OT). Decide if mitigation of placing watchman or closing crossing to pedestrian traffic is needed. Temporary rectification – install minimum 1.0m of guards to create effective measure. Permanent rectification – install fully compliant trespass guards within 26 weeks.	SC	M6
Trespass guards do not extend to fence line on DC lines	Notify Integrated Control Centre (ICC) and SM(OT). Decide if mitigation of placing watchman or closing crossing to pedestrian traffic is needed. Temporary rectification – install minimum 2.0m of guards to create effective measure. Permanent rectification – install fully compliant trespass guards within 26 weeks.	SC	M6

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
1.2 Trespass Guards on Footpath Crossings (all types) and where part of a UWC (if required & shown on endorsed record plan)			
One or more guards missing or one or more guards damaged and ineffective.	Notify ICC and SM(OT). Temporary repair - lift adjacent guard(s) and re-fix at angle so effective measure in place. If temporary repair not possible decide if crossing needs to be closed to pedestrian traffic at high risk locations. Permanent repair - install missing / new guard within 26 weeks.	SC	M6
Any number of guards damaged but effective.	Raise WAIF with rectification timescale of 26 weeks.	-	M6
Less than 2.6m but >1.0m 'step over' distance between adjacent sets of guards.	Raise WAIF with rectification timescale of 26 weeks.	-	M6
Less than 1.0m 'step over' distance between adjacent sets of guards.	Notify ICC and SM(OT). Decide if mitigation of placing watchman or closing crossing to pedestrian traffic is needed. Temporary rectification - install additional length guards to achieve minimum 1.0m step over. Permanent repair - install full length step over for guards within 26 weeks.	SC	M6
Guards installed incorrect length <2.6m but >2.3m.	Permanent rectification – install fully compliant trespass guards within 104 weeks.	-	M24
Guards installed incorrectly (e.g. >35mm between timbers) but effective.	Raise WAIF with rectification timescale of 104 weeks. Permanent repair - install correctly as standard detail within 104 weeks.	-	M24
Less than 1.0m 'step over' at unmanned or remote crossing / guards incorrectly installed and not effective / installed less than 2.3m in length.	Notify ICC and SM(OT). Decide if mitigation of placing watchman or closing crossing to pedestrian traffic is needed. Temporary rectification - install minimum 1.0m of guards to create effective measure. Permanent rectification - install fully compliant trespass guards within 26 weeks.	SC	M6
Trespass guards do not extend to fence line	Notify ICC and SM(OT). Decide if mitigation of placing watchman or closing crossing to pedestrian traffic is needed. Temporary rectification - install minimum 1.0m of guards to create effective measure. Permanent rectification - install fully compliant trespass guards within 26 weeks.	SC	M6
Trespass guards do not extend to fence line on DC lines	Notify ICC and SM(OT). Decide if mitigation of placing watchman or closing crossing to pedestrian traffic is needed. Temporary rectification - install minimum 2.0m of guards to create effective measure. Permanent rectification - install fully compliant trespass guards within 26 weeks.	SC	M6

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
1.3 Cattle cum Trespass Guards on UWC (if required & shown on endorsed record plan) (including for crossing of livestock)			
One guard missing or one guard damaged and ineffective.	Raise WAIF with permanent rectification timescale of 26 weeks. Temporary repair - lift adjacent guard and re-fix at angle so effective guard in place within 36 hours	SC	M6
Two or more guards missing or two or more guards damaged and ineffective.	Notify ICC, close crossing to passage of livestock. LCM to decide if continued or alternative mitigation is needed e.g. placing watchman. Temporary repair if three or less guards missing, lift and re-fix at angle so effective barrier in place. Permanent repair - install missing / new guards within 26 weeks.	SC	M6
Any number of guards damaged but effective.	Raise WAIF with rectification timescale of 26 weeks.	-	M6
Less than 2.6m but >1.0m 'step over' distance between adjacent sets of guards.	Raise WAIF with rectification timescale of 26 weeks.	-	M6
Guards installed incorrect length <2.6m but >1.0m.	Raise WAIF with rectification timescale of 104 weeks. Permanent repair - install correct length as standard detail within 104 weeks.	-	M24
Guards installed incorrect length <2.6m but >2.3m.	Permanent rectification – install fully compliant trespass guards within 104 weeks.	-	M24
Guards installed incorrectly e.g. >35mm between timbers but effective.	Raise WAIF with rectification timescale of 104 weeks. Permanent repair - install correctly as standard detail within 104 weeks.	-	M24
Guards incorrectly installed and not effective to prevent animal incursion / installed less than 1.0m in length.	Notify ICC, close crossing to passage of livestock. Notify SM(OT). LCM to decide if continued or alternative mitigation is needed e.g. placing watchman. Temporary rectification - install additional length guards to achieve minimum 1.0m step over. Permanent rectification - install fully compliant trespass guards within 26 weeks.	SC	M6
Trespass guards do not extend to fence line	Notify ICC, close crossing to passage of livestock. Notify SM(OT). LCM to decide if continued or alternative mitigation is needed e.g. placing watchman. Temporary rectification - install additional length guards to achieve minimum 2.0m step over. Permanent rectification - install fully compliant trespass guards within 26 weeks.	SC	M6

