GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

Indian Railways
Code For The Engineering Department

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CHAPTER I

ORGANISATION AND ADMINISTRATION

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Civil Engineering Department - An Overview

101. The maintenance and renewal of Civil Engineering assets of the Railways is the responsibility of the Open Line Orgainsation of the Civil Engineering Department. The construction activities of the Railways may be under the administrative control of a Chief Engineer (Construction) reporting directly to the General Manager of an Open Line or under the independent administrative control of a Chief Administrative Officer (Construction) or General Manager (Construction) reporting directly to the Railway Board.

Organisational Structure of Open Line Orgainsation

102. The open line orgainsation of the Civil Engineering Department is headed by a Chief Engineer who works under the control of General Manager. The Chief Engineer is the Administrative and professional head of his Department and is assisted by Chief Track Engineer. Chief Bridge Engineer, Chief Planning and Design Engineer and / or a Chief Engineer (General) in regard to their respective functions.

103. Throughout the rest of this Code, the expression "Chief Engineer" wherever used includes Chief Track Engineer, Chief Bridge Engineer and Chief Engineer (Construction) unless the contrary is clear from the context.

104. It is the duty of Chief Engineer to see that adequate and detailed rules exist or are prescribed in departmental manuals for the efficient maintenance and renewal of all open line work/way/bridges and other structures of the Railway and that these are actually maintained at the standard required to satisfy the Additional Commissioner of Railway Safety.

105. At the close of each year the Chief Engineer will append a certificate to the Annual Report of the Railway that the Permanent Way and other structural works on the Railway have been maintained efficiently.

106. The Chief Engineer shall arrange for the preparation and compilation of budget at every budgetary stage and shall coordinate the compilation of Railway's Annual Works Programme.

107. The Chief Engineer shall exercise control to see that no expenditure is in excess of the budget grant and that budget allotment are fully expended in so far as is consistent with actual requirements, general economy and the prevention of large expenditure in the last months of the year for the sole purpose of avoiding lapses. The control should ensure that any money which is not likely to be needed during the year is promptly surrendered so as to allow its appropriation for other purposes.

108. The Chief Engineer Shall maintain in his office a Schedule of Rate for each Division and book of standard specifications and satisfy himself that the rates allowed for works are not excessive.

109. The Chief Engineer shall be in charge of Gazetted Staff Cadre with regard to planning posting and training.

C. A. O. (Const.) / Chief Engineer (Construction)

110. C.A.O./Const/ Chief Engineer (Construction) shall provide necessary direction and control for the efficient and economical execution of all works under his charge.

111. The C. A. O./Const/Chief Engineer (Construction) shall maintain liaison with the Open Line Organisation and shall follow the general policies and procedure laid down for the execution of works. In cases where a different policy or procedure becomes necessary to be followed, he shall do so after due consultation with the Open Line Organisation to ensure proper co-ordination.

112. The C. A. O./Const/Chief Engineer (Construction) shall exercise necessary budgetary control within the allotment of funds at his disposal and shall co-ordinate with the Chief Engineer for the Compilation of budget at every budgetary Stage.

113. The C. A. O./Const/Chief Engineer (Construction) shall co-ordinate with the Chief Engineer with regard to the placement of personnel for the various assignments under his charge keeping in view the over all career development of such personnel.

114. Deleted

115. Deleted

Executive and Accounts Officers

116. The C. A. O./Const/Chief Engineer will exercise a concurrent control along with the Financial Adviser and Chief Accounts Officer over the duties of the officers of the department in connection with the accounts and expenditure and will give all possible support to that officer in enforcing strict attention to the regulations concerning the disbursement of money, the custody of stores and the maintenance and submission of accounts. He will have no authority over the Financial Adviser and Chief Accounts Officer in regard to the internal check of expenditure, but will have a claim on him for assistance in matters relating to Accounts and finance and compliance with his wishes to the fullest extent possible. The Chief Engineer should arrange to keep the Financial Adviser and Chief Accounts Officer fully cognizant of all proceedings and proposals affecting in any way the financial interest of the Railway, so that the latter may watch them properly and give the Chief Engineer the requisite advice and aid to enable him to comply with the demands of financial regularity.

117. In the proper and legitimate discharge of the responsibilities, the Engineers are authorised to incur expenditure within the limits of their financial powers. All claims against the railway arising out of such

authorisation of expenditure are checked (in accordance with the prescribed rules) on behalf of the Railway Administration by the Accounts Officer who arranges to settle the claims which are found to be in order. In so functioning and in giving financial advice to the Engineers, the Accounts Officer acts solely in the interest of the engineers with whom he jointly participates in the process of railway management. Similarly engineers on their part should give due consideration to the financial advice tendered by the Accounts Officer.

118. In cases where an Accounts Officer is unable to accept as proper, any order of an Engineer or any claims arising therefrom, he should bring to the notice of the Engineer the nature of the impropriety or irregularity and suggest the proper and regular course of action under the extant rules and orders. In the event of disagreement between the Accounts Officer and the Engineer the Following procedure should be followed :

(a) The Accounts Officer should furnish a short note of his objection to the Engineer and ask him to obtain the decision of the General Manager.

(b) If the General Manager and the Financial Adviser and Chief Accounts Officer are unable to come to an agreement, the former should consider himself under an obligation to make a reference to Railway Board when so requested by the Financial Adviser and Chief Accounts Officer. While doing so the General Manager should incorporate fairly and fully the comments and views of the Financial Advise and Chief Accounts Officer. The orders of the Railway Board on such a reference when received by the General Manager shall be furnished by him to the Financial Adviser and Chief Accounts Officer.

119. In matters of interpretation of rules and of obtaining sanction of the Railway Board or higher authorities, the duty of the Accounts Officer is to address the executive officer concerned and request him to obtain the orders of the Railway Board. In such cases the opinion of the Accounts Officer should be furnished to the executive officer in the form of a short note, which should be included verbatim in the report made by the General Manager to the Railway Board for orders. When the matter is really very urgent, as for instance, when delay in the issue of orders by the Railway Board may involve a serious financial loss to the Railway or dislocation of business or when a financial irregularity or defect in the working of a department of the Railway has to be promptly brought to the notice of the Railway Board, the Financial Adviser and Chief Accounts Officer may, after addressing the General Manager, send a copy of his note to the Railway Board for information with an explanation of the urgency of the case and a request for the issue of early orders. In all such cases the Financial Adviser and Chief Accounts Officer should await the order of the Railway Board. (C. F. para 109-A).

120. In making proposals for economy or improvement affecting other departments of the railway, the Accounts Officer should always consult the executive officers of the department and such proposals should, as a rule, be sent to the competent executive authority through the departmental officers. But the Financial Adviser and Chief Accounts Officer is empowered if he thinks it necessary to make such references direct to the head of the Railway (cf. para 110-A).

121. In addition to the returns and accounts required to be furnished to the departments by the Accounts Officer, in accordance with the rules in the Railway Codes and other orders of the Railway Board the Accounts Officer should furnish the executive officers of the Railway with such other accounts and returns as may be called for by them. Any statistical or other information required by the executive officers, which can be obtained from the records of the Accounts Office should also be promptly supplied (cf para 111-A).

122. Every Railway Officer should attend promptly to any objection communicated to him by the Accounts Officer (cf. para 1108-G). An item of expenditure may be held under objection for one or more of the following reasons. viz:

- (i) Want of sanctioned estimate;

- (ii) Excess over sanctioned estimate;
- (iii) Want of sanctioned appropriation;
- (iv) Excess over sanctioned appropriation;
- (v) Miscellaneous reasons e. g., absence of vouchers, breach of financial rule, incorrect allocation, etc. (cf para 1112-G).

123. It is the duty of the Accounts Officer to bring to the notice of the executive authority concerned, without any avoidable delay, all items of irregular expenditure held under objection by him and it shall be the function of the executive authority to take the earliest possible steps for the regularisation of the expenditure by according or obtaining the necessary sanction, or by ordering recovery of the amount irregularly disbursed or by furnishing the further information required by the Accounts Officer. (cf Para 1113 G).

124. In the Open Line divisions, the role of the Divisional Accounts Officer in relation to the Divisional Engineers is the same as that of the Financial Adviser and Chief Accounts Officer to the Chief Engineer. In this code the term "Accounts Officer" wherever it is used refers to the Financial Adviser and Chief Accounts Officer of the railway or to the Divisional Accounts Officer of a division, as the case may be.

125. If the executive authority concerned is unable to accept the objection raised by the Accounts Officer, it should at once refer the matter to the next higher authority for his orders and the objection shall not be considered as having been cleared until it has been either withdrawn by the Accounts Officer or overruled by the competent authority. (cf. Para 1114 G).

Divisional Officers

126. The organisational set up of the open line in a Division may consist of more than one Divisional Engineer (Senior Scale) or Senior Divisional Engineer (JA Grade) in charge of a territorial jurisdiction under the administrative control of Divisional Superintendent, and reporting to Chief Engineer, Chief Track Engineer or Chief Bridge Engineer as the case may be on departmental matters.

127. A construction division will generally be under the immediate charge of an Executive Engineer (Senior Scale), under the Administrative Control of the C. A. O./Const Chief Engineer (Construction) and reporting directly to that officer in all matters. In cases where such a construction division is made a part of open Line Divisional set up then the Executive Engineer will be placed under the Administrative Control of the Divisional Railway Manager.

128. For the purpose of this Code the term "Executive Engineer" includes Senior Divisional Engineer (JA) or Divisional Engineer (Senior Scale) holding charges of a division unless the contrary is clear from the text.

129. The Executive Engineer should arrange for the proper execution of works in his division and superintend the works. He is responsible for the punctual execution of orders issued by the C. A. O./const/chief Engineer (const.)/Chief Engineer.

130. Executive Engineers are responsible for the accuracy of all drawings they submit and should attest them by their signatures.

131. It is the duty of the Executive Engineer to pay strict attention to the economical application of all labour and materials. He should also strive to make arrangements for bringing economy into use, on all

occasions, the articles obtainable from General Stores or Surplus and Released Materials Stock and those procurable in the local markets and the natural products of his division.

132. Executive Engineers are strictly prohibited from commencing the construction of any work of expending public funds or entering into any commitments without the sanction of competent authority; also from making or permitting any, except trifling deviations from any sanctioned design of drawing in the course of execution unless under specific authority, or in case of emergency, under the rules in Chapter XI. All unauthorized expenditure will be incurred at the risk of the officer responsible.

133. Executive Engineers are responsible for the good quality of all work done under their orders, and cannot without proper authority, transfer to any one else the executive charge of works entrusted to them for construction.

134. Executive Engineers will take the necessary steps for securing prompt payment for the works under their control. In his arrangements for account-keeping, the Executive Engineer should exercise a real and efficient control and check over his Section Officer (Accounts) or accounts assistants and is responsible for assuring himself that his accounts are regularly posted from day to day.

135. Executive Engineers are responsible for the correctness, in all respects, of the original records of cash and stores, receipts and expenditure, and for seeing that complete vouchers are obtained.

136. Every Executive Engineer is required to report immediately to the Chief Engineer any important accident or unusual occurrence or financial losses by theft, misappropriation or other causes connected with his division, and to state how he has acted in consequence.

137. A summary of the powers delegated to Executive Engineers (which, as regards expenditure, can only be exercised within the limits of budget allotments) should be furnished to the Accounts Officer.

Sub-Divisions

138. The sub unit of a division both in the open line and construction is called a Sub Division. The Sub Division will be in charge of an Assistant Engineer or a Divisional Engineer (Senior Scale)-holding direct charge of an upgraded post of an Assistant Engineer in the open line. In the case of a Divisional Engineer (Senior Scale) holding charge of a Sub Division in an upgraded post, the power and duties prescribed in this Code for an Assistant Engineer shall be applicable to him.

139. Engineering Supervisors should not as a rule be required to keep any public money beyond an imprest. They should keep muster rolls of all labour engaged by them and other prescribed accounts and it will be their duty at all times to see that labour receive full payment at prescribed periods.

Section Officer (Accounts)

140. The duties of Section Officer (Accounts) are to check the arithmetical accuracy of all accounts and returns received from supervisors, and all bills and other claims presented by contractors and others and to compile the divisional accounts and other returns with accuracy in accordance with the several forms prescribed and generally assist the Divisional Engineer in all matters relating to the expenditure of cash and stores in the division. He is responsible for bringing to the Divisional Engineer's notice any irregularities that come to light in examining the accounts.

141. On the open line the Section Officer (Accounts) will function under the professional control of Accounts Officer and under the administrative control of the Divisional Engineer. He will deal with vouchers and other documents/cases up to executive stage and pass them on to Expenditure Accounts Section for further disposal and internal check on behalf of the Accounts Officer.

142. The duties prescribed for Section Officer (Accounts) in paragraph 140 ante will apply mutatis mutandis' to Section Officer (Accounts) attached to construction divisions. The Section Officer (Accounts) should see that the rules and orders in force are observed in respect of all transactions of the division. If he considers that any transaction or order affecting expenditure or receipt is objectionable and will be challenged in internal check by the Accounts Officer, it is his duty to bring this fact to the notice of the Executive Engineer. It will then be his duty to comply with the orders of the Executive Engineer If he has been overruled and if he is not satisfied with the decision of the Executive Engineer, he should make a brief note of the case in his Internal Check Register (Form E. 142' given below) and lay the register before the Executive Engineer, so that the latter may record his reasons for his decision. This register will remain in the personal custody of the Section Officer (Accounts) except when it is submitted to the Executive Engineer. It should be made available to the Accounts Officer at the time of his inspection or whenever called for. It will be kept in the following form :

Form E. 142

SECTION OFFICERS (ACCOUNTS) INTERNAL CHECK REGISTER

Item No.	Brief particulars of the transaction or order objected to in internal check by the Section Officer (Accounts)	Nature of objection (Rule and order to be quoted)	Amount of objection		Executive Engineer's orders (with reasons for not admitting the objection)	Remarks of the Accounts Officer
			Rs.	P.		

Transfer of Charge

143. Transfer Notes.--When an Executive Engineer relinquishes his charge, he should leave for the information and guidance of his successor a statement covering the following points :

- (1) The extent of the Executive Engineer's charge, of the sub-divisions, and of the sections in each sub-division. The names of the Assistant Officers and of the Supervisors incharge of sections.

- (2) All works in hand and uncomplied with orders relating thereto, with detailed notes as to the action taken or suggested for their completion and full explanation of any peculiarity circumstances or apprehended difficulties.

- (3) The position of any banks, cuttings, or lengths of permanent way which require special watch fullness and care.

- (4) Any bridges, buildings, or other structures which call for particular attention or treatment.

- (5) The portions (if any) of the division which suffer, or are likely to suffer, during severe rains, or are liable to inundation by high floods in rivers.

- (6) All prominent features, such as slips, damages by floods and accidents with `which he is acquainted, or of which he has become aware during his tenure of charge.

- (7) Notes about locomotive wells and tanks which are likely to fail or cause anxiety, and about remedial measures taken or suggested.

- (8) All bills for work done remaining unpaid on the date of handing over with reasons why such bills remain unpaid.

- (9) Other unadjusted claims with reasons for their non-adjustment and notes as to any complication likely to arise.

- (10) Notes on the quantity of stone boulders, if any, stacked for emergency purposes.

- (11) The works for which Completion Reports are due with remarks as to the cause of delay in their transmission; also information regarding Completion Drawings not yet submitted.

- (12) A note as regards any speed restrictions on the division.

- (13) A note regarding experimental sleepers or works on the division.

- (14) A note stating definitely whether the Permanent-Way and Station Yard Diagrams have been kept Up-to-date.

- (15) A special memorandum concerning any ghat stations on the division.

- (16) A note on the state of work in the office. Similar "Transfer Notes" should be left by Assistant Engineer under orders of transfer. The relieving officer should study these notes carefully with a view to taking appropriate and timely action after assuming charge.

- (17) Notes regarding any other items which should be specially known to the relieving officer as early as possible, such as encroachments, law cases, other disputes, etc.

- (18) Confidential notes on the staff under him.

144. Taking Charge.-The relieving officer should, on arrival at the headquarters of the charge he is to take over, report himself to the incumbent of the charge for the time being and study the "Transfer Notes" prepared by the latter. He should than takeover charge in the manner laid down in the following paragraphs. He should at the same time report to his immediate superior that he has commenced taking charge.

145. Transfer of Cash.-The cash Imprest Account should be closed on the date of transfer and a note recorded in it, under the signature or both relieved and relieving officers showing the cash made over and received in transfer by them respectively.

146. All records, instruments etc. under the immediate charge of the relieved officer should also be taken charge by the relieving officer. After completely taking over charge, the relieving officer should report the fact to his immediate superior specifying the date on which he assumed charge and forward a copy of the

"Transfer Notes" (para 143). All transfer reports should be passed on to the Chief Engineer who will pass such orders thereon as may be necessary.

147. Incumbency Register.-A register in the form given below (Form E. 147) of incumbents of charges should be kept in every Division and Sub-Division. Every officer should, before relinquishing charge on transfer, call for this register, make the requisite entries pertaining to his incumbency and attest such entries with his full signature.

INCUMBENCY REGISTER

Form E. 147

..... Division or Sub-Division

Name of Officer	Designation	Period of Incumbency	Signature of Officer on relief	Remarks
		From To		

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CHAPTER II

MODES OF INVESTIGATION OF RAILWAY PROJECTS

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201. Project Development Process. The Project Development Process consists of the following sequences :

- (i) Assessment of future needs/requirements;
- (ii) Project formulation, which is to determine the various options to meet the demand;
- (iii) Project investigation which is to examine some selected alternatives as defined in the terms of reference to the Project Investigator and preparation of Techno Economic Survey Reports (cf. Para 203) or Feasibility Reports (cf. Para 202) as the case may be;
- (iv) Project evaluation which may involve economic analysis, (cf. Para 235-F) or Social Profitability Analysis, in addition to financial appraisal;
- (v) Selection of a scheme based on such an appraisal; &
- (vi) Further detailed examination of the selected scheme by conducting a Preliminary survey (cf. Para 204) wherever necessary for accurate costing and preparation of projects reports (cf. Para 502) and investment decisions.

202. Project formulation is an essential part of the planning process and the Project Investigator must be given clear indications regarding the objectives to be achieved and the options to be investigated. Preinvestment decision investigations may relate to long term planning and to decide priorities. Such investigations are in the form of Reconnaissance Surveys (cf. Para 204) where much detailed investigations are not carried out and cost estimation will also be approximate. Investigations of this nature are termed "Feasibility Studies".

203. Techno-Economic Surveys. Pre-investment decision investigations may also involve examination of various alternatives including optimisation of existing facilities to decide the best alternative from financial and operating point of view to make an ideal investment decision. Such investigations relating to new lines, doublings, gauge, conversions schemes, yard remodellings, passenger terminal etc. involving Preliminary Engineering-cum-Traffic Surveys, (cf Para 204) are termed as Techno-Economic, Surveys. In these surveys, data, regarding the growth of traffic is collected, traffic projections are made

the existing facilities are evaluated the possibility of optimising them and new alternative schemes are examined. An estimate prepared based on such an investigation should under ordinary circumstances be sufficiently accurate to permit **investment decision being taken."**

204. Classification of Surveys. The various kinds of Surveys which are carried out as a part of investigation of Railway projects are indicated below :

(i) Traffic Surveys. This is a detailed study to make a forecast of the traffic prospects to facilitate the projection of the most promising route and the category of line (cf. Para 210 and 211) to be constructed in the case of new lines and to assess the quantum of traffic to determine the traffic facilities to be provided on an existing line. These surveys are to be under-taken in conjunction with Reconnaissance or Preliminary Engineering surveys so that the Technical feasibility and costs of the alternative proposals can be taken into account while formulating the recommendations.

(ii) Reconnaissance Survey :

- (a) This term should apply to all rough and rapid investigations of an area with a view to determine the technical feasibility and approximate cost of one or more routes for a projected Railway line from a general examination with the help of contoured Survey of India maps and other available material without a more careful investigation of the field and with the use of only those instruments that will repidly give approximate distances and heights such as prismatic compass, clinometer and similar instruments.

- (b) Where suitable aerial Photographs are available, field investigations by instruments can be considerably avoided/dispensed with by Steroscopic studies of the Photographs and site inspections as may be required.

(iii) Preliminary Survey :

- (a) This consists of a detailed instrumental examination of the rout / or routes selected as a result of "Reconnaissance" in order to obtain a close estimate of the probable cost of the projected line, under this survey. However, staking out of the alignment with a theodolite is not required. Whether a line is to be built or not will usually be decided on the result of the survey considered in conjunction with Traffic survey. The Railway Board may, however, require the submission of an estimate based on Final Location Survey before sanctioning the commencement of construction.

- (b) Whether suitable aerial photographs are available, detailed instrumental examinations of the route/ routes selected as a result of "Reconnaissance Survey" could be considerably avoided dispensed with by using photogrammetric methods which involve plotting of contoured strip maps.

From aerial Photographs on 1: 10,000 scale or 5 times the scale of the available photographs for obtaining an optimum alignment.

(iv) A Final Location Survey will generally be a post investment decision investigation to prepare working details and to make accurate costing in certain cases. The principal differences between the work required in a Final Location Survey and that in a Preliminary Survey is that the alignment finally selected during a survey should be fully staked on the ground with a theodolite and/or **Electronic Distance Measuring Instruments,** the report should be fuller and detailed plans and sections should be submitted.

205. Decision to Undertake Survey.-Railway Administration have no power to undertake Surveys on their own. After a Survey is included in the sanctioned Budget the General Managers can sanction Survey Estimates costing upto Rs. 3 lakhs.

206. Preliminary Investigation.-In the case of construction of new lines a preliminary investigation should be undertaken by the Railway Administration concerned to determine how the proposed line will fit in with the general scheme of future railway development. The preliminary investigation should be based on a careful study of information already available from existing maps, published figures of trade and population of the area to be served and financial and statistical data of existing railways in similar country.

207. Form the results of this investigation it should be possible for the Railway Administration to decide the surveys (see para 204) to be undertaken and take a preliminary view of the category of line (see para 210 & 211) to be provided.

208. If it is decided to undertake a Survey in connection with any proposal for the construction of a new line, additional lines and gauge conversion, estimate for the proposed Survey should be prepared. In the case of Surveys for new lines, the information collected in the course of Preliminary Investigation (vide para 206) should be embodied in the report accompanying the estimate.

209. Terms of Reference.-The project Investigator should be supplied by the Railway Administration with terms of reference, and should indicate the category of line, ruling gradient to be adopted etc. The terms of reference should include instructions regarding the scope and nature of the investigations to be carried out, particulars of any railway lines already projected in the area and what undertakings or interests, if any, are involved in the proposal. The terms of reference should also include instructions to the officer-in-charge of the survey to visit the headquarters of the Railway Administration at suitable intervals both during the progress of work in the field and during the period of recess in order to consult the General Manager and his principal officers and where necessary have the original terms of reference modified from time to time.

210. Categories of Lines.-Broad Gauge lines on Indian Railways are classified into various categories indicated below, on the basis of future maximum permissible speed.

(1) Group `A'-For a sanctioned speed of 160 km. per hour

- The minimum rail section to be adopted will be 60 Kg. in section having traffic density of over 20 GMT and 52 Kgs in other sections.

- The minimum sleeper density shall be 1,660 numbers per Km.
- The ballast cushion shall be 30 cm.

Bridges will be built to revised BG loading of 1975 with a maximum axle load of 22.5 tonnes for the locomotive and train load of 7.67 tonnes per meter behind the locomotives with a maximum axle load of 22.9 tonnes for the train load.

(2) Group `B'-For a sanctioned speed of 130 km. per hour

- The minimum rail section to be adopted will be 60 Kg. in sections having traffic density of over 20 GMT and 52 Kg. in other sections.
- The minimum sleeper density shall be M+7.
- The ballast cushion shall be 25 cm.

Bridges will be built to revised BG loading of 1975 with a maximum axle load of 22.5 tonnes for the locomotive and a train load of 7.67 tonnes per metre behind the locomotives with a maximum axle load of 22.9 tonnes for the train load.

(3) Group `C'-Suburban Sections.

- The minimum rail section to be adopted will be 60 Kg. in sections having traffic density of over 20 GMT and 52 Kg. in other sections.
- The minimum sleeper density shall be M + 7.
- The ballast cushion shall be 25 cm.

Bridges will be built to revised BG loading of 1975 with a maximum axle load of 22.5 tonnes and a train load of 7.67 tonnes per metre behind the locomotives with a maximum axle load of 22.9 tonnes for the train load.

(4) Group `D'-Where the maximum sanctioned speed is 100 Kms/hour, as at present.

- The minimum rail section to be adopted will be 60 Kg in sections having traffic density of over 20 GMT, 52 Kg. in sections having traffic density from 10 to 20 GMT and 44.5 Kg in sections having traffic density of less than 10 GMT.
- The minimum sleeper density shall be M + 7 in sections having traffic density above 10 GMT and M + 4 in sections having traffic density below 10 GMT.
- The ballast cushion shall be 20 cm.

Bridges shall be built to revised BG loading of 1975 with a maximum axle load of 22.5 tonnes for the locomotive and a train load of 7.67 tonnes per metre behind the locomotives with maximum axle load of 22.9 tonnes for train load.

(5) Group `E'-Other sections of branch lines with present sanctioned speed.

- The minimum rail section to be adopted will be 60 Kg in section having traffic density of over 20 GMT, 52 Kg in sections having traffic density from 10 to 20 GMT and 44.5 Kg in sections having traffic density of less than 10 GMT.
- The minimum sleeper density shall be M + 4. However, depending on local conditions a density higher than M + 4 can be adopted where traffic density is 10 GMT and above subject to Railway Board approval.
- The ballast cushion shall be 15 cms.

Bridges will be built to revised BG loading of 1975 with a maximum axle load of 22.5 tonnes for the locomotives and a train load of 7.67 tonnes per metre behind the locomotives with a maximum axle load of 22.9 tonnes for the train load.

211. Meter guage lines on Indian Railways is classified into various categories indicated below :

(1) *Trunk Routes***.-** Having a traffic density of 5 million G. T. Km per Km per annum and above or where the speed will be above 70 Km hour (45 mph).

- The rail section to be adopted shall be 37 Kgs (75 lbs.)
- The sleeper density shall be M + 7.
- The ballast cushion shall be 25 cms.

Bridges will be built to MGML standard of loading i. e. 13.2 tonnes axle loads and a train of 3.87 tonnes per metre run behind the engine.

(2) *Main lines (other than trunk routes)*. - Having a traffic density of 2.5 to 5.0 million G. T. Km per Km per annum.

- The rail section to be adopted shall be 30 Kg.
- The sleeper density shall be M + 7.
- The ballast cushion shall be 20 cms.

Bridge will be built to MGML standard of loading i. e. 13.2 tonnes axle load and a train of 3.87 tonnes per metre run behind the engine.

(3) *Other main lines and branch lines.* Having a traffic density of 1.25 to 2.5 million G. T. Km per Km per annum.

- The rail section shall be 30 Kg.
- The sleeper density shall be M + 4.

- The ballast cushion shall be 20 cms.

Bridges will be built to MGML standard of loading i. e. 13.2 tonnes axle loads and a train of 3.87 tonnes per metre run behind the engine.

(4) *Tertiary lines.* Having a traffic density of below 1.25 million G. T. Km per Km per annum.

- The rail section to be adopted shall be 30 Kg (normally released second-handrail).
- The minimum sleeper density shall be M + 2.

Bridges will be built to MGBL standard of loading i. e. 10.7 tonnes axle loads and a train of 3.87 tonnes per metre run behind the engine.

212. The use of second-hand rails is permissible, provided that they have not lost more than ten per cent of their weight and, having regard to the volume of traffic expected, that their anticipated life in the new line is not less than ten years.

213. Railway Administrations may decide, on the merits of each particular case, the standard of ballasting necessary on first opening.

Surveys

214. Scope of Survey Operations.

(A) As a general rule the work necessary under Preliminary or a final location survey will be :

- (1) Staking out of the centre line;
- (2) Levelling alongwith the centre line, with transverse levels where necessary and cross sections of important rivers;
- (3) Plane Table Survey of a Strip of country 100 metres on each side of the centre line;
- (4) Plane Table Survey of rivers requiring a provision of a water way of 110 sq mts. or upwards;
- (5) Plane Table Survey of Station sites.

(B) Where suitable aerial photograph are available for carrying out Preliminary Engineering Survey by Photogrammetric Technique, the following works will suffice :

- (i) Provision of Centre line pillars at approaches of important bridge/portals of tunnels, and at important road crossing and station sites.
- (ii) Preparation of plan for minimum 100 mts on each side of the proposed centre line. The plan shall also show inter-alia, identifiable points with their description to enable centre line being picked up;

- (iii) Longitudinal Section along the Centre Line.
- (iv) Strip plans of rivers requiring a provision of water way of 110 sq. mts. or upwards with cross sections.
- (v) Strip Survey of Station sites obtained from Photogramatic plotted survey plans.

Alignment

215. In fixing the alignment of railway line, the following points (para 216 to 221) require attention.

216. Position of Curves.-It is preferable to have cuttings and tunnels on straight track but they may be provided on curves if the cost of having them on the straight is excessive.

217. Degree of Curvature.-The sharpest degree of curve to be adopted should normally suit the projected speed corresponding to the category of line proposed. Sharper curves with speed restrictions may, however, be proposed where the cost of keeping down the curvature within the normal limit would be excessive. In the case of survey for additional lines, the guide lines indicated in para 236 may be referred to. In planning the layout of curves for new constructions and additional lines on category `A' routes for Broad Gauge maximum cant of 185 mm may be assumed for the purpose of locating all permanent structures etc. by the side of the curves on a line having a potential for increasing speeds in future.

218. Transition Curves.- The shape of transition shall be a cubic parabola with a linear. The length of transitions should correspond to the speed projected of the projected line and in the case of category `A' of BG the length should be worked out on the basis of 185 mm cant. The cant gradient shall be so chosen that the rate of change of cant/cant deficiency at the maximum permissible speed does not exceed 55 mm/sec. under any circumstances for BG lines. For the purpose of designing the future layout of the curves, a cant gradient of in 1.200 shall be aimed at for BG lines.

219. The desirable minimum length of straight between reverse curve should be 50 m for BG.

220. Gradients - Sags in cuttings should be avoided to the maximum possible extent. If possible sharp changes of gradient should be avoided on curves.

221. Vertical Curves - Vertical curves shall be laid out only on those points of change of grade where the algebric difference between the grade is equal to or more than 4 MM/Metre. The minimum radius of the vertical curves shall be 4000 M for `A' category, 3000 M for `B' category & 2500 M for `D' and `E' categories lines in the case of Broad guage and 2500 M in case of all categories of Metre Gauge routes.

222. Alternative Alignments - Where alternative alignments of importance have been examined and rejected their trace should be indicated by a dotted line on the plans and the reasons for rejecting the alternative should be explained in the reports.

223. Plane Table Survey - As a rule where Plane Table Surveys are carried out all details within a distance of 100 metres of the final alignment should be observed. Particular care should be taken in

determining the boundaries of village land in entering on the plans any other details required for the preparation of land plans. The State Government's requirements for the notification for land Acquisition should be studied for the purpose. The position at which transverse levels and cross sections of rivers have been taken should be clearly marked on the survey plans.

Rivers

224. Important Rivers- If a correct survey of and important river does not exist, the river should be surveyed for a distance of 8 kms. up stream and 2 kms. down stream, all spill channels up stream being shown on the plan; these distance of 8 and 2 Kms. are to be taken as measured at right angles to the centre line of the Railway and not along the course of the river.

225. Gross section should be taken of the river bed at suitable points and the position marked on the survey plan. The level of the highest known flood or ordinary flood and of ordinary low water should be noted on each cross section. The average slope of the river bed is to be determined from a point about 2 Kms above the railway crossing to a point 2 Kms below the same. In case there are sharp changes in the bed slopes the local bed slope will have to be determined over a shorter length.

226. High Flood Levels - Whenever reliable information of high flood levels can be obtained they should be observed frequently and noted. This information is required when deciding on the formation level.

227. Diversion of Rivers - Should it be considered desirable to divert the course of any river or stream, the best method of doing so should be examined, the necessary surveys and sections made, and the diversion shown on the survey plan.

228. Protection Works - Protection works required to prevent encroachment of rivers, to mitigate the effect of bursting of tanks or scour of surface water in the vicinity of the line, should be carefully considered on the ground and the position and extent of such work determined and surveyed, high flood marks of spill water should be carefully sought out and recorded on plans and sections.

229. Construction of New Railway Bridges - Whenever new Railway bridge are built on new lines involving either (i) spans of 24.384 m (80 ft) and above, or (ii) waterways of 304.8m. (1,000 ft.) and above, or (iii) well foundations, a decision should be taken whether the sub-structures should be built :-

- (a) In the case of metre gauge bridge to suit broad gauge loading, or
- (b) In the case of broad gauge single line bridge to allow for future doubling.

