

SECTION 23 I

Combined Permanent Way and surfacing system layout plan

PUBLIC VEHICULAR LEVEL CROSSINGS

Where not provided by Railtrack, a combined Permanent Way and surfacing system layout plan shall be provided by the Contractor for acceptance by the Employer's Representative, prior to commencing works associated with the Permanent Way or level crossing surfacing system. The combined Permanent Way and surfacing system layout plan shall detail the following:

- (i) Schematic line diagram (Scale 1:100) detailing the existing Permanent Way layout including rail joints, exact extent of timber/concrete sleepers with centre-lines of sleepers shown where a change of material occurs, surface cable routes, track equipment and outline of existing level crossing surfacing system.

Dimensions between all rail joint centre-lines shall be shown to the nearest millimetre.

Dimensions between rails of adjacent tracks shall be shown, back edge to back edge at 5.0 metre intervals.

Cross-check dimensions shall be shown at both ends of survey connecting cess and six foot rails together. Dimensions shown along any given rail shall numerically correlate with any other given rail.

Individual crossing surfacing components shall be detailed.

The rails shall be shown a minimum 65 metres in both directions for all tracks from the centre-line of the level crossing surfacing system.

- (ii) Schematic line diagram (Scale 1:100) detailing the proposed Permanent Way layout including rail joints, exact extent of timber or concrete sleepers with centre-lines of sleepers shown where a change of material occurs, surface cable routes, and outline of level crossing surfacing system.

Schematic line diagram shall cover the same overall length of track as specified (i) above.

Dimensions between all joints, existing or new, shall be shown to the nearest millimetre.

Dimensions between rails of adjacent tracks shall be shown back edge to back edge, at 5.0 metre intervals. Overall dimensions shall be shown either end of a track to be renewed or rerailed, linking existing joints with the precise location of where new joints are to be positioned.

Existing Permanent Way and proposed alterations to the same shall be shown on the drawing.

- (iii) Schematic line diagrams (Scale 1:50) showing in detail a plan view of the level crossing surfacing system arrangements. The plan view shall detail the following:
- (a) outline of individual sleepers,
 - (b) individual components of level crossing surfacing system,
 - (c) running and back edges of all rails,
 - (d) nearest rail joints (2 per rail) either side of level crossing surfacing system components,
 - (e) centre line of carriageway with respect to surfacing system components, complete with setting out details for centre-line,

The plan-view shall be fully dimensioned with respect to rail joints, sleepers and surfacing system components, and shall include a materials list detailing Permanent Way and surfacing system requirements.

(231.001)

Road vertical profile

- 2** Where not provided by Railtrack, a longitudinal section of the road, both over and either side of the level crossing shall be provided by the Contractor for acceptance by the Employer's Representative. The longitudinal section shall be produced to the scales 1:100 horizontal and 1:10 vertical, and shall include the following:
- (i) a continuous vertical section of the carriageway centre-line, extending 40.0 metres either side of the level crossing commencing from the outside cess rails (2 No zero chainages). The overall length of the longitudinal section will need to be increased if an even gradient is not evident 10.0 metres either side of the 40.0 metre chainages. Such an extension shall continue until a minimum 20.0 metre even gradient is obtained beyond the 40.0 metre chainage, or unless otherwise terminated by the Employer's Representative.
 - (ii) spot levels taken at 1000 mm intervals along the centre-line, commencing at the outside cess rails (zero chainages),
 - (iii) the overall plan dimension between zero and dimensions along the same line to intermediate rails, with spot levels at these intermediate rail points.

(231.002)

Tolerances for setting out of level crossing works

- 3** Foundations for barrier equipment, flashing road signals, camera columns and lighting columns shall be installed to the co-ordinates specified on the AFIGP to a tolerance of ± 20 mm of the specified co-ordinates.