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Trespass guards do not extend to fence line on DC lines	Notify ICC, close crossing to passage of livestock. Notify SM(OT). LCM to decide if continued or alternative mitigation is needed e.g. placing watchman. Temporary rectification - install additional length guards to achieve minimum 1.0m step over. Permanent rectification - install fully compliant trespass guards within 26 weeks.	SC	M6
2.0 Surface Units -– Bridging Systems (e.g. Bomac, Polysafe)			
Panel(s) rocking on public highway crossings (including broken nibs even if no panel movement).	Notify Signaller, ICC and SM(OT). Decide if the crossing needs to be closed to vehicular traffic. Immediate action - lift panel(s), investigate and rectify (normally failed nibs or missing rubbers). If rectification not possible, place watchman. LCM to decide on further mitigation (e.g. remove panel and close crossing to public, impose ESR with full time watchman, etc).	SC	SI
Panel(s) rocking on UWC - all types (including broken nibs even if no panel movement).	Notify Signaller, ICC and SM(OT). Lift panel(s), investigate and rectify (normally failed nibs or missing rubbers). If immediate rectification not possible, place watchman. LCM to decide on any further mitigation (e.g. remove panel & close crossing to public, impose ESR with full time watchman, etc).	SC	SI
Panel(s) rocking on pedestrian crossing - all types (including broken nibs even if no panel movement).	Notify ICC and SM(OT). If trip hazard decide if the crossing needs to be closed to pedestrian traffic. Immediate action - lift panel(s), investigate and rectify (normally failed nibs or missing rubbers). If immediate rectification not possible, place watchman. LCM to decide on any further mitigation (e.g. remove panel and close crossing to public, impose ESR with full time watchman, etc).	SC	SI
Not gapped correctly on public highway crossings.	If gap in area **likely** to be used by cyclists, notify IFC and SM(OT), rectify within 36hours. Temporary repair - install timber wedge, rubber wedge, foam filler or similar OR take line blockage and lever up panels to close gaps and install wedge at end restraint. Permanent repair, close up gaps and reset end restraints within 7 days.	SC	SI
Not gapped correctly on public highway crossings.	If gap in area **not** likely to be used by cyclists, rectify within 7 days. Temporary repair (not mandatory) - install timber wedge, rubber wedge, foam filler or similar OR take line blockage and lever up panels to close gaps and install wedge at end restraint. Permanent repair, close up gaps and reset end restraints within 7 days.	SI	SI

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Not gapped correctly on UWC and Footpath Crossings - all types.	Raise WAIF with permanent rectification within 4 weeks. Temporary repair (not mandatory) - install timber wedge, rubber wedge, foam filler or similar OR take line blockage and lever up panels to close gaps and install wedge at end restraint. Permanent repair, close up gaps and reset end restraints within 4 weeks.	M1	M1
Missing rubbers - all crossing types.	Notify Signaller, ICC and SM(OT). Decide if the crossing needs to be closed to vehicular traffic. Immediate action - lift panel(s), investigate and rectify. If immediate rectification not possible, place watchman. LCM to decide on any further mitigation (e.g. remove panel & close crossing to public, impose ESR with full time watchman etc).	SC	SI
Displaced rubbers - all crossing types.	Raise WAIF. Re-inspect within 7 days, if no worse rectify within 4 weeks, if worse action as 'Missing rubbers'.	SI	M1
Surface condition - all types **– defect is likely to cause panel failure within 36 hours or defect already a risk to users**	Record cracks, chips, holes, loose infill, small areas where surface has come out. LCM to use judgement as to location and scale of defect, the traffic, usage and any deterioration., Notify Signaller, ICC and SM(OT). Decide if the crossing needs to be closed to vehicular traffic and/or pedestrian traffic (dependent on location of defect). Temporary repair to panel if possible - infill with tarmac, epoxy resin, grout etc; if no repair possible place watchman and LCM to **decide on any further mitigation** (e.g. remove panel & close crossing to public, impose ESR with full time watchman etc). For all other defects - record, take photograph, arrange re-inspection if appropriate to check for deterioration and record on WAIF with rectification timescale using best judgement. Range of timescales for rectification is 36hours to 104 weeks.	SC	M24
Surface condition - all types **– defect is not likely to cause panel failure within 36 hours or defect not a risk to users**	Record cracks, chips, holes, loose infill, small areas where surface has come out. LCM to use judgement as to location and scale of defect, the traffic, usage and any deterioration. Record, take photograph, arrange re-inspection if appropriate to check for deterioration and record on WAIF with rectification timescale using best judgement. Range of timescales for rectification is up to 104 weeks.	-	M24
Bomac / Polysafe panels mixed - incorrect rubbers.	Treat as 'Displaced rubbers'.	SI	M1
Panels sitting proud of cill beams - all crossing types.	Raise WAIF with permanent rectification within 52 weeks. Temporary repair - install tarmac or concrete ramp within 7 days.	SI	M12
At MCB-OD crossings vegetation is growing at or is likely to grow to 150mm within the detection area	Remove vegetation growing within the detection area.	SC	SC