In order to enable the Railway Board to decide what should be done, additional information should be given in the Survey Reports as indicated below for each of the bridge falling under each of the three categories given in sub-para above :-

- (a) In the case of metre gauge bridge, the additional cost of building the Sub-structures to broad gauge loading, and

- (b) In the case of broad gauge single line bridge the additional cost of building sub-structures to allow for future doubling.

230. Provision of traction over-head equipment structures on new bridges - In all case of new construction, doubling, avoiding lines and fly-overs, irrespective of the fact whether the section islikely to be electrified in the near future or not, provision should be made in the piers for holes for fixing OHE masts in future in the cases of bridges with a total opening of 45.72 metre (150 ft.)

Station Sites

231. (A) Station Sites - The position of station Yards should be almost the first thing to be looked for in a survey in level country. The common practice of joining up important villages by straight lines on maps of 0.5 Kms. to 1 cm. scale often result in the introduction of unnessarily sharp curves near stations. It generally pays to select a station site on the ground and to produce the straight line through the yard as far as outer signals in both directions before turning in the direction of the next obligatory point. The site for stations should be completely surveyed in such details as to be suitable for plotting to a scale of 10 m to 1 cm and cross sections should be taken, if necessary.

This detailed survey should take in every thing within the proposed boundary of the station yard. The dimensions of the plot of ground intended for the station yard should be sufficient to allow ample space, not only for first requirements but also for extended accommodation likely to be needed to meet increased traffic in the future. Care should be taken to make arrangements for sufficient land outside the boundary of the station yard, for borrow-pits or spoil banks. Borrow-pits near station yards are undesirable, because they provide breeding grounds for mosquitoes and endanger the health of the railway staff and of other persons living in the vicinity.

(B) Where suitable aerial Photographs are available for carrying out preliminary survey by photogrammetric technique, plans for station site may be prepared by enlarging the plans obtained from aerial photographs.

232. If possible, a station should not be near a curve, but if this is unavoidable, the question of the view of the outer signal should be considered. No steep falling gradient should, if it can be avoided, begin within 45 metres of the outermost point. The possibility of new intermediate crossing stations being introduced, when traffic develops, should be considered in grading the section and in fixing the position of stations for first construction. The distance between sites selected for stations should, as far as possible, having due regard to local conditions, be multiples of the ultimate distance apart of crossing stations when traffic is fully developed.

233. Junction Arrangements. --Except in the case where a new line is of a different guage and has entirely its own arrangements, the plans and estimates for the junction should be prepared in consultation with the open line administration of the existing railway. As a rule it is advisable to join nearly 2 Km away from the centre of the junction and hence run parallel to the existing line.

234. Survey for the Provision of Additional Lines. In carrying out the survey for the provision of additional lines (alongside the existing track) the following points require attention (para 235 and 236.)

235. The projected line should be laid parallel to the existing line as far as possible on the right hand side or on the left hand side, depending on

- (i) Location of telephone and telegraph wires.
- (ii) Location of existing station buildings and other goods facilities;
- (iii) Construction of new bridges with least interference to traffic on the existing line as far as possible;
- (iv) In sections where there are pronounced directional movements of empty and loaded traffic, the possibilities of running heavier train loads with multi-engine operations and its effect on the existing bridge structures should be taken into account.

236. While determining the alignment for the additional lines, the following points have to be considered :

- (i) Existing bridges should be extended wherever possible with tracks to the same track centres over the bridge portion as on approaches thereby avoiding reverse curves.
- (ii) Adequate vertical clearance for bridges contained in ﷿IRS Code of Practice for the Design of Sub-Structures and Foundations of Bridges" should be followed, irrespective of whether specified free-board is available or not under the existing bridges. On sections where the raising of track to obtain the required routes and main clearance is impracticable or is otherwise prohibitive in cost, Railway Board's prior approval is required to be obtained for waiving the clearance requirements. (Authority: Railway Board letter No.2011/CE-I/BR/BSC/81/Seminar/Pt.2 dated 01.05.2014)- (**Acs no.48 Dt. 01.05.2014)**
- (iii) The degree of curvature to be adopted on the new line should suit the projected speed corresponding to the category of line. At locations where the new alignment is being located on the outside of existing curves which are sharper than the limiting degree of curvature compatible with the projected speed of the line, the new line has to be located further away to avoid infringements, which will involve additional cost unless the existing curves are also realigned before the construction of new line.

237. Gauge Conversion Surveys.--In carrying out Gauge Conversion Surveys, the objective should be to use the existing assets including formation, bridges, building signalling and permanent way without strengthening if possible and with strengthening if necessary. The following points (Para 238 to 242) require attention.

238. Alignment. --In deciding the alignment of the proposed gauge a decision will first have to be taken whether the retention of the link of the existing gauge in addition to the new gauge is essential on operational considerations. The link may be maintained either by having mixed gauge on that section or independent parallel lines of the new gauges. In sections where the old gauge is not to be retained, the following alternatives are available for consideration :

(i) *Straight Conversion***.--**In this case the centre line of the existing gauge and the proposed gauge are the same. This procedure is to be normally followed within the constraints of grade and the degree of curvature indicated in the terms of reference.

(ii) *Shifted Alignment.***--**In this case the centre line of the proposed gauge is shifted marginally to take some advantage e. g., to use existing platforms or to avoid difficulty in executing earth work like widening of long cutting so that widening is done on one side etc.

(iii) *Parallel Alignment.*---n this case the alignment of the proposed gauge is taken away from the existing alignment. Advantage in following this method is that all work can be carried out without interfering with the existing track. If there is considerable difference in the rail levels between existing and proposed tracks or if a large number of bridges require reconstruction than the adoption of this method requires consideration.

(iv) *Diversion*--.In this case the proposed alignment is taken completely away from the existing alignment for long lengths. This method is adopted in the case of ghat sections, when the existing track is having very sharp curves and steep gradients.

239. Re-alignments of Curves. The higher speed permitted on the proposed gauge will require provision of long transition curves, which will cause a shift of the entire curve inside, which should be kept in view. There may be sharp curves in the existing alignment and the question of retaining some of these curve with speed restrictions or flattening them will have to be decided by working out the cost the realignment vis-a-vis advantages to be gained.

240. Formation.--While it is desirable to provide standard width of formation of banks for the proposed gauge in such of the stretches where the alignment passes through built up areas and the acquisition is difficult and also expensive, adoption of lesser widths and sleeper slopes in good soil condition areas has to be considered. In some cases provision of the walls may also have to be examined. In the case of cuttings, it may be possible to retain the existing widths of cuttings by making side drains pucca and covering them with RCC slabs. When this is not possible for any reason the cutting can be widened to 5.49 m (18 ft.) in the case of BG exclusive of the side drains. In doing so widening of cutting all through can be avoided by adopting a slightly sleeper slope than what is existing especially in the case of stable cutting. Each case, however, has to be decided on its merits after taking into account the soil characteristics and other relevant factors.

241. The possibility of retaining the existing sub-structures of bridges with overstress to the permissible extent with or without strengthening should be examined. Where the condition of bridge is otherwise

satisfactory and adequate free board clearance is available, wholesale re-building of bridges to the standard of the proposed gauge can be avoided, by suitable strengthening of sub-structures.

242. On girder bridges the adequacy of the piers to accommodate bed-blocks for the girder of the proposed gauge and also ballast wall, in the case of abutments have to be examined, in addition to extent of over-stress. When the condition of the arch is satisfactory and sufficient cushion is available or can be provided, its retention may be examined by permitting 100% over stress in the arch masonry. Also the strength of the arches can be determined by carrying out certain tests for which the RDSO may be consulted. In the case of steel girders, their strength will have to be assessed and methods of adequately strengthening them to the standards prescribed for the proposed gauge investigated, provided of course, there is sufficient residual fatigue life left in the girders.

243. Railway Electrification Survey - In carrying out the Surveys for Railway Electrification the following points require the attention of Civil Engineer (paras 245 to 248). The terms of reference for such Surveys shall be issued to the Civil Engineers by the Administration conducting such survey.

244. Similar to that mentioned in Paras 202 to 204 Railway Electrification surveys may also be classified in two categories -

- (a) Cost-cum-feasibility survey as a preinvestment investigation to assist decision making and
- (b) Foot-by-foot detailed survey as a post investment decision survey to assist preparation of working designs and drawings for actual construction work.

In case of urgency it may be necessary to include portions of (b) alongwith (a), but normally the two surveys are taken up separately.

245. Cost-cum-feasibility survey requires a quick survey of the route proposed for electrification to examine the major civil Engineering installations which may have a bearing on the cost of

electrification. This will include study of heavy overline structure like fly-overs. Road over-bridges, through girder bridges and long deck type girder bridge and tunnels to examine whether these will require major or minor modification to permit erection of overhead equipment. An examination of the proposed remodelling plans, track renewals, reballasting including changes in the level of track, realignment of curves, all having a bearing on track geomertry and the dates when these are proposed to be completed. This is necessary as the OHE structure and traction OHE contact wire has to be kept at a fixed geomerical tolerance from the track co-ordinates. In yards, a survey of tracks proposed to be wired will have to be examined for the track centres to prepare slewing plans and assess their cost, for location of OHE structures. Feasibility of running 12' wide EMU stock on suburban routes in vicinity of metropolitan cities will need to be investigated. Availability of suitable land for location of locomotive shed, remote control centres. OHE S & T maintenance depots will need to be examined. Also a quick survey of soil type over the route will reveal the cost involved in foundations.

246. On acceptance of a project report, foot-by-foot detailed surveys are required for the preparation of working drawing for the electrification Projects. This will need detailed examination of all the items

mentioned in para 245 above as well as that of light overline structures like carriage watering arrangements, foot over Bridges, platform shelters, overhead carriage watering arrangements, and water columns, to finalise the plans for their modifications, if required. Detailed, accurate survey of the route will need examination of the above as well as pipe lines running alongside track, track centres soil types, all needed to be examined for location of overhead equipment structures, sites for the various buildings required for electrification are also required. To finalise the design of structures including those for overhead equipment, it will be necessary to ascertain from the meteorological Department the wind pressures prevailing over the route and determine the exposed locations subject to heavy winds, e. g., those on embankments, in gullies with funnel effects and on bridges.

247. Based on the survey carried out as per para 246 above plans will need to be prepared. For preparation of overhead equipment lay out plants, the survey plans in scale 1 : 1000 in open routes and for yards 1 : 500 giving salient details, to facilitate preparation of pegging plans will need to be prepared. This will need accurate marking of location of turn outs, crossovers, track centres, overline structures, level crossings, bridges, drains and pipes running along the track as well as track centres.

248. Site plans marking locosheds/EMU car sheds, maintenance depots remote control centres, control office, repeater stations and staff quarters are required to be made, Land acquisition plans, if required will have to be finalised. All these will need to be finalised in consultation with open line.

249. Field Books.---All measurements and notes taken in the field should be neatly recorded in field books, which should be the basis of all survey plans, drawings and reports prepared in connection with a survey. The plotting of survey plans and drawings should, as far as possible, keep pace with the field work.

250. Notes to be made in the field.-During the survey, careful notes with dates should be made on the ground, from personal enquiry and observation, regarding any information likely to be useful in working out the details of the projects, and in determining the prospects of the proposed line as a commercial undertaking. The following points should receive special attention :

(i) *Facilities for Construction.*-Materials for building, such as cement stone aggregate, sand brick lime, fuel slate, timber, etc., and means for obtaining, working and preparing and transporting the same. Arrangements for ballast and for sleeper supply. Style of roofing to be adopted, Labour, skilled and unskilled, available in the district. Any special difficulties regarding the supply of food or water, Prevailing rates and wages, and modifications in the same likely to be caused by the construction of the railway. Means of transport by land or water, existing or capable of development, and probable rates. Facilities for delivering bridge materials, permanent way, etc. during construction. The use of temporary lines, tramways & c. Depots for receiving and for warding material. Sites for temporary staff quarters to be used during construction, taking into account the convenience of the situation as regards the work, and also any conditions, such as water supply, likely to affect the health or comfort of the occupants. Generally, any local conditions likely to affect rates or methods of construction.

(ii) *Formation***.**-The nature of soil for banks and cuttings and notes for use in grading the section; trial pits should be sunk or borings taken where considered necessary to obtain this information. Specimens of

rocks and stone about which information is desirable, as to their stability or suitability for building purposes, should be collected and submitted to the Geological Survey Department for examination.

(iii) *Bridgework***.**-Protection work and precautions to be taken against scour and encroachments of rivers and streams, and particulars of diversions proposed. The waterway to be provided for small rivers and streams and particulars of diversions proposed. The probable depth and character of foundations for bridges and culverts, and any particulars to be taken into consideration as affecting the design or construction of the same.

(iv) For rivers requiring a waterway of 110 sq. m. (1,200 square feet) or upwards, information should, as far as practicable, be obtained regarding all circumstances likely to affect the design of the bridge, the waterway to be provided, the depth and the character of the foundations and other details. For example, the average rainfall over the area drained by the river with particulars as to the amount and duration of any exceptionally heavy fall which may have been recorded. The level of the highest flood determined from careful enquiries on both banks of the river, the evidence adduced being examined and checked to such extent as may be practicable. Any special floods, with particulars and dates. Any peculiarities of the drainage area as regards form and declivity, and geological or botanical conditions likely to affect the amount or velocity of the flood discharge. Physical characteristics of the bridgesite or the river-bed in its vicinity as affecting the design of the bridge or the amount of waterway required. Evidence of scour or liability of the river to alter its course. Nature and extent of protection works likely to be encountered. Whether a roadway for cart, animal, or foot traffic is likely to be required on the bridge, and whether there are existing roads in the neighbourhood which could be joined up thereto. Particulars of road bridges and irrigation works on the same stream in the vicinity of the proposed railway bridge be obtained.

(v) *Stations***.**-The nature and extent of traffic to be expected at each station and the accommodation to be provided on opening the line also arrangements for extensions to meet increase of traffic; the selection of suitable site with reference to nature of soil, depth of foundation for buildings, water-supply and other conditions; the situation of the station buildings on one side or other of the railway having in view the convenience of local traffic, the positions of the neighbouring towns, roads, rivers & c., and the sites for crossing stations which it may be necessary in the future to provide when traffic develops.

(vi) *Road Crossing, Fencing, etc*. Means of crossing the line by level crossings and bridges, under or over, width of roadway for crossing, and gradients to be allowed on approaches to the same with reference to the class of traffic to be accommodated. Special facilities for crossing to be allowed in the case of villagers owning a large amount of land on the opposite side of the line from the village, diversions of roads. Provisions for canal irrigation channels, and any special arrangements required for leading water from sources of supply on one side of the railway to land laying on the other side. The extent and character of fencing to be provided.

251. The Operation of a Reconnaissance Survey. Though not conducted in the same detailed manner as or with all the instruments used in a Preliminary or Final Location Survey, will get generally cover all the points covered by a Preliminary or Final Location Survey.

252. The scope of Traffic Survey is described in Chapter III.

General Instructions

253. Notification in Local Gazette. Before any survey operations are commenced, a notification in accordance with the terms of Section 4 of the Land Acquisition Act (See Appendix II) is to be inserted in the Local Government Gazette. This should be arranged for by the Railway Administration as promptly as possible after receipt of sanction to the survey, and is independent of the notification published in the Gazette of India by the Railway Board.

254. Damage to Property and Trespass.--The general sanction for a railway survey, given by the Railway Board, does not authorize any interference with the rights or property of public bodies or private individuals. The permission of the officer commanding should be obtained by the Engineer for the entry of the survey party into any military cantonment, fort or entrenched post. In the case of survey passing through a military cantonment, or civil station, the wishes of the officer-in-charge of the cantonment, or civil station should receive due consideration, and his permission should be obtained before any trees are cut or damage done to station property.

255. Compensation for Damage. Where damage to private property is unavoidable, compensation should, if practicable, be paid or tendered direct to the owner on the spot by the engineer before the damage is done. In case of any dispute, the matter should be referred to the local civil authorities to settle with the owner, and the compensation decided upon should be paid as soon as practicable. Should the owner of the property be willing to clear the line himself, he should be allowed to do so and be paid reasonable sum for labour in addition to compensation for the damage done.

256. Religious Edifices etc. Every endeavour should be made to avoid interference with religious edifices, burial grounds or other places or objects which may be considered sacred; where such place or object is inclosed, the enclosure should not be entered except with the permission and in the presence of the person in charge. Similarly, all possible steps should be taken to avoid interference with and prevent the destruction of, ancient remains of archaeological interest.

257. Interference with Pre-existing Railways, Roads, Canals, etc.---Whenever the alignment of a new railway, passes close to or involves any alteration to, or diversion of, pre-existing railways, roads, canals, etc., or interference with any work or land appertaining to the same, the written acceptance of the authorities incharge of such railways, roads, canals, etc., to the proposals involved by the construction of the new railway must in invariably be obtained before any work thereon is put in hand, and the Railway Administration should, therefore, obtain the view of the responsible authority in such cases during the survey.

258. Inquiry should also be made from the State Government in the irrigation Department by the Railway Administration as to whether any dam or river diversion, or any work is proposed which would affect the proposed, railway in any way. If after consultation with the Irrigation Department it is found that any addition or alteration to the Railway would be required owning to such work as is

contemplated by the Irrigation Department being carried out, the Railway Board should be asked if provision for the addition or alteration should be made in the estimates and plans.

259. Military Requirements.-- Where the line lies in the vicinity of a military post, camping ground, rifle range or cantonment, the location should be decided by the Engineer in communication with the local military authorities. Should it, however, be found that the military requirements would involve a considerable extra expense in construction, or great inconvenience to traffic, or would be open to serious objection from any engineering point of view, the matter should be referred to the Railway Board for orders.

260. In the case of important bridges the Railway Administration should consult the local military authorities as to whether a roadway is required, and if so, what form of roadway is necessary, particularly in regard to carrying heavy lorries and guns.

261. Assistance from Civil Authorities. The local civil authorities should be freely consulted by the Engineer during the progress of the survey operations, and their opinion should have due weight in determining the most profitable route to be followed. They should be asked to use their influence, as far as practicable, to protect the bench-marks, pegs and other railway marks from removal or injury.

262. The wishes of the local civil authorities should be obtained as to whether roadways suitable for cart or foot-traffic are required on any bridge.

263. The wishes of the local civil authorities should also be ascertained as to headway and width of span in the case of all bridges over navigable rivers.

264. The correct spelling of all towns and villages included in the survey should be taken from the Alphabetical List of Stations, the Gazetteer or, if not found in either, from the civil authorities.

265. As soon as possible after the field work of a survey has been finished, the local civil authorities should be supplied by the Railway Administration with an Index Plan, and requested to supply data necessary for preparation of estimates of the cost of land for the projected railway (cf. para 901 et. seq.)

266. Local Governments or Administration should be supplied direct by the Railway Administration with a copy of the project report and construction estimate, together with an index plan and section on a scale of one cm. to 0.5 km. on which should be shown the size and positions of all waterways and level crossings to be provided. The local Governments or Administration concerned should, at the same time, be asked to express their views on the following points which, on receipt, should be forwarded to the Railway Board;

- (1) alignment,
- (2) waterways, both in connection with existing channels and possible extension of irrigation,
- (3) headways of bridges over navigable rivers, if any,

- (4) roadways over important bridges (i. e., bridges with spans of 30.5 metres (100 feet) and over and having a total length of waterway of not less than 110 lineal metres (1,200 lineal feet) or 180 lineal metres (600 feet) in case the bridge is close to an important trunk road or highway.)
- (5) level crossings.
- (6) sites of stations, and
- (7) any other non-technical observations they may desire to make.

267. Quarterly Progress Report.---- Commencing from the quarter in which a Survey is sanctioned, a report showing the progress of the survey during each quarter (ending 31st March, 30th June, 30th September and 31st December as the case may be) should be submitted regularly in form below (E. 267) so as to reach the Railway Board before the 25th day of the month following the close of the quarter. The submission of the progress report may be discontinued after the Survey Report is submitted to the Railway Board.

Form E - 267

Progress Report of Surveys

..... **Railway.**

Progress Report for the Quarter ending **.....**

(1) Name of work .....

(2) Sanction No. & date .....

(3) Cost .....

(4) Date of Sanction of work .....

(5) Date of actual commencement of :

(i) Engineering Survey .....

(ii) Traffic Survey .....

(6) Actual percentage of Progress obtained by the end of the month.....
.....

(a) **Field work.**

(i) Engineering Survey .....

(ii) Traffic Survey .....

(b) **Recess work.**

(i) Engineering Survey .....

(ii) Traffic Survey .....

(7) Target on which the Engineering and Traffic Survey reports should be submitted to the Board's office. .....

(8) Special difficulties if any in progress of the surveys and in the compilation of the report.....

.....

.....

268. Feasibility Studies. Before commencing Project Investigation relating to investments involving augmenting line capacity, improving terminal facilities or repair facilities, the Project Investigator must ascertain from the user department the requirements of the user. Before proposals for new marshalling yards, goods or passenger terminals and transship yards etc., are formulated, work study teams should go into the actual working in the yard etc. (refer para 604-E). The Project Investigator must keep the results of such studies in view while investigating the schemes. After developing the proposals the plans must be got approved and signed by the concerned departments to avoid the substantial modifications at a subsequent stage (refer para 604-E). Estimates must be based on such approved plans only.

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CHAPTER III

TRAFFIC SURVEY

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301. Definition of Traffic Survey. Traffic Survey is a detailed study of the traffic conditions of an area or Section with a view to assessing the traffic prospects and the financial implications of new line projects, restorations, other traffic facilities like gauge conversions schemes, doublings or major line capacity works.

302. Objects of the Traffic Survey.-The decision on any new projected Railway system or gauge conversion etc. can be arrived at only after the economic study of the project. Traffic Survey attempts to arrive at an assessment of the total traffic likely to be generated in the foreseeable future with special reference to the catchment area and the inter-model allocation of total streams of traffic between rail and road.

303. The earnings and working expenses should be computed for each year of the economic life of the project-which may be taken as 30 years-so that based on the annual cash flow and applying the DCF Technique, the project may be appraised to see whether it will yield the minimum acceptable rate of return of 10%.

304. Terms of Reference.-An experienced Administrative Officer of the Traffic (Commercial or Operating) Department should as a rule, be entrusted with the work of Traffic Survey. To ensure that the estimates of anticipated traffic, capital costs and recurring expenses etc. are realistic and the financial appraisal of the project including the phasing of investments and return at each stage are worked out as correctly as possible and with a great deal of objectivity, an Account Officer of appropriate status-Senior Scale or Administrative Grade-experienced in Traffic Costing should be associated with the Traffic Survey Officer from the inception and work in close association with the survey team. The Chief Engineer in charge of the Engineering survey of the project will also be in overall charge of the traffic survey of the project and the traffic survey report will be prepared under his general guidance in order to ensure that the most economic proposals are formulated. The traffic survey team should be supplied by the Railway Administration, with terms of reference containing instructions regarding the scope and nature of the investigations to be carried out. The traffic survey team should also visit the headquarters at various intervals both during the progress of the work in the field and during the period of recess in order to consult the General Manager and other principal Officers, and where necessary, have the original terms of reference modified by the competent authority. This is necessary in order that the Main line Administration may fully determine the design of the new line etc. under investigation.

305. Field Work.-The Traffic Survey team should also work in close collaboration with the Engineering Survey Party, if there is one in the field at the same time, and while collecting information should visit all trade centres in the area, consult local authorities and prominent citizens freely, both as regards trade and industry and the most suitable alignment for the proposed Railway line.

306. In the case of a New Line Project, the information to be collected by the traffic survey team should emanate from a study of the economic base of the area surveyed from the following angles :

- *(a)* Human resources;
- *(b)* Agricultural resources;
- *(c)* Mineral resources;
- *(d)* Industries located and projected;
- *(e)* The pattern of trade and commerce;
- *(f)* Existing transport facilities;
- *(g)* Tourism and tourist prospects;
- *(h)* Banking facilities;
- *(i)* National Income; and
- *(j)* Planning for economic development of the area by the local Government or by the Central Government.

However, while the forecast of traffic requirements given by other departments or Government Organisations may be kept in view, the team should make its own assessment based on such information which should be capable of being verified independently, regarding the setting up of specific industries and consequent growth of traffic requirements for movement of raw materials to and finished products from such industries. The survey team must probe deep into the various stages of scheduling of the project e. g. what commitments have been entered into by the Project authorities and whether the progress in execution of the Project is adequate to justify any specific claim in respect of anticipated traffic.

307. Methodology to be adopted in the assessment of traffic prospects and traffic forecasting-The traffic survey team should adopt the following methods, as appropriate to each component of traffic in making assessment of Potential traffic prospects :

- *(a)* The conventional method of actual census of particulars of goods and passengers using the existing means of communication;

- *(b)* Statistical methods of forecasting based on regression analysis especially in respect of traffic relating to the major commodities in the area and its correlation with specific economic activities; and

- *(c)* Building up models based on such observations and data and applying sensitivity tests to ensure that the models adopted give a reliable forecast.

308. The following further guidelines should be observed by the traffic survey team in estimating the earnings :

(i) earnings should be assessed for each commodity and for the lead from its origin or source upto the point of termination of the traffic. In assessing the additional earnings, credit should be taken only for that portion of traffic which would not have been carried by the Railways but for the construction of the new line, etc. Further only the additional traffic beyond the optimum existing capacity should be reckoned for financial appraisal.

(ii) When part of the lead is over the contiguous Railway system, it should be ensured that the other Railway does not take credit for the same traffic to justify some other works. For this purpose, a proper co-ordination among the concerned Railways will be necessary. It should at the same time, be ensured that in case line capacity works or terminals or other facilities are to be undertaken in the contiguous section/Railway system, the project estimate should include the cost of such additional line capacity works and other facilities required to move the traffic anticipated to be generated from time to time during the life of the project. It has to be ensured that extraneous works not connected with the objectives of the scheme are not included. Where another Zonal Railway system is involved, that Railway may be c consulted in defining the scope and cost of such works. In case it is considered that adequate line capacity exists in the contiguous section or Railways system so that the additional traffic on the new line can be carried throughout its lead on the Railway without any hindrance, the Railway should certify that no additional works would be required to be undertaken anywhere on the system to carry this traffic. Where some other Zonal Railways are involved, the certificate to be given should be in consultation with those Railways.

(iii) In cases where one or more of the various works included in the group justification for a project are self-contained, selection of priorities after consideration of various alternatives should be done with a view to sub-optimisation, i. e., to realise the optimum benefit for the project by substituting less remunerative works by those expected to yield a higher return.

309. Estimates of Gross Earnings of a New Line Project.--The estimates of coaching and goods earning should be made separately and the results obtained compared with the statistics of existing similar lines. For this purpose the comparison should be made of.

- (a) Earnings per kilometre per week; and

- (b) Earnings per train kilometre. The estimate for earnings should be based not only on the standard rates and fares, but also on the assumption that the freight rates and fares over the

line be raised by one and a half, two or three times the standard distance rates and fares, in the cases where the return is not found to be remunerative and a recommendation made regarding the extent of inflation which the traffic can bear.

310. For estimating coaching earnings, assessment should first be made of the passenger traffic handled by the existing modes of traffic. This can be done by taking a sample count of the existing passenger traffic moving between different points on the section and on the contiguous existing rail sections. This count can be taken over two spells of 3 days each, as far as possible, one each during the peak and the slack season, should give a break up of the number of passengers moving by various public transport like buses and taxis as also by private means.

311. Deleted.

312. The following statistics to the section should be obtained :

The population of the area (to be served by the new line) in the following details :

- (1) Population of the market towns through which the line passes;
- (2) Population of the area served by the section excluding the population of the market towns;
- (3) The desnsity per square kilometre of the population;
- (4) The composition of the population by age groups;
- (5) The growth rate of the population;
- (6) Details of melas, fairs, festivals etc. regularly held and the number of people travelling to and attending these;
- (7) Characteristics of movement of labour force inside the area as well as to and from outside the area.

Based on this data an assessment of the following should be made :

- (1) The number of local journeys per head of market town population and the average earnings per each such journey;
- (2) The number of local journeys per head of the rest of the population served and the average earnings per each such journeys;
- (3) The number of journeys per head of market town population to and from stations outside the section (the inter-changed traffic);
- (4) The number of journeys per head of the rest of the population to and from the stations outside the section (the inter-changed traffic);

Note :-In this context "Local" means between two stations on the section and "inter-changed" means between stations on the section on the one hand and stations outside the section on the other.

This data should be compared with similar data for a section of the existing line of approximately the same length as the proposed line and passing through a comparable tract of land. After allowing for any differences in the section selected for comparison and the section to be built, separate estimates should be arrived at of;

- (1) Local passenger traffic in terms of number of passengers and earnings, from market town stations;
- (2) Local passenger traffic in terms of number of passengers and earnings, from other stations;
- (3) Inter-changed passenger traffic in terms of number of passengers and earnings, from market town stations; and
- (4) Inter-changed passenger traffic in terms of number of passengers and earnings from other stations.

By adding1 & 2, 3 & 4 separately, the number of passengers and the earnings from `Local Traffic' and `Inter-changed Traffic' should be arrived at. Inter-changed traffic should be doubled to allow for the inward traffic.

313. By a judicious combination of the data obtained from the sample count and the details regarding the characteristics of population and making use of the comparative rate structure of the existing modes of transport *vis-a-vis* that of the Railways, attempt should be made to arrive at the likely number of journeys of the both on account of local movement as well as interchanged movement. This information can be further supplemented and corroborated by taking an opinion poll at the existing terminal rail head of the project section, regarding the number of passengers originating on the Railway which have travelled to or from the various locations on the proposed new line section. Based on this, separate estimates should be arrived at of-

- (1) Local passenger traffic in terms of number of passengers and earnings, from market town station;
- (2) Local passenger traffic in terms of number of passengers and earnings, from other stations;
- (3) Inter-changed passenger traffic in terms of number of passengers and earnings, from market own stations; and
- (4) Interchanged passenger traffic in terms of number of passengers and earnings, from other stations.

Note :-In the context "Local" means between two stations on the section and "Inter-changed" means between stations on the section on the one hand and stations outside the section on the other.

By adding 1 & 2, and 3 & 4 separately, the number of passengers and the earning from "Local Traffic" and "Inter-changed Traffic" should be arrived at. Inter changed traffic should be doubled to allow for the inward traffic.

313. A. The above data can be compared by taking similar information for a section of the existing line approximately the same length as the proposed line and passing through a comparable tract of land. This comparison can further be used to apportion the total anticipated passenger traffic between Second Class and Upper Classes. The data from the comparable section can also be used for estimating the earnings from other coaching traffic as a percentage of passenger earnings.

314. To the earnings thus arrived at a correction should also be made as necessary, based on the industrial development expected in the area and also a suitable addition of passenger traffic and earnings from the periodical melas, fair and festivals etc., in respect of which it should generally be possible to arrive at a fairly accurate figure of pilgrims and other similar traffic.

315. The estimates of inter changed traffic will then have to be split up into those attributable to the project and those for the existing lines. This is necessary for the purpose of arriving at net earnings in as much as the working expenses on the project will differ from those to be incurred for the carriage of additional traffic on the existing lines.

For this purpose the average load of inter-changed passenger traffic of the section chosen for comparison should at first be determined, cross checked with the leads calculated for the new section on the basis of the sample physical counts and then applied to the new section and beyond that section. The earning from inter-changed traffic, as estimated according to para 312 above should be divided in the ratio of the leads to arrive at separate figures of earnings of the project and those of the existing lines, making due allowance for any special features.

In ascertaining the additional traffic to the existing lines, allowance has to be made for that part of the estimated inter-changed traffic which will already be moving over the existing lines.

Assessment of Goods Traffic and Earning of a New Line Project

316. The estimates of goods traffic should be made separately for outward and inward traffic. It should also be assessed for each commodity and for the lead from its origin or source upto the point of termination of the traffic even beyond the section under construction.

317. For the purpose of the assessment of goods traffic the information collected in terms of para 306 should be studied carefully in order to select the important agricultural commodities, cash crops and products of mining etc. which are peculiar to the area. Similarly, the important industries which are likely to have a substantial transport requirement should also be identified. Other commodities which are of minor importance to the area could be grouped together under the head General Goods.

318. Apart from the commodity-wise assessment of traffic, the goods traffic that will be secured by new line may be grouped into (a) short distance; and (b) long distance traffic. Before crediting the line with any anticipated short distance traffic, the pattern and conditions of trade and commerce should be

examined to ascertain whether the Railway will be used as a means of transport in preference to road for this purpose. Over a short lead, the door-to-door convenience of road transport added to the other advantages, frequently out-weighs any small financial saving offered by rail transport. The position of established markets has an important bearing on this matter. If there is a market on the proposed line, it is likely to develop and attract part of the exportable surplus of the area, in which case this produce will become long distance traffic and proposed line would get the benefit of the lead involved.

The volume of short distance and long distance traffic should be carefully calculated from the observations and enquiries made on the spot and it should be possible to determine the quantum as well as the probable lead of such traffic. The assessment should consider the aspect that in the case of traffic which in any case will have to move by rail for the available rail lead only the extra lead provided by rail by the construction of the proposed line should be taken into accounts.

