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**RAILTRACK PLC**

# MODEL CLAUSES FOR SPECIFYING CIVIL ENGINEERING WORKS

**SECTIONS 185 - 186**
**Track Drainage**

**ISSUE NO. 1 REVISION B**

**RT/CE/C/008/185N**
**Page 1 of 19**

**Date: 31 January 1997**

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**Approved by:** Model Clauses (Civil Engineering) Committee 19 March 1997

**Signature:** .....
for Director, Civil Engineering

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Chairman Model Clauses (Civil Engineering) Committee

**Amendments**

Amendments and additions since the previous issue are marked by a vertical line in the right hand margin.

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**SECTIONS 185 - 186** **TRACK DRAINAGE**

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## *SECTIONS 185-186* *TRACK DRAINAGE*

### *NOTES TO SPECIFIER:*

*These notes do not form part of the Specification.*

***Track drainage generally*** ***185.1*** *Recommendations for the design, construction and installation are given in Railtrack Line Standard RT/CE/C006.*

***Wooden catchpit covers*** ***185.2*** *Where wooden catchpit covers are discovered or known to exist, such covers should be replaced, since such covers when rotten may collapse when walked upon.*

*Regrettably an incident has occurred whereby such a cover, hidden under cess track ballast, was trodden upon and it collapsed. The unfortunate person was thrown onto the electrified rail and electrocuted.*



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## SECTION 185 TRACK DRAINAGE

**Design of track drainage systems generally** **185.001**

!C! Where not shown on the Contract Drawings,!CHECK! drainage
!C! systems for the tracks at the locations detailed in the relevant Particular Specification!CHECK! shall be designed by competent Contractor's personnel to suit the particular features of the Site, and in accordance with the requirements of Railtrack Line Standard RT/CE/S102.

!C! The length and location of the track(s) to be drained, and any requirements to ensure compatibility with the existing drainage system, where applicable, shall be as specified in the relevant Particular Specification.!CHECK!

Track drainage shall be designed to collect and convey from the track and its immediate vicinity, water arising from rainfall or run off from cuttings, adjacent land or springs, and to minimise the risk of the stability of the track being affected by standing or flowing water.

*NOTE TO SPECIFIER*

*Where a drainage system is required at locations where oil leakage occurs or may occur regularly, such as where diesel engines idle, consideration should be given to the specification of oil interceptors within the track drainage system.*

*This Clause should only be included where the Contract includes the design of track drainage*

!C! A scheme drawing and details of the proposed material for the drain pipes and the proposed form of construction shall be provided with the Tender.!CHECK!

!C! Details of the proposed drainage scheme shall be submitted to Railtrack for approval in principle using Form A based on the model in Appendix C.!CHECK!

The position, size, level and materials of construction and condition of the existing drainage systems external to Railtrack owned land to which the proposed drainage shall be connected and any other information pertinent to carrying out the design shall be determined by the Contractor.

*NOTE TO SPECIFIER*

*The above paragraph assumes Railtrack will provide information on existing drainage systems within Railtrack owned land.*

(185.001)

**Design of catchpits** **185.002**

!C! Where a catchpit is proposed to be constructed within ground subject to railway variable loading, the catchpits shall be designed and the design checked as specified in the Contract!CHECK! to ensure that the catchpit can resist, without deformation or collapse, the Permanent Loads and where applicable the surcharge due to RU type loading acting at the underside of the sleepers as defined in BS 5400: Part 2.

!C! A completed Certificate of Design and Checking (Form B) based on
!C! the model shown in Appendix C!CHECK! shall be provided for the catchpit design, a minimum 13 weeks!CHECK! before construction of the catchpits is programmed to commence.



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*NOTE TO SPECIFIER*

*For catchpits design, the design check should be category 111, and specified accordingly in the Technical Workscope Data Sheets.*

Where a catchpit is produced to a standard design, evidence of the structural adequacy as detailed in the manufacturer's literature shall be acceptable, and the design check may be limited to confirmation that the catchpit design strength can resist the design loading specified above.

(185.002)

**Construction of track drainage generally**

**185.003**

*!C!*

Track drainage shall be constructed in accordance with Railtrack Line Standard RT/CE/S102 as qualified or amended by the following Clauses.*!CHECK!*

*!C!*

Excavations for track drainage shall be carried out in accordance with Section 51: Excavations.*!CHECK!*

(185.003)

**Definitions**

**185.004**

The following definitions shall apply:

(i) 'Collector drain' shall mean a drain designed to collect water from the surface and/or from the surrounding ground continuously along its length through open joints or perforations, and which may be laid at the surface, or below the surface of the ground. (Note - "continuously" is taken to include pipes up to 1200 mm long which afford access only at the joints).

Such drains also act as a carrier for the water collected and may additionally be connected to a separate carrier drain.

(ii) 'Carrier drain' shall mean an impervious drain designed to carry water which is laid with joints sufficiently tight to prevent the ingress or egress or water and to prevent the ingress of fine soil particles.

(iii) 'Catchpit' shall mean a chamber provided at intervals in the run of a piped drain to give access from the surface for cleaning out the pipe and including a sump to collect silt.

(iv) 'Outfall' shall mean the place at which a drainage system discharges into another drainage system or watercourse.

(185.004)



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