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
At MCB-OD crossings obstructions are present within the detection area	Remove obstruction(s) within the detection area.	SC	SC
2.1 Surface Units - Load Bearing Systems 1 (e.g. Strail, Holdfast, Rosehill)			
Panel(s) rocking - all crossing types.	Load bearing systems should not rock. If they do, panel(s) either damaged or units not being properly supported by cills or sleepers. Notify Signaller and ICC, and SM(OT). Decide if the crossing needs to be closed to vehicular traffic. Immediate action - lift panel(s), investigate and rectify. If immediate rectification not possible, place watchman. LCM to decide on any further mitigation (e.g. close crossing to public, impose ESR, ESR with full time watchman etc). Permanent repair, close up gaps and reset end restraints within 7 days.	SC	SI
Not gapped correctly - all crossing types.	Load bearing systems are joined together with ether tie rods or turret plates. If gaps appear, likely that rod or turret plate broken or missing. Notify Signaller ICC and SM(OT). Immediate temporary rectification such as install timber wedge, rubber wedge, foam filler or similar and place steel pin / timber post or similar as temporary end restraint if none present. Permanent rectification within 4 weeks.	SC	M1
Surface condition - all types **– defect is likely to cause panel failure within 36 hours or defect already a risk to users**	Record cracks, tears, damage, holes. LCM to use judgement as to location and scale of defect, the traffic, usage and any deterioration. Notify Signaller, ICC and SM(OT). Decide if the crossing needs to be closed to vehicular and/or pedestrian traffic (dependent on location of defect). **LCM to decide on any further mitigation** (e.g. remove panel & close crossing to public, impose ESR, impose ESR with full time watchman etc) - rectification is to install new panel(s) or swap around such that defective panel is placed outside of trafficked area. For all other defects - record, take photographs, arrange re-inspection if appropriate to check for deterioration and record on WAIF with rectification timescale using best judgement. Range of timescales for rectification is 36hours to 104 weeks.	SC	M24
Surface condition - all types **– defect is not likely to cause panel failure within 36 hours or defect not a risk to users**	Record cracks, chips, holes, loose infill, small areas where surface has come out. LCM to use judgement as to location and scale of defect, the traffic, usage and any deterioration. Record, take photograph, arrange re-inspection if appropriate to check for deterioration and record on WAIF with rectification timescale using best judgement. Range of timescales for rectification is up to 104 weeks.	-	M24