319. The statistics which will be of value in arriving at the anticipated outward traffic will be :-

- (a) The total acrage under cultivation ;
- (b) The normal yield per Hectare ;
- (c) The normal exportable surplus in the area to be served ;
- (d) Particulars of industries already located in the area ;
- (e) Industries projected in the furture to go into full production by the time the line is ready for opening for traffic and the future growth anticipated.

The possibility of development and the likelihood of an increased area being put under cultivation with the provision of better transport facilities should also be taken note of. In the case of industries the outward movement of the traffic in finished products of the industries should be ascertained by making suitable local enquiries. The traffic likely to arise on tapping of mineral and forest resources, if any, in the area as also likely to develop on the implementation of multi-purpose projects under various schemes of the Government's Plans should also be duly taken into account.

320. Goods Earning from Inward Traffic.-For estimating the inward goods traffic the average import of food stuff per head of population and the average weight of other imports such as raw-material, machinery, agricultural implements, clothing etc. will have to be ascertained. The imports of coal and other raw-materials for the factories, mills or other industries to be set up or already in operation should be computed by enquiries in the appropriate quarters.

321. In assessing the goods traffic that will be available for movement by rail, the utilisation of existing transport system such as, road, river steamers, pipelines etc. should be carefully studied and a judicious estimate of the diversion to rail made, **taking into consideration the comparative freight charges by different modes,** due allowance being made for the possibility of any new inward traffic also being carried by the other alternative means of transport. Information regarding the existence of various road transport, network of road in the area and the percentange of their utilisation should be given. The

team could also request/suggest any improvement in the road facilities by way of feeder roads etc. to reach the rail heads projected on the new lines.

322. The figures of inward goods traffic on an existing similar section of the line should also be studied and compared with those worked out for the proposed line.

323. The estimates of goods traffic thus made should be cross-checked by the application of statistical techniques such as regression analysis of economic activity in relation to the movement of commodities in the area, choosing those commodities which are likely to move in bulk or have a definite relation to a specific economic activity e. g., building construction activity.

324. In reckoning the financial prospects of a proposed new line, credit should be taken on the net revenue derived from all traffic brought on to the existing lines as a direct result of the construction of the breach after making suitable allowance for the traffic which is already moving through the existing rail head or which in any case would move by rail from the already available rail head. It is necessary, therefore, to estimate all such traffic separately; and for this purpose the destination of all probable export should be ascertained so as to determine the lead of this traffic both in the proposed new line as well as over the main system.

325. After the assessment of coaching and goods traffic has been made the next step should be to determine the number of trains (passenger and goods) the loads, the directions and pattern of movement (origin and destination of important traffic flows) the type of equipment to be used and the facilities for marshalling and terminals required etc.

326. The following statistical indices of performance will then be compiled :-

Existing line		**Project line**	
Existing traffic	Additional traffic	Existing traffic	Additional traffic

Freight traffic-

- (a) Tonnage loaded under specific commodities.
- (b) Tonnage unloaded under specific commodities.
- (c) Tonnage transshipped
- (d) Tonnage repacked
- (e) Tonnage of cross traffic
- (f) Lead of specific traffic
- (g) Net tonne kilometres

- (h) Loaded wagon kms.
- (i) Empty wagon kms.
- (j) Tare tonne kilometres
- (k) Gross tonne kilometres
- (l) Engine kilometres
- (m) Train kilometres
- (n) No. and name of marshalling yards.
- (o) No. and name of Repacking points
- (p) No. and name of Transshipment points

Coaching / passenger traffic-

- (a) No. of passengers
- (i) Originating
- (ii) Incoming
- (b) Train kilometres
- (c) Engine kilometres
- (d) Vehicle kilometres

In case any difficulty is experienced in converting the tonnes into wagons the figures of average starting loads (separately for originating and transhipped traffic) shown in the monthly wagon loading statements of the existing line may be adopted. Otherwise the minimum weight condition as per good tariff may be taken into account.

327. Empty haulage should be carefully calculated taking into account the outward and inward traffic commodity-wise and equipment-wise. The source of empties should also be indicated so that the empty haulage may be reasonably assessed. Otherwise, the following norms may be adopted :-

BFRs. Oil tanks. BOBs. BOI and Special types, etc. (BG & MG)	100%
POL, Traffic, iron ore traffic, industrial raw material to steel plants, etc. (BG & MG).	100%

Coal-Average B. G.	80%
Other commodities-BG	25%
MG (including coal)	30%

The correct estimate of empty haulage is very essential, as this element appears in the calculation of-

- (i) wagon kilometres
- (ii) gross tonne kilometres
- (iii) engine kilometres
- (iv) train kilometres
- (v) wagon days. and
- (vi) engine days, and
- (vii) number of marshalling yards.

328. Marshalling Yards.-The survey report should specify the inward, outward and cross traffic dealt with at different marshalling yards on the projected line and the existing main line. This should be separately assessed for the existing traffic and additional traffic. The loaded journeys as well as the empty journeys of wagons should be taken into account. In case the pattern of traffic is such that it by-passes the marshalling yard detention to stock for carriage and wagons trains examination for engine changing or crew changing should also be taken into account.

329. Assessment of Working Expenses-In relation to any capital expenditure proposal, the working expenses will consist of :-

- (a) the average annual cost of operation
- (b) the average annual cost of maintenance and
- (c) the annual depreciation charges.

330. The working expenses should be assessed by making full use of the traffic costing data relevant to investment proposal under consideration. Correct application of the cost data and in particular, assessment of the direct variable and indirect/fixed or semi-variable cost is very important in arriving at a realistic estimate of the working expenses. For new line construction, restorations working expenses should be estimated in detail under the various heads of the prescribed classification of revenue working expenses and should be cross-checked with relevant cost data. **In case of wide variations between the costs worked out by the above mentioned two modes, the reasons therefore should be explained given also adequate justification for using either of the cost data in the financial analysis.**

331. In applying the unit cost data for working out the cost of moving the additional anticipated traffic, it has to be considered whether it would be reasonable to adopt the incremental cost approach, or to take fully distributed cost into account, Logically, it would be realistic to work on the basis of incremental cost for any small increase in traffic and over the short run. In the long run, however, even the so called fixed cost will vary and the incremental or marginal cost may fail to cover such semi-variable expenses. On the other hand, it would be equally unreasonable to apply fully distributed cost in all cases while working out the financial implications of a line capacity work. A realistic (though some what conservative) approach would, therefore, be to adopt long term variable costs which will ensure not only that projects are not thrown out because of adoption of the fully distributed cost but also that a project is considered as remunerative if it meets the long term variable cost.

332. Working expenses should be computed separately as direct costs, comprising of terminal cost for documentation, other terminal cost, transhipment cost if involved, marshalling cost, cost for maintenance of carrying units, line haul cost-traction, line haul cost-other transportation expenses and line haul cost-track and signalling. To these direct cost must be added overhead charges (Railway) and overhead charges (Central) wherever required. An escalation factor may also be added to bring the cost up-to-date.

333. In calculating line haul traction costs, the nature of movement should be taken into account, i. e. whether the traffic is carried by shunting and van trains or by through trains. The cost characteristics are different and relevant unit costs should be adopted. If the type of traction of the line haul is not defined or specifically known then all traction figures are adopted. Unit cost data by identifying the type of traction is more refined and, therefore, by taking note of special characteristics of operation the cost may be estimated with higher degree of accuracy.

333-A. While compiling data on the existing modes of transport, efforts should also be made to ascertain the cost of operation of these modes for both passenger and goods traffic. This information should consist of the details regarding the types of vehicles moving on the existing means of transport, their capital cost and average operating expenditure. In the case of road vehicles, which is the main alternative transport, the physical performance characteristics like average load per trip, average length of haul and the average vehicle kms. per day in addition to the detention time at the loading and unloading points should be collected. This information should facilitate a national level comparison of costs between the rail and road modes for carrying anticipated volumes of traffic. This information should be utilised to find out whether the commercial viability of a rail project is corroborated by a comparison between the cost to economy at market prices of the available means of transport.

Line Capacity Works

334. Analysis of existing capacity.-Proposals for new marshalling yards or major yard modelling of the existing marshalling yards, goods terminals and transit yards etc. should be preceded by work study. The existing capacity should be properly evaluated by preparation of master charts for doubleings, multiple tracking schemes and gauge conversion schemes. In the case of passenger terminals occupation charts of the platform lines, washing and stabling lines etc. should be prepared and analysed. In the case of

goods yards and marshalling yards etc. the capacity should be worked out in terms of average detentions of trains etc.

335. The optimum capacity with the existing facilities should first be worked out. Thereafter, based on the projections of traffic, the gap in the availability of capacity and likely requirement should be identified and alternative solutions to create requisite capacity in phased manner should be considered. For instance, on a single line section, the possibility of improving capacity by having improved speeds, heavier/longer trains, change of traction, provision of additional crossing stations, token less block working, etc. should be explored and if the gap cannot be abridged, the alternatives of patch doubling in suitable phases or introduction of CTC should be considered. Likewise in the case of gauge conversion schemes, which are capital intensive, entailing a longer lead time, the possibility of improving the capacity on metre gauge system itself, if necessary, by doubling of critical patches should also be considered, coupled with steps to improve transhipment by mechanisation (pallatisation, containerisation) etc. This is particularly relevant in respect of truck routes which are connected with a large number of branch lines with the result while transhipment on conversion at the terminals may be eliminated, creation of smaller transhipment points enroute to serve the branch lines may not necessarily result in size able reduction in the overall transhipment load. Before considering provision of third/quadruple lines, the alternative of improved signalling arrangements like automatic signalling, absolute permissive block working etc. should also be examined.

336. In regard to yard remodellings the objectives of the remodelling of any yard can be one or the other or a combination of the following:

- (i) Removal of certain constraints/bottleneck in the functioning of the yard for handling the existing level of traffic.
- (ii) Handling increased traffic to and across the yard.
- (iii) Undertaking long distance marshalling to either relieve the burden on intervening yard or to avoid investments in intervening yards and at the same time speeding up the movement.

While formulating proposals for remodelling of marshalling yards, the following guidelines should be kept in view :

As regards item (i), it may be difficult to quantify benefits in financial terms of removal of such constraints, particularly when the same also depends on changes in pattern of traffic, etc. In such cases, it would be reasonable to take up such works, which by their very nature are likely to be very minor, as operating improvements chargeable to Development Fund/OLWR as the case may be. In this category will fall works which would assist in efficient handling of local traffic/cross traffic, etc. which would also improve fluidity of the yard, such as provision for certain cross overs, extension of shunting neck or of classification/reception and despatch lines and provision of waiting bay lines etc.

As regards item (ii) mentioned above, for this purpose it would not be correct to treat individual yards for financial evaluation on the basis of saving in detention. For handling additional traffic, apart from

inputs in marshalling yards, certain investments on line capacity may also be necessary. In such cases it would be desirable to form a group justification of viable sections between two marshalling yards or engine runs on a particular route falling on the same zonal railway or more than one railway. On the cost side, all the works required in the yard as well as on increasing line capacity/transhipment capacity on such portions (including on other Railways) should be taken and on the benefit side, the additional earnings from such traffic for the entire lead including that on the other Railways should be taken into account. The guidelines given in para 308 will be equally applicable here. Further, if any worthwhile saving in detention for existing traffic is anticipated because of the improved facilities, there is no objection to credit being taken therefore. But here also credit should be taken only for the net saving in detentions over the entire section between two marshalling yards, on engine runs or a particular route, as the case may be.

As regards item (iii), the objective of long distance marshalling is to speed up movement by skipping intermediate yards. If this is related to movement of additional traffic it would be covered by item No. (ii) above. On the other hand, for the existing level of traffic, there may be increase in detention in the marshalling yard which undertakes long distance marshalling while there would be saving in detention in respect of such traffic in the intervening marshalling yards although certain residual traffic in the latter may suffer increased detention on account of poorer materialisation thereof. In such a case, an overall view of saving as well as increased detention in all the yards in the project section should be taken into account and credit should be taken only for the net saving in detentions.

337. Working out financial savings.-For assessing financial savings from the avoidance or reduction of detention to rolling stock the quantum of detention should be assessed by sample survey during two to three months of each of busy and slack seasons of traffic. The financial benefit will usually consist of the savings in operation cost only. No credit should be taken for interest and depreciation saved unless the detention works out to whole unit (not fraction of the locomotive or wagon saved).

338. In working out financial evaluation, only additional traffic beyond the optimum extising capacity should be reckoned. In case of line capacity works, apart from taking credit for additional earnings, wherever creation of additional line capacity results in speedier movement and consequent savings in detention or lower working expenses, the credit therefor can also be taken. For instance, when double line working is introduced on a single line section, apart from enabling higher volume of traffic, the speeds of the trains, utilisation of rolling stock etc. also improves and such savings can also be evaluated in addition to taking credit for earnings.

339. The technique involving the application of "queueing theory" can be adopted with a advantage to arrive at optimum solutions to reduce detentions. The queueing or bottleneck problem arises when the service rate of a facility falls short of the flow rate of arrival pattern of the customers or units requiring to be serviced. The classic examples of queue formation in railway working are booking offices, marshalling yards, carriage and wagon depots etc. The obvious remedy to resolve delays on account of queueing is to provide more servicing units or to improve the service time. Alternatively the regulation of arrival patterns of units requiring servicing can also be examined. The exact quantification of additional, facilities requires the application of queueing theory models.

340. Provision of rolling stock.-In all cases of line capacity works as well as new line constructions which are justified on the basis of carrying additional traffic, the initial investment should be inclusive of the cost of rolling stock for which provision should be made on the basis of tonnage to be carried, the loadability, the lead of the traffic, empty haulage and wagon turn round etc. The financial return should be measured with reference to the overall initial cost of the work including cost of the rolling stock.

341. Working capital should also be included in the cost of the scheme.

342. Technique of financial appraisal of railway projects.-The technique of Discounted Cash Flow Method is adopted for working out the financial appraisal of railway projects. For details of working out the financial appraisal reference may be made to Chapter II of Indian Railway Financial Code.

343. Under D. C. F. technique of financial appraisal, the cash flow by definition should take into account only the realistic earnings and cash expenditure or in the case of expenditure reducing projects the net reduction in expenditure. Purely, accounting adjustments such as depreciation and other provision are to be completely ignored. The discounting rate of interest which is applied to the cash flows during the life of the project after it is commissioned will also apply to the investments made in the earlier years to bring it up-to-date as the year of commissioning.

344. Residual value.--Each project will have an estimated life span at the end of which various assets will be disposed of or put to other uses. At the end of this life of the project, an estimate should be made of the flow of funds that will be credited by the sale or disposal of the assets so that appropriate credit can be given to the project in the year in which the flow of funds occurs by the sale or disposal of assets. Since the assets may not all be discarded or sold at the same time, the cash flows resulting from residual values should be allocated to the year in which they are likely to be received. If some of the assets are to be taken out of service and disposed of before the termination of the project, this must be recognised at the appropriate time.

345. Time span for appraisal.-For financial appraisal useful life of the asset should be taken as 30 years.

346. Project viability.-A railway project should be accepted as financially remunerative only if it gives a rate of not less than 10% by DCF technique.

347. Traffic Survey Report.-At the conclusion of the survey, a report should be formulated by the officer-in-charge of the survey. The format of report will be governed largely by the nature of the terms of reference and the investigations made. The following format of the report which may be treated as a general guideline-may be adopted :

- (1) History of the proposal and terms of reference.
- (2) General description.
- (3) Potentials and prospects.
- (4) Industrial and economic development and traffic projections.

- (5) Population projection and volume of passenger traffic.
- (6) Existing rates and rates to be charged.
- (7) Location of route or routes examined, alternate routes and possible extensions.
- (8) Station sites, and their importance.
- (9) Train services necessary section capacity and various alternatives to increase capacity.
- (10) Coaching earnings.
- (11) Goods earnings.
- (12) Working expenses and net receipts.
- (13) Engineering features.
- (14) Tele-communication facilities.
- (15) Financial appraisal.
- (16) Conclusions and recommendations.

348. A clear index map showing all relevant information should accompany the report, in particular all towns and places referred to in the report should be clearly shown in the index map. The details of information collected, calculations and diagrams should be embodied in tables as annexures to the report.

349. Documentation of data.-The number and form of annexures to Report will vary according to the nature of investigation. The following list may be treated as a general guideline in this connection.

(1) Potential and prospects.

- 1.1 Particulars of population (at various points in the catchment area), net production of various commodities (e. g. wheat, rice, other cereals, pulses, oil seeds, cotton etc.) total consumption and surplus or deficit for the base year under study.
- 1.2 Particulars of cultivation at various locations in the catchment area (total acrage, forest uncultivated land, cereals, pulses, oil seeds, cotton etc.)
- 1.3 Projected population (at various points in the area) commoditywise production, local requirements, surplus or deficit.
- 1.4 Gross import and export potential (foodgrains, oil seeds, cotton, fertilizer, cement, general goods, etc.)

(2) Analysis of existing modes of transport-

- 2.1 Comparison of rates with existing modes of conveyance.

(3) Time-table of proposed train services.

(4) Revenue projections-passenger

- 4.1 Gross revenue projections-passenger traffic.
- 4.2 Incremental revenue-passenger traffic (if applicable).

(5) Revenue projections-goods

- 5.1 Gross revenue projections-goods.
- 5.2 Incremental freight revenue (if applicable).

(6) Rolling stock

- 6.1 Rolling stock requirements and investment in rolling stock-passenger traffic.
- 6.2 Rolling stock requirements and investment in rolling stock-wagons.
- 6.3 Rolling stock requirements and investment in rolling stock-goods locomotives.
- 6.4 Terminal value of rolling stock.

(7) Working expenses.

- 7.1 Working expenses-passenger traffic.
- 7.2 Unit costs adopted in financial evaluation.
- 7.3 Number of wagons originating/terminating.
- 7.4 Number of wagons dealt with in marshalling yards.
- 7.5 Number of wagons transhipped (if applicable.)

(8) Capital investment.

- 8.1 Proposed works-timing and capacity generated.
- 8.2 Capital cost of investments.
- 8.3 Investment schedule.
- 8.4 Capital expenditure according to life of assets.
- 8.5 Terminal value of assets.

(9) Financial appraisal

- 9.1 Rate of return work sheet.

350. Covering note.-The traffic survey report and annexures should be submitted to the Railway Board under a covering note which should have the authority of the Railway Administration submitting the report. It should provide a summing up and should contain clear recommendation together with the views of Financial Adviser and Chief Accounts Officer.

351. A synopsis of the salient features of the project should be provided in the report. The following data may be treated as a guideline in this connection :

- 1. Length of the line
- 2. Number of stations.
- 3. Area coveredstate-wise and district-wise.
- 4. Principal items of goods traffic.
- 5. Quantum of goods traffic year-wise projections in tonnes.
- 6. Coaching traffic year-wise projection of passengers with break up of local and interchange figures.
- 7. Number of trains.
- 8. Gross earnings per year.
- (a) Goods
- (b) Coaching
- 9. Working expenses.
- 10. Net earnings.
- 11. Financial result.
- 12. Cost of the project.
- (a) Civil Engineering.
- (b) Signal and Tele-communication.
- (c) Electrical.
- (d) Rolling Stock.

- (e) Working capital.
- 13. Investment schedule.
- 14. Ruling gradient adopted.
- 15. Standard of construction.
- 16. Maximum degree of curvature.
- 17. Speed potential of the line.
- 18. Cost per Kilometre.

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CHAPTER IV

ENGINEERING SURVEY RECONNAISSANCE - PRELIMINARY AND FINAL LOCATION SURVEYS

401	Reconnaissance Survey Terms of Reference
402	field Work
404	Report
405	Estimate
406	Maps
407	Covering Note
408	Preliminary Surveys Terms of Reference
409	field Work
412	Report
413	Estimate
417	Maps and Plans
419	Covering Note
420	Final Location Survey Terms of Reference
421	Field Works
426	Notes to be made in the Field
427	The Centre Line

429	Curves
432	Transition Curves .
434	Gradient
437	Compensation for curves on Gradients
438	Bench Marks
440	Datum for Levels
441	Compass Bearings
443	Plans, Sections and Designs for Works
449	Index Plan and Section
450	The Index Plan
451	The Index Section
452	Detailed Plan and Section
453	The Plan
458	The section
467	Plans and Cross Sections of Rivers
468	Plans of Station Yards
471	Plans of Junction Arrangements
473	Detailed Drawings of Structures etc. .

Reconnaissance Survey

401. Terms of Reference. - The Project Investigator should be supplied by the Railway Administration with "Terms of Reference" as indicated in para 209.

402. Field Work.-In carrying out a Reconnaissance Survey particular attention should be paid to ascertaining the waterway required, and the best sites for stations, crossings of streams, bridges and roads. The nature of foundation which would be required for large bridges should be investigated and recorded. Materials and labour available in the area covered by the Survey should be taken note of.

403. Ruling gradient and degree of curvature for the proposed line as indicated in the "Terms of Reference" are to be considered as broad guide-line and the survey team should examine the question in detail taking into account the topography of the area, the level of traffic, the speeds envisaged, the mode of traction and above all the initial cost of construction and the unit cost of service with different alternative, and make their own recommendations. Prior approval of the Administration should be obtained before proceeding further with the survey in case a change in the terms of reference is considered desirable.

404. Report.-The report submitted after the conclusion of the survey should, as prescribed for a Feasibility Study (cf. Paragraph 501 et seq.) It should contain a definite recommendation as to whether from the financial point of view the prospects of the line surveyed are such as to make it worthwhile to undertake further investigation with a view to the construction of the project. It should be accompanied by an estimate for the construction of the line.

405. Estimate.-The form of the estimate and the amount of detail to be contained in it will depend on the character and amount of the data collected, but an approximate abstract estimate of the cost of the line surveyed in Form E. 554 accompanied by an abstract estimate of the cost of Junction Arrangements and a detailed estmate of the cost of one kilometre of permanent-way (Form E. 553) are essential and should be submitted with the report. The methods by which the figures in the Abstract Estimate have been deducted should be clearly explained in the report.

406. Maps.-The reports and estimate should be accompanied by a map of the area on a scale of 25 Km. to 1 cm. an index map on a scale of 2.5 Km. to 1 cm. and by an index plan and section on a scale of 0.5 Km. to 1 cm. horizontal and 10 m. to 1 cm. vertical the proposed route or routes being marked on them in red, and all towns and places referred to in the report clearly shown therein.

407. Covering Note.-The report, plans and estimates should be submitted to the Railway Board under a covering note as prescribed in para 545.

Preliminary Survey

408. Terms of Reference.-The Project Investigator should be supplied by the Railway Administration with the "Terms of Reference" as indicated in para 209.

409. *(i)* Field Work.-The field work of a preliminary survey should include a compass traverse along one or more routes with such longitudinal and transverse levels as are sufficient to prepare a "Predicted Section" of the route or routes proposed.

(ii) Where suitable aerial photographs are available, for carrying out preliminary survey by photogrammetric techniques, the "predicted section" of the route or routes proposed will be determined by plotting of contoured strip maps on 1 : 10,000 scales from aerial photographs.

Geological mapping may be done and soil surveying by photo-interpretation of remotely sensed data.

(iii) The field work should also cover a soil survey by sampling at suitable intervals, in order to obtain a fair idea of the soil classification and characteristics on the proposed route/routes. Testing of disturbed soil samples is usually adequate but Geophysical survey may be done in rocky terrain.

410. *(i)* The alignment need not be fully staked out with a theodolite, but stone pillars or other permanent marks should be left on the ground and indicated on the plans so that the location can be readily picked up by subsequent survey parties. Bench marks should similarly be left at intervals of about 500 mts.

(ii) Where suitable aerial photographs are available, for carrying out preliminary survey by photogrammetric technique, it will suffice if centre line pillars are provided at approaches of important bridges and portals of tunnels, important road crossings and stations sites. Bench marks should be provided near all important bridges, tunnels sites and road crossings. All these together with identifiable points should be indicated on the plan so that their location can be picked by subsequent survey parties.

411. In other respects the field work in a Preliminary Survey should approach the standards laid down for a Final Location Survey (cf. paragraph 421 et. seq.). It will depend largely on the nature of the country, and must always be sufficient to obtain a close estimate of the cost of the project.

412. Report.-The report submitted on the conclusion of the Survey should give details as in that prescribed for a Techno Economic Survey (cf. paragraph 501 et seq.).

413. Estimate.-The report should be accompanied by an estimate of the cost of the project surveyed. The rules laid down for the preparation of estimates on a Final Location Survey should be followed as closely as possible.

414. The method adopted for arriving at the figures of cost must be clearly explained in the report.

415. An estimate prepared on a Preliminary survey should under ordinary circumstances be sufficiently accurate to enable the competent authority to decide whether sanction should be accorded to the construction of the line.

416. The Railway Board may in certain instances call for estimates on a Preliminary Survey to be submitted as prescribed for a Final Location Survey. When such estimates have not been called for, the estimates to be submitted on a Preliminary Survey will be those detailed below :

- *(i)* An abstract of the cost of the line surveyed in From E. 554 accompanied by an abstract estimate of junction arrangements.
- (ii) Detailed estimates on the prescribed form for the following:

Head of Account		Particulars	Form
(a) Capital	1120	Land	E. 553
(b) Capital	1132	Tunnels	E. 553
(c) Capital	1151-53	Major Bridges	E. 553
(d) Capital	1154-56	Minor Bridges	E. 553
(e) Capital	1140	Detailed estimate of one km. of permanent way	E. 553
(f) Capital	2000	Rolling-stock	E. 553
(g) Capital	1180-90	General Charge	E. 553

Note. Classification indicated are those corresponding to New lines and shown as example.

417. Maps & Plans. The report and estimates should be accompanied by the same maps as for a reconnaissance surveys and by plan and section on a scale of 0.1 Km. to 1 cm. horizontal and 10 metres to 1 cm. vertical.

418. (i) The detailed plans and sections and other drawings, as prescribed for a Final Location Survey should be made out with as much detail as the information obtained in the field will allow out need not be submitted with the report and estimates unless called for by the Railway Board.

(ii) Where, suitable-aerial photographs are available for carrying out preliminary Survey or photogrammetric techniques, the scale of detailed plans and sections may be 100 m. to 1 cm. Horizontal and 10 m. to 1 cm. vertical instead of 50 m. to 1 cm. horizontal and 5 m. to 1 Centimetre vertical as prescribed in Para 452.

419. Covering Note.-The report, plans and estimates should be submitted to the Railway Board under a Covering Note as prescribed in para 545.

Final Location Survey

420. Terms of Reference.-The Project Investigator should be supplied by the Railway Administration with "Terms of Reference" as indicated in para 209.

421. Field Work.--A Final Location Survey should be based on a good theodolite or traverse, which should approximate as closely as possible to the centre line to be finally adopted.

422. Unless otherwise specified the survey operations should be sufficiently comprehensive to secure the information necessary for the preparation of the detailed plans and sections required under paragraph 443 et seq. and, having regard to all the circumstances of the case (including the probable working expenses), to ensure that the alignment selected is the most economical obtainable.

423. The amount of detail in sectioning will, to a great extent depend on the nature of the country traversed. Gross sections should be taken wherever the Engineer considers them necessary. The information collected during the course of the survey should be such as will enable the preparation of a fairly accurate estimate of the cost of the line.

424. Investigations should be made of bunds, bunded streams and irrigation works in the vicinity of the projected line which might affect the future safety of the line. In arriving at decision on the waterwaysthe engineer should pay due regard to these works and consider the alternative of altering or diverting the bunds, irrigation streams etc., even it would mean incurring some expenditure on such alternations, if that would save a larger expenditure on the waterways.

425. In the case of passage through hills, the geological characteristics of the country should be investigated by the Engineer, particularly in respect of the probable stability of the line, and if the importance of the work requires it, the Railway Administration should apply for the assistance of an officer of the Geological Survey of India.

As the method of construction of earthwork will be dependent largely on the nature and classifications of the soils a systematic soil sampling at suitable intervals and upto sufficient depths depending upon the nature of terrain should also be done all along the proposed route. Wherever borrow areas are not located along the alignment soil samples should be collected from such places also. These samples shall then be tested for the standard properties, bore logs prepared and the data used for designing the profiles of the embankments and cutting foundations of important structures as well as the method of undertaking the earthwork.

426. Notes to be Made in the Field.-During the Survey, careful notes with dates should be made on the ground, from personal enquiry and observation regarding any information likely to be useful in working out the details of the project.

427. The Centre Line.--The unit of measurement for the centre line should be the chain of 20 metres. The centre line finally located should be marked out by pegs at every 20 metres. At each 100 metres a large peg should be used; these 100 metres pegs should have their numbers branded or stamped on them in figures not less than 25 mm high. The numbers branded on the pegs should indicate hundreds of metres; thus 57 would mean a distance of 5700 from the zero chainage.

428. Masonry pillars should be built at the tangent points of curves and along the centre line at intervals of not less than 500 metres.

Curves will generally be described by their radius of curvature in metres but may also be expressed in degrees as defined above for convenience in setting.

429. Curve.--Curves should be defined both by their "degrees of curvature" in degrees and minutes and by their radius in metres. The degrees of curvature should be taken as the angle at the centre subtended by an arc of 30.5 metres in length. The radius of a 1^0 curve is 1747.52, say 1750 metres; the radius of other curves may be obtained by dividing 1750 metres by the degree of curvature.

430. The apex angle formed by the intersections of the tangent should, if practicable, be observed if not, it should be calculated.

431. Large pegs, distinguished in some suitable manner from the 100 metre pegs, should be put in on the straight at the calculated tangent length from the apex and also at the offset distance (see paragraphs 432 and 433) measured at right angles to the tangent at this point, from which., as a rule, the circular part of the curve is laid out.

432. Transition Curves.-Changes of curvature (whether at the junction of a straight line with a curve or in the middle of a compound curve) should be effected by means of "transition curves". This entails the "offsetting" or "shifting" inwards of circular curves pegged out primarily with a theodolite from the tangent point mentioned in paragraph 431. See also paragraph 218.

433. The amount of "shift" depends on the length of transition curve, which length usually depends on the amount of cant and the distance in which it is run out. See also paragraph 218.

434. Gradients.--Gradients should be defined by the distance in which a rise or fall of one metre occurs per 100 metres length. Thus a rising gradient of 0.5 metre in hundred metres is to be described "Rise 1 in 200 (0.5 per cent)."

435. All lines should be graded with due regard to the possibility of additional intermediate stations being constructed later on.

436. Sharp changes of gradient should be avoided, if possible on curves. All sharp changes of gradient should be eased off by vertical curves.

437. Compensation for Curves on Gradients.--All gradients should be compensated for curvature if the ruling gradient would otherwise be exceeded. The compensation to be allowed should ordinarily be 0.04 per cent degree of curvature on the 1676 mm gauge, 0.03 per cent degree on the metre gauge, 0.02 per cent on the 762 mm gauge, and 0.015 per cent on the 610 mm gauge. Compensation should be allowed on easy curves as well as on sharp ones.

438. Bench Marks.-Bench marks should be left at intervals of not more than one kilometre along the line and at sites of important bridges. In every case the position chosen for a bench mark should be such that it can be conveniently referred to during construction and is, at the same time, not liable to be interfered with during the progress of construction.

439. Bench Marks should be of such character or construction as not to be readily moved or injured by accident or mischief. All bench marks should be so placed and marked as to be easily identified and their correct description and location should be recorded.

440. Datum for Levels.-The datum to which all levels should be referred is the Mean Sea Level as adopted for the Great Trigonometrical Survey of India. During the progress of the survey and location of the line every opportunity should be taken to connect the levels with any survey of India level stations in the neighbourhood, and to check the difference between any temporary datum and Mean Sea Level.

441. Compass Bearings-The compass bearing of each tangent should be taken at every curve in level country, and the mean of the readings at the two ends should be recorded as the average bearing for each straight line.

442. In hilly country where curves are frequent it will sufficient to take such bearing at about 2 or 3 places in each kilometre.

443. Plans, Sections and Designs for Works-A set of plans and sections for a project should consist of :-

- (i) General Map of the country traversed by the project scale about 25 Km. to 1 cm.
- (ii) Index Map, scale about 2.5 km. to 1 cm.
- (iii) Index Plan and Sections.
- (iv) Detailed Plans and Sections.
- (v) Plans and Cross Section.
- (vi) Plans of Station Yards.
- (vii) Detailed Drawings of Structures.
- (viii) Plans of Junction Arrangements.

444. As exception to this rule, Index Plans and Sections and plans of stations may be longer than 1200 mm if necessary, to enable all the information to be shown on one sheet. In such cases, however the width of 840 mm should still be kept to, and the length in excess which, however, should not exceed 1020 mm should be folded so as not to project beyond the edges of the other sheets.

A Catalogue of maps published by the Survey of India is obtainable from the Director, Map Publication Survey of India, Hathibarkala Estate, Post Box No. 28, Dehradun-24800.

2. The latest information on availability of maps and aerial photographs of the region would be available from the concerned Regional Director of Survey of India.

445. Throughout each set of plans and sections the kilometrage should be reckoned from the same fixed point. This fixed point should, if practicable, be at that end which is in the direction of the nearest sea

port with which the line is in through communication by rail, and should be clearly defined on the Index Plan and section and on at least the first and last sheets of the Detailed Plans and sections. If the line takes off from an existing railway station the zero point should be fixed at the centre of the existing station yard, and when it ends at an existing station the end of the survey should be taken as the centre of that station. Each sheet should be plotted in the direction of the through kilometrage so the kilometrage may be read from left to right.

