

SECTION 211

Permanent Way design generally

PERMANENT WAY DESIGN

Unless specified otherwise in the relevant Particular Specification, the horizontal and vertical alignment and layout of relaid and/or reballasted track, including S&C and temporary and permanent tying-in to the existing alignment and clearances at the limits of the work shall be designed by the Contractor.

Track construction details shall be designed by the Contractor, except where specified in the relevant Particular Specification.

Unless specified otherwise in the relevant Particular Specification, the design cross level (cant) shall be two thirds of the calculated equilibrium cross level for the permitted speed at the location.

Alignment schemes shall be based on 10 metre half chords with a minimum transition length of three half chords unless specified otherwise in the relevant Particular Specification. S&C shall not be located on transitions or circular curves unless specified otherwise in the relevant Particular Specification.

The design of the Permanent Way shall be compatible with the signalling track circuit system, and existing signalling and electrification and power equipment at the Site, and shall include all necessary IRJs, and electrical connections for signalling and for electrification and power. Where applicable, provision shall be made for mounting for S&T equipment and point heaters.

The design of Permanent Way shall be carried out by competent Contractor's personnel, and shall be in accordance with Railtrack Line Standards RT/CE/S101, RT/CE/S049, and for CWR, RT/CE/S011, and the additional requirements specified in the relevant Particular Specification, to provide the construction standards specified in Section 217: Construction Standards for Permanent Way.

Details of the proposed track design as specified in Clause 211.005 shall be submitted to the Employer's Representative for acceptance not less than the minimum period specified in the relevant Particular Specification before work is due to commence on the relevant Site, or where applicable before long lead items are required to be ordered.

Issues relating to the design by the Contractor which arise during the implementation, fabrication, installation and test and commission and handover, shall be dealt with and resolved regardless of whether or not the Contractor is undertaking the responsibility of site supervision and/or Contract administration.

Any proposed alterations and/or additions to the design 'Approved for Construction' shall be agreed by the Employer's Representative before the changes are implemented, and the modified design shall be accepted, including recertification where required by the Employer's Representative, before any associated work is brought into use.

(211.001)

Survey of the Permanent Way

- 2** Unless specified otherwise in the relevant Particular Specification, prior to the design of the Permanent Way being undertaken, a survey of the existing track layout and associated lineside equipment shall be carried out by the Contractor in accordance with Section 22: Land and Trackwork Surveys, and copies of the survey drawings as specified in the relevant Particular Specification, showing the surveyed track layout shall be provided to the Employer's Representative.

(211.002)

Design certification

- 3** The design of the Permanent Way for each particular Site shall be independently checked by competent Contractor's personnel, and for each Site, a completed Certificate of Design and Checking (Form B) based on the model shown in Appendix C together with certified Signalling plans and circuit design in accordance with Section 222: Signalling Interface with Permanent Way, shall be provided to the Employer's Representative for acceptance and countersignature, a minimum eight weeks prior to work commencing at the particular Site, unless a different period is specified in the relevant Particular Specification.

(211.003)

Setting out

- 4** A setting out drawing shall be provided relating the existing and proposed track geometry to a baseline tied to a survey grid or other permanent off track features. Check dimensions shall be given to existing trackwork or fixed infrastructure.

For baseline setting out the co-ordinates of the ends of the baseline shall be given. Offsets shall be given to all switch toes, crossing noses, and from the baseline with the position of the offsets dimensioned from the origin of the baseline.

For centre line setting out, all intersections of centre lines and changes in alignment shall be defined by co-ordinates.

In addition to the principal location point for S&C, switch toes and crossing noses shall be referenced to the curve survey half chord reference numbers.

Survey control stations, existing and proposed clearances, and the level datum shall be shown on setting out drawings.

(211.004)

Drawings generally

- 5** The following drawings detailing the Permanent Way design shall be provided as applicable:

- (i) Permanent Way drawings in accordance with Clause 211.006,