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Panels sitting proud of cill beams - all crossing types.	Raise WAIF with permanent rectification within 52 weeks. Temporary repair - install tarmac or concrete ramp within 7 days.	SI	M12
At MCB-OD crossings vegetation is growing at or is likely to grow to 150mm within the detection area	Remove vegetation growing within the detection area.	SC	SC
At MCB-OD crossings obstructions are present within the detection area	Remove obstruction(s) within the detection area.	SC	SC
2.2 Surface Units – Load Bearing Systems 2 (e.g. Omni)			
Panel(s) rocking - all crossing types.	Omni load bearing system should not rock. If it does, panel(s) either damaged or units not being properly supported by cills or sleepers. Notify Signaller, Infrastructure Fault Control (ICC) and SM(OT). Decide if the crossing needs to be closed to vehicular traffic. Immediate action - lift panel(s), investigate and rectify. If immediate rectification not possible, place watchman and LCM to decide on any further mitigation (e.g. close crossing to public, impose ESR, ESR with full time watchman etc).	SC	SI
Not gapped correctly - all crossing types.	Omni load bearing systems are normally fixed down to a base plate. If gaps appear, likely that fixings have failed. Notify Signaller, Infrastructure Fault Control (ICC) and SM(OT). Immediate temporary rectification such as install timber wedge, rubber wedge, foam filler or similar and place steel pin / timber post or similar as temporary end restraint if none present. Omni system now obsolete so spares unlikely, permanent rectification will probably need to be full renewal. Notify RAM[T]. Minimum partial replacement of the affected cess, 4ft or 6ft panels with proprietary system within 26 weeks, full deck renewal within 104 weeks.	SC	M6 / M24
Surface condition - all types **– defect is likely to cause panel failure within 36 hours or defect already a risk to users.**	Record cracks, tears, damage, holes. LCM to use judgement as to location and scale of defect, the traffic, usage and any deterioration. Notify Signaller, ICC and SM(OT). Decide if the crossing needs to be closed to vehicular and/or pedestrian traffic (dependent on location of defect). **LCM to decide on any further mitigation** (e.g. remove panel & close crossing to public, impose ESR, impose ESR with full time watchman etc). Rectification is to install new panel(s) or swap around such that defective panel is placed outside of trafficked area. For all other defects - record, take photographs, arrange re-inspection if appropriate to check for deterioration and record on WAIF with rectification timescale using best judgement. Range of timescales for rectification is 36hours to 104 weeks. Consider renewal as system is obsolete.	SC	M24

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Surface condition - all types **– defect is not likely to cause panel failure within 36 hours or defect not a risk to users**	Record cracks, chips, holes, loose infill, small areas where surface has come out. LCM to use judgement as to location and scale of defect, the traffic, usage and any deterioration. Record, take photograph, arrange re-inspection if appropriate to check for deterioration and record on WAIF with rectification timescale using best judgement. Range of timescales for rectification is up to 104 weeks.	-	M24
Panels sitting proud of cill beams - all crossing types.	Raise WAIF with permanent rectification within 52 weeks. Temporary repair - install tarmac or concrete ramp within 7 days.	SI	M12
At MCB-OD crossings vegetation is growing at or is likely to grow to 150mm within the detection area	Remove vegetation growing within the detection area.	SC	SC
At MCB-OD crossings obstructions are present within the detection area	Remove obstruction(s) within the detection area.	SC	SC
2.3 Surface Units - Timbers (mainly UWC & Pedestrian)			
Timbers rocking / moving / damaged - all crossing types **– defect is likely to cause panel failure within 36 hours or defect already a risk to users.**	Crossing may not be in use at time of inspection. If seen, judgement to be used depending on location, usage and condition. Notify ICC and SM(OT). Decide if the crossing needs to be closed to vehicular traffic and/or pedestrian traffic (dependent on location of defect). **LCM to decide on any further mitigation** (e.g. remove timber & close crossing to public, impose ESR, impose ESR with full time watchman etc) - rectification is to install new timber(s). For all other defects - record, take photographs, arrange re-inspection if appropriate to check for deterioration and record on WAIF with rectification timescale using best judgement. Range of timescales for rectification is 36hours to 104 weeks.	SC	M24
Surface condition - all types – **defect is not likely to cause panel failure within 36 hours or defect not a risk to users**	Record cracks, chips, holes, loose infill, small areas where surface has come out. LCM to use judgement as to location and scale of defect, the traffic, usage and any deterioration. Record, take photograph, arrange re-inspection if appropriate to check for deterioration and record on WAIF with rectification timescale using best judgement. Range of timescales for rectification is up to 104 weeks.	-	M24
Anti-slip surface damaged / worn / ineffective.	Raise WAIF, and take photographs, with permanent rectification within 4 weeks.	-	M1
Anti-slip surface damaged / worn / and still effective.	Raise WAIF and take photographs. Range of timescales for rectification is 4 to 52 weeks.	-	M1 - 12
3.0 End Restraints (normally fitted only to Bomac & Polysafe systems but some Strail systems as secondary restraint)			