446. The datum used for all plans and sections should be Mean Sea Level, and all heights should be referred to this datum in metres and decimals. If any other datum is adopted for temporary use during the progress of the survey the figures referring to such temporary datum should be reduced to Mean Sea Level before being entered on the plans and sections.

447. On each sheet should be noted a reference number of letter, the name of the Railway or section of railway, the gauge and the scale. The scale may be described in works, and need not be drawn. The magnetic north should be indicated on each map and plan by a line not less than 150 mm. in length.

448. The Index Plan and Section and the first and last sheets of the set of Detailed Plans and Sections should be signed and dated by the Engineer in charge of the survey. Every sheet should be signed and dated by the officer responsible for its preparation.

449. Index Plan and Section-The Index Plan and Section should be drawn to a scale of 0.5 km. to a cm. horizontal and 10 metres to a cm. vertical, the plan being drawn above the section on the same sheet.

450. The Index Plan--On the Index plan should be shown all towns, roads, canals, rivers, hills boundaries of States and districts within a distance of 10 kilometres on each side of the railway. The centre line of the proposed railway should be indicated by a full red line 0.8 mm in thickness. The degree and radius of all curves should be figured. The position of each station should be shown by a red block, the name of the station being given. The kilometrage from the "fixed point" should be marked and figured at every kilometre and the extent of each sheet of the detailed plan shown. Where practicable the Index Plan should be traced from the sheets of the Survey of India map published to a scale of 0.5 km to a cm. the details in the immediate neighbourhood of the railway being filled in or corrected, if necessary, from the information given by the railway survey. For districts where a map to the scale of 0.5 km. to a cm. is not available, the information required should be plotted to that scale from such other maps or data as can be obtained.

451. The Index Section.-The Index Section should show the formation level by a red line; the gradients should be figured, and the height of formation above Mean Sea Level entered at each change of gradient. The position of each important bridge with the name of river and number and size of bridge spans should be indicated, also level crossings with their classification "as special", "A", "B", "C" or "D" class and position of each station with its name and distance from the "fixed point". The kilometrage from the "fixed point" should be marked and figured at every kilometre.

452. Detailed Plans and Sections.-The detailed plans and sections should be drawn to a scale of 50 metres to a cm. horizontal, and 5 metres to a cm. vertical, the plan in each case to be above the section

on the same sheet. 5 kilometres of line should be illustrated on each sheet, and the divisions between the sheet in each case should be a kilometre-mark. To admit of the sheets being readily connected, each sheet should have a skeleton outline for a few decametres beyond the kilometre-mark at each end repeated from the adjoining sheets on both the plan section. In difficult or mountainous country, if the Engineer considers it necessary, the plan should be made on a large scale, such as 25 or 10 metres to a cm.

Note. Where the State Governments have prescribed separate scales for plans and sections in respect of acquisition of land for railway projects, such scales should be adopted.

453. The Plan.-On the plan should be shown in detail all features of the country within a distance of 100 metres on each side of the centre line of railway and the boundaries of village lands. The boundaries of different kinds of cultivation, forest, pasture, waste, etc. should also be marked on the plan. The centre line of the proposed line should be indicated by a full red line 0.8 mm in thickness. The position of all masonry centreline pillars and the exact position and description of each bench-mark should be shown.

454. In addition to the foregoing, the following details should be shown, in so far as they lie within a distance of 300 metres on either side of the centre line :

- (i) Rivers requiring a waterway of 12 metres or upwards.
- (ii) Important road with their bridges, culverts, and fractional kilometres-marks.
- (iii) Canals and large tanks, bunds, bunded-streams and irrigation works.
- (iv) The outlines of all towns and villages and in the case of large towns, the important streets and thorough fares.
- (v) The boundaries of States, Local Administration, Divisions and District.
- (vi) Hill peaks and other important features of the country.
- (vii) Survey of India Stations.
- (viii) Camping grounds, rifle ranges, etc.
- (ix) Reserved Forests.
- (x) Industrial units existing and/or under construction.

455. Care should be taken to give sufficient topographical details to exhibit the contour of the ground and to justify the alignment selected.

456. All new works proposed for the purposes of a new railway line or for the accommodation of the public should be marked on the plan, also all alterations, diversions, protection works & c., proposed in connection with existing railways, roads, rivers, canals or tanks. The "pattern for detailed plan" given at the end of this book should be taken as a model for this purpose.

457. In the case of a junction with an existing railway, the plan should show the existing line for not less than one kilometre on each side of the proposed junction, the proposed junction arrangements and the position on all buildings, bridges, level crossings, kilometre posts and other works on, or marked and the angle of curvature noted.

458. The Section.--On the section, the formation level should be shown by a red line, the ground line being black. If practicable, throughout each sheet, the ground line and formation should be continuous, i. e., without "steps" or changes of datum; for long length of steep ruling gradients it is advisable to incline and "step" the datum line.

459. Two sets of heights or level should be given (1) Height of ground above Mean Sea Level, and (2) Height of formation above Mean Sea Level. The first set of figures showing ground level should be the lowest in position, i. e., nearest the bottom of the sheet. The heights of or levels should be given in metres to two places of decimals and entered at every 20 metres, vertical ordinates being ruled up to connect the figures with the ground line. These vertical lines should be in blue, except where they occur at a change of gradient where they should be red. A model "pattern for detailed section" is given at the end of this book.

460. The bed level and high flood level of all rivers and streams should be shown; also the position, description and (level to two places of decimals) of all bench-marks and position of all masonry pillars.

461. Gradients should be entered in a plain and conspicuous manner. At each change of gradient an ordinate should be drawn in red up to formation level, and the height of formation noted to two places of decimals. Where a change of gradient occurs at any point other than at the 20 metres marks, the chainage of changing point should be noted.

462. In addition to the above important details, such as the tangent points of all curves, the kilometrage and chainage, the general description of the soil, the position of all bridges, level crossings & c., and the points where roads or waterways are diverted; should be shown.

*For a set of tracings submitted to the Railway Board, it will suffice it heights or levels are entered at every 200 metres instead of at every 20 metres.

463. Tunnels should be drawn to scale on the section, and the length in metres should be noted in each case.

464. A station should be indicated by a vertical red line at each and drawn upwards from formation level to define the limits of the station yard. The name of the station and the length in metres of the station yard should be noted.

465. Where cross sections have been taken, a reference to each should be given on the main section with a vertical line indicating the position. Cross sections may be plotted to a natural scale, both the vertical and horizontal scales being the same as the vertical scale used for the main section 5 metres to a cm. On each cross section the outline of the cutting or embankment should be correctly shown. For

many practical purposes it will, however, be possible to give all the information required from cross sections by contour lines on the detailed plans.

466. Cuttings should be graded with special reference to efficient drainge.

467. Plans and Cross Sections of Rivers.-For all rivers requiring a provision of waterway of 110 sq. metres or upwards plans and cross sections showing the following particulars should be furnished, subject to the provisio that the Engineer may exercise his discretion as to the necessity for these plans and sections in mountainous country :-

(a) *Plan.*-The plan should be drawn to a scale of 50 metres to a cm. of such portion of the river and its affluents as may lie within a distance of about 2 km. from the proposed centre line of the railway, measured from any point on that centre line, or such further distance as the Engineer may consider necessary. The direction of the current should be indicated by arrows.

(b) *Cross Section.*-Three cross sections of the river bed are required, plotted to a natural scale of 5 metres to a cm. Where the width of the river in flood exceeds 1000 metres this scale may be reduced. With a width from 500 to 1000 metres the cross section should be plotted in two halves. The cross sections should be taken at typical points selected at intervals of about 2 kilometres measured along the centre of the river bed. On each cross section lines are to be drawn to indicate the level of highest known flood, ordinary flood, and ordinary low water, with the reduced level figured on each. On the cross section taken on the centre line of railway an elevation of the proposed bridge should be drawn to scale in its proper position. The chainage should be figured on the cross section. Where borings or trial pits have been sunk, their position, with a note on results, should also be given. The cross sections may be plotted on the same sheet as the plan, or on separate sheets as may be found convenient in each case.

468. Plans of Station Yards. -For stations requiring a special design, a plan of the station yard to a scale of 10 metres to a cm. is required, showing all lines, sidings, platforms, buildings, wells, tanks, water-cranes, ash-pits, turn-tables, traversers, weighbridges, signals, etc. within the boundary of the station yard; also any roads, buildings, etc., lying outside the station yard but immediately adjacent there to-The name of each work or structure should be entered against it on the plan, with such notes and dimensions as may be necessary to define its size, position and purpose for which intended.

469. For other stations, made according to type designs, a plan giving similar information is required for each different type or arrangement adopted. On each type plan should be noted the names of the stations which are to be laid out in general accordance with that plan, with a description of any important variations adopted at one or more of those stations.

470. In designing the station yards the Open Line Administration should be consulted and full provisions should be made for extensions for future developments of traffic, but nothing should be estimated for which is not absolutely essential for dealing with the traffic expected in the first five years of working, everything in excess of this being shown in dotted lines and left to be added when actually required.

471. Plans of Junction Arrangements.--Plans of Junction stations of 10 metres to a cm. similar to the plans prescribed in paragraph 468 for Station Yards are required, showing clearly in full red lines the proposed works necessary to deal with the traffic expected during the first five years of working, and in dotted red lines the provisions made for future development of traffic.

472. Except where the new line is of a different gauge and has entirely its own arrangements, the plans for the junction arrangements should as a rule be prepared by the open line administration in consultation with the Engineer.

473. Detailed Drawings of Structures, etc.-Though many of them are not required for submission to the Railway Board with a construction estimate, drawings of all schemes should be prepared in order that sufficiently accurate estimates can be compiled. These drawings should be carefully recorded for future use.

474. The drawings which are usually required by the Railway Board are as follows :

- Type drawings of banks, cuttings and tunnels in cases only where the proposals differ from the prescribed maximum and minimum dimensions.
- Skeleton outlined drawings to small scale of all large bridges.

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CHAPTER V

ENGINEERING SURVEYS PROJECT REPORT, TECHNO ECONOMIC SURVEY REPORT AND FEASIBILITY REPORT

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565	Route Selection/Project Description
566	Project Description Site
567	Environment
568	Facilities to be provided
569	Equipment and Construction requirements
570	Input requirements
571	Labour and Management Requirement
572	Special Problems
573	Project Engineering
574	Cost Phasing and Investment Schedule
575	Financial Appraisal
576.	Feasibility Reports

501. Preamble.-At the conclusion of investigation, the Project Investigator shall formulate a Report which is called Project Report if the investigation is based on Final Location Surveys, Project Reports shall be prepared in the format contained in para 502. In the case of Techno-economic Surveys based on Preliminary Engineering-cum-Traffic Survey, Techno-economic Surveys Report shall be formulated as indicated in para 555. If the investigation is a feasibility study based on Reconnaissance Survey then a Feasibility Report shall be prepared (refer para 576).

502. Project Report.--The Project Report may be compiled under chapters as indicated below :

- **(i) Introduction;**
- **(ii) Characteristics of the project area;**
- **(iii) Standards of construction;**
- **(iv) Route selection;**
- **(v) Project Engineering, Estimation of Cost and Construction Schedule; and**
- **(vi) Conclusions and recommendations.**

Introduction

503. Introduction.-The contents of this chapters may be presented under the following sections :

- **(i) Object of investigation and background;**

- **(ii) Programme and methodology of investigation;**
- **(iii) Special features of investigation.**

504. In the first section the object of the proposed investigation and the history of the past investigations carried out, if any, should be indicated. If any orders of the Government for the present investigation has been issued a reference to this order should be mentioned.

505. In the section dealing with the programme of investigation the organisation adopted for the investigation and the studies made and the work accomplished during the field season may be furnished in a brief narrative form. In the section "Methodology of Investigation" the method adopted for selection of major obligatory points selection of alignments, particularly in difficult terrain, choice of design of important river crossings and important station sites may be enunciated.

506. If the investigation involves any special features like investigation of various alternatives for a major river crossing, traversing of deep ravines, difficult hilly terrain, marshy areas requiring special stabilization studies etc. these may be mentioned in the section "Special Features" in brief.

Characteristics of the project area

507. Characteristics of the Project Area.--In this Chapter the topographical outline of the area and the geological features of the country in so far as these are likely to affect the alignment, probable stability of the line, cost of construction, working expenses or future prospects of the proposed line may be explained. Climatic and rain-fall characteristics and environmental characteristics like presence of corrosive factors, pollution etc., which may have an effect on the design and maintenance of structures, bridges etc., may be brought out. Any plans that are being developed by other agencies for impounding rivers in the project area should be enquired into and indicated. This Chapter should cover the existing means of communication in the Project Area, the availability of access roads to the alignment and the outline of the civil administrations of the area. The extent to which the railway works would interfere with the existing military cantonments, building, rifle ranges, camping grounds, or communications should be brought out, Extent of such interferences, opinion of local military authorities and how their objections, if any, can best be met with and the adoption of bridges to take heavy lorries, guns and other military traffic may be mentioned.

Standards of construction

508. Standards of construction.--This Chapter must present an outline of the standards adopted for the various constituent elements of the Project. The object is to present the terms of reference on which the cost of the project has been framed, which will facilitate the investment decision making authority to review the standards, if necessary, and to make a choice compatible with the traffic prospects and resource availability. The standards of construction may be presented under headings indicated in paras 510 to 523.

509. Gauge. The Gauge adopted for the proposed line and reasons, if any for adopting it, may be stated.

510. Category of Line. The category of line (see para 210) the maximum speed potential of the line, the maximum axle load the loading standard of bridges and the basis for adopting the same may be indicated.

511. Ruling Gradient. The Ruling Gradient adopted and the basis for its selection may be furnished. The maximum length and tonnage of goods trains catred for in the design may be indicated. Calculation regarding the most economical Ruling Gradient may be relegated to an Appendix.

512. Curves. The sharpest degree of curvature adopted, the basis for its adoption and its impact on the projected speed compatible to the category of line may be indicated.

513. Permanent Way.--Rail section adopted, whether welding of rail will be carried out or not, the type and density of sleepers, provided in the Project Estimate may be mentioned.

514. Ballast.-The type and the depth of ballast cushion provided may be stated.

515. Fixed Structure Clearance. The fixed structure clearance adopted the maximum speed for which various works are designed, and the potential available for increasing speed on the line (particularly in category `A' of BG) may be indicated.

516. Road Crossings. The standards adopted for level crossings and grade separated road crossings may be expounded in brief.

517. Stations.--Spacing of stations in the case of new lines, provisions made for future intermediate stations and the scale of facilities contemplated at the stations may be stated in brief.

518. Residential Accommodation. The scale and extent to which residential accommodation have been included in the project cost may be stated.

519. Station Machinery. Brief indication of the engine changing arrangements, length of each engine run, number of watering stations included in the project (in the case of new lines) and water supply augmentation arrangements covered in the project cost may be furnished.

520. Servicing and Maintenance Facilities. Any servicing and maintenance facilities like repair shops etc. included in the project cost may be stated.

521. Signalling and Telecommunications. The standard of Signalling adopted and the scale of communication facilities provided may be indicated.

522. Traction.-The type of traction proposed may be stated.

Route Selection

523. This Chapter must provide relevant information and data of the various alternative routes examined and must give an insight into the factors influencing the choice of the route adopted for the project. It must at the outset indicate the various alternative routes examined. In presenting the

alternatives only routes several kilometres in length should be mentioned. Minor deviations should be discussed in dealing with each main alternative route.

Thereafter the general description of each alignment, clearly defining the "fixed point" or zero from which the kilometrage of the proposed line is reckoned, selection of junction and other stations on the alignment, and short descriptions of river crossing should be expounded. Calculations regarding the cost of "distances", "Curvature", "rise" and "fall" should be relegated to an appendix but reference to these calculations should be made where necessary, in discussing deviations.

The advantages and disadvantages of each alternative route should be discussed and reasons as to why the alignment finally selected is preferred should be furnished.

The total length of the route selected and the length in every State, Division and District and the length of Sections into which the proposed line has been divided for estimating purposes should be indicated.

524. Extensions.-At the time when he is formulating his Report, the Project Investigator should have a much better idea than any one else about the branches and other extension of the proposed lines which are likely to be needed in the near or the distant future; he should record his opinion on the subject under this Chapter even if he has received no definite instructions to that effects.

Project Engineering Estimation of Cost and Construction Schedule

525. Project Engineering.-This section must furnish information and data to the Project Manager to enable him to understand the scope and extent of the project and to assist him in formulating the strategy for execution and management of the project. It must bring to focus the problems likely to be encountered and identify the areas requiring special attention and place the knowledge and information gathered at the investigation stage for evolving optimal solutions. This section must broadly present the information under each of the main heads of the estimate of the cost of the proposed line describing the standards of the work for which the estimate cares for. Information must also be made available regarding the basis of adoption of principal rates to enable the Project Manager to understand the basis of the evaluation of cost of the project and to exercise cost control. The compilation may be done under various heading given in para 526 to 538.

526. Preliminary Expenses.-Under this heading the cost of surveys already carried out and indication of any further investigation which may be required before the commencement of the execution of the proposed line may be furnished.

527. Land.-Remarks as to the width of the land for which the estimate provides, particularly whether provision is made for doubling the line or not and the difficulties which may be expected in acquiring land owing to existing important buildings, religious archeological or other important structures military rights or other special causes should be given. Data regarding cost of land obtained from the Civil Authorities should be relegated to the appendix on "Rates".

528. Formation.-Under this head details should be given regarding formation width on banks and in cuttings; side slopes of banks and cuttings, method of construction of earth work; borrow areas; compaction of soil; use of special blanketing material; provision of sub-banks; with supporting information on soil investigation and results of core drilling wherever necessary: provision for turfing or other protection for banks and cuttings and for repairing them and for topping banks with selected material; sections of tunnels; retaining walls, side drains and catch water drains.

Sometimes there is a discrepancy between the values of bench marks used by various departments of Government or by Railways in the neighbourhood from which the proposed line starts; and any discrepancy and any errors in levels which are known to exist along the proposed line, should be mentioned.

In the case of projects for additional lines and gauge conversions, if any special arrangements are required for controlling the blasting for widening of existing cuttings, the method contemplated at the investigation stage may be indicated.

529. Bridges.-A list of various type of bridges in a tabulated form may be furnished. Detailed description should be given in the remarks column for bridges having a total waterway of 180 lineal metres or 110 sq. metre or more. Any difficulties expected, special methods proposed for construction, materials to be used may be detailed. Special arrangements that may be required for strengthening of existing bridges, if contemplated (particularly in the case of gauge conversions), extension of existing bridges (in the case of provision for additional lines) may be indicated. Method of transporting girder at components, arrangements for erection and launching of girders may be mentioned.

Information regarding the number of lineal metres of waterway per kilometre that for Major and Minor Bridges should be given separately (a "bridge" which has a total waterway of 18 lineal metres or more or which has a clear opening of 12 lineal metres or more in any on one span, is classed as a Major Bridge).

530. Permanent Way.-The possible location of Stores Depots for , P. Way and other stores and any problem likely to be encountered in training out materials may be discussed.

The nature of ballast, source of supply and quantity per metre provided for in the estimate may be indicated.

The minimum distance between reverse curves provided for in the alignment, the method adopted for laying out transition curves and vertical curves may be furnished.

Any special feature in the manner of linking of track particularly in the case of gauge conversion projects may be outlined.

531. Station Buildings and Residential Quarters.-The scale of facilities provided at various stations and any special architectural treatment that may be needed in the case of important buildings may be indicated. Location of administrative and other offices provided for in the project cost may be dealt

with in this section. In the case of residential buildings the description of type of quarters, any planning required for townships, provision of dispensaries, institutes, market places may be highlighted.

532. Notes regarding Station Machinery may be presented under subgroups as indicated below :-

- **(i) Running sheds and workshop facilities;**
- **(ii) Watering arrangements;**
- **(iii) Sand humps;**
- **(iv) Signalling and inter-locking; and**
- **(v) Others.**

533. Road Crossings-The type of level crossing planned, any diversions of roads contemplated and any difficulties encountered in the execution of grade separated road crossings may be discussed.

534. Equipments-This section should discuss the equipment to be provided giving details separately for :-

- **(i) Signalling;**
- **(ii) Communications including telegraphs, train control and microwave etc.; and**
- **(iii) Electrification of Stations.**

Note-In case electric traction is adopted, that should be given covering all details.

535. Rolling Stock-Whether Rolling Stock has been provided for or not in the project cost may be stated. If provided for, full particulars regarding the number and type of engines and other rolling stock should be given with reasons for provisions made, if there are any ferries of floating bridges on the proposed line, the provision made in the estimate should also be specially mentioned.

536. Special Problems-This section may highlight any special problems which may present itself in the execution of the project and should discuss the technical solutions which are contemplated at the investigation.

537. Project Organisation.-The organisational structure required for execution of the project, the proposed headquarters of the Project Manager and other Construction Officers, the administrative division of the constructive activities may be discussed. Health and hygienic conditions are as likely to affect the staff and the provision of necessary medical establishment may be indicated. Suggested plans for providing housing for staff and labour, construction of temporary office buildings may be outlined. Comments regarding the availability of water for construction purposes and also its suitability for the drinking purposes may be given. Procurement of special plant and equipment of construction purposes and the final allocation of the cost of such plants may be indicated.

538. Rate Analysis-An analysis of the principal rates adopted in the estimation of cost and reasons for adopting the same should be given in appendix. for girders of other steel works an analysis of the rates per span and per tonne is necessary. This may also be indicated in the appendix on `Rates'.

539. Statistical Information-Statistical information may be compiled in the following form and furnished in the Report for the purpose of comparison and for the benefit of top management :-

- **(i) Land rate per sq. hectare;**
- **(ii) Earth work in banks rate per 10 cu. m.;**
- **(iii) Earth work in cuttings overall average rate per 10 cu. m.;**
- **(iv) Lined tunnels -rate per metre length;**
- **(v) Unlined tunnels-rate per metre length;**
- **(vi) Major bridges-rate per metre length;**
- **(vii) Minor bridges-rate per metre length;**
- **(viii) Track (rails, sleepers and fastenings) laid in position-cost per km.;**
- **(ix) Main line-cost per km.;**
- **(x) Running loops-cost per km.;**
- **(xi) Sidings-cost per km.;**
- **(xii) Points and crossings per set;**
- **(xiii) Ballast-cost (laid in track per cu. m.);**
- **(xiv) Service Buildings-cost per sq. m.;**
- **(xv) Staff quarters-cost per sq. m.; and**
- **(xvi) Total cost of signalling per crossing station of 2 and 3 lines.**

540. Estimation of Cost.-The methodology adopted in the computation of quantities for earth work, bridges and buildings may be indicated. For estimation of cost detailed estimates in form E-553 together with "Abstract Cost of Project" in Form E-554 and Abstract Estimate of Junction Arrangements in the case of projects relating to construction of new line should be prepared and appended to the report.

541. Investment Schedule.-In addition to the abstract cost, an Investment schedule for the various years of construction programme should be furnished.

542. If any phasing of work is required, the extent of such phasing with reasons thereof and the investment levels for such phasing may be indicated.

543. Construction Programme.-A net work may be developed while preparing detailed estimate for projects costing Rs. 50 lakhs or more if it is appropriate for the type of work undertaken and appended to the Report.

544. The Report should also be accompanied by the following tabulated details (see paragraphs 547 to 552) :-

- **(i) Curve Abstract (Form E. 547).**
- **(ii) Gradient Abstract (Form E. 548).**
- **(iii) Bridge Abstract (Form E. 549).**
- **(iv) Important Bridges (Form E. 550).**
- **(v) Station Machinery (form E. 551).**
- **(vi) Stations and Station Sites (Form E. 552).**

545. Covering Note.-The Report on the Final of Location Survey, otherwise called the Project Report should be submitted to the Railway Board under a covering note which should have the authority of the Railway Administration submitting the project report. The note should provide a summing up and i*nter alia* state the object of the proposed survey and the circumstances leading to the present investigation. A brief resume of the past performance, present status of traffic movement and future traffic projections must be presented. A brief description of the salient features of the proposed scheme its cost and investment pattern should be given. If any estimate have been submitted previously for the project a comparison should be made between the detailed estimate prepared on the Final Location Survey and that already submitted to or sanctioned by the Railway Board. An explanation should also be given in the note of any material modification made in the project in excess in the estimate over an existing sanctioned estimate. A summary of the financial appraisal and a brief description of the benefit that will accrue from the schemes should be furnished. The note should conclude with the recommendation of the Railway Administration submitting the Report.

546. Arrangement of Documents.-All the documents pertaining to a Final Location Survey Report should be bound in the following order :-

- **1. Covering Note.**
- **2. Index.**
- **3. Report, followed by a "list of Drawing accompanying the Report"**
- **4. Appendices to the Report :-**

- **(a) Historical and Geographical.**
- **(b) Location Reports.**
- **(c) Rates for construction work.**

547. Curve Abstract- Curve Abstract referred to in Paragraph 543 ante should be in the following ﷺ

Form E 547 (Continued to..... List of forms)

548. Gradient Abstract:- The standard form to be used is given below:-

Form E. 548 (Continued to..... List of forms)

549. Bridge Abstract:- This abstract should be prepared in the form given below:-

Form E.549 (Continued to..... List of forms)

550. Important Bridges:- Details about important bridges should be tabulated as shown in the standard form below:-

Form E.550 (Continued to..... List of forms)

551. Station Machinery:- The tabulated details under this head should be in the form below:-

Form E.551 (Continued to..... List of forms)

552. Station and Station Sites:- Details should be tabulated as shown in the standard form below:-

Form E. 552 (Continued to..... List of forms)

553. Detailed Estimates:- Details of the cost of construction of a proposed line under the various heads of Capital and other Works Expenditure classification should be prepared in the forms that follows . The various detailed estimates of a project are collectively referred to as the ﷺ of the project (see paragraph 710-712) . The name of the project , the gauge and the length in kilometers should be shown on the top of each of the several parts constituting the ﷺ shown below. In the forms indicated below the plan heads corresponding to new lines (Construction) has been shown. Depending on the Project investigated the corresponding Plan Head may be adopted.

Form E 553 (Continued to..... List of forms)

1120 LAND

(Reason for rates are given on page ﷺ)

Description	Unit	Rate	Whole line Kilometres		Section I		Section II		Section III	
			Area	Cost	Area	Cost	Area	Cost	Area	Cost
Total cost **	Hect-ares	Rs.	Hectares	Rs.	Hectares	Rs.	Hectares	Rs.	Hectares	Rs.

Add ****. On account of pay, allowance, etc., of Land Acquisition Staff.**

Add 5 per cent for contingencies.

Total ******.. Rs**.**

**Rate per kilometre ** Rs. **

1130 STRUCTURAL ENGINEERING WORKS FORMATION

1131 EARTH WORK

(Reasons for rate are given on page *******.)**

Description	Unit	Rate	Whole line Kilometres		Section I		Section II		Section III	
			Quan-tity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
		Rs.		Rs.		Rs.		Rs.		Rs.
Total										
Add for										

Contingencies, 5 per cent. Grand Total.										

Mean rate per Kilometre.

1132. TUNNEL

(Reasons for Rates are given on page..... .)

Name of Tunnel	Length including-ing porates		Heading		Enlarging			Lining		Portals				Miscellaneous items	Total	Rate per meter run
		Quantity	Rate	Cost	Quantity	Rate	Cost	Quantity	Rate	Cost	Quantity	Rate	cost			
Total 1132 Tunnels																

***Note.*-Each tunnel should be estimated for separately, each different class of work appearing as a distinct item with its own quantities, rate and cost.**

1140. STRUCTURAL ENGINEERING WORKS-PERMANENT WAY

1141. RAILS AND FASTENINGS

(Reasons for rates are given on page ..)

Description	Unit Rate	Whole Line Kms.			Section I Km. to Km.			Section II Km. to Km.		
		Quantity	Cost	Rate Per Km.	Quantity	Cost	Rate Per Km.	Quantity	Cost	Rate Per Km.
	Rs.		Rs.			Rs.			Rs.	
Main Line										

`` Add for contingencies 5 per cent.										
Total										
Running loops ````` Add for contingencies 5 per cent.										
Total										
Sidings ``````` Add for contingencies 5 per cent.										
Total Total- 1141										

1142. SLEEPERS AND FASTENINGS

(Reasons for rates are given on page ﷺ)

Description	Unit Rate	Whole Line Kms.			Section I Km. to Km.			Section II Km. to Km.		
		Quantity	Cost	Rate Per	Quantity	Cost	Rate Per	Quantity	Cost	Rate Per

				Km.			Km.			Km.
	Rs.		Rs.			Rs.			Rs.	
Main Line ********* Add for contingencies percent.										
Total										
Running loops ********* Add for contingencies percent.										
Total										
Sidings ********** Add for contingencies percent.										
Total Total- 1142										

1143. POINTS AND CROSSINGS

(Reasons for rates are, given on page.)**

Description	Unit Rate	Whole Line Kms.			Section I Km. to Km.			Section II Km. to Km.		
		Quantity	Cost	Rate Per Km.	Quantity	Cost	Rate Per Km.	Quantity	Cost	Rate Per Km.
	Rs.		Rs.			Rs.			Rs.	
Main Line ����� Add for contingencies percent.										
Total										

1144. BALLAST

(Reasons for rates are given on page�.)

Description	Unit Rate	Whole Line Kms.			Section I Km. to Km.			Section II Km. to Km.		
		Quantity	Cost	Rate Per Km.	Quantity	Cost	Rate Per Km.	Quantity	Cost	Rate Per Km.
	Rs.		Rs.			Rs.			Rs.	
Main Line ����� Add for contingencies 5										

per cent.										
Total										
Running loops **`&#65533;&#65533;&#65533;&#65533;&#65533;`** Add for contingencies5 per cent										
Total										
Sidings **`&#65533;&#65533;&#65533;&#65533;&#65533;&#65533;`** Add for contingencies 5 percent.										
Total Total- 1144										

1141, 1142 AND 1144. PERMANENT WAY AND BALLAST

Detailed Estimate of one Kilometre of Track (Ballast and Permanent Way)

Standard of Track

Main Line	.. Rails	-Kg. per metre
	Sleepers	- per metre
	Ballast	- cubic metres per metre.
Running loops	.. Rails	Kg. per metre.

	Sleepers	per Km.
	Ballast	cubic metre per metre.
Sidings	.. Rails	Kg. per metre
	Sleepers	per Km.
	Ballast	cubic metres per metre.

Details	Quantity	Unit	Rate	Amount	Remarks
Main Line Total					
Total cost of one Kilometre of Track Rs..					
Running Loops Sidings					
Total cost of one Kilometre of Track Rs					
Sidings					
Total cost of one Kilometre of Track Rs.					

Note.-This estimate should be made out for one kilometre of completed track, including ballast and all charges for handling linking and maintenance during construction.

1145. FENCING

(Reasons for rates are given on page..)

Description	Unit	Rate	Whole Line ....Kms.	Section I	Section II

			Quantity	Cost	Quantity	Cost	Quantity	Cost
		Rs.		Rs.		Rs.		Rs.
Fencing Cattle guards at stations and level crossings Boundary Marks	Km. Set Km.							
Total Add for contingencies 5 percent Grand Total Mean rate per Km.								

Note-The unit of one kilometre should be taken as one kilometre length of single fence not fencing sufficient for both sides of a Kilometre of Railway.

1146. ROAD CROSSINGS INCLUDING FOOT OVER/UNDER BRIDGES AT

STATIONS AND OTHER PLACES

(Reasons for rates are given on page���.)

Description	Unit	Rate	Whole Line ����Kms.		Section I		Section II	
			Quantity	Cost	Quantity	Cost	Quantity	Cost
		Rs.		Rs.		Rs.		Rs.

Earth work of level crossings Gates. huts and guard rails at ..... class level crossings. Posts and guard rails at..... class level crossings. Metalling . class Crossings and Public Works Department road diversions. Bridge in road diversions Foot over/under bridges	10 cu.m. Each Each Lin.m. Lin.m.							

Total ....

Add for contingencies 5 per cent .....

Grand Total ....

Mean rate per Kilometre .....

1147. MISCELLANEOUS

(Reasons for rates are given on page ...)

Description	Unit	Rate	Whole Line ....Kms.		Section I		Section II	
			Quantity	Cost	Quantity	Cost	Quantity	Cost
		Rs.		Rs.		Rs.		Rs.
Km. posts	Each							

Gradient posts Telegraph post number plates Total❑❑❑❑❑❑. Add for contingencies 5 per cent Grand Total ❑❑❑❑.. Mean rate per Km. Rs.								

MAJOR BRIDGES

(Reasons for rates are given on page.....)