(231.003)

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| Partial renewal of level crossing surfacing system | 4 | <p>Where specified on the AFIGP or combined Permanent Way and surfacing system layout plan, level crossing surfacing system components, shown as defective, shall be replaced with products of similar dimension, material and construction and compatible with the existing Permanent Way.</p> <p>Where specified on the AFIGP or combined Permanent Way and surfacing system layout plan, extensions to the existing level crossing surfacing shall be carried out with products of similar dimension, material and construction to those currently in use.</p> <p style="text-align: right;">(231.004)</p> |
| Complete renewal of level crossing surfacing system | 5 | <p>Where specified on the AFIGP or combined Permanent Way and surfacing system layout plan, the existing level crossing surfacing system shall be removed and replaced with a proprietary level crossing surfacing system in accordance with Clause 231.006, specifically designed for use at the location.</p> <p style="text-align: right;">(231.005)</p> |
| Level crossing surfacing system | 6 | <p>Level crossing surfacing systems shall be in accordance with Railtrack Line Specification RT/CE/S/040.</p> <p style="text-align: right;">(231.006)</p> |
| Minimum run-off for level crossing surfacing system | 7 | <p>The level crossing surfacing system shall be installed to provide a surface 500 mm beyond the outside edge of any lining designating the back-edge of the footpath. This dimension is measured at right-angles to the alignment of the adjacent footpath.</p> <p style="text-align: right;">(231.007)</p> |
| Level working surfaces around crossing equipment | 8 | <p>The area between the level crossing surfacing system and crossing equipment shall be brought up to or reduced as necessary to 80 mm below the level of the top of the barrier foundation for any given corner of the level crossing to provide a horizontal finished working surface around the crossing equipment.</p> <p>Level working surfaces shall be provided for a minimum of 1.0 metre around all level crossing barrier foundations, local control units, emergency manning cabin and toilet facilities. Similar level working surfaces shall be provided around the REB pertaining to the level crossing, where not provided as an integral part of the REB foundation.</p> <p>Areas requiring concrete, flexible or ballast level working surfaces shall be or specified on the AFIGP.</p> <p>Flexible and ballast level working surfaces shall be retained with 250 mm x 50 mm x 900 mm concrete pin-kerbing, founded and haunched with concrete STI mix in accordance with Section 85: Concrete for Ancillary Purposes.</p> <p style="text-align: right;">(231.008)</p> |
| Transition kerbs adjacent to level crossing equipment | 9 | <p>Transition kerbs shall be positioned with their lowest finished level directly below the line of any protective barriers (skirted and unskirted) or gates extending over the carriageway.</p> <p style="text-align: right;">(231.009)</p> |

Undertrack crossings (UTX)	I0	UTX(s) required as part of the level crossing works shall be installed at the locations shown on the AFIGP. UTX(s) shall be installed and constructed in accordance with Level Crossing Standard Drawing No. RT/CED/600/2 and Section I90: External Service Ducts. (231.010)
Under-road crossings (URX)	I1	URX(s) required as part of the level crossing works shall be installed at the locations shown on the AFIGP. URX(s) shall be installed and constructed in accordance with Level Crossing Standard Drawing No. RT/CED/600/I and Section I90: External Service Ducts. (231.011)
Alterations to existing turning chambers	I2	Where shown on the AFIGP, turning chambers at the level crossing requiring alteration shall be increased in size and depth to accommodate increased ducting or outlet requirements, as specified on the AFIGP. Any such alterations to existing turning chambers shall be carried out in accordance with Level Crossing Standard Drawing Nos. RT/CED/600/I or RT/CED/600/2 as applicable. (231.012)
Barrier foundations	I3	The location of the level crossing barrier foundations shall be as shown on the AFIGP. Mark II barrier foundations shall be constructed in accordance with Level Crossing Standard Drawing No. RT/CED/600/3.
Bases for other barrier types		Where Mark II barriers are not provided, full design details of the proposed barrier foundations with calculations and design and design check certificate based on the model in Appendix C, shall be submitted to the Employer's Representative.
Use of existing bases		Where renewal of equipment (other than like-for-like renewal) is specified on the AFIGP and existing concrete barrier foundations are to be utilised, full design details of any proposed alterations to the existing barrier foundations shall be supplied to the Employer's Representative. (231.013)
Base for relocatable equipment room (REB)	I4	The location of the REB base at the level crossing shall be as shown on the AFIGP. The REB base shall be constructed in accordance with the requirements applicable to the designated REB type assigned to the level crossing as detailed on Level Crossing Standard Drawing No. RT/CED/600/I5. (231.014)