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
End restraint missing, loose or gapped.	If gaps in panels, treat as gapped panels and rectify at time of gapping defect. Temporary repair - if missing, install temp steel pin or timber posts, if loose - tighten, if gapped - install wedge. Permanent rectification within 7 days.	SC	SI
End restraint missing, loose or gapped.	If no gaps in panels, record, raise WAIF & permanent rectification within 7 days	SI	SI
4.0 Four foot deflector plates / chain guards			
Loose - stand alone deflector plate.	Immediate rectification required - retighten. Record, raise WAIF with timescale for replacement within 52 weeks. **Tighten or remove (temp) ramp required.**	SC	M12
Missing or damaged.	Raise WAIF. Install temporary deflector plate within 7 days. Replace within 52 weeks.	SI	M12
5.0 Surface condition - including approaches on all crossings			
Potholes > 150mm diameter AND > 40mm deep within Stop Line to Stop Line.	Immediate rectification required using 'bagged' tarmac or similar material type to existing surface. Permanent rectification within 26 weeks. Consider refurbishment request to RAM[T].	SC	M6
Potholes < 150mm diameter and < or > 40mm deep within Stop Line to Stop Line.	Raise WAIF. Rectify within 26 weeks.	M6	M6
Potholes - all sizes - outside stop lines.	Notify responsible third party within 7 days for onward rectification by the responsible 3rd party in line with their timescales (most Local Authorities have a 'pot hole' policy).	SI	M6
Surface wear.	LCM to make judgement depending on location, usage and condition. Record, take photographs should further deterioration occur / not occur by next inspection. Raise WAIF with timescale for rectification to suit from 7days to 52 weeks. Consider refurbishment request to RAM[T].	SI	M12
6.0 Edge Beams / Cill Beams			
Rocking - all crossing types - where an immediate risk to rail, road or pedestrian users exists or likely to exist by time of next inspection.	Notify Signaller, ICC and SM(OT). Decide if the crossing needs to be closed to vehicular and/or pedestrian traffic. Immediate action - investigate and temporary rectification if possible (use of wedges / packers etc). If immediate temporary (or permanent) rectification not possible, place watchman and LCM to decide on any further mitigation (e.g. block train traffic, close crossing to public, impose ESR, impose ESR with full time watchman, enhanced inspection until rectification completed etc). Permanent rectification within 26 weeks with enhanced 4-weekly inspection frequency.	SC	M6

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Damaged / Degrading (wear & tear).	Raise WAIF, take photographs to allow comparison should further deterioration occur / not occur by time of next inspection. Timescales for rectification to be within 26 weeks although reprioritisation is allowed subject to confirmation of no deterioration. Consider refurbishment request to RAM[T].	M6	M6
More than 2 cill beams damaged in any row.	Consider refurbishment request to RAM[T].	-	-
7.0 Fencing			
Incomplete or damaged such that access to railway is easily accessible.	Immediate temporary or permanent rectification required by LCM. If not possible, notify ICC and Signaller to caution trains until temporary repair made. Notify SM(OT). Permanent rectification within 13 weeks unless adjacent land use allows extended timescale as Table 5 NR/L2/TRK/5100.	SC	M3
Incomplete or damaged such that access to railway is not easily accessible.	Notify SM(OT), immediate temporary (or permanent) repair required. Permanent rectification within 13 weeks unless adjacent land use allows extended timescale as Table 5 NR/L2/TRK/5100	SC	M3
8.0 Gates & Stiles			
Wicket gates not locked (if required) or gate catch missing / ineffective (at UWC).	Notify Signaller, ICC and SM(OT). Decide if the crossing needs to be closed to pedestrian traffic. Temporary (or permanent) rectification immediately. Permanent rectification within 7 days.	SC	SI
Wicket gates / stiles / gates - other defects that impact upon their operation.	Raise WAIF with timescale for rectification to be within 26 weeks.	M6	M6
9.0 Sighting distances - where required as primary mitigation at crossings (minimum sighting distance not achievable)			
Sighting not achievable due to encroachment by vegetation - all crossing types.	Notify Signaller, ICC and SM(OT). Immediate rectification required. If not achievable, LCM to decide on mitigation method e.g. imposing ESR/ TSR to suit available sighting, placing watchman or closing crossing to pedestrian traffic.	SC	SC
Sighting distance might become obscured by vegetation and can become less than the required sighting distance before the next inspection.	LCM to remove vegetation if possible. NOTE SC priority for LCM rectification. Notify SM(OT) for permanent rectification within 13 weeks	SC	M3