Section of Estimate ❑❑ Number of Bridge Kilometres		❑.. to ❑km. To km.			Whole Line ❑❑.to ❑❑ ❑.Kilometres			
		❑❑❑❑❑❑❑ Total ❑❑❑❑❑❑❑❑..			Total			
Description of work	Unit	Rate	River ❑❑ spans, M. girders, ❑.. open found		Waterway 2801 ft.		Waterway 2801 ft.	
			Quantity	Cost	Quantity	Cost	Quantity	Cost

1151. **Steel Work-** Girders ����mclear span�� tonnes per span at Rs. ��pr tonne (including their erection) (See paragraph of.. the report) Total				Rs.		Rs.		Rs.

Description of work	Unit	Rate	River spans, M. girders, .. open found		Waterway 2801 ft.		Waterway 2801 ft.	
			Quantity	Cost	Quantity	Cost	Quantity	Cost
1152. **Masonry-** (1) Earthwork including Excavation, filling. backing and Islands. (2) Excavation in hard rock well-curbs, well sinking. (3)Concrete. hydraulic, in wet. Founds (4) Brickwork and masonry in open founds. super structure and drop walls. Timbering foundations'. Including cost of timber, pumping, lighting. Temporary island for pitching of	Cu.m. Cu.m. 10 Cu.m Cu.m. Cu.m.							

well-curbs, etc, (5) Supervision Total								
1153. **Miscellaneous** (1) Guide banks pitching river training. (2) Other including work not included in (i) or (ii) above	Cu.m.	Lum-Sum						
Total								
Grand Total Add for contingencies 5 per cent Total cost of bridge- Cost per lineal metres of waterway Cost per Kilometre								

***Note.*- Each major Bridges should be estimated for separately, the extra cost of providing for cart, animal foot traffic is to be shown separately.**

1151. MAJOR BRIDGES - Steel Work

Kilometrage	Cost
Total	

1152. MAJOR BRIDGES-Masonry

Kilometrage	Cost

Total

1153. MAJOR BRIDGES-Miscellaneous

Kilometrage	Cost
Total	

MINOR BRIDGES (costing less than Rs. 10,000 each)

(Reasons for rates are given on page.....)

Description of bridge	Whole line	..Km	Km..to..	Km.	Km..to..	Km.	Km..to..	Km.
	Total number of spans	Cost	Total number of spans	Cost	Total number of spans	Cost	Total number of spans	Cost
1154. **Steel work** Total 1155. **Masonry-** (1) Open-top culverts.		Rs.		Rs.		Rs.		Rs.
(2) Flat-top culverts (3) Arched culverts Total. 1156. **Miscellaneous-**								
Total.								

	Lin. M.	Rs.	Lin. M.	Rs.	Lin. M.	Rs.	Lin. M.	Rs.
Total waterway and cost Add for contingencies 5 per cent Grand Total								

contd.....chapter-VA

1154. MINOR BRIDGES- Steel Work

Kilometrage	Cost
I. Minor Bridges costing more than Rs.10, 000 II. Minor Bridges costing less than Rs.10, 000	
Total	

1155. MINOR BRIDGES Masonry

Kilometrage	Cost
III. Minor Bridges costing more than Rs.10, 000 IV. Minor Bridges costing less than Rs.10, 000	
Total	

1156 MINOR BRIDGES Miscellaneous

Kilometrage	Cost

V. Minor Bridges costing more than Rs.10, 000 VI. Minor Bridges costing less than Rs.10, 000
Total

contd.....chapter-VA

1167. STATION MACHINERY

(reasons for rates are given on page���.)

Section of Estimate and Name of Station	Particualar					Total
	Cost	Cost	Cost	Cost	Cost	
Section						
Section I - Kilometres Rate per Kilometre Rs������ Total�����. **(and so on for each Section and for whole line)**						
Note:- (1) Estimates should be made out by stations, each individual structure appearing as a separate item. (2) Suitable from may be adopted for detailed heads 1168 and 1171 to 1179						

1180. GENERAL CHARGES -Establishment

1181. Direction and General

Description	Number	Salary	Period in Months	Amount
Details of Charges				

1182. AUDIT AND ACCOUNTS

Description	Number	Salary	Period in Months	Amount
Details of Charges				

1183. CIVIL ENGINEERING

Description	Number	Salary	Period in Months	Amount
Details of Charges (e.g. Executive Engineer Asstt. Engineer, Inspector of works) .. .. Travelling Allowance				

Provident Fund				

Note.

Similar Forms may be framed for detailed heads 1184 to 1189

1190. GENERAL CHARGES--Other than Establishment

1191. PLANT CONSTRUCTION

Description	Quantity	Rate	Total	Per Kilometre
Plant for construction .. Plant for Important/ Major Bridges.. Credit on completion of Construction.				

Whole line.Rate per kilometer Rs.

1192. INSTRUMENTS

Description	Quantity	Rate	Per	Amount

1193. OFFICE EXPENSES

Description	Quantity	Rate	Per	Amount
Accommodation Details of charges (e.g. Executive Engineer Office , Furniture) .. Contingencies Details of Charges				

1194. TEMPORARY RESIDENTIAL QUARTERS

Description	Plinth area	Rate per Sq. metre	Amount

1195. GENERAL CHARGES ON STORES

Description	Quantity	Rate	Per	Amount

Note.Similar forms may be framed for detailed heads 1196 to 1199

554.-Abstract Cost of Project .--The detailed construction estimates should be accompanied by an Abstract cost of the project in the following form :-

Form E. 554

.��� Railway ��. Gauge. Length ���. Kilometres

Head of Account		Whole line				Section I and so on			
		Detailed Head		Sub-Head		Detailed Head		Sub-Head	
		Cost	Rate per Km.	Cost	Rate per Km.	Cost	Rate per Km.	Cost	Rate per Km.
1110.	Preliminary Expenses								
1111.	Survey Expenses								
1112.	Plant								
1113.	Establishment								
1120.	Land								
1130.	Structural Engineering Works-Formation.								
1131.	Earth work								
1132.	Tunnels and so on as per classification of capital and other Works Expenditure.								
	Total Cost								
	Rate per kilometer								

Chief Engineer Accounts Officer

555. Techno-Economic Survey Reports.Techno-Economic Survey Reports based on Preliminary Engineering-cum-Traffic Surveys for new lines and traffic facilities may be compiled under chapters as indicated below :

(i) Introduction ;

(ii) Traffic Projection ;

(iii) Analysis of Alternatives ;

(iv) Characteristics of Project Area ;

(v) Standards of Construction (for new lines, multiple tracking schemes, gauge conversions);

(vi) Route Selection/Project Description ;

(vii) Project Engineering (for new lines, multiple tracking schemes and gauge conversions);

(viii) Cost, phasing and investment schedules ;

(ix) Financial Appraisal ; and

(x) Recommendation.

556. The outlines of chapters as indicated in para 556 to 575 are to be taken as guidelines and depending on the type of project to be investigated, they can be suitably modified and adopted.

557. Introduction.Guidelines contained in para 503 may be generally followed in framing the contents of this chapter. In the section dealing with Methodology and Investigation for projects other than new lines the method adopted for the various aspects of investigation associated with the project may be outlined. Any special features, pertaining to various constituent elements of the project which may be of interest to any future investigation may be mentioned.

558. Traffic Projections.Even though a separate traffic survey report in a detailed form may be compiled, this chapter should furnish a synopsis to provide necessary focus to obtain a clear perspective of the scheme. This chapter, therefore, should provide an insight into the traffic prospects and present analysis of existing capacity and possibility of optimisation of the existing facilities.

559. The traffic projection must present a commodity-wise analysis taking into account the growth of major industries, minerals and agricultural activities in the area and also the general trends of growth of traffic. The projections may be made over a period of 30 years at an interval of 5 years.

560. Analysis of the existing Capacity.The existing capacity must be analysed with reference to master charts in the case of doublings, multiple track schemes and gauge conversion schemes. In the

case of projects relating to passenger terminals the existing capacity must be analysed with reference to occupation charts of platform lines, washing and stabling lines etc. In the case of schemes relating to goods and marshalling yards the capacity must be examined in terms of average detention of trains etc. In the case of projects relating to new lines, the existing means of transport, such as roads, water-ways etc. must be discussed.

561. Possibility of Optimisation of Existing Facilities.The report must present an analysis on the possibility of optimisation of the existing facilities. In the case of doublings, multiple tracking, gauge conversion schemes the analysis must project the possibility of improving the line capacity by having improved signalling higher speeds heavier/longer trains, change of traction from steam to diesel/electric traction.

In the case of schemes for terminal facilities, the analysis should cover the possibility of reducing the lie over period of rakes, reducing the servicing time of rakes and the occupation of platform by each train. The possibility of shifting the terminal away from a busy terminus either by extending the run of the existing trains or by combining two trains from different directions terminating at the same station, may also be analysed.

In the case of schemes relating to goods yards, the analysis, should indicate whether the detention in the yards are reasonable and if there is a possibility of reducing them. The analysis should cover the possibility of extending point to point services reducing the workload in marshalling yards and detention in the yards enroute.

For projects relating to new lines, the analysis should cover whether existing means of transport can meet the requirements of traffic by making some improvements and whether the construction of a new line is inescapable.

562. Analysis of alternatives - The Analysis must indicate the alternative schemes, their approximate cost, the time required for their execution, the additional capacity they will create, their merits and demerits. Financial returns must be worked out for the important alternatives and the one giving the best return may be generally adopted except when there are other overriding reasons in favour of the costlier alternative

563. Characteristics of Project Area - For projects relating to construction of new lines, multiple tracking a schemes and gauge conversions provisions contained in para 507 may be followed.

564. Standards of Construction.For projects relating to construction of new lines, multiple tracking schemes and gauge conversions provisions contained in para 508 to 522 will apply.

565. Route selection/project description.For projects relating to construction of new lines multiple tracking schemes and gauge conversions, provisions contained in para 523 will apply for route selection. For projects like yard re-modelling, terminal facilities etc. the contents of the chapter Project Description may be presented under the following groupings :

(i) Site

(ii) Environment:

(iii) Facilities to be provided :

(iv) Equipment and construction requirement;

(v) Input requirements;

(vi) Labour and Management requirements; and

(vii) Problems likely to be encountered during construction.

566. Site.The availability of land, its characteristics and land use patterns (agricultural, residential, industrial, grazing etc.) may be mentioned. The suitability of the site for the project under study taking into account the future needs should be brought out.

567. Environment.Climatic conditions, rainfall characteristics, existence of air pollution which may cause corrosion etc. may be brought out. Details of communications facilities available like access roads, availability of water, human activity in the area and human settlements (townships squatter settlements etc.) may be furnished. This aspect is of considerable importance since the location of terminal facilities or yard facilities close to squatter settlement with attendent problem like pilferage etc., has to be borne in mind in the choice of selection of alternative sites.

568. Facilities to be provided.The various facilities to be provided under the scheme may be presented grouped according to the various user departments.

569. Equipment and construction requirements.Under this heading various equipment which may be provided as a part of the scheme (particularly in the case of repair facilities) may be indicated. Further any special equipment required during construction may also be indicated.

570. Input requirement.Availability of power and water arrangements for meeting the demand may be indicated. Availability of construction materials and any special arrangements for procuring them may be furnished.

571. Labour and Management requirement.The organisational structure envisaged for the execution of the project may be indicated. The staffing pattern to operate the facilities provided after commissioning the project and the facilities included in the scheme to meet the housing and the other requirements of such staff may be furnished.

572. Special problems.The chapter should indicate the type of problems that may be encountered during the execution of the project. Problems likely to be encountered in land acquisition, movement of materials, foundation problems, and any difficulty in housing of workers and ensuring supply of utilities during construction may be brought out.

573. Project Engineering.For projects relating to new lines, multiples tracking schemes and gauge conversions provisions contained in para 525 may be followed.

574. Cost, phasing and investment schedule.

Provisions contained in para 542 and 543 may be followed.

575. Financial Appraisal.

This Chapter must present the financial appreciation of the various alternative schemes examined by the Project Investigator. If phasing of the project is contemplated the investment levels of the various phases may be kept in view while presenting the analysis. Reference may be made to chapter II of the Indian Railway Financial Code regarding financial appraisal of Railway projects.

576. Feasibility Reports.

Feasibility Reports may be prepared in the format prescribed for Techno-economic Survey Reports.

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CHAPTER VI

INVESTMENT PLANNING AND WORKS BUDGET

Investment Planning and Works Programme Section

601	**Investment Planning and Works Programme - General**
603	**Advance Planning**
607	**Scrutiny of Schemes before preparation of Preliminary Works Programme**
609	**Preparation of Preliminary Works Programme**
622	**Integrated Budget**
623	**Final Works Programme**
624	**Works Budget**
625	**Demand for Works Grant**
626	**Financing of Works Budget**
628	**Distribution of Funds by Railway Board**
632	**General Rules on Budget**
633.	**Planning for Survey**

General

601. Investment decisions relating to the creation, acquisition and replacement of assets on the Railways are processed through the annual "Work, Machinery and Rolling Stock Programme". Instructions regarding the preparation of the Machinery and Rolling Stock Programme are contained in Chapter XV of the Indian Railway Code of Mechanical Department (Work shops). On the basis of the estimate of the Plan funds requirement for the ensuing year, the Railway Board lay down the financial limits (see para 609) under various plan heads (refer to Appendix I) within which the Railway

Administrations are required to make out their programme for the following years duly vetted by the Financial Advisor and Chief Accounts Officer for submission to the Railway Board by a specified date. The programmes are examined by the Railway Board and discussed, where necessary, with the General Managers and the works to be undertaken as well as the outlays during the Budget year are decided upon.

602. The various stages of investment planning and preparation of the Final Works Programme are given below :

- (i) Formulation of schemes as a part of advance planning;
- (ii) Submission of major schemes for advance scrutiny and clearance by the Railway Board for selection of Projects to be taken up in the following year.
- (iii) Preparation of the Preliminary Works Programme within the financial ceiling laid down by the Railway Board ; and
- (iv) Discussions with the Railway Board and submission of the Final Works Programme.

The investment planning process through the above stages is dealt with in the following paragraphs :-

Advance Planning

603. The preparation of the annual Works Programme of a Railway is not an isolated exercise for the year, but is part of a continuous planning process from the level of the Divisional Officer upwards. Investment proposals emanating from the Division would be those which are intended to effect improvement in operation or remove bottlenecks etc., within the Division itself. Major investment proposals which benefit a Zonal Railway System or the Indian Railway as whole should be co-ordinated and planned at the level of the Railway Headquarters or the Railway Board, where necessary.

604. An important requirement for effective investment planning is the realistic estimation of project costs. Full details of the scheme must be worked out and no scheme should be included in the Railway's Works Programme unless detailed plans and estimates have been prepared and are ready. Detailed Traffic and Engineering surveys should be carried out for new lines, gauge conversions doublings and for other line capacity works costing more than Rupees Five Crores each. In the case of yard remodellings, line capacity works i. e., goods shed facilities and important buildings the estimates should be based on plans approved and signed by the concerned departments who should scrutinize the plans carefully to avoid the need for making any substantial modifications in the required facility at a subsequent stage.

If major changes in the plans/schemes/specifications of works nevertheless become necessary and are likely to lead to substantial excesses over the sanctioned estimates the changes asked for by the concerned departments should not be agreed to unless reviewed and approved by the competent authority sanctioning the original estimate. In regard to proposals for new marshalling yards goods terminals, and tranship yards etc., work study teams should go into the actual working before formulating schemes for the additional facilities required.

605. It is an essential feature of the railway system as a commercial undertaking that expenditure, other than that wholly chargeable to ordinary Revenue, incurred on new assets or for improvement of existing assets should be financially justified before it is incurred. Detailed instructions regarding the financial appraisal of Railway projects are contained in Chapter II of the Indian Railway Financial Code to which reference may be made. The cases where no financial justification need be given are contained in para 202 of the Indian Railway Financial Code. Detailed financial implications (including financial return) should be worked out in all cases including works financed from Development Fund, Accident Compensation, Safety and Passenger Amenities Fund or Open Line Works Revenue (see para 626). If the prescribed return is found to be not obtainable on the anticipated level of traffic, the Railway Administration should examine whether the proposal cannot be reduced in scop, or given up in favour of some other alternative, or postponed until traffic prospects improve.

606. When a number of works have to be carried out to achieve a common objective, the financial implications or justification should be worked out for the entire scheme as a whole. In case where the wider schemes covers two railway, a joint estimate of cost should be prepared for the Railway Board's consideration. The Railway in which the major portion of the work falls should obtain figures from the contiguous Railway for submitting joint figures of cost and financial implication to the Railway Board.

Scrutiny of Schemes before preparation of Preliminary Works Programme

607. All schemes costing Rs. 20 lakhs or above should be worked out comprehensively and sent to the Board along with full details of (i) the technical features, (ii) Cost break-up. (iii) benefit expected to accrue and (iv) financial implications. A sketch map of each proposal should also be sent. The Railway Administration must clearly bring out the purpose of each scheme and confirm that the proposal meets the objective fully and that the scope and cost of the project have been arrived at after the fullest possible investigation including assessment of the financial implications. After the schemes have been scrutinized by the Board, the Railway Administrations should be advised of the acceptance, with or without any modifications for inclusion in the Works programme.

608. Track renewal proposals costing Rs. 20 lakhs and above are initially scrutinised by the Board, keeping in view the availability of permanent way materials, progress of the works already sanctioned and other technical factors. For this purpose the Railway Administrations should send all track renewal proposals costing Rs. 20 lakhs and above together with technical data like traffic density, age, conditions of track components etc., in the form prescribed by the Board to reach the Boards office by the stipulate date. After the proposals are screened by the Board, guidelines are issued to the Railway Administrations to reframe their proposals for inclusion in the Works Programme.

Preparation of the Preliminary Works Programme

609. The Chief Engineer of the Railway will be primarily responsible for ensuring that the proposals prepared by the various departments are complete in all respects and are correctly prepared. The overall priorities within the ceilings given by the Board will also be fixed by him in consultation with the General Manager and other Heads of Departments. He will be responsible for the preparation and timely submission of the Preliminary and the Final Works Programme.

610. In or about June/July each year the Railway Board should convey to each Railway, in respect of each Plan Head, the total outlay within which the Works Programme should be framed by the Railway. A list of the Plan Heads is given in Annexure I. On receipt of this financial ceiling the Railway administrations should take stock of the schemes already formulated and those under consideration and select for inclusion in the Works programme within the financial ceiling such works as are expected to yield the maximum benefit to the Railway, preference being given to works in progress. Further necessary changes in the investment schedule may be made in order to work within the financial ceiling for the year such modifications being taken note of in framing the preliminary Works Programme and revising the financial implications, if necessary.

611. The Preliminary Works Programme for the following year should be submitted by the Railways to the Railway Board by 1st week of September or such earlier date as may be laid down by the Board. Proper financial appraisal of each work should be given in the Preliminary Works Programme together with the comments of the Financial adviser and Chief Accounts Officer.

612. The project cost should be based on firm data both as to quantity and rates at current price levels, and should any increase occur in prices during the period intervening between the initial preparation of the project estimate and its inclusion in the works Programme, the estimate should be updated taking into account any significant changes in the wages and material prices as well as increase in freights and fares. No other increase such as on account of change in scope of the project should be allowed without prior reasons being adduced for acceptance by the Railway Board. A sketch showing the proposal should accompany each proposal.

613. Each investment proposal should be accompanied by a detailed plan showing the scheduling of the project to match the traffic requirements and the financial outlay proposed for the year should be in accordance with this project schedule to enable the Railway Board to arrange for a realistic funds allocation for implementation of the programme.

614. In deciding the outlays for the various works Railway Administrations must endeavour to progress all works in progress speedily and bring them into use at the earliest possible date. A work which has been sanctioned and for which funds have been allotted whether in the original or supplementary budget of a year should be treated as a "work in progress" for the next year and provided for as such in the programme. Such works should be grouped as indicated in para 619.

615. The Railway Administrations should make a realistic assessment of the amount required for each work in progress and necessary provision should be made for it in the Works Programme. In estimating the provision for works during the budget year a generous allowance should be made for those delays in execution which though unforseen are known from experience to be so liable to arise particularly prior to inception and during the initial stages of large projects. The provision made should take into account adjustment of charges on surveys connected with a project.

616. In exhibiting the outlay for the current year against individual works in the works programme, the outlay should be as per Pink Book, and in exceptional cases where the Railways propose any substantial increase in the outlay with corresponding reductions against other works, such revised outlay may be

shown separately in brackets below the outlay as furnished in the Pink Book duly explaining the reasons for doing so in footnotes at the appropriate places. As far as possible only the last sanctioned costs should be exhibited. Wherever it is visualised that the cost would involve an excess over the last sanctioned cost, effective steps should be taken well in time to have the revised estimate prepared and sanctioned by the competent authority before the Works Programme is sent to the Board. In case where the revised estimates are sanctioned subsequent to the despatch of the final Works Programme but before the end of January of the following years the same should be promptly advise to the Board to enable to the latest sanctioned cost being exhibited in the Pink Book to be circulated alongwith the Budget. In all case of revised costs sanctioned by the Board, reference to the letter of sanction should invariably be indicated.

617. Works once introduced through a Works Programme (including Track Renewal Programme) and taken up after the estimates have been sanctioned by the competent authority should continue to be included every year till they are finally completed, except in case where the works have reached the completion stage and where funds required if meagre could be found by reappropriation.

618. The Works Programme is compiled in the following format :-

Form E. 618

WORKS PROGRAMME 1975-76

Demand No..... **Figures in thousands of rupees)**

Item No.	**Authority**	**Particularsof Works**	**Cost**	**Expenditure to end of 3/74**	**Outlay for**		**Balance**
					1974-75	**1975-76**	
1	2	3	4	5	6	7	8

Note :--Years have been shown in the form for the purpose of illustration.

In respect of "Works in Progress" reference to item No. of the current year's Pink Book and also the authority under which the work was first started should be indicated. The works should be arranged as per the Plan Heads.

619. The items in the Works Programme should be grouped under the following categories while compiling the Works Programmes :--

- (i) New Works.
- (ii) Works in Progress.

- (iii) Works approved in earlier years, which have not been actually commenced and on which no expenditure has been incurred till 30th June of the year previous to the Programme year.
- (iv) Works approved in the earlier years but estimates for which have not been sanctioned by 30th June of the year previous to the Programme year.

620. The works are further made into sub-groups of (i) Works costing more than Rupees Five Lakhs each and (ii) Works costing upto Rupees Five lakhs each. Under (ii) works costing upto Rupees two lakhs each in the case of Track Renewal works and for works costing upto Rupees one lakh each in the case of other works only lumpsum provision should be shown without detailing individual works. Within each sub-group, the works are presented under each Plan Head.

621. A map showing the Railway System and indicating the new lines, doublings, major yard remodellings, important line capacity and signalling works which are in progress as well as proposed should be attached to the Works Programme. An alphabetical index of works and various managerial information regarding critical materials, expenditure position relating to passengers and railways users amenities etc. which will be prescribed by Railway Board should be included.

622. Integrated Budget.-The Annual Budget of Railways consists of assessment of earnings and expenditure forming part of Revenu Budget, and that relating to the investment decisions taken through the Works Machinery and Rolling Stock Programmes. In order to co-relate the decisions relating to all these aspects, a consolidated budget called integrated Budget including Revenue Budget, Works Programme and the Machinery and Rolling Stock Programmes should be submitted by the Railways alongwith the preliminary Works Programme. The Integrated Budget will include the projections of traffic and earnings, works working expenses, the estimated financial results for the ensuing year, and the operating ratio in the proforma specified by the Railway Board. The Railways should also furnish the details of Rolling Stock required on replacement account and addition account, duly co-relating it to the anticipated increase in traffic. In the covering note to the Intergrated Budget the Railways should bring out the effect of the budget proposals on the efficiency of operations as indicated by the operating ratio and the financial viability of the system as reveraled by the financial returns on cpaital investment. After discussion of the Preliminary Works Programme, a revised Integrated Budget should be submitted along with the Final works Programme duly taking into account the changes that might have taken place in the meanitime. The Integrated annual budget may be prepared under the personal guidance of the General Manager and with the assistance of Financial Adviser and Chief Accounts Officer.

Final Works Programme

623. After having examined the individual Railways Programme, and discussions with the General Managers, the Railway Board will decide the works which should be undertaken during the following year and which should be included in the Final Works Programme. The Railway Administration gives will then modify their Works Programmes as a result of the Board's decision and send their Final Works Programme to the Railway Board by the stipulated date.

Section II-Works Budget

624. Works Budget.--The revised and budget estimets for the construction, acquisition and replacement of assets are briefly known as Works Budget. The revised estimate gives an estimate of funds required for the current year and the budget estimate referes to the following year. For a detailed study of the Railway Budget, Chapter III of the Indian Railway Financial Code should be refered to. The budget estimate for the works are based on the Works Programme approved by the Board. The requirement of funds both for new investments and for works in progress are submitted in the form of "Demand for Grants" in the Works Machinery and Rollings Stock Programme which forms a part of the Budget papers presented to the Parliament. While compiling the Works Machinery and Rolling Stock Programme for presentation in the Parliament only works costing Rupees five lakhs and above are itemised.

Demand for Works Grants

625. The proposal of Government in respect of sums required to meet the expenditure from the Consolidated Fund of India are to be submitted in the form of Demands for Grants to the Parilament. The Demand shall be for gross expenditure, the credits or recoveries (refer to para 335 of Indian Railway Financial Code) being shown in the form of footnotes to Demands.

The Demand for Grants for the Works Budget is :

Demand No. 16 : Assets-Acquisitions, Construction and Replacements.

Financing of Works Budget

626. Works chargeable to Demand No 16. Assets-Acquisitions Construction and Replacements are financed from railway revenue when it is charged to OLWR or financed from Capital. Depreciation Reserve Fund, Development Fund, Accident Compensation Safety and Passenger Amenities Fund. Expenditure budgetted under "capital" involves increase in the Capital-at-charge of the Railways and hence is the liability for payment of dividend to General Revenue subject to the relief/exemptions granted by the Convention Committee. "Works expenditure" of the Railway is thus financed from Revenue, Railway Funds and Capital provided by the General Revenues. The Railway Funds are Depreciation Reserve Fund, Development Fund and Accident Compensation Safety and Passenger Amenities Fund. For Details regarding the operation of the funds, reference may be made to Chapter. III of the Indian Railway Financial Code. In the event of the railways revenue surplus not being adequate to fully meet the requirements of Development Fund Expenditure, the budgetary support from the General Revenues would also include temporary loans to finance expenditure from the Development Fund. The expenditure under works Budget of the Railways is, therefore, determined by the resource allocation under various Plan Heads.

627. Credits or Recoveries. There are certain credits or recoveries which are excluded from the scope of the Demands presented for vote of Parliament, (refer to para 335 of Indian Railway Financial Code for details). Though these credits or recoveries are outside the scope of the Grants, they are booked in accounts as reduction of expenditure, e.g. credit for released materials. A list of credits or recoveries which should be excluded from the scope of the Demand should be sent in Form 335F along with the revised estimates of the current year and budget estimates of the ensuing year under each Demand.

628. Distribution of Funds by the Railway Board. The Grants as voted by the Parliament and the appropriations for charged expenditure (for details of `voted' and' charged' expenditure reference may be made to paras 302 and 303 of the Indian Railway Financial Code) as sanctioned by the President are distributed by the Railway Board among the Railway Administrations and other authorities, subordinate to them as soon as possible after the Budget is sanctioned. The sums so distributed are called "Allotments" and the orders by means of which the allotments are made are called "Budget Orders". The allotments made out of funds voted by the Parliament are shown as "Voted" and those fixed by the President are shown as "Charged".

629. The Budget Orders are accompanied by the final issues of "Demands of Grants" and "Works Machinery and Rolling Stock Programmes", containing the detailed distribution of the Budget allotment made to railway administrations for working expenses and Capital, Depreciation Fund, Development Fund, Open Line Works (Revenue) and Accident Compensation, Safety and Passenger Amenities Fund expenditure. The Budget allotment made to railway administration is intended to cover all charges including the liabilities for past years to be paid during the year or to be adjusted in the accounts for it. It shall be operative until the close of the financial year. Any unspent balance shall lapse and shall not be available for utilisation in the following year.

630. In the event of the Budget Orders of the Railway Board not being received before the commencement of the financial year, the railway administrations are empowered to incur expenditure pending the receipt of the Budget Order on works which were in progress at the end of the previous financial year. All expenditure incurred under this must be treated as a charge against the allotments eventually made for such works.

631. When the Budget Orders issued by the Railway Board show any reduction in the estimate originally submitted to them, prompt measures should be taken by the railway administrations to limit the expenditure to the amounts allotted and distributed by the Railway Board.

General Rules on Budget

632. The general rules on Railway Budget are contained in Chapter III of the Indian Railway Financial Code to which reference may be made.

633. Planning for Surveys. As surveys for the initial step of investment planning, the programme of surveys requires to be planned in advance and reviewed along with the investment decisions being taken in the annual Works Programme meeting being held in Railway Board Office. A separate statement indicating the surveys in progress and the new surveys proposed to be undertaken should be prepared and included in the Railway Works Programme being submitted to the Railway Board. The need for each survey should be clearly stated bringing out inter alia whether the same survey was proposed earlier and if so with what results.

634. The cost of surveys or preliminary investigations to examine the feasibility and prospects of new line constructions and other projects is charged to Demand No. 2 which is a Revenue Demand. All surveys costing more than Rs. 1 lakh require prior approval of Parliament. If the construction of a project

is undertaken, the expenditure on the Survey is transferred to Capital or other appropriate heads by Credits to Revenue, irrespective of the year in which the expenditure was originally incurred. The charges on surveys are mostly made up of the pay and allowances of staff, cost of transport, cost of mathematical and other instruments and camp and office equipage. The allowance for depreciation on materials likely to be left over on completion of the surveys should be made on a scale justified by past experience. The Budget estimate of surveys should provide for any adjustments necessary under the rules in respect of surveys pertaining to a project the construction of which has been or is to be taken in hand. The revised estimates of surveys for a year and the budget estimates for the ensuing year based on the decisions arrived at in the Works Programme meeting should be prepared in respect of each survey in the following form and submitted in duplicate so as to reach the Railway Board not later than 1st December of the year to which the ""revised estimates" relate.

FORM NO. E-633

Demand No. 2-RAILWAYS (SURVEYS)

..... RAILWAY

REVISED ESTIMATES FOR (1975-76) AND BUDGET ESTIMATE FOR (1976-77)

(To be despatched so as to reach the Railway Board by the 1st December, 1975 without fail)

(Figures in thousands of rupees)

Particulars	Total estimated or sanctioned cost	Expenditure to end of 1973-74	Expendi-ture for 1974-75	Budget Estimate 1975-76	Revised Estimate 1975-76	Budget Estimate 1976-77
1	2	3	4	5	6	7
Total ��. Deduct.- Credits for write back to Capital Account of expenditure on the following surveys. Net ���						

Note.-Years have been shown in the form for purposes of illustration.

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CHAPTER VII
ESTIMATES

701	**Kinds of Estimates**
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703	**Detailed Estimates**
704	**The Statement showing Details of Estimated Cost of Works**
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708	**Revised Estimate**
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701. Kinds of Estimates.--All proposals for--

(a) the construction or purchase of new works or assets.

(b) the renewals and replacements of existing works or assets chargeable to Depreciation Fund/Development Fund or Open Line Works Revenue when estimated to cost more than Rs. 50,000/- or if chargeable to Revenue when estimated to cost more than Rs. 2 lakhs.

(c) the scrapping, dismantlement or abandonment of existing works or assets.

(d) the reconditioning of the existing works or assets, if estimated to cost more than Rs. 1 lakh. **any repair work chargeable to revenue costing more than Rs. 5 lakh** and that of a single housing unit, if estimated to cost more than Rs. 20,000/-.
[*Authority: Advance Correction Slip No. 53, Railway Board letter no. 2001/CE-I/CT/17/Pt.III dated 06.11.2017*] (Acs No. 51 Dt. 27.09.2017 superseded by ACS No. 53 Dt.06.11.2017)

(e) temporary and experimental works

(f) renewals and replacements on worked lines, and

(g) renewals of ballast.

Should, subject to the provisions of paragraph 1103 regarding urgent works, be scrutinized by the authority competent to sanction them before any expenditure or liability is incurred thereon. For the purpose of this scrutiny, all such proposals should be presented in the form of one or other of the following estimates, according to the circumstances mentioned in paragraphs 702 to 713

- (a) Abstract Estimates.
- (b) Detailed Estimates.

- (c) Supplementary Estimates.
- (d) Revised Estimates.
- (e) Project Abstract Estimates.
- (f) Construction Estimates.
- (g) Completion Estimates.

Note:-

1. For "New Minor Works" costing Rs.50,000/- and less, for renewals and replacement works chargeable to Revenue costing Rs. 2 lakhs and less and for "Reconditioning Works" costing Rs. 1 lakhs and less detailed estimates need not be prepared for formal sanction. Rough estimates should, nevertheless, be prepared and kept on record by the Executive Engineer.

(Authority Railway Board's file No. 2001/CE. I /CT/17(Pt) dated 24.03.2003) (**C.S.No. 37 Dt.24.03.2003.)**

2. In those cases of renewals of permanent way, which are essentially of the nature of repairs and maintenance and in respect of which there is no question of an improvement or a change in the type of materials, and it is impracticable to prepare estimates in advance, separate estimates need not be prepared, but the total cost of the renewals, which must be comparatively small (less the cost of released materials), may be charged to Depreciation Fund through the permanent-way returns, the estimate for track renewals for the division or system being operated upon for this purpose, and the possible credits to Capital on account of the difference between the original cost and the actual cost being neglected in such cases

702. The Abstract Estimate.An abstract estimate is prepared in order to enable the authority competent to give administrative approval to the expenditure of the nature and the magnitude contemplated, to form a reasonably accurate idea of the probable expenditure and such other data sufficient to enable that authority to gauge adequately the financial prospects of the proposal. Abstract estimates avoid the expense and delay of preparing estimates for works in detail at a stage when the necessity or the general desirability of the works proposed has not been decided upon by competent authority. An abstract estimate should contain a brief report and justification for the work, specifications, and should mention whether funds are required in the current year and to what extent. It should also show the cost subdivided under main heads and sub-heads or specific items, the purpose being to present a correct idea of the work and to indicate the nature of the expenditure involved. The allocation of each item as between Capital Development Fund, Open Line Works-Revenue, Depreciation Reserve Fund and Revenue should be indicated.

Note.-(1) Administrative approval to a work or scheme should be accorded by the authority competent to do so (vide paragraph 748), after a thorough examination as to its necessity, utility and financial prospects. See also rules in Chapter II of Indian Railway Financial Code.

(2) In regard to works which are specified in the sanctioned budget of a year (i.e. in the "Works Machinery and Rolling-stock Programmes" accompanying the Budget Orders paragraph 629), the total estimated cost shown against each work should be regarded as the Abstract Estimate. The inclusion of a work in the sanctioned budget should be deemed to carry with it the administrative approval of the Railway Board except that in the case of structural works, other than track renewal works, costing more than Rupees one crore each, the administrative approval of the Railway Board should be obtained by the submission of separate Abstract Estimates not withstanding their specific inclusion in the sanctioned budget; however, estimates costing over Rs. 50 lakhs and upto Rs. 1 crore will be certified and sanctioned personally by the FA & CAO and GM respectively.

Form E-702

..... RAILWAY

ABSTRACT ESTIMATE

Department ������ Division ������Station������

Estimate No. ������

Framed by ������ Division������������������.

Description of work ������

Plan No. ��������..

Reference��������.

Cost	Capital	D.F.	D.R.F.	OLWR	Ordy. Rev.	Deposit	Misc. advance	Total
	1	2	3	4	5	6	7	8
Existing sanctioned estimate (if any) Present estimate								
Total:								

To be purchased Rs������

Cost of stores������

To stock Rs������

Funds

Report and Justification-

Specification-

Enclosed -*Details of cost with allocation (form E-704). Sub-Estimates.

Has Accounts Officer agreed to the proposed allocation?

Station ������ **Signature������**

Date ������ **Designation������**

*Required in case of any existing sanctioned estimate.

703. Detailed Estimates- On receipt of administrative approval to a project or scheme other than for which construction estimate in Form E 553 is prepared conveyed through the sanction to the abstract estimate relating thereto detailed estimates for various works should be prepared and submitted for technical sanction of the competent authority. It should be prepared in sufficient detail to enable the competent authority to mike sure that the abstract estimate sanctioned by a higher authority is not likely to be exceeded. No work included in an abstract estimate should be commenced till a detailed estimate for the same is prepared and sanctioned and adequate funds are allotted by the competent authority. The detailed estimate of an open line work will comprise (i) statement is showing details of estimated cost and (ii) an outer sheet giving the abstract of cost of work, the report, the financial 'justification and the allocation.

Note�(1) Technical Sanction -- The sanction of the competent authority to the detailed estimate of a work is called the "technical sanction". The authority according technical sanction should satisfied itself that (i) that the details of the scheme as worked out are satisfactory, (ii) the method proposed for the execution off the work are adequate; and (iii) the cost has been estimated from reliable data and likely to be reasonably accurate.

(2) In the case of works within his power of sanction, the General Manager may, in lieu of the procedure of preparing Abstract Estimates for administrative approval, prescribe that both the administrative approval and the technical sanction should be accorded on the detailed estimates.

704. The statement showing details of Estimated Cost of Works may be in the following form:-

Form No. E-704

..... RAILWAY

ENGINEERING DEPARTMENT

STATEMENT SHOWING DETAILS OF ESTIMATED COST

Name of work ❖❖❖❖❖❖

Department ❖❖❖❖❖❖ Division ❖❖❖❖❖❖ Station ❖❖❖❖❖❖

S. No.	Description	Quantity	Rate	Unit	Cost			Total
					Cash Rs.	Stores		
						Purchase	Stock	
1	2	3	4	5	6	7	8	9

Allocation

Capital	DF	D.R.F.	OLWR	Ordinary Revenue	Deposit	Misc. Advance	Total	Remarks
10	11	12	12	14	15	16	17	18

Office/Station ❖❖❖❖❖❖ Signature❖❖❖❖❖❖

Date ❖❖❖❖❖❖ ❖❖❖ Designation.....

705. Details of Cost of Permanent-Way Material-In the case of estimates for permanent-way renewal, on open lines, the details of estimated cost (Form E. 704) may with advantage be supported by statement showing details and cost of material required for one kilometre of permanent-way. These statements may be in the following form:-

Form No. E-705

Detail and Cost of One Kilometre of Permanent-way Material required for Renewal from km ××××××× to km×××××××

Item No.	Description	Quantity		Rate	
		No.	Weight	At	Per
1.	Rails ×× Kg./m ××metres in length				
2.	Fish plates××××××××××				
3.	Fish-bolts and nuts ××××××..Kg.				
4.	Bearing-plates×××at ×× per rail				
5.	Spikes ××. at ×××per inter sleeper and ×××××××× per joint sleeper.				
6.	Sleepers ××.. at ×××. per rail length ××. and so on ×××××××.				

706. The Outer Sheet of open line estimates giving the abstract of cost of work. report justification and the allocation may be in the following form:--

Form E. 706

×..... RAILWAY

ABSTRACT OF COST OF WORK

(Outer Sheet)

Department ������������������ Office ������

Estimate No. ������ of 20��������.

Framed by�������

Designation�������������������.....

Region..... Division�����..... Station or Kilometrage��.....��������.

Name of work ������������������������������.

Plan No������..... ...Reference�����

Estimated Cost								
Sub-heads of work	Work Material	Stores in stock		Stores to be purchased.		Total		
Original total in case of revised estimate	Allocation							
	Capital	DF	DRF	OLWR	Ordinary Revenue	Deposit	Misc. advance	Total

Funds ���� to be provided from budget for ����� item No. ����.....

direct or by reappropriation.

Report and Justification.

Specification ������

Signature������

Drawings and Annexures. Designation�����

_____

No. ������. Dated ��������..

Incident and allocation verified (subject to the check note attached). This requires the sanction of the ��������.

Sanction registered as No���. dated ������.

F.A.&C.A.O. **G.M/C.E./D.S.**

Allocation Statement

Main and sub-heads	Cash Rs.	Stores Rs.	Total Rs.	Capital	Depreciation reserve fund	OLWR	DF	Ordinary Revenue	Deposit

707. A supplementary estimate should be prepared for any item of work, which ought to have been included in the first instance in an estimate already sanctioned but has not been so included, or which it is found later, should be considered as being a part or a phase of an estimate already prepared and sanctioned, if it cannot be met out of contingencies (see paragraph 727). Such a supplementary estimate should be prepared in the same form and the same degree of detail as the main estimate and for all purposes be treated as a part of the main estimate.

708. Revised Estimate. -As soon as it becomes apparent that the expenditure on a work or Project is likely to exceed the amount provided therefor in the detailed estimate or construction estimate a revised estimate should (subject to provision of paragraph 1136) be prepared and submitted for the sanction of the competent authority. It should, unless otherwise ordered by the sanctioning authority, be prepared in the same form and the same degree of detail as the original estimate, and should be accompanied by a comparative statement showing the excess or saving under each sub-head of account against the latest sanction. In cases where a supplementary estimate or a previous revised estimate has been sanctioned by the Railway Board, it should be made clear how the original sanction has been modified by such further sanctions.

709. The Project Abstract Estimate. The abstract estimate of a Construction project should be submitted for the approval of the Railway Board on Form E. 554 "Abstract cost of Railway" accompanied by (i) an abstract estimate of junction arrangements, (ii) a narrative report explaining the salient features and major items of expenditure (iii) detailed estimates on Form E. 553 prescribed for a construction estimate under the following heads :

Capital1120-Land

Structural Engineering Works

1132--**Tunnels,** 1151 & 1152-Major Bridges, 1153 & 1154Minor Bridges, 1140 Ballast and Permanent-Way (Detailed estimate for one Kilometre).

1180 & 1190-General Charges - Establishment and General charges - Other than Establishment.

2000 --- Rolling Stock

Note.:- Head shown above are for plan Head `New Lines' as an example.

These detailed estimates should be prepared from an engineering survey report.

Note. The abstract estimate of an unremunerative project chargeable to Development fund will be prepared in the same detail as the abstract estimate for a construction project chargeable to Capital.

710. The Construction Estimate. When it is decided to undertake the execution of a new line gauge conversion or doubling of lines, a final location survey should be made; and based on the information collected in that survey detailed estimates of all the works included in the project as a whole should be prepared (cf. Paragraph 540). These detailed estimates are collectively called the "Construction Estimate" of the project. It should be prepared after a careful examination of the various details of construction involved in the project. It should be in such detail as to render it possible to dispense with working estimates or any other further estimating after the construction estimate has been sanctioned (except when supplementary or revised estimates are necessary). It should provide for the buildings and equipment of the railway up to a standard that will be sufficient for working such traffic as may be expected during the first year or two after opening of the line. It is the basis on which technical sanction to the various works included in the construction of a project is accorded.

In special cases where works are required to be commenced before the earliest date by which detailed estimates for the project as a whole could be prepared and sanctioned, part estimates for sub- works may be prepared. To enable the commencement of work on such works forming a part of the project, part estimates for the following sub-works may be sanctioned progressively by the authority competent to sanction the detailed estimate for the whole project :

- (i) Preliminary works including final location survey etc.
- (ii) Setting up of project offices and organisation including office accommodation, construction equipment minimum vehicles and provision for gazetted and non-gazetted staff etc.

- (iii) Land acquisition.
- (iv) Formation and bridge works for whole or part of the project where survey has been done and alignment determined.
- (v) Minimum service buildings in case of new line works required to meet immediate needs of construction organisation and subsequently required for operation of the project.
- (vi) Minimum residential quarters required to meet immediate needs of construction staff. The number and location of quarters should be within the overall requirement of Open Line for operation of the project.

Before forwarding part estimates duly concurred by FA & CAO and approved by General Manager for sanction to the Rly. Board, it should be certified that no works included in the part estimates are likely to become redundant when estimate for the whole project is prepared.

711. The Construction Estimate of project should be prepared in Form E. 553 prescribed for the purpose. It should be divided into convenient sections in accordance with the following principles.

- (a) When, as is usually the case, certain works within the limits of a junction station are incidental to the project, these works should form a distinct section;
- (b) When a project comprises a "main line" and a "branch", the "branch" should form at least one distinct section;
- (c) Where the country traversed by a line is such that it may readily be divided into tracts of distinctive topographical character, the length through each class of country may comprise a section or a project may be divided into "engine runs" or into lengths suitable for "construction divisions".
- (d) Where there is likelihood of different sections of a project being opened to traffic at different intervals, the estimate for each such section should be kept distinct;
- (e) When an estimate for any alternative alignment of importance is included, the estimate for the alternative alignment and for the length which it would supersede, if adopted, should each be comprised in a distinct section.

712. Estimate of Junction Arrangements. Except where the new line is of a different gauge and has entirely its own arrangements, the estimate for the junction arrangements should be prepared in consultation with the open line administration of the connecting system, and a separate abstract estimate of the cost of the additions and alterations necessary for effecting the junction should be appended to the construction estimate.

713. Completion Estimate. A completion Estimate is prepared in supersession of a construction estimate as provided in paragraph 1701. It should show in a tabular form (E. 713) the following particulars in respect of all the works included in the construction estimate :

- (i) amount of sanctioned estimate;
- (ii) actual expenditure on all works up to the date of the construction estimate;
- (iii) commitments on that date;
- (iv) anticipated further outlay;
- (v) total estimated cost; and
- (vi) difference between the sanctioned estimate and the estimated cost.

An abstract of the completion estimate showing the above particulars against the various heads of capital classification should be submitted for information or sanction, vide paragraph 1703 to the Railway Board together with brief explanations for excesses of not less than Rs. 10,000 or 10 per cent over the provision under sub-heads of account and for savings of 20 per cent or one lakh, whichever is less, occurring under any main head of account. Provision for further outlay should be made in completion estimate only for those works which are in progress or completed on the date of closing of the construction estimate. All works not started on that date should be dealt with separately as open line works both as regards estimate and expenditure. In forwarding, therefore, estimates for sanction for works in connection with new lines opened, it should be clearly indicated whether the cost of the work is chargeable to Capital Construction or Open Line Capital.

Note. The completion estimate of an unremunerative construction project chargeable to Development fund will be prepared in the same detail as the original construction estimate using the various heads of capital classification for the purpose.

Estimates for Railway Project

714. Scope. - A Construction Estimate (Form E. 553) should be prepared in such detail as to reduce to a minimum the probability of omission of any item of expense which is capable of being foreseen. It should be remembered particularly that the provision for contingencies allowed in the estimate is not intended to meet items of expense which can before seen and which are reasonably likely to occur. With good estimating it should seldom be necessary to encroach, to any appreciable extent, on the provision for contingencies.

715. Detailed Estimates for works included in a project need not be submitted to the Railway Board but they must nevertheless be prepared carefully and be readily available when required, so that further estimating when construction is sanctioned will be unnecessary. In the detailed estimates, the estimated cost of a work should be shown by items, when such cost is over Rs.1 lakh and when, for no other work of the same type, details of the cost have been shown; further, when there are a number of works of the same type of the aggregate cost of which exceeds Rs.1 lakh the details of cost of one such work should be shown. Individual works included in an Abstract estimate should not be commenced (even though the commencement of the construction might have been authorised, vide paragraph 718) until detailed or working estimates therefor have been sanctioned, by the competent authority. The progressive totals

of the detailed or working estimates thus sanctioned should be controlled against the provision in the Abstract estimate by means of a register kept in the form given below :

(Authority: Railway Board letter No.2001/CE-I/CT/37 dated 30-01-2001) **(C.S.No. 33 Dt. 30.014.2001)**

Form No. E-715

Register of Detailed or Working Estimates sanctioned against the Abstract Estimate of the

.....Project sanctioned vide.....

Serial No.of detailed estimate	**Particulars of work and of sanction**	**Heads of Account as per Capital classification**			
1.	Provision of Abstract				
2.	Estimate				
3. and so on					

Note. Projects for which detailed project estimate (based on the Final Location Survey) i.e., Construction estimate prescribed in Form E. 553 has been sanctioned by the Railway Board, no detailed or working estimates need be prepared and sanctioned by the competent authority in the Railway Administration before commencement of construction.

716. Rolling-Stock Estimate.--When it is necessary in connection with a new project to provide rolling-stock, the estimate for such rolling-stock should be kept entirely distinct from the estimate for the remainder of the project except in the case of lines of independent gauge where the estimates for, rolling-stock should be included in the Construction estimate, Estimates for rolling-stock should be prepared in adequate detail by the open line officer ordinarily responsible for the preparation of such estimate where the projected line is to form part of an existing system.

717. Indirect Charges. The practice of adjustment of Foreign Service Contribution between Open Line and Construction Organisation of Indian Railways shall stand discontinued with effect from 1-4-92. Accordingly, accounts of all construction works should make a specific mention by way of a suitable note that the cost of Leave Salary & Pension contribution etc. is not included in the construction Cost.

718. Commencement of Construction.--The Construction of a new railway or extension of branch of a railway should not be commenced without the specific sanction of the Railway Board. As a rule, the Railway Board approve of the project for the construction of a Railway on consideration of a Traffic Survey Report and the Abstract Estimate of the cost of the proposed line. Such approval is not, however, a permission to commence construction. After approval to Abstract, Estimate Form E. 554 has been given, the Railway Administration should undertake the Final Location Survey, proceed with such preliminary arrangements as the land acquisition and the ordering of stores and plant, to the extent of

funds allotted, and at the same time undertake the preparation of a detailed project estimate i.e. a construction estimate.

Normally, sanction to the construction of a railway will not be accorded until a further abstract of the detailed project estimate based on the final location survey has been approved of by the Railway Board, In special cases, however, where construction appears to be easy and present no engineering problems of great difficulty, the Railway Board may sanction the commencement of construction on the first abstract estimate, but under no circumstances whatsoever may construction be commenced without the specific sanction of the Railway Board.

719. When application is made for sanction to the commencement of Construction a certificate should invariably be given that the Construction Estimate has been scrutinized by an engineer of experience within three years of the date of application and any change in the amount of the estimate, which may have been found necessary owing to change of rates or other conditions since the estimate was originally prepared, should be reported to the Railway Board with an explanation of the causes necessitating the change.

Estimate of Open Line Works

720. Detailed Estimates in support of Abstract Estimates.--On open lines of railways, no works pertaining to any of the categories mentioned in paragraph, 701 should, as a rule, be started before the sanction of detailed estimates by competent authorities. In the case of open line projects, the abstract estimates (Form E. 702) of which have been sanctioned by the Railway Board or a higher authority, works should not be started until :-

(i) an estimate for the whole work has been prepared in sufficient detail to enable the competent authority to make sure that the total of the sanctioned abstract estimate is not likely to be appreciably exceeded, and

(ii) a detailed estimate has been prepared for each sub-work (i.e., distinct unit of work which is sufficiently large or important to be kept separate for purpose of accounts) which it is proposed to commence.

So long as these two conditions are satisfied, it is not necessary that detailed estimates for all sub-works that go to comprise any one item of the sanctioned abstract estimate should be ready before any particular sub-work is started. It is left to the discretion of General Managers to progressively prepare and sanction detailed estimates for such sub-works as are to be carried out against the sanctioned abstract estimate provided they are satisfied that the sum of such detailed estimates as are sanctioned by them will not cause an excess over the total amount of the sanctioned abstract estimate beyond the limits laid down in paragraph 748

Note.-The detailed estimates for the annual programme of permanent way renewals should, as far as practicable, (i) be prepared for convenient lengths of permanent-way such as Permanent-Way Inspectors sections or Kilometrages of track and (ii) include such works only as can be completed within

the financial year in which they are sanctioned so that the accounts of the works are not kept open long after the close of the financial year.

721. The papers to be submitted with the project for a work will consist of a list of references, a report, plans, a specification, and a detailed statement of quantities and rates with an abstract showing the total estimated cost of each item. The list of references, report and specification will be given on Form E. 706. The detailed statement of quantities and the abstract will be prepared in Form E. 704. These documents together form what is called, "the estimate" (Forms E. 704 to 706) in the sense of this Code. Sufficiently detailed plans to illustrate the work covered by an estimate should be submitted with it and a reference should be made on the front page of the estimate to the numbers and titles of the accompanying plans. The allocation of the estimated expenditure should be shown in the detailed statement and in the abstract. In the case of a project consisting of several works, the report may be a single document for all the works, and likewise the specification; but details of quantities and rates should be prepared for each work, the total cost of each work being brought out in a general abstract.

722. Report and Justification-The report on the estimate (Form E. 706) should give a brief abstract of the correspondence that has passed with reference to the project, and a brief but clear description of the work to be carried out. It should state in clear terms the object to be gained by the execution of the work estimated for, the financial justification of the proposed expenditure in accordance with the rule (see the Indian Railway Financial Code), the reasons for the adoption of the estimated project or design in preference to others, and any peculiarities which require elucidation. It should indicate the nature and extent of recurring expenditure, if any, consequent on the execution of the work. The time within which the work may be expected to be completed should also be mentioned. When the project is of an important nature, involving scientific points or other considerations of special character, the report should contain a complete account of the basis on which every part of it has been framed, the various considerations that have guided the designer on question of engineering details, economy of construction, utility or the practical working of the project when carried out, and the Method in which it is proposed to execute any portion of the work involving unusual difficulties of construction. Any local considerations which may affect the project and particularly any circumstances affecting the rates, should also be fully entered into.

723. In the reports of estimates for replacement and renewal works, it should be clearly stated whether any improvement is invloved in the proposed works and if so, the extent of such improvement should be briefly indicated so as to enable the preparation of the Block Account (c. f. to Chapter IV of Indian Railway Financial Code).

724. Specification-The report will be followed by a specification, showing fully and clearly, but as briefly as possible the details of the work, how each portion will be done, and what materials will be used. In the case of items of works proposed to be executed in accordance with the standard specification (see paragraph 730) of the railway, it is enough if reference is made to such specifications. In all other cases detailed specifications should be furnished. A general specification describing clearly the nature of construction of the various parts of the work, and of the work as a whole, will usually be necessary in

addition to the detailed specifications, for each portion of the work. Such full details as are obtainable regarding land required for the project, for which compensation has to be paid, should be given.

725. The Statement of Detailed Quantities following the specification should include the measurements of land approximate or detailed, as the case may be, for which compensation will have to be paid, the area of each description of land, being separately shown.

726. Rates-The rates of the various descriptions of work are intended to cover all charges usual to, or necessary for, the execution of the work, and should generally agree with the schedule of rates (paragraph 729) but where from any cause these are not considered sufficient, or are in excess a detailed statement should be given in the report showing the manner in which the rates provided in the estimate are arrived at. The same rule will hold good with regard to any rate differing from those formerly in force in the division, when no standard schedule exists, or when any work or a description not previously executed in the division is estimated for.

727. Provision for Contingencies-Provision for unforeseen contingencies should be made in all estimates at 3 per cent of the total estimated cost. All incidental expenditure which can be foreseen such as works establishment, sheds for workmen and stores should be separately estimated and provided for in the estimates. The provision for contingencies should not be diverted to any new work or repair which is not provided for in the estimate, and of which the cost exceeds Rs. 1000/- without the sanction of the authority who sanctioned the estimate.

728. The abstract of estimate should show the quantity and the cost in rupees of each kind of work, the only exception to this rule being the case of miscellaneous petty works which may be entered in the abstract without quantities, the estimated cost alone being given.

729. Schedule of Rates-To facilitate the preparation of estimates, a schedule of rates of each kind of work commonly executed should be maintained in each open line division, and it will be the duty of the Chief Engineer when inspecting divisional offices, to see that correct schedules of the rates at which work is actually being carried out, are invariable recorded in a complete and satisfactory manner. The regulations for the due record of rates in a clear and systematic manner and for their periodical revision to bring them on line with the rates prevailing in the market and those paid by other government departments will be laid down by the General Manager.

730. Standard Specifications-Standard specification of each kind of artificer's work, commonly executed, should be kept up for each railway under the orders of the General Manager, and should be referred to by number under the several items in the schedule of rates.

731. Covering Letter for Estimates-All classes of estimates (and completion reports) beyond the powers of sanction of General Manager (paragraph 748) should be submitted to the railway Board with an explanatory covering letter containing information on the amount of existing sanctioned estimates (if any) with allocation, outlay incurred to end of previous financial year, funds provided in the current years's budget and all other relevant points.

Estimates of Deposit Works

732. A railway Administration is occasionally required to execute works for and at the cost of other Government departments, local bodies, private persons & c. Such works are referred to in this Code as" Deposit Works" (see also paragraph 1843 for a definition of this term). To meet the cost of plans and estimates of such works as also those to be carried out for other Departments out of railway funds, which are subsequently not carried out, charges at the following sliding scale shall be levied on the total of the estimate inclusive of departmental charges :-

For works costing over Rs. 1,00,000.	2%
For works costing over Rs. 60,000 but not more than 1,00,000	$2^1/_2$%
For works costing over Rs. 30,000 but not more than 60,000	3%
For works costing over Rs. 20,000 but not more than 30,000	$3^1/_2$%
For works costing over Rs. 10,000 but not more than 20,000	4%
For works costing over Rs. 1,000 but not more than 10,000	$4^1/_2$%
For works costing over Rs. 1,000 and below 5% subject to a minimum of Rs. 25	

The acceptance of the government departments or the payment in cash by the local bodies or private individuals concerned should be obtained to the above percentage charges before the work of preparation of plans and estimates is taken in hand. In cases where the proposed works are subsequently carried out, these percentage charges should be adjusted against departmental charges.

The levy of the above percentage charges may, at the discretion of the General Manager, be waived in particular cases subject to the conditions laid down in paragraph 1138.

Note.-The scale of charges prescribed in this rule does not apply to assisted sidings, recovery of preliminary expenses in respect of which has been separately provided for under paragraph 1825.

732- A:.- Notwithstanding the stipulations for advance payment of charges at sliding scale mentioned above, the parties shall be asked to deposit an amount of Rs.2000/- only, for deposit works of value not exceeding Rs.5 lakhs, while making a request. Subsequently, this amount shall be adjusted against the total cost of the deposit work, as per approved plans and estimates, before physical execution of the work at site.

(Authority: Railway Board's letter No. 2000/CE.I/PL/14 dated 21.11.2000) **(CS No. 31 Dt. 21.11.2000)**

733. In preparing estimates of works for other departments, local bodies, private individuals, & c., particular care should be taken to see that.

- (i) railway freight and carriage charges of materials proposed to be used in the works are provided for at rates applicable to the public and not at the confessional rates applicable to railway material; (Works of Branch Line Companies are not governed by this rule, but by the relevant contracts).

- (ii) departmental charges at the prescribed rates (paragraph 1137) are provided for.

734. All estimates of deposit works should be got accepted by the parties ordering the works before submission to the competent railway authority for sanction. In the case of works, which under the rules (see paragraph 1851) are required to be maintained after completion by the Railway department at the cost of the department, local body, private firms or individuals ordering the works, the acceptance of the party concerned should also be obtained for the recurring expenditure that is likely to be incurred on repairs, maintenance, etc.

735. No work asked for by another government department should be commenced till a detailed estimate for the same has been accepted by the department concerned and sanctioned by the competent railway authority. No work asked for by local bodies, private individuals, & c., should be commenced till a detailed estimate for the same has been sanctioned by the competent railway authority and the estimated cost thereof deposited with the railway. The amounts so deposited should be credited to the head "Deposits-Miscellaneous."

General Rules Applicable to all Estimates

736. Design and Execution-The designs of all new works and alterations to existing works should, as a rule, conform to the "Schedules of Dimensions" prescribed by the Railway Board for the various gauges of railways, and unless prior sanction has been obtained from the Railway Board through the Additional Commissioner of Railway Safety, no work which will infringe the "Schedules" should be executed.

As far as practicable, Indian Railway Standard (I. R. S.) drawing should be followed in designing and I.R.S. Codes of Practice in carrying out works.

737. All estimates for the construction of or addition or alterations to staff quarters of other rent-returning buildings should be accompanied by the following information which should be given in a separate paragraph in the report to the estimate.

These quarters are intended for staff drawing pay between Rs. .....and Rs.....The minimum and maximum rent leviable from the staff on the basis of assessed rent at 6% of the total cost subject to $7^1/_2$% / 10% of their emoluments will be between Rs. .....and Rs.....The anticipated return on the total cost of the proposed quarters is, therefore, expected to be between.....per cent and.....per cent.

738. Works Executed on Contract-Estimates for works which are intended to be executed not departmentally but by contractors should be prepared at the minimum rates shown in the Schedule of Rates (cf. paragraph 729) and any reduction (or addition) to be made on account of the tender rate of contractors should be made at the foot of the abstract estimate.

739. Units of Measurements-The following measures are prescribed for general use :-

Length-The Standard Metre. As a general rule, the metre will be divided decimally. For long distances the Standard Kilometre (1 Km-1000 mts.)

Area-The `square metre' divided as a general rule decimally, 100 square metres being termed one `Acre'. For land, the standard Hectares (1 hectare=100 acres) and decimals; or for small areas, square metres.

Capacity or solidity-The `cubic metre' and `litre' divided as a general rule, decimaly.

- *Value.*-All rates in estimates, tender documents, schedules of rates, bills, should be quoted in rupees and paise.
- *Velocity*.-Metres per second.
- *Angular Velocity*.-Revolution per second.
- *Work*.-Kilogram force metre.
- *Heaviness or weight*.�Kilogram, divided as a general rule decimally; 100 kilograms being termed as 1 quintal and 1000 kilograms as one tonne.
- *Power*.�Kilogram-metres per second or one �Metric Horse Power� of 75 kilogram-metres per second.
- *Heat.*�Joules (calorie-4.1868 Joules) Water discharge-Cubic metres per second.
- *Water duty*.�Irrigation, canal-Rectares per cubic metre per second, Irrigation, tank-Rectare per million cubic metres.

740. Units of Rate.�The following units of rate are prescribed :�

Particulars of work	Unit of rate	Particulars of work	Unit of rate
Earth work	Per 100 cubic metre	Wood work	Per cubic metre
Brick work		Painting	
Concrete		Plastering	
Pise work	Per cubic metre	Flooring	Per sq. metres
Rubble masonry		Roofing	
Ashlar masonry		Turfing	
Pitching			

		Doors and Windows Land	Per Sq. metre Per hectare

Note.🔲 In the case of road metalling where the depth upto which the old road is to be broken up and new stone metalling and rolling is to be completed is specified 100 sq. m. may be adopted as the unit of rate

741. Drawings.🔲Every drawing submitted with an estimate should have a clear title, which should be shown on the back on two opposite corners, so as to shown outside whichever way the paper be rolled up. The signature of every officer, through whose hands the design passes, should be affixed. All drawings and plans should be registered in the offices of origin and should be referred to not only by their titles but also by their registration numbers. For the purpose of registering drawings and plans a manuscript register (form E. 741) should be kept in each drawing office, Indian Railway Standard (I. R. S.) drawing should be referred to by their standard numbers.

Verification of Estimate

742. One phase of the control of expenditure on railway is a regular check by the Accounts Officer of all estimates before they are sanctioned by the competent authority. The object of this preliminary check of estimates is to avoid irregular sanction to expenditure and the main points which require consideration are :

- (i) the propriety of the expenditure;
- (ii) the incidence and classification of charges;
- (iii) the existence of budget provision to meet the proposed expenditure during the financial year;
- (iv) freedom from errors and omissions; and
- (v) competency of sanction.

The checks relating to these points should be exercised with reference to the rules in this Code and in other Indian Railway Codes bearing on this matter.

743. Propriety of Expenditure. It is the duty of the Accounts Officer, in his capacity as Financial Adviser, to examine zealously all proposals for expenditure with a view to see

- (i) that the expenditure proposed to be charged to railway funds in the estimate, is properly and legitimately so chargeable;
- (ii) that proper financial justification is forthcoming in the case of all works requiring such financial justification; and
- (iii) that in the case of estimates for staff quarters and other rent returning building, the anticipated yield of rent as shown in the `Rent Statement' (Form E. 737) will not have the effect of reducing the return on the cost (excluding cost of land) of each class of Quarters to less than 6 per cent per annum (vide paragraph 1908).

744. Incidence and Classification of Charges. These should be verified in an estimate in accordance with the rules of incidence and the classification of expenditure prescribed in the Indian Railway Financial Code. In his verification certificate, the Accounts Officer should clearly state that incidence and allocation have been so verified.

745. The submission of an estimate to the sanctioning authority should not be delayed when there arises any doubt as to the correct allocation of estimated cost and the question at issue will take time to settle. In such cases, the approximate allocation between Capital or Development Fund, Open Line Works-Revenue, Depreciation Reserve Fund and Revenue may be certified by the Accounts Officer, as far as it is possible for him to do so, and the sanctioning authority may sanction the estimate, if otherwise in order, leaving over the question of allocation for subsequent consideration.

If the estimate of the work is altered as a result of verification of the estimate by the Accounts officer, the previous sanction should be revised.

746. The existence of budget provision for a proposed work should be verified from the sanctioned budget allotments for the year.

747. Errors and ommissions noted in the course of the accounts Verification of estimates should be got corrected by the executive authority responsible for the preparation of (or sanction to) the estimate. The Accounts Officer may, in case where this becomes necessary, append to his verification certificate, a check note specifying such items of errors or omissions as have been pointed out by him, but have not been accepted by the executive authority and any other matter of importance.

Competency of Sanction

748. The previous sanction of an authority higher than the General Managers of Indian Railways is necessary :

- (i) To expenditure on new lines or rolling stock or surveys not provided in the sanctioned budget for the year or carried forward from the sanctioned budget of the previous year;

• (ii) To expenditure on other works not provided in the sanctioned budget or carried forward from the sanctioned budget of any previous year except :

- (a) (i) Track renewal works costing not more than Rupees two lakhs;
- (ii) Other workscosting not more than Rupees one lakh;
- (iii) Machinery & Plant-costing not more than Rupees fifty thousands.