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Sighting not achievable due to other obstruction either within or outside NR boundary.	Notify SM(OT). If immediate rectification not achievable, the LCM to decide mitigation of imposing ESR/ TSR to suit available sighting, placing watchman (max 24 hours), crossing closure to pedestrians or other. LCM to advise on further mitigation within 24 hours to allow watchman to stand down e.g. if necessary, ESR to remain. Permanent rectification to be advised by LCM within 13 weeks.	SC	M3
10.0 Road Markings and Studs			
Road markings, studs, reflectors or LEDs missing	LCM to make judgement depending on location, usage and condition. Take photographs raise WAIF with timescale for rectification to be within 36 hours – 26 weeks.	SC	M6
Road markings erased or indistinct (at least 70% of material for each individual road marking remains)	Raise WAIF with timescale for rectification to be within 8-26 weeks.	M2	M6
11.0 Roadway, Pedestrian Walkways or Bridleways			
Incorrect width on highway crossing (dimensioned on Ground Plan).	Notify SM(OT), raise WAIF for rectification within 13 weeks. Rectification will involve placing additional panels or correcting road markings.	M3	M3
Incorrect width on pedestrian crossing – all types and bridleways.	Notify SM(OT), raise WAIF for rectification within 13 weeks. Rectification will involve placing additional panels or timbers to achieve correct width.	M6	M6
Flangeway gaps <60mm wide and signs of flange contact present	Notify ICC for immediate response and Signaller to caution trains until rectification is complete.	SC	SC
Flangeway gaps <60mm wide and signs of flange contact not present	Notify SM(OT), raise WAIF for permanent rectification within 13 weeks	M3	M3
Flangeway depths <50mm deep on direct loading systems and <55mm deep on bridging systems and signs of flange contact present	Notify ICC for immediate response and Signaller to caution trains until rectification is complete.	SC	SC
Flangeway depths <50mm deep on direct loading systems and <55mm deep on bridging systems and signs of flange contact not present	Notify SM(OT), raise WAIF for permanent rectification within 13 weeks	M3	M3
12.0 Audible warning not functioning correctly			

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Single audible warning device not working	Notify ICC for immediate rectification.	SC	SC
All audible warning devices not working MCB	Notify ICC for immediate rectification and notify Signaller.	SC	SC
All audible warning devices not working Automatic Crossing inc MSL.	Place watchman at crossing, notify ICC for immediate rectification.	SC	SC
Another Train Coming Warning not working	Notify ICC for immediate rectification and notify Signaller. LCM to make judgement if mitigation is needed depending on location e.g. proximity to station and usage. Mitigations can include remaining on site, placing a watchman or requesting Signaller to caution trains.	SC	SC
Sound muted / timings incorrect	Notify ICC for immediate rectification and notify Signaller. LCM to make judgement if mitigation is needed depending on crossing type and location e.g. proximity to station and usage. Mitigations can include remaining on site, placing a watchman or requesting Signaller to caution trains.	SC	SC
Incorrect sound	Notify ICC for immediate rectification and notify Signaller. LCM to make judgement if mitigation is needed depending on crossing type and location e.g. proximity to station and usage. Mitigations can include remaining on site, placing a watchman or requesting Signaller to caution trains.	SC	SC
13.1 Barrier operation			
Any barrier not lowering	LCM to remove any single obvious defect obstructing the mechanism. If immediate rectification is not possible, notify ICC for immediate rectification and Signaller to caution trains until rectification is complete.	SC	SC
Automatic crossing lowering sequence too short	Notify ICC for immediate rectification and Signaller to caution trains until rectification is complete at automatic crossings.	SC	SC
Excessive lowering time Automatic crossing	Within 2 seconds of prescribed lowering time notify ICC for immediate rectification, in excess of 2 seconds from prescribed lowering time action as above and notify Signaller to caution trains.	SC	SC
Excessive lowering time MCB crossing	Notify ICC for immediate rectification and notify Signaller.	SC	SC
Short lowering time MCB crossing	Notify ICC for immediate rectification and notify Signaller.	SC	SC
No damping of barrier	Raise WAIF with timescale for rectification within 4 weeks.	-	M1
Barrier not raising at all	Notify ICC for immediate rectification and notify Signaller to take appropriate action as necessary, e.g. caution trains.	SC	SC

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Barrier slow in raising	Notify ICC for immediate rectification and notify Signaller.	SC	SC
Barrier hunting	Raise WAIF with timescale for rectification within 4 weeks.	SC	M1
13.2 Barrier boom			
Obvious severe structural damage	Notify ICC for immediate rectification and notify Signaller. LCM to decide if mitigation is needed e.g. remain on site, place a watchman or request Signaller to caution trains.	SC	SC
Stay wire snapped / missing / snagging	Notify ICC for immediate rectification and notify Signaller.	SC	SC
Stay wire sagging	Raise WAIF with timescale for rectification within 4 weeks.	-	M1
Minor structural damage	Raise WAIF with timescale for rectification within 4 weeks.	-	M1
Boom light out / missing / incorrectly aligned	LCM to rectify obvious defect to boom light mounting bracket where possible, if not possible notify ICC. Notify other defects to ICC for immediate rectification.	SC	SC
Barrier boom marking incorrect	Raise WAIF with timescale for rectification within 13 weeks.	-	M3
Barrier length incorrect	Raise WAIF with timescale for rectification within 13 weeks.	-	M3
13.3 Barrier skirt			
Skirts hitting the road	Raise WAIF with timescale for rectification within 4 weeks.	-	M1
Strut / dropper missing non consecutive in skirt	LCM to rectify defect or make temporary repair where possible. If not possible, raise WAIF with timescale for rectification within 13 weeks.	-	M3
2-4 Consecutive Struts / droppers missing in skirt	LCM to rectify defect or make temporary repair where possible. If not possible, raise WAIF with timescale for rectification within 7 days.	-	SI
>5 Consecutive Struts / droppers missing in skirt	LCM to rectify defect or make temporary repair where possible. If not possible notify ICC for immediate rectification.	SC	SC
Significant damage to skirt e.g. vehicle damage, bottom rail ineffective or incomplete,	LCM to rectify defect or make temporary repair where possible. If not possible notify ICC for immediate rectification.	SC	SC
Skirt where fitted not folding	LCM to remove any single obvious defect obstructing the mechanism where possible. If unable to be rectified, raise WAIF with timescale for rectification within 7 days.	-	SI
14.0 Telephone not functional / missing / line poor quality			
Level Crossing user phone	Notify ICC for immediate rectification and notify Signaller to take appropriate action as necessary, e.g. caution trains.	SC	SC