Provided that the total lump-sum provision made in the budget for such works is not exceeded;

• (b) (i) On line capacity works costing above Rupees one lakh but not more than Rupees ten lakhs each;

• (ii) On track renewal works costing above Rupees two lakhs but not more than Rupees five lakhs each;

• (iii) On other than line capacity and track renewal- works costing above Rupees one lakh but not more than Rupees five lakhs each;

Subject to ceiling of Rupees one crore in all in a financial year provided that the sanctioned budget (other than lumpsum) for works in these categories is not exceeded.

Note.-(1) The works thrown forward from previous years may be taken up only if the funds required for them can be found by reappropriation within the sanctioned allotment.

(2) The savings in the lumpsum provision made in the sanctioned budget shall not be utilized for the category of works in (b) above without the prior approval of the Railway Board.

(3) The General Manager may sanction expenditure on new works out of turn in respect of users' amenities including goods shed and booking offices not exceeding Rupees one lakh in each case provided the funds required for such works as provided in the sanctioned budget for works in these categories is not exceeded; and expenditure upto Rupees fifty thousand in each case, in respect of existing railway schools, institutes, hospitals and dispensaries provided the lumpsum provision in the sanctioned budget is not exceeded.

(iii) To expenditure on works provided in the sanctioned budget for the year or carried forward from the sanctioned budget of any previous year as follows :

(a) **Works sanctioned under the lumpsum provision.** To an excess over the total lumpsum provision in the sanctioned budget for such works;

(b) **Works outside the lumpsum provision**. - Rolling Stock, Track renewals and other works-----

to an excess over the estimated cost as entered in the sanctioned budget or sanctioned separately, as follows :----

- (i) of more than 25% over the original estimated cost;
- (ii) of more than 15% over the first revised cost;
- (iii) of more than 10% over the second and further revised estimated co

Provided further that all codal provisions regarding sanctions for material modification are strictly followed .

(c) **Surveys**. - To an excess over 10% on original estimate sanctioned by higher authority (General Manager can sanction survey estimates costing up to Rupees one lakh each provided the surveys are included in the sanctioned budget).

Note.-(1) The works thrown forward from previous years may be taken up only if the funds required for them can be found by reappropriation within the sanctioned allotment.

(2) The amount first given in the Budget or sanctioned separately by higher authority shall be the original estimated cost and the revised amount given in subsequent Budgets or sanctioned separately by higher authority, the second, third etc., revised estimated cost.

(3) The powers of sanction to excess over estimated costs allowed in item (b) above shall not make the cost of such works exceed Rupees one crore in any case.

(4) The powers for sanctioning the excess over the estimated costs of works outside the lumpsum provision as in item (b) above shall not be re-delegated to lower authorities in respect of works, the original estimated cost of which is over Rupees fifty lakhs.

(iv) To the sale of----

(a) a portion of a Railway line;

(b) in item of the authorised Rolling Stock; or

(c) any other Railway asset costing over Rupees three lakhs.

749. Subject to the provisions of the rules in paragraph 748 above, the General Managers of Indian Railways have full powers to delegate their powers or any portion of them, to authorities subordinate to them, with power to redelegate to lower authorities. A schedule of the powers delegated from time to time, to the various departmental officers on each railway should be maintained by each Railway administration and copies thereof should be furnished to the Accounts Officer, to enable him to determine in each case the authority competent to sanction expenditure.

750. Grouping of Works.- When two or more works are so connected, either by their situation or by the purpose or purposes which they are designed to serve, that construction of one necessarily involve that of the other or others, the works should be considered as one scheme and the aggregate estimated cost of the work so connected determine the authority competent to sanction expenditure on the

scheme.When the works constituting a connected scheme are situated in more than one executive division separate detailed estimates should be prepared of the cost of the work in each division in order that the Executive Engineer entrusted with the actual construction may be in a position to watch expenditure against a sanctioned estimate of the cost of the work in his charge.

751. Subsidiary Points to be checked. -In the check of estimates the following subsidiary points also require attention. It should be seen--

(i) That the particulars of work to be done are furnished in sufficient detail and that a proper distribution is made of the estimated outlay between cash and stores;

(ii) that the allocation of each item is given and that an abstract allocation is made;

(iii) that all incidental expenditure that can be foreseen has been provided for in the estimates;

(iv) that in case of renewal, replacement or dismantlement, credit for released material has been provided for;

(v) that in the case of work to be done for other government departments, other railways and private bodies, provision has been made for the necessary departmental charges;

(vi) that in the case of estimates for manufacturing operations the outlay and outturn are distinctly shown; and

(vii) that in case of estimates for staff-quarters and other rent-returning buildings a rent statement accompanies the estimate.

752. Certificate of Accounts Verification. All estimates verified by the Accounts Officers should bear a certificate of such verification. The form of the certificate may be as under:

"Incidence and allocation verified (subject to the check note attached).

This requires the sanction of (.....").

753. A copy of the estimate as verified by the Accounts Officer, together with a verbatim copy of his check note, if any, should be submitted to the authority competent to sanction the estimate.

754. In forwarding an estimate for sanction it should be clearly mentioned whether it has been accepted by the Accounts Officers as unobjectionable. In case where the Accounts Officer has recorded any objection the attention of the sanctioning authority should be drawn to the Accounts Officer's check note stating the objection.

755. Sanction to Estimates. -Advice of all sanctions to estimates by the competent authority should be communicated to the Accounts Officers and to the Chief Auditor of the railways in such form as may be prescribed by such authorities. A copy of the sanctioned estimate should also be furnished to the Accounts Officer.

756. Currency of Sanction.- The sanction to an estimate will ordinarily remain current for five years from the date on which it has been accorded, unless it has been renewed for a further term by the acceptance of a revised estimate. Acceptance by competent authority, however, of a budget estimate which includes specific provision for expenditure on a work which is in progress, may be regarded as reviving for the year in which provision is made, the sanction to the estimate-regardless of the five years' limit. But if no work has been commenced on a sanctioned scheme within two years of the date on which the sanction was accorded to the estimate, such sanction to be held to have lapsed and fresh sanction should be obtained from the competent authority by the submission of an up-to-date estimate if necessary.

757. The currency of sanction begins from the date of sanction to estimate itself and not from the date on which the allocation of the estimate is finally accepted.

758. Scope of the sanction to an Estimate.- The authority granted by a sanction to an estimate should,on all occasions, be looked upon as strictly limited to the precise objects for which the estimate was intended to provide. Accordingly, any anticipated or actual saving on a sanctioned estimate for definite project should not, without special authority, be applied to carry out additional work not contemplated in the original project or fairly contingent on its actual execution. Saving due to the abandonment of a substantial sanction of any project should not be considered as available for work on other sections.

759. Register of Estimates.- All estimates should, before they are submitted for accounts verification or for the sanction of the competent authorities, be registered in the office of origin. For this purpose a register in the following from should be kept.--

Form No. E. 759

.....RAILWAY

REGISTER OF ESTIMATES

Department.....Office.....Station.....
....

S. No.	Estimate No.	Name of work	Plan No.	File No.	Estimated cost	Chargeable to					
						Capital	D.F.	DRF	OLWR	Ordy. revenue	Deposit
1	2	3	4	5	6	7	8	9	10	11	12

	Accounts verification			Ref. to sanction			
Misc. fund	Date of submission to accounts	Date of return after verification	Date of ssubmission to sanctioning to superior authority	Authority sanctioning the estimate	No. & date	Reference to folio in the Register of Work	Remarks as to completion of work
13	14	15	16	17	18	19	20

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CHAPTER VIII

RULES FOR THE ACQUISITION OF LAND

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801. Applicability. The rules contained in this chapter are applicable to all railways in India, whether constructed or worked by Government.

802. How land is acquired. Whenever land which does not already vest in the Central Government is required for railway purposes, it should be taken up under the Land Acquisition Act of 1894 as acquisition under the Act confers an indefeasible title. The more important sections of this Act are reproduced as Appendix II of this Code. L and which is already public property and in which no interests of private persons exist, should not ordinarily form the subject of proceedings under the Land Acquisition Act. Such land should be got transferred to the Central Government as indicated in para 812.

803. Responsibility of Railway Administration. In acquiring land for railway purposes the Railway Administration is responsible for seeing :--

(a) that it is necessary to acquire the land;

(b) that the sanction of competent authority exists for the acquisition;

(c) that if any departure from the rules is contemplated, the specific approval of the Railway Board to such departure has been obtained;

(d) that the purchase price is reasonable;

(e) that a proper title to the land acquired is secured and kept, and that it is capable of accurate identification; and

(f) that the land is utilized to the best advantage.

804. Necessity for Land. The initial responsibility for ensuring that land is not acquired without a clear necessity therefore rests with the heads of departments concerned in respect of land acquired for their departments. They will be held accountable for the accuracy of the facts on which the justification for acquisition is accepted by the head of the administration.

805. Reasonableness of Price. The ultimate responsibility for seeing that the purchase price is reasonable rests with the General Manager and the Engineering Department of the railway; but so far as the actual valuation of the land is concerned, their chief responsibility lies in obtaining from the local revenue authorities as accurate an estimate as possible of the value before initiating proposals for acquisition.

806. Title to Land. The Engineering Department will be responsible-- (i) for the preparation of the necessary plans and estimates. (ii) for taking possession of the land when required from the revenue authorities, and (iii) for verifying and demarcating its bourdaries and plotting them on the plans.

807. Management of Land.-- The Engineering Department or the department which has custody of the land, is responsible for seeing that it is made use of to the best advantage. In particular, if a portion of the land is not immediately required for the use of the railway, it should be considered whether it can be leased or licensed at a proper rental to outsiders with adequate safeguards for resuming possession as and when required (see also paragraphs 1008 to 1032).

808. Private negotiation, as to the price to be paid, may be entered into either direct with the owner or through an agent, deputy or broker, prior to the initiation of proceedings under the Land Acquisition Act, if thereby, it is considered that appreciable economy would be effected. In such cases, however, an approximate valuation for purposes of comparison, must be obtained from the local revenue authority before any settlement is arrived at. The terms of the settlement should be communicated to the local revenue authority or other officer specially appointed to acquire the land who though not bound to do so will ordinarily accept in his award the price thus agreed upon. The actual acquisition will in all cases be effected under the Land Acquisition Act.

809. In adopting the above procedure, the desirability of which should always be considered in the case of land in the neighbourhood of large cities or other congested areas, it is essential that it should be made clear whether the price agreed upon does, or does not, include the additional 15 per cent for compensation due under Section 23 (2) of the Land Acquisition Act. The terms of settlement should therefore be in the form of an agreement that the owner is willing to sell for a specified amount plus 15 per cent for compensation, the sum of the two being the actual price agreed upon.

810. If an agent or broker is employed, the payment of any fee to him will require the sanction of the Railway Board. Such fee should ordinarily be a fixed amount and not a percentage of the price

eventually agreed upon and, if sanctioned and paid, should be treated as part of the cost of acquiring the land.

811. Transfer of Land and Buildings between Union and State Government. The transfer of land and buildings between Union and State Governments are regulated by the provisions of Articles 294, 295, 298 and 299 of the Constitution and subsidiary instructions issued by the Union Government, contained in para 282 and Appendix II of General Financial Rules. From the commencement of the Constitution the transfer of land between Union and State Governments shall be regulated by mutual agreements except when they are acquired under some Act. The amount payable by the Union Government will ordinarily be the market value of the land (see para 812) and buildings if any thereon. The amount payable may include the capitalised value of land revenue when the transfer causes actual loss of land revenue to the State Government and if the State Government cannot be pursuaded to forgo the same Solatium of fifteen per cent payable under the Land Acquisition Act will not apply to such transfer.

812. (a) **Market Value.** Market value when applied to land may be defined as the price which the land would fetch if sold in the open market subject to the ground rent or assessment shown against it in the revenue registers, or if no ground rent or assessment shown against it in the revenue register, subject to a ground rent or assessment levied at the rate at which ground rent or assessment is actually being levied on similar lands in the neighbourhood excluding all cases in which such similar lands in the neighbourhood are held free of ground rent or assessment at favourable or unfavourable rates of ground rent or assessment.

812. (b) **Market value of the building sold to or acquired from other Departments.** When Railway buildings are sold/transferred/relinquished to or acquired from the Departments or Central Government/State Governments, the value thereof may be calculated by taking present day reproduction cost less depreciation on straight line method plus cost of land at present day rates.

813. Acquisition of Land in Coal Mining Areas.(1) Land required by the Railways in the Coal Mining areas is usually required under the Land Acquisition (Mines) Act,1885 on the basis of a declaration that the `Mines of Coal, etc. in the area are not needed'. The Land Acquisition (Mines) Act 1885 which now extends to the whole of India except the territories which immediately prior to 1st November, 1956 were comprised in part B states does not provide any statutory safeguards against damage being done to the Railway land and the only way of avoiding damage is to acquire the Mines of Minerals by payment of compensation under section 5 of this Act. The Mines and Minerals (Regulations and Development) Act., 1957, provides for the regulations of mines and the development of minerals under the control of the union, under section 13 of this Act, the Central Government is empowered to make rules in respect of minerals. These rules regulate the grant of prospecting licences and mining leases. Accordingly, the Central Government have made the Minerals Concession Rules, 1960. Under the rule 27 (1) (h) of these rules on the conditions of a mining lease is that the leases shall not carry on or allow to be carried on, any mining operations on any point within a distance of 50 metres from any railway line except under and in accordance with the written permission of the Railway Administration. Further more in view of the application of Coal Mines Regulations 1957, specially Regulation 105, no working can be formed or extraction of pillar can be done or extended to any point with in 45 meters of the Railway land without

prior permission in writing from the Chief inspector of Mines, which is given on certain conditions to ensure safety of Railway land. A copy of the application for permission addressed to the Chief Inspector is required to be sent to the Railway Administration.

(2) The payment of compensation under section 5 of the Land Acquisition (Mines) Act can possibly be avoided and at the same time the necessary `underground support' to avoid danger to Railway land be obtained by the Rlys. by negotiating an agreement with the individual Mines owners, where such support is guaranteed in return for loading facilities given on railway sidings and Assisted and Private sidings, Normally, the railway should adopt this method for avoiding payment of compensation and at the same time for obtaining the necessary underground support. But in some cases compensation may have to be paid for coal and minerals which the mine owners are prevented from Mining to safeguard railway property.

(3) Under the Land Acquisition (Mines) Act. 1885 cited above, land can be acquired without the acquisition of mines and minerals. Thus when Government takes over the land for the use of surface only (e. g., railway purposes) it may exclude mines and minerals by specific declaration as contemplated by Section 3 of the said Act. In such an event, the value for acquisition will be only of surface of land and will not include mines and minerals. However, in other than Coal Mining Areas, land is usually acquired under the Land Acquisition Act, 1894. In this Act, the expression `Land' includes benefits arising out of land and things attached to the earth or permanently fastened to anything attached to the earth `Land' thus includes mines and minerals. The Railways can thus acquire subsoil mineral rights by acquiring land under this Act. In such case the owner of coal mines or the adjoining Coal mine (if any) is under a legal obligation not to disturb the right of support in any manner by his underground of the mine and hence has to take at his expense all protective measures workings to prevent and such disturbances taking place.

(4) There might be places, however, where the Land Acquisition (Mines) Act, 1885 does not apply and mineral rights in the land are reserved to the State Governments under the local statutes. In such cases, it might be possible for the Central Government to acquire land as the mineral rights of the State Governments under the Land Acquisition Act, 1894. Where it appears the Central Government that coal is likely to be obtained from the land in any locality. it can acquire either the land or the rights in or over the land under the coal bearing areas (Acquisition and Development). Act, 1957. However, in order to avoid acquisition in such cases, the railway's property should be safeguarded by entering into agreements as suuggested in paragraph (2) above.

(5) Railways have, therefore, the responsibility firstly to ensure underground support from the owners of underground mineral rights and secondly to ensure the frequent inspection that the underground support guaranteed for the railway is correctly maintained. To ensure that these responsibilities are adequately discharged each railway administration should see that all plans for the constructions of new railway lines or assisted or private sidings, in areas close to mines, are signed by the authority nominated by the respective railway for this purpose, i.e., the Chief Mining Adviser, Dhanbad, in the case of E. and S. E. Railways. His services may be utilised by the other railways also, if need be. It shall be

the duty of this authority before approving these plans, to ensure that the alignment is safe and involves the locking up of the minimum quantity of coal and minerals.

814. Rights to mines and minerals in areas acquired by or on behalf of the Central Government. The expression `Land' includes legal parlance all that is under it. Acquisition of land under Land Acquisition Act 1894 by the Central Government would include acquisition of mines and minerals under the land acquired unless a statement as contemplated by section 3(1) of Land Acquisition (Mine) Act 1885 is included in the declaration under Section 6 of Land Acquisition Act 1894. If the mines and minerals under the land acquired belong to the State Government, the State Government is entitled to claim compensation when land is acquired without such declaration. Where State Government lands are not acquired under Land Acquisition Act, but are acquired through private negotiations from the State Government, specific provision for mineral rights may be made in the transfer deed to avoid any possibility of payment of royalty to State Government.

815. Riparian Rights. State Governments are competent to levy royalty on the water drawn by Railways from the rivers and other natural sources and also enhance the same unless the Railways enjoy riparian rights in respect of such water. A riparian land includes only that land which is substantially adjacent to the stream. All uses are riparian in which the water is consumed on the riparian land and that all uses are non-riparian in which the water is taken away from riparian land to be applied for use for any purpose elsewhere. It will be a question of fact in each case whether land is actually riparian.

816. Occupation of Land, Temporary and Permanent. All land for railway purposes, whether acquired temporarily or permanently, will ordinarily be taken up in the first instance as for permanent occupation and valued accordingly. In special circumstances, however, where land is needed for temporary purposes and where there is little likelihood of the land on the expiration of the term of temporary occupation being rendered unfit to be used for the purpose for which it had been utilized immediately before such occupation, temporary acquisition may be undertaken under Section 35 of the Land Acquisition Act, provided that such procedure would result in economy. Waste or arrable land can be occupied temporarily only for a period not exceeding three years from the commencement of occupation, vide Section 35 (I) of the Land Acquisition Act.

817. Classification of Railway Land. With a view to determine what the disposition of the land will probably be on the completion of the work for which it had been acquired, the classification given in paragraph 818 etc. should be adopted.

818. On railways, land is divided into two classes, viz.,

- (i) permanent land.
- (ii) temporary land.

819. Permanent land is land which will be required permanently after the railway is open for traffic and the work of construction is complete. Under this head will be included all land to be occupied by the formation of the permanent line of railway with side slopes of banks and cuttings, and the berms

connected therewith; catchwater drains and borrow pits or such parts of them as it is necessary to retain; the entrances to tunnels and shafts belonging to them; the sites of bridges, and protection or training works; station yards; landing places for railway ferries; ground to be occupied by works belonging to the railway such as gas works, arrangements for water supply, septic tanks, collecting pits, filter beds and pumping installations, & c., ground for the storage manufacture or acquisition of materials; land for sanitary zones, cemeteries, churches, plantations; gardens, and recreation grounds, sites for stations, offices, workshops; dwelling houses and other buildings required for the purposes of the railway, or the accommodation of the staff, with the grounds, yards, roads, & c., appertaining thereto. Under this head will also be included land outside the permanent railway boundary, which will be required for the permanent diversion of roads or rivers, or for other works incidental to the construction of the railway, which are made for public purposes and will not on completion of the works be maintained by the railway authorities.

820. Temporary land is land which is acquired for temporary purposes only, and which is disposed of after the work of construction is completed.

821. Extent of land to be acquired. In estimating for the extent of land to be taken up for a railway, care should be taken to make provision not only for the land which will be required permanently for the purposes of the open lines (such as those indicated in paragraph 819 on "Permanent Land"), but also for such land as will be required during construction only, for spoil-banks, side-cuttings, quarries, stacking and preparation of material, temporary offices, workshops and quarters, and for temporary purposes generally, to be disposed of after the work is complete.

822. (a) For lines over which traffic is likely to develop beyond the carrying capacity of a single line within 15 years after opening, the widths of land to be taken up should be those for a double line.

(b) For lines on which the traffic cannot reasonably be expected to grow beyond the carrying capacity of a single line within 15 years of opening, the widths of land to be acquired should be those for a single line.

(c) The minimum widths of land to be taken up for a single line should be, under ordinary circumstances, those shown in the sections and tables, printed as Appendix III. The Railway Administration can reduce the requirement of land in urban areas or where the cost of land is expensive (refer para 829). The extent of permanent land will depend upon how many, if any, of the borrow pits are to be retained after construction is completed.

(d) The orders of the Railway Board should be obtained before reckoning widths on basis (a).

823. At station yards the cutting or filling for the formation of the main line and sidings may sometimes be arranged for in the general levelling and improvement of the plot of ground to be permanently acquired. Where this cannot be done, provision should be made outside the proposed boundary of the station yard for such additional land as may be required for side cuttings or spoil banks. In the case of station yards within or in the vicinity of large towns or other inhabited area, it is desirable in the interest of sanitation that excavations, which are likely to prove noxious, should as far as possible, be avoided or

so arranged as to drain off completely. Special care should be taken to ensure that sufficient land is taken up at stations. This land should be provided for any reasonable extensions of the yard which may be expected in the future.

824. In making provision for land for side-cuttings, the width will, under ordinary circumstances, depend upon the nature of the soil, height of bank, facilities for getting earth and other local conditions. Under special circumstances, as for example, in the neighbourhood of large towns or where land is expensive, it may be advisable to equalize the quantities for cutting and filling, and take, the material for banks from the adjacent cuttings.

825. After a line has been opened, it is necessary to have land from which earth can be dug for repairs to banks and such land should always be acquired permanently.

826. It would not be economical to reserve land for all repairs between the bank and the original borrow-pits, because doing so would increase the lead and consequently the cost of all earth dug for construction of banks, but it is desirable to have a certain width of land from which earth can be dug for emergent repairs during or immediately after the monsoon when the borrow-pits may be full of water. Pits dug for such urgent repairs, inside the line of original borrow-pits, should not be more than 1 metre in depth and the width of land for such pits may be taken as equal to the height of bank.

827. The width of berm to be originally set out will therefore be 3 metres plus width required for urgent repairs (height of bank). Provision has been made on this basis in the Tables in Appendix III.

828. For 762 mm gauge lines in mountainous country special arrangements for acquisition of land for borrow-pits to provide earth for construction and maintenance should be made.

General Arrangement, side-widths, & c.

829. For the line between stations, the general arrangements for land shown in the sections in Appendix III should be followed. The width of temporary land to be acquired for borrow-pits or spoil-banks cannot be laid down, as these depend on (1) nature of soil; (2) depth of sub-soil water; (3) price of land; and (4) other local considerations. But for ordinary open country, where land is not unduly expensive and excavation to a depth of 2 metres is not undesirable owing to hard soil or subsoil water met with, the widths shown in the Tables in Appendix III will be found suitable for banks of 2 to 1 slope. An appreciable decrease in the area of land to be taken up can be effected by the adoption of greater depths for borrow-pits. It is, therefore, left to the discretion of Railway Administrations to adopt such depths with the consequent decrease in the width of borrow-pits as they consider practicable. For new lines and doublings the acquisition of agricultural lands should be limited to the bare minimum area to be acquired need not conform to the arrangement given in Appendix III and the possibility of bringing borrow earth from elsewhere within reasonable distance or by making deeper borrow pits and in special cases even reducing the width of berms on either side of the embankment should be borne in mind.

830. Where practicable, for low banks or shallow cuttings, the land taken up for side-cutting or spoil banks should be on one side of the line only (see tables in Appendix III).

831. In setting out land for side-cuttings, arrangements should be made for berms at suitable intervals to allow of convenient access to the line during construction and to prevent the side cuttings ultimately developing into water courses alongside the embankment. Width of 6 metres in a length of 60 metres is generally suitable for this purpose; that is to say, each excavation would be 54 metres long and separated from the next excavation by an interval of 6 metres of undisturbed earth. The tables in Appendix III are calculated on the above dimensions.

832. In setting out land for spoil banks, care should be taken to leave sufficient space for arrangements for drainage and for catch-water drains, where required, to prevent surface water from the adjacent land running down the slope of the cutting Land required for catch-water drains outside the line of spoil-bank will be additional to that shown in the tables in Appendix III.

833. The sides of spoil-banks and side-cuttings next the line should be slopped off (as shown in the sections, in Appendix III) before the earth-work is finished and in setting out side-widths the distance allowed to the nearest part of the excavation or spoil bank should be such as to preserve the specified width of strip of clear unbroken ground after this sloping has been carried out.

834. The slopes of sides of borrow-pits nearest the line should be the same as the slope adopted for embankments and this will generally be 2 to 1. The slopes of the outer side and of ends may be 1 to 1. The slopes of spoil bank should usually be 2 to 1. A convenient height for spoil bank is 1.5 metres and this has been adopted for the tables in Appendix III.

835. In taking up land for embankments a strip one metre width has been allowed for outside. The outer edge of borrow pits to enable the fence to be erected outside the borrow pits if required. Where the line is in cutting, the fence can be erected, if required, at the outer toe of spoil banks and such strip is required.

836. In arranging the side-widths, the line for the fencing and for the inner edge of side cutting or spoil-bank should be continued straight in portions as long as practicable. This is to say, these lines should follow the average variation in height of bank or depth of cutting over considerable lengths and not be made to zig-zag to suit the local variation at each chain e. g. Where the variation in side-widths would be comparatively unimportant it will often be advisable to neglect such local variations entirely, and take up the land in a parallel strip for some distance.

Land Plans and Schedules

837. To enable the revenue authorities to take action for the acquisition of land required for railway purposes, it is necessary that proper plans should be made for reference by all concerned. The scale for these land plans should under ordinary circumstances, be 50 metres to cm. but where this would not admit of sufficient details being shown with clearness, the scale should be 10 metres to cm. A scale of 5 metres to cm. may, however, be issued in special cases for congested areas in large towns.

Note. (a) This rule may be waived when the land to be acquired forms an addition to that already previously acquired. In such cases the plans showing additions may be drawn to the same scale as the original plans.

(b) In cases where the existing Revenue maps are not on a smaller scale than 50 metres to a cm. they may, with the consent of the State Government, be used for the preparation of land plans. Where, however, the State Governments have prescribed separate scales for plans and sections in respect of acquisition of land for railway projects, such scales should be adopted.

838. The data for the preparation of land plans should generally be obtained during the progress of the survey for the location of the line, and general instructions for the preparation of plans to accompany a project for a railway should be held to apply also to plans required for the acquisition of the land necessary for the construction of the railway (cf. paragraph 443 et seq.). The land plans should also give the additional information required under paragraphs 839 to 841 below.

839. The plans made out for the first acquisition of land should show the outer boundary line and all land for whatever purposes it may be required, should be taken up as for permanent occupation. This land should be distinguished on the land plans by being coloured pink. This rule applies only to copies of the plans made for the Revenue Authorities for use in the acquisition of land and is not intended to prevent Engineers from marking on their office copies the intended disposition of the land as "permanent" and "temporary" or any other information which may be found convenient for use during construction, or for the purpose of estimate.

840. As early as practicable, after the line is opened and after it is known definitely what land can conveniently be spared and disposed of, the original plans should be corrected (or fresh plans made) to show the boundaries of the land required for permanent occupation (`permanent land'). and also those of the land to be disposed of (`temporary land'). On these land plans, the two classes of land are to be distinguished by colour as follows:

- Permanent land Pink.
- Temporary land Yellow.

841. As early as practicable, after the line is opened, the original plan should be corrected (for fresh plans made) to show the disposition of land as determined after the work of construction is completed. Detached portions of land should be referred to some fixed point on one of the main sheets with distance and compass or other bearings, or such reference to the published maps neighbourhood as will ensure a ready identification of the land. A corresponding entry should in each case be made on the nearest main sheet to draw attention to the detached plot.

842. On all land plans, the position of the boundary of each class of land should be determined by dimension written on the plan, these dimensions should be sufficiently complete to enable such boundaries being, at any time, readily ascertained or verified.

843. The names of villages to which the land belongs, should in each case, be written on the plan alongside of the line indicating the village boundary . If the boundary line crosses the railway line the names should be repeated on the other side of the railway line and the chainage of the crossing point noted.

844. When boundary marks have been erected for the demarcation of railway land, the position and corresponding number of every detached mark should be inserted in the land plans.

845. The plans should in short be full and complete and should show all existing roads and building, and when the latter are known to be used for public purposes or by special departments, their purposes and ownership should be stated.

846. The land plans should be made up in sets for continuous portions of land, each set being complete for a revenue district or charge of a Collector or Deputy Commissioner. On each end sheet (first and last) of every set of land plans, a sufficient portion of the continuation sheet of the next set should be repeated, to enable the two sheets to be connected or traced together if required. For each set of land plans the sheets should be numbered consecutively through-out and the name of the revenue district to which the set relates, is to be marked conspicuously on each sheet.

847. The schedules showing details of the land required may be drawn up in the forms numbered 1 to 3 printed as Appendix IV but these are not prescribed as standard forms for adoption on all railways, as it is recognized that land tenures vary in different parts of India and that each State Government or Administration may desire land schedules to be prepared in a form and with particulars to suits local conditions and local land revenue procedure. Railway Administration should, therefore, prepare the land schedules in the forms that may be required by each State Government or Administration.

848. The minimum number of sets of land plans and schedules required is two-one for the revenue authorities and one for the railway. Each set of land plans and schedules should be signed by the Officer immediately responsible for its preparation and by the Chief Engineer of the railway. In the case of land required for a line already opened, the General Manager or his authorised representative should also countersign the plans and schedules before sending them on.

849. Land plans should be kept up to date either by adding to the existing plans or substituting new sheets as may be necessary. Each such addition or alteration should be carefully checked by the officer in immediate charge of that portion of railway, and attested by his signature. It should be understood that the land plans at any date should show a clear and accurate record of the land occupied by the railway on that date.

850. A complete series of land plans for the whole line should be kept in the office of Chief Engineer of the railway.

851. Incidence of Cost of Land. The cost of all land taken up permanently is debitable to capital irrespective of the amount involved or whether required for capital or revenue works. In the case of railways worked by the Government, land required for the manufacture of materials, as also for the

acquisition of materials by quarrying, mining, boring or other operations and payments of royalty, mining rights etc. connected with the same should not be included in land estimates, but may be dealt with as part of the cost of manufacturing operations, or if more convenient charged off finally to the work concerned. The compensation payable, for land acquired temporarily under Section 35 of Land Acquisition Act, will be chargeable to the works or purpose concerned.

852. Where land is taken up for an unsanctioned railway which is undertaken for the purpose of affording employment to people as famine relief, all expenditure in connection with the setting out, demarcation and acquisition of land should form a charge against the head 345-A/B Indian Railway Policy Formulation, Direction, Research and other Miscellaneous Organisations until such time as construction of the Railway project is actually commenced, when it should be brought on to the capital account of the project.

853. Establishment charges. The State Government is entitled under Article 258 of the Constitution to the re-imbursement of extra expenditure actually incurred over the Land Acquisition staff and contingencies for the work of acquisition for the Central Government, a reasonable charge calculated on percentage basis would be justified if the amount of such extra cost cannot be arrived at otherwise. Cost of litigation arising out of Collector's award also will be borne by the Railways.

854. The entire cost of any special establishment which may be entertained under the orders of Government for the purposes of acquisition is included in the cost of the land whether incurred by Civil or Railway Disbursing Officers. The term "entire Cost" includes not only the salary and allowances of the staff so employed, but also, when contributions for their pensions, and leave salary are payable under the rules for the time being in force, such contributions, which will then form part of the "charges of and incidental to the acquisition" under Section 50 (1) of the Land Acquisition Act.

855. Contingent charges. Contingent charges incurred in connection with the acquisition of land for a railway are adjusted in the same way as establishment charges. It should be noted, however, that no portion of the cost of any establishment employed by a railway in connection with the indication of the areas required for acquisition the drawing up of land plans, schedules, etc., i. e., prior to the notification under section 6 of the Land Acquisition Act should be included in that of the land, but should be charged off separately to the work concerned.

856. Acquisition of Land for quarrying purposes.--Railway Administrations while acquiring land for quarrying purposes should ensure that the State Governments do not insert such declarations as would deny quarrying rights to the Railway. Legally once such declaration is inserted, the State Governments are entitled to claim royalty.

857. Acquisition of Forest Land. The land required for laying down a new Railway line can be divided into two parts :

- (a) The land on which the railway line is to be actually laid; and
- (b) The land required by the Railway for borrow pits etc.

All forest trees in area indicated in clause (a) above have to be clear felled but it is not necessary to fell the tree growth in area indicated in clause (b) above. The trees falling on land required by the railway for borrow pits etc, will remain the property of the Forest Department, though the land on which these trees will be standing will remain with the railway.

858. While acquiring forest, lands suitable agreement should be made with the Forest Department covering the following aspects :-

(i) If in future the removal of any tree or trees is considered necessary by the Railways in connection with train operation the railway should notify to the Forest Department about it and the Forest Department would fell and remove these trees quickly;

(ii) If for any future construction on the land acquired by the railway trees have to be felled, the railway will notify the same to the Forest Department, and the Forest Department will fell and remove them quickly;

(iii) If an emergency the railway has to fell any trees the Forest Department will be notified of this being done and the railway will be paying the compensation thereof; and

(iv) That for trees felled by the Forest Department according to sub-para (i) and (ii) above no payment will be made by the Railways to the Forest Department unless the felling of trees is done by the Railways, in which case the Railways will pay for the trees felled to the Forest Department.