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
Public Phones at any crossing other than MCB	Notify ICC for immediate rectification. Decide on mitigation needed until rectification. Either place watchman or notify Signaller to caution trains.	SC	SC
Public where fitted to an MCB	Raise WAIF with timescale for rectification within 7 days.	-	SI
Telephone incorrectly labelled inside	LCM to rectify defect where possible. If not possible raise WAIF with timescale for rectification within 13 weeks.	-	M3
Telephone incorrectly labelled outside	LCM to rectify defect where possible. If not possible raise WAIF with timescale for rectification within 13 weeks.	-	M3
15.0 Road traffic light signals			
Road traffic light signals incorrectly aligned and the majority of the road aspect signal is visible at the required sighting point	Raise WAIF with timescale for rectification within 13 weeks.	-	M3
Road traffic light signals incorrectly aligned and the alignment ineffective	Notify ICC for immediate rectification and notify Signaller. LCM to decide if mitigation is needed e.g. remain on site, place watchman or request Signaller to caution trains.	SC	SC
Road traffic light signals not functioning correctly	Fault Control for immediate rectification. Any more than one light out on either approach to the crossing trains to be cautioned.	SC	SC
Road traffic light signal reflectorised border is incomplete, or not clearly visible	Raise WAIF with timescale for rectification within 13 weeks.	-	M3
Road light assembly is damaged or backboard is faded	Raise WAIF with timescale for rectification within 13 weeks.	-	M3
Road light assembly is inadequately secured	Raise WAIF with timescale for rectification within 7 days.	-	SI
Road traffic light signal hood is obscuring the aspect	LCM to rectify / temporarily repair defect where possible. If not possible notify ICC for immediate rectification	SC	SC
Road traffic light signal incorrect hood, damaged or missing hood and is not obscuring the aspect	Raise WAIF with timescale for rectification within 7 days.	-	SC
16.0 Various			

Condition	Action Level Crossing Manager / Delivery Unit	Initial priority	Permanent Rectification Timescale
MSL stop light not working	Notify ICC for immediate rectification and notify Signaller to take appropriate action, e.g. caution trains. LCM to decide if additional mitigation is needed e.g. remain on site or place watchman.	SC	SC
Wicket gates not locked (if signaller controlled locking fitted)	Notify ICC for immediate rectification and notify Signaller to caution trains unless LCM remains on site or watchman is placed.	SC	SC
Crossing equipment encroaching on the footpath / carriageway	LCM to rectify obvious defect where possible. If not possible Notify ICC. Example – Barrier pedestal front door	SC	SC
Crossing equipment encroaching on the railway structure gauge	LCM to rectify obvious defect where possible. If not possible notify ICC. Example – Pedestal cage	SC	SC
Damaged or ineffective power operated gate opener where fitted	LCM to rectify defect or make temporary repair where possible. If not possible raise WAIF with timescale for rectification within 7 days.	-	SI
17.0 Signs			
Whistle board (where fitted) missing, obscured, dirty, vandalised or incorrectly aligned	LCM to rectify defect or make temporary repair where possible. If not possible raise WAIF with timescale for rectification within 7 days. LCM to decide on mitigation method, e.g. notify the signaller to caution trains, remain on site or provide a crossing attendant and / or arrange for an ESR as needed if immediate rectification is not possible.	SC	SI
Signs missing, obscured, dirty, vandalised or incorrectly aligned on public road crossings	LCM to rectify defect or make temporary repair where possible. Notify local / highways authority.	SC	-
Signs missing, obscured, dirty, vandalised or incorrectly aligned on public and private user worked, footpath and bridleway crossings,	LCM to rectify defect or make temporary repair where possible. If not possible raise WAIF with timescale for rectification within 7 days. LCM to decide on mitigation method, e.g. notify the signaller to caution trains, remain on site or provide a crossing attendant and / or arrange for an ESR as needed if immediate rectification is not possible.	SC	SI

Standards Briefing Note

Ref: NR/L2/SIG/19608	**Issue:** 7
Title: Level crossing asset inspection and implementation of minimum action codes	
Publication Date: 27/05/2014	**Compliance Date:** 06/09/2014
Standard Owner: Professional Head [Signalling and Controls]	
Non-Compliance rep (NRNC): Kevin Boyd	
Further information contact: Rachel Shannon	**Tel:** Rachel.shannon@networkrail.co.uk

Purpose: This document provides Level Crossing Managers (LCMs) and Delivery Unit staff, see RACI in clause 4, with acceptable means of compliance for the inspection of level crossing assets.

This document assists in the mitigation of the following high level risk:

•Level Crossings: vehicle, person or animal on the line at risk of collision.

The inspections form part of a multi-disciplinary process that demonstrate that level crossings remain safe, reliable and legally compliant.

Scope: This process describes a method of inspecting level crossings on Network Rail Managed Infrastructure. It includes:

a) preparing for inspections;

b) undertaking inspections, identifying defects and the minimum actions to be taken on site;

c) recording inspections and defects identified; and

d) managing defect repairs.

It does not apply to authorised walking routes that cross the railway unless they are classified as a staff crossing with white lights. It does not apply to road rail access points or track access points.

Assurance requirements are given in Appendices:

- A – Annual check that the inspection frequencies in Ellipse are correct
- B – Checking the quality of repairs to level crossing defects
- C – Monitoring the timescales for rectifying level crossing defects
- D – Checking the quality of level crossing inspections

What's New/ What's Changed and Why:

The standard takes into account the introduction of the Level Crossing Manager post and sets out:

1. Maximum inspection intervals.
2. Defect rectification timescales.
3. Defect minimum actions.
4. Means of assurance for the checking of level crossing asset inspections.

Business process 5400 did not reach its compliance date and will be withdrawn on publication of NR/L2/SIG/19608.

Affected documents:

Reference	*Impact*
NR/L2/SIG/19608 ISSUE 6	Superseded
BUSINESS PROCESS 5400	Withdrawn
NR/BS/LI/268	Withdrawn on compliance

Briefing requirements: *Where Technical briefing (T) is required, the specific Post title is indicated. These posts have specific responsibilities within this standard and receive briefing as part of the Implementation Programme. For Awareness briefing (A) the Post title is not mandatory.*

Please see http://ccms2.hiav.networkrail.co.uk/webtop/drl/objectId/09013b5b804504da for guidance.

Briefing *(A-Awareness/ T-Technical)*	Post	Team	Function
T	Level Crossing Manager	Route	Network Operations
T	Route Level Crossing Manager	Route	Network Operations
T	Operations Risk Advisor	Route	Network Operations
T	Route Asset Manager [Track]	Route	Network Operations
T	Route Asset Manager [Signalling]	Route	Network Operations
T	Section Manager [Off-track]	Route	Network Operations
T	Track Maintenance Engineer	Route	Network Operations
T	Signal and Telecoms Maintenance Engineer	Route	Network Operations

T	Section Manager [Track]	Route	Network Operations
T	Section Manager [Signalling]	Route	Network Operations
T	Section Planner [Off-track, Track, Signalling]	Route	Network Operations
T	Infrastructure Maintenance Engineer	Route	Network Operations
A	Area Director	Route	Network Operations
A	General Manager	Route	Network Operations
A	Route Infrastructure Maintenance Director	Route	Network Operations
A	Infrastructure Maintenance Delivery Manager	Route	Network Operations
A	Operations Manager	Route	Network Operations
A	Infrastructure Maintenance Services Manager	Route	Network Operations
A	Route Legal teams	Route	Network Operations
A	Infrastructure Maintenance Protection Co-ordinator	Route	Network Operations
A	Route Safety Improvement Manager	Route	Network Operations
A	Section Administrator [Off-track, Track and signalling]	Route	Network Operations
A	Community Relations Manager	Route	Government and Corporate Affairs
A	Route Control Manager	Route	Network Operations
A	Local Operations Manager	Route	Network Operations
A	Mobile Operations Manager	Route	Network Operations
A	Current Operations Manager	Route	Network Operations

**NOTE: Contractors are responsible for arranging and undertaking their own Technical and Awareness Briefings in accordance with their own processes and procedure*