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CHAPTER IX

PROCEDURE FOR THE ACQUISITION OF LAND

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901. Application for Land-Whenever land is required for railway purposes, an application should first be made direct to the Revenue Officer in-charge of the district in which the land is situated, for a statement of the value of the land and a draft declaration for acquiring it. The application should set forth clearly the purpose for which the land is required, and should be accompanied by the following documents specifying the extent of the land and such other particulars necessary for its identification :-

(a) A complete set of land plans prepared in accordance with the instruction given in paragraph 838 et. seq.

(b) A complete set of schedules prepared in the form given in Appendix IV or in such other form as may be prescribed by the State Government or Administration concerned.

N. B.-Every endeavour should be made to avoid interference with religious edifices, burial grounds or other places or objects which may be considered as sacred and if the land applied for contains religious edifices, & c., the fact must be specially noted in the application.

902. When the work of acquisition extends to more than one district but lies within one division, application should be made to the Commissioner, when in more than one division to the Chief Revenue Authority of the State.

903. For the better identification of land in cases where the areas to be taken up are extensive, the following further information should also be furnished by a Railway Administration to the State Government or Administration in applying for the acquisition of land :-

(a) The name of the railway.

(b) The copy of the order of Government, when necessary, sanctioning the construction of the railway.

(c) A brief general description of the route to be followed by the railway with the names of the more important villages or towns through or near which it is intended that the railway should pass.

(d) A list of civil districts in which the land will be required for the purposes of the railway with the approximate area in acres of the land required in each.

(e) For each civil district, the name or description of the place of places at which the land plans for the district will be available for inspection by the public.

904. The State Government or administration should also be furnished with a general index plan to a scale of 0.5 k.m. to a cm. showing the route to be followed by the railway.

905. Should any land be required for temporary occupation only under Section 35 of Act I of 1894, it should form the subject of a separate application in which the fact that permanent acquisition is not required should be clearly stated.

906. Revenue Officer's Estimate of Cost of Land Acquisition-On receipt from the Railway Administration of the application for land drawn up in accordance with the procedure prescribed above, the responsible Revenue Official will forward to the Railway Administration a statement showing the nearest approximate cost of the land which can be obtained without a detailed valuation of the property and also a draft declaration under Section 6 of the Land Acquisition Act on which it should be recorded that there is no objection to the acquisition of the land on any general or specific grounds. In the case of large projects, in lieu of the statement prescribed above, the Revenue Authorities will furnish to the Railway Administration data in the following specimen form showing the estimated average value per hectare as near as may be for the different classes of land in the localities affected by the projects.

Form E. 906

Kilometres	Rupees per hectare		uncultivated	Remarks
	Cultivated			
	Irrigated	unirrigated		
3-15	80	30	10	
15-17	300	120	30	
15-27	50	25	5	

907. In no circumstances should the local Revenue Authority be called upon to furnish data, even rough approximations, before they are supplied with a sketch map (or detailed plans, if such have already been prepared) for each district traversed by the railway, showing the exact course of the centre line of the land to be taken up, with reference to village and town, as a departure from the strict observance of this requirement throws upon the Revenue Authorities undue responsibility for the preliminary estimates. The sketch map should be to scale of 0.5 Km. to a cm. and should show village boundaries wherever they have been surveyed. The distances should also be marked upon it, and the average width of the strip to be taken up should be stated. For land near towns, or which for other reasons is likely to have a specially high value, a map to a sufficiently large scale should be prepared, showing the approximate boundaries to the land likely to be required, with a note of any valuable trees, buildings of other property for which compensation will have to be paid in addition to the price of the land itself.

908. When the estimated value of the land exceeds Rs. 25,000 in any one district, or one lakh in any division it is necessary that the date should be countersigned by the commissioner of the division in which the land is situated or the Chief Revenue Authority of the State respectively. In the State like Tamil Nadu where there are no Commissioners of Divisions, the counter signature of the Collector of a District will suffice.

909. The statement of data received from the Revenue Authority should be taken as representing the value of the land, inclusive of tenant's rights but exclusive of the value of houses. trees, standing crops & c., on the land, the approximate cost of which should be separately furnished by the Revenue Authorities. In addition to the data prescribed above, the Revenue Authorities should also give a rough estimate of the amount of such further items (if any) as are likely to be included in an award based on Section 23 (1) of the Land Acquisition Act, including when necessary, an estimate of the capitalized value of the abatement of land revenue or of payments to be made direct to the proprietors of the area acquired in lieu of abatement of land revenue, and charges for establishments and contingencies. Special care should be taken by the Revenue Authorities in furnishing as accurate data as possible, so as to prevent inaccurate estimating. With the information in hand, the Railway Administration should

proceed to frame an estimate* of the total cost of acquisition in detail, including (in cases where voluntary surrender is not probable) the additional 15 per cent laid down in Section 23 (2) of the Land Acquisition Act, on the market value of the land under Section 23 (1), Clause I of that Act.

*Note-In the reports and estimates submitted by Railway Administration it should be specially mentioned whether or not the land estimates have been prepared from data furnished by the Revenue Authorities.

910. Railway Administrations Land Estimates-In preparing land estimates, it will be found generally convenient to adopt the following form :-

Form E. 910

Value of land-

Waste.

Arable.

Homestead.

Bazar.

Value of-

(a) Masonry houses.

(b) Thatched houses.

(c) Trees.

(d) Standing crops.

Add additional compensation at 15 per cent under Section 23 (2) of the Act on the market value of the land including houses, trees and crops.

Add market value of Government land taken up.

Add damages under Clauses 2 to 6 of Section 23(1) of the Act.

Add capitalized value of land revenue (when necessary)

Add cost of establishment (when necessary)

Add contingencies.

911. Sanction to Land Estimates-Should the estimates so framed be within the powers of the Railway Administration to sanction and there be no objection to the acquisition of the land on the part of the Revenue Authorities, the General Manager or any other officer duly empowered to sanction the estimate will then accord sanction and allot the necessary funds and forward the estimate duly countersigned by the Accounts Officer together with the draft declaration and duly signed plans and schedules to the State Government or Administration for taking the necessary steps for the acquisition of the land. When it is decided to make reduction in the extent of the land which the State Government has already been asked to arrange to acquire prompt warning should be given to them to take steps to modify the declaration already issued, or to make necessary withdrawal from acquisition. If the sanction of the Railway Board is necessary to the estimated cost of the land, the Railway Administration should apply for and obtain that sanction before applying to the State Government or Administration for the acquisition of the land.

912. The cost of land forms an integral part of the cost of the work. In determining, therefore, the powers of a Railway Administration to sanction a work, the cost of such work should be taken as a whole inclusive of that of the land, irrespective of the source from which the cost of the land is met.

913. The Land to be Acquired only for Sanctioned Work bonafide Railway Purposes-As a general rule land may not be acquired except in connection with a duly sanctioned work but this rule does not debar the acquisition of land for bonafide railway purposes, such as sanitary zones which are unconnected with any particular work. Where any third party's right of way in the form of a path or road has been permanently obstructed by the railway, either by the land having been acquired or otherwise, unlimited powers are delegated to the General Manager for the acquisition of land to restore the right of way on another site.

914. In case of urgency, Railway Administrations are empowered to depart from the ordinary rule stated in the previous paragraph and sanction the acquisition of land prior to the preparation and sanction of estimates either for the work or the land, provided the total probable cost of the work is within the power of Railway Administration to sanction. Where it is anticipated that the estimated cost of the land or the work will exceed the power of sanction of the Railway Administration, the reasons for urgency of acquisition and brief particulars of the work for which it is required together with information regarding the probable cost of the land and of the work should be reported to the Railway Board and their sanction to the acquisition of the land applied for.

Procedure after the Land Acquisition Act is put into force

915. Acquisition. After the publication of the declaration under section 6 of the Land Acquisition Act, the State Government or Administration will direct the Collector, or other officer specially appointed for the purpose, to acquire the land in the manner indicated in the Land Acquisition Act and all subsequent proceedings will be taken by the State Government or Administration. When the award have been announced, the Railway Administration may enter unto possession of the land but before doing so, the authority of the Land Acquisition Officer to its occupation should be obtained. When possession is taken, the acquisition is completed and the land then vests absolutely in Government. Up to the

moment of taking possession under the Act, Government is at liberty to withdraw from the acquisition but not afterwards. It should be noted that withdrawal from acquisition entails liability for payment of compensation for any damage suffered by the owner in consequence of the notice or any proceedings thereunder [(Section 48 (2) of the Land Acquisition Act).]

916. Valuation of Land for Purposes of Award. A Land Acquisition Officer in an inquiry and award under Section 11 of the Land Acquisition Act, will give notice to the Railway Administration or their chief local representative of the day on which the inquiry is to be held and will take into consideration any representation which the Railway Administration or their chief local representative may make whether orally or by letter. Also before finally making the award the Land Acquisition Officer will allow the Railway Authorities an opportunity of appearing in person or by agent and of producing evidence as to the value of the land. Railway Administrations should take advantage of these opportunities for representing their views and protecting their interests.

917. If the award, as finally settled after objections have been heard in the course of proceedings, exceeds by more than 20 per cent of the original estimate of the cost of acquisition or if the evidence as to the value is conflicting and such as to indicate a reasonable probability that the Civil Court will award a sum exceeding that estimate, the Land Acquisition Officer should defer the award and inform the Railway Administration concerned of the facts. Further action will then be suspended until the Railway Administration has decided whether acquisition should be proceeded with or not. Before communicating such decision, the Railway Administration should, when the excess is likely to exceed their powers of sanction, submit a report of the matter for the orders of the Railway Board, explaining at the same time whether the acquisition of the land is necessary or whether some plot of land other than that originally contemplated may not be taken up instead. It is incumbent on Railway Administrations to endeavour to avoid the location of a Railway line upon land, the acquisition of which will entail either unnecessary expenditure to Government, or annoyance to the owners, if the object sought can be equally well attained by a slight alteration of the alignment or in some other manner.

918. Taking possession. Possession of the Land will be made over by the local revenue Authority or his representative, and will be taken over by a representative, not lower in status than an Inspector of Works of the Engineering Department of the Railway. The area on the ground should be carefully checked with that on the Plan and, if found correct, the permanent boundary marks should be affixed as soon as possible thereafter.

919. A certificate, at least in duplicate, to the effect that the land has been on that day correctly made and taken over, will then be signed by both parties recorded by the Revenue and Railway Authorities respectively.

920. Excess over Sanctioned Estimates. - Revised Estimates.-- If during the proceeding under, Section 11 of the Land Acquisition Act, it becomes apparent to the Land Acquisition Officer that the cost of the land will exceed the amount of the sanctioned estimate, he should report the excess to the Railway Administration concerned and at the same time furnish fresh data for the revision of the estimate. The Railway Administration will then frame a revised estimate of cost in full detail and if the excess is within

the powers delegated to the Railway Administration, sanction the estimate and allot the further funds necessary. Should the revised estimate however, require the sanction of the Railway Board such sanction should be applied for and in doing so, an explanation of the cause of the excess should be furnished where it exceeds the initial estimate by more than 10 per cent. It should be noted that the countersignature of the responsible Revenue Authorities should be obtained to the revised estimate as in the case of the original estimates.

921. Completion Reports. When acquisition has been finally completed and awards made, a completion report showing the actual expenditure incurred on the acquisition should, in the case of lines under construction and of open line works costing Rs. one crore and over, be submitted to the Railway Board either separately or along with the completion report of the works for which the land has been acquired. These completion reports should be drawn up in detail by the Railway Administration on the awards actually made.

922. As regards land taken up for open line works costing less than Rs. one crore no completion report need be submitted to the Railway Board unless it is found that expenditure has been incurred over the original or revised estimate, in excess of the powers of the Railway Administration.

923. Where land outside the regular land widths, as prescribed in paragraphs 822 to 837 and Appendix III, is required for temporary occupation, the procedure will be as under Part VI of the Land Acquisition Act.

Disbursements by Land Acquisition Officers

924. After all preliminaries in respect to estimates, land plans etc. which are required under the rules have been duly carried out, land required by a Railway Administration will be acquired under the Land Acquisition Act either by the Collector of the District in which such land is situated or by some Special Officer who will be placed at the disposal of the Ministry of Railway, and invested with powers of a Collector under the Act. The procedure for disbursement differs in each case. The Act referred to in this and the following paragraph is the Land Acquisition Act of 1894 as modified from time to time.

Procedure for Special Land Acquisition Officers Appointed under the Act.

925. Special Land Acquisition Officers placed at the disposal of the Ministry of Railways are regarded as Railway Disbursers and are supplied with funds in one of the following :-

(1) By the Railway Accounts Officer authorising them to have drawing accounts at a specified treasury or treasuries and the monthly accounts of receipts and expenditure of the Officer will be submitted to the Railway Accounts Officer

(2) By appointment as imprest holders by the Railway Accounts Officer to whom Imprest Accounts will be rendered.

When the services of a Special Land Acquisition Officer are utilised by the Railway Department in common with other departments he should be regarded as a Railway Disburser for the purpose of this paragraph.

926. Special Land Acquisition Officer to be treated as Railway Disbursers are placed in funds if required, by means of "authorities" issued by the Accounts Officer on certain specified treasuries, permitting them to draw moneys from such treasuries. In forwarding such authorities to the Treasury Officer, the Accounts Officer will send the specimen signature of the Officer in whose favour the authorities are issued and at the same time furnish the latter with the requisite number of cheque books. The "authorities" issued by the Accounts Officer will empower the Special Land Acquisition Officers acting as Railway Disbursers to draw cheques at the specified treasuries and authorise the treasury officers concerned to honour such cheque.

927. All moneys required for disbursements should be obtained by cheques drawn against the authorised treasuries. Cheques should not be drawn for amount in excess of those to be disbursed.

928. The Accounts Officer may at his discretion limit the amount upto which the cheques of an officer authorized by him to have a drawing account at a particular treasury should be cashed. As soon as the necessity for a drawing account in favour of a Special Land Acquisition Officer acting as Railway Disburser ceases to exist, the Accounts Officer should arrange to have the drawing account closed by cancelling the "authority" already issued to him. He should also withdraw all the unused and partly used cheque books in the possession of the officer whose drawing account has been closed.

929. Special Land Acquisition Officer authorised to have a drawing account with a treasury, will submit to the Accounts Officer daily a statement of cheques drawn against the treasury and money deposited in it, quoting reference notes etc, to enable the Accounts Officer to check the statements of disbursements and receipts sent by the treasury direct to the Accounts Officer in terms of paragraph 435-A, Part I. A summary of the daily statements mentioned above should also be sent to the Accounts Officer at the end of each month.

930. Procedure for making payments. Special Land Acquisition Officers acting as Railway Disbursers should follow the instructions contained in Chapter XI of Indian Railway Accounts Code, Part I regarding drawal of cheques and making payment through treasuries.

931. The Award. When an award is made under Section 11 of the Act, the officer will have a statement prepared in Form A (see Appendix V), showing the amounts payable to each person under the award and will, on the day the award is made, forward a copy of the statement, signed by himself to the Railway Accounts Officer. Before signing the copy, the officer should carefully satisfy himself that it correctly shows the amounts due under the award and should himself enter the total in words both in the original and copy. A subsidiary statement in Form AA (see Appendix V) giving particulars regarding the acceptance by the persons concerned of the amounts shown as due in the award statement should also be furnished to the Accounts Officer. If the subsidiary statement is not complete on the day the award is made, the necessary entries in column 7 of Statement A, showing the distribution of the award, will be made in the Office of the Accounts Officer on receipt of the statement in Form AA.

932. In cases where an award has been made by a court under Section 26 of the Act, a second award statement should be prepared in Form B (see Appendix V) by the officer as soon as the decision of the court is ascertained, and a copy thereof forwarded to the Railway Accounts Officer. On receipt of this statement the Railway Accounts Officer will proceed to check the entries in column 1 to 4 with the original award by the Land Acquisition Officer.

933. Any change in the appointment of the officer's award made by a Court under Section 30 of the Act, should also similarly be communicated to the Accounts Officer by the Special Land Acquisition Officer for necessary corrections in the award statement. And if under Section 31(3) of the Act, it has been arranged to grant a compensation otherwise than in cash, the nature of such compensation should be clearly specified in the column for remarks in the award statement.

934. Payment of Compensation. In giving notice of the award under Section 12(2) and tendering payment under Section 31(1) to such of the persons interested as were not present personally or by their representatives when the award was made, the officer should require them to appear personally by representatives by a certain date, to receive payment of the compensation awarded to them intimating also that no interest will be allowed to them if they fail to appear. If they do not appear, and do not apply for a reference to the Civil Court under Section 18, the officer should after any further endeavour to secure their attendance that may seem desirable, cause the amounts due to be paid in the Treasury as revenue deposit payable to the persons to whom they are respectively due, and vouched for in Form E (see Appendix V). The officer should also give notice to the payees of such deposits, specifying the Treasury in which the deposits have been made. In the officer's accounts the amounts deposited in the Treasury will at once be charged off as railway expenditure, and when the persons interested under the award ultimately claim payment the amounts will be paid to them in the same manner as ordinary revenue deposits. The officer should, as far as possible, arrange to make the payments due in or near the village to which the payees belong, in order that the number of undisbursed sums to be placed in deposit on account of non-attendance may be reduced to a minimum. Whenever payment is claimed through a representative, whether before or after deposit of the amount awarded, such representative, should show legal authority for receiving the compensation on behalf of his principal.

Note. Amounts of lapsed deposits (cf. Rule 635 of the Treasury Rules, Vol. I) should be passed on to the Railway Department for final credit.

935. Receipt for Direct Payments. In making direct payments to the persons interested under the award, the officer should take the receipt of each person to whom money is paid on a separate voucher in Form C (see Appendix V), containing a reference to the item showing the amount due to that person in the statement prescribed in paragraph 931. In cases where payments are made to a number of persons under a single award, acquittance roll in Form CC (see Appendix V) may be substituted for separate receipts in Form C. The officer should forward the separate receipts of the payees or the acquittance roll as the case may be, to the Accounts Officer when forwarding to him the account of the month in which payment are made.

936. Civil Court Deposits. All payments into court for deposit under the Act should be made by means of cheques in favour of the presiding officer of the court, payable by order of the court to credit of Civil Court Deposits. The cheques should be accompanied by receipts in triplicate, in Form D (see Appendix V), duly filled up, of which one will be retained by the court for record, and the other two returned duly signed to the officer who will keep one copy and forward the other to the Accounts Officer with the accounts of the month in which the payments are made. The amounts deposited in the court will be charged off as railway expenditure in the Accounts of the officer and the ultimate payments to the persons interested under the award will be arranged for by the court under the rules for the payment of Civil Court Deposits.

Note.-- see note under para 934.

937. When a court has awarded any compensation in excess of the officer's award, the further payment due, as entered in column 6 of the award statement in Form B should be made into the court by means of a cheque, and the procedure described in the preceding paragraph should be followed, Form D being used with the necessary changes to give full particulars of the order of the court.

938. Payments by Cheques. A special Land Acquisition Officer may make all or any of his payments by cheques, provided no inconvenience is caused thereby to the payees in consequence of the property being situated at a distance from the treasury.

939. Payments after the Special Officer is relieved of his Duties.-- In any case in which a reference is made to the Civil Court, and the award of the Court is not made till after the Special Officer has been relieved of his special duties, the further payment due under the award should be made by the Collector who will observe the same procedure (as if the reference to the Civil Court had been made by himself as prescribed in paragraph 936 and 937 above).

Procedure for Collector or other Civil Officer not specially employed

for Land Acquisition.

940. The Award.--When the land is taken up by the Collector or other Civil Officer not specially employed for the work such Collector or Civil Officer is not a Railway Department Disburser, but ordinarily draws money for payment due under his award from the Civil Treasury from provincial funds and thereafter debited to Railway through book transfer. But if a State Government so desires or if any legal difficulty exists in any State, the Railway Administrations can arrange to deposit in advance an amount determined on the advice of the State Government, subject to suitable adjustment after the award is announced. The Railway Administration should ensure that the amounts deposited by them in advance with the State Governments are only to the extent necessary for immediate payments. For this purpose they should enter into suitable arrangements with the State Governments concerned to ascertain from them the requirements of funds every month in advance.

941. The Collector or Civil Officer will as soon as he makes the award or as soon as he ascertains that an award has been made by the Civil Court, prepare a statement in Form A or B or in both, as the case may be, showing the amounts due and forward a copy thereof to the Accounts Officer concerned in the manner prescribed in paragraphs 931 and 932. Additions and alterations in the award statement should be communicated to the Accounts Officer as prescribed in paragraph 933 and a subsidiary statement in Form A should, if necessary, be furnished as laid down in paragraph 931. The procedure laid down in paragraph 934 should also be observed by Collector or Civil Officer.

942. Payment of Compensation.-In making the payments due under the award, the Collector will take from each person to whom payment is made a receipt in Form C, containing a reference to the payee. In the case of payment to a number of persons under a single award, an acquittance roll may be substituted for separate receipts as laid down in paragraph 935. These receipts will be the Treasury Officer's vouchers for the payments, and will be forwarded by him with accounts of the month to the Accountant General. For payments into Civil Courts the procedure laid down in paragraphs 936 and 937 should be observed.

943. The Treasury Officer has no concern with the award or with the award statement; he makes the payments on the authority of the Collector, or other officer assessing compensation. The Collector may either draw the amount to be disbursed to each payee separately, in which case he should countersign the receipt in Form C, and make it payable at the treasury to the payee altering the words "paid in my presence in cash/by cheque" to "pay", or he may draw the total amount to be disbursed by him under the award on his own receipt as an advance and after making the payments forward the receipts of the payees to the Treasury Officer in adjustment of the advance. In the former case, an advice list of the forms passed for payment should be sent to the Treasury Officer, who in turn should send weekly in advice of the orders paid.

944. Procedure when no Money Compensation is Paid.-In cases in which compensation is granted in the shape of either land in exchange or remission of revenue as provided in Section 31(3) of the Act, and the land is acquired for Government purposes, no adjustment of the value of the land given in exchange will be required, unless it is separately purchased by Government. If, however, the land is acquired for a body financially independent of Government, as in the case of acquisition of land for the construction of a private siding, the value of the Government land given in Exchange and the capitalized value of the abatement of land revenue should be charged against the funds deposited by such body.

945. Accounts.-The Land Acquisition Officer will submit a brief monthly abstract of receipts and disbursements showing the total cash received and expenditure on each work in progress together with vouchers for all payments irrespective of amount. The account will be sent direct to the Accounts Officer. The monthly accounts of Civil Officer on receipt in Accounts Office will be checked in accordance with the rules laid down in paragraph 947 to 949.

946. Receipts creditable to the railway realized by Civil Officers acquiring land should not be expended but paid into the treasury to the credit of the railway; the receipt and payments being recorded in the

monthly abstract of receipts and payments. The amount involved will be taken to account by the Accounts Officer in deposing of the Civil Officer's accounts.

947. Internal Check of land Charges.--Whether the payment is made by a special officer or by the Collector (or other Civil Officer) the internal check by the Accounts Officers will consist in seeing that every payment is supported by a receipt in Form C, CC, D or E and that the amount paid on such receipt is the amount payable under the award, as shown in the statement of which he will have received copies, vide paragraph 931. The Accounts Officer will also note in the last column of Form A the date on which possession is taken as reported to him by the Executive Engineer.

948. The Accounts Officer will, as he receives the vouchers fill in the entries in the appropriate columns of the award statements (Forms A & B); and as he receives the report of possession, filling the entries in column 10 of the statement in Form A. When all the vouchers showing either payment to the payee or payment into the court on deposit and reports of possession have been received, he will forward the completed statements in Forms A. AA and B to the Chief Revenue Authority of the State for record.

949. A register of charges for land taken by Civil Officers, whether acting as railway disburser or not will be maintained by the Accounts Officer in Form E-949, shown below, in which the particulars of acquisition of land will be posted from the gazette notifications as they issue. On receipt of a copy of the award prescribed in paragraph 931, the Accounts Officer will post the amount and date into the register against the name of the work concerned; and upon transmission of the completed award statement to the Chief Revenue Authority, he will note the amount passed and the date in this register.

Form No. 949

..... RAILWAY

Division ..... Section .....

S. No.	Kilometrage	Station or Kilometrage	Description	Area in acres		Cost of land
				Acquired	Relinquished	
1	2	3	4	5	6	7

Correspondence	Reference to Revenue	Office case	Plan No.	Date of transaction	Amount	Remarks

	Department Correspondence	No.				
8	9	10	11	12	13	14

Acquisition of Government Land in charge of the Military Authorities

950. Rules relating to the Acquisition of Land. No land, whether within Cantonment limits, forming part of an encamping ground, or otherwise held for military purposes, should be entered upon or occupied for any purpose whatever, either by contractors or any other persons (official or non-official acting under the orders of any Civil Department of the State, until the sanction of the Central Government in the Ministry of Defence to the occupation or use of the land has first been obtained, and communicated to the General Officer Commanding the Division or independent Brigade. In all such cases, the sanction of the Central Government will be obtained by the General Officers Commanding Divisions or independent Brigades through the Quarter Master General in India. These orders do not affect the power exercised by the General Officer Commanding the Division or independent Brigade, to sanction the grant of ordinary building sites in cantonments.

951. Application for such land when within Cantonment limits should be made by the officer in charge of the works, to the Cantonment Authority but in the case of a Military encamping ground or other State land in military occupation application should be made to the General Officer Commanding the Division or independent Brigade. The Military Authorities will then take the necessary steps to obtain (i) the competent sanction to enter into negotiations for the proposed transfer of land; when this is sanctioned (ii) the opinion of the State Government, which should invariably be recorded upon all applications and (iii) the sanction of the Central Government to the occupation of the required land. In all cases where the sanction of the Railway Board to the acquisition of such land by a Railway Administration is necessary, the application for such sanction should be made only after the sanction of the Central Government in the Ministry of Defence has been obtained.

952. The application referred to above should be accompanied by the usual land plans and schedules required by the rules relating to the acquisition of land for railways. The plans should be full and complete and should show all existing roads and buildings, and also rifle ranges if interfered with in any way, and if any buildings are known to be used for public purposes, or by special departments, their purpose and ownership should be stated.

953. On receipt by the local Military Authorities of the sanction referred to in paragraph 950 above, they will at once transfer the land. In all cases, however, where the land is being transferred without the retention of rights over such land the transfer should be effected, through the Revenue Authorities, who will also, when necessary, assess the value of such land, and the value according to such assessment

should be debited and credited to the proper Railway and Civil Accounts head respectively. No notification in the local Gazette is necessary.

Proviso-The above rule does not apply to adjustment of boundaries by mutual consent which may be effected without the intervention of the Civil Authorities, but covers the exchange of separate plots of land.

954. In the case of privately owned land in cantonments the provisions the Land Acquisitions Act should be applied, but it will be necessary in the first place for the officer applying to obtain the sanction of the Central Government in the Ministry of Defence to the occupation of the land as prescribed in paragraph 950 above.

955. The procedure laid down in Chapter XXI of the Cantonment Code, 1912 for application for permission to occupy, for the purposes of a building site, land belonging to the Government in a Cantonment, applies to private Railway Companies and individuals only, and not to Government owned Railways.

956. Rules Relating to Restrictions on the use of Land.-The following rules govern the construction of buildings, & c., on land in the charge of Military Authorities or of Civil Departments, lying within the authorized zones of works of defence :-

(i) Clearance zones will be prescribed and clearly demarcated in the vicinity of all the works of defence which are enumerated in paragraph 336 of Army Regulations, India Volume II and such other fortifications or places as the Central Government may decide.

(ii) In such zones all land will be dealt with in accordance with the Indian Works of Defence Act.

(iii) When a clearance zone has been notified, except in so far as the notification may authorize modifications, no infringement of the restrictions imposed under the Act should be permitted by any official or private person without the previous sanction of the Officer Commanding or General Officer Commanding within their powers of exemption as specified in the Act,. or by the Central Government.

(iv) Without the previous sanction of the Central Government, no State land within the prescribed clearance zones should be transferred to, sold to, exchanged with or permanently occupied by, any private person or Municipality or Corporation, not immediately subject to the executive orders of the Central Government.

957. When a zone has been prescribed, and contains land in occupation by a railway the Officer Commanding shall inform the Railway Authorities in whose charge the land may be, of the area of the land thus affected and of the restrictions which will be applied. Any modification of the original restrictions will be similarly communicated.

Proviso-Rules in paragraph 955 and 956 do not apply to the defences of Fort William, Calcutta, and Fort St. George, Madras, concerning which special regulations exist.

958. In the case of private land notified under section 3 of the Indian Works of Defence Act VII of 1903, that is land which is to be kept clear of buildings and other obstructions, the procedure in regard to the construction of works, & c., thereon is that laid down in section 7 of the Act, extracts of which are reproduced below :-

Extracts from the Indian Works of Defence Act, VII of 1903. as amended by Act V of 1909

Section 3(1) Whenever it appears to the provincial government that it is necessary to impose restrictions upon the use and enjoyment of land in the vicinity of any work of defence or of any site intended to be used or to be acquired for any such work, in order that such land may be kept free from buildings and other obstructions a declaration shall be made to that effect under the signature of a Secretary to such Government or of some officer duly authorized to certify its orders.

(2) The said declaration shall be published in the local official Gazette and shall state the district or other territorial division in which land is situated and the place where sketch plan of the land which shall be prepared on a scale not smaller than six inches to the mile and shall distinguish the boundaries referred to in Section 7, may be inspected; and the Collector shall cause public notice of the substance of the said declaration to be given at convenient places in the locality.

(3) The said declaration shall be conclusive proof that it is necessary to keep the land free from buildings and other obstructions.

Section 7. From and after the publication of the notice mentioned in Section 3, Sub-section (2) such of the following restrictions as the State Government may, in its discretion declare therein shall attach with reference of such land namely :-

(a) Within an outer boundary which, except so far as is otherwise provided in Section 39. Sub- section 4, may extend to a distance of two thousand yards from the crest of the outer parapet of the work :-

(i) No variation shall be made in the ground level, and no building, wall bank or other construction above the ground shall be maintained, erected, added to or altered other wise than with the written approval of the General Officer Commanding the Division, and on such conditions as he may prescribe;

(ii) No wood, earth, stone, brick, gravel, sand or other material shall be stacked, stored, or otherwise accumulated;

Provided that, with the written approval of the General Officer, Commanding the Division, District or Brigade and on such conditions as he may prescribe, road ballast, manure and agricultural produce may be exempted from the prohibition; provided, also, that any person having control of the land as owner, lessee, or occupier shall be bound forthwith to remove such road ballast, manure or agriculture produce, without compensation, on the requisition of the Commanding Officer.

(iii) No surveying operation shall be conducted otherwise than by or under the personal supervision of public servant duly authorized in this behalf, in the case of land under the control of the Military Authority, by the Commanding officer and in other cases by the Collector with the concurrence of the Commanding Officer; and

(iv) Where any building, wall, bank or other construction above the ground has been permit ted under clause (I) of this sub-section to be maintained, erected, added to or altered, repairs shall not, without the written approved of the General Officer Commanding the Division be made with materials different in kind from those employed in the original building, wall, bank or other construction.

(b) Within a second boundary which may extend to a distance of one thousand yards from the crest of the outer parapet of the work, the restrictions enumerated in clause (a) shall apply with the following additional limitations, namely :----

(1) No building, wall, bank or other construction of permanent materials above the ground shall be maintained or erected;

Provided that, with the written approval of the General Officer Commanding the Division and on such conditions as he may prescribe huts, fences and other constructions of wood or other materials easily destroyed or removed, may be maintained, erected, added to or altered;

Provided, also, that any person having control of the land as owner lessee or occupier shall be bound forth with to destroy or remove such huts, fences or other constructions, without compensation upon an order in writting signed by the General Officer Commanding the Division, District or Brigade; and

(2) Live hedges, rows or clumps of trees or orchards shall not be maintained, planted, added to or altered otherwise than with the written approval of the General Officer Commanding the Division and on such conditions as he may prescribe.

(c) Within a third boundary which may extend to a distance of five hundred yards from the crest of the outer parapet of the work, the restrictions enumerated in clauses (a) and (b) shall apply with the following additional limitation, namely --

No building or other construction on the surface, and no excavation, building or other construction below the surface, shall be maintained or erected;

Provided that, with the written approval of the Commanding Officer and on such conditions as he may prescribe, open railings and dry brushwood fences may be exempted from this prohibition.

Miscellaneous

959. Land for Assisted Sidings.-The land required for an assisted siding outside the railway boundaries will be acquired under the Land Acquisition Act by the Railway Administration which undertakes the construction of the siding at the cost of the applicants. An estimate of the cost of the land which will be prepared by the Railway Administration will be sent to the applicants who should deposit the amount

before any steps are taken for the acquisition of the land. The applicants should also agree to pay on demand such excess cost, if any, as may be incurred in the acquisition of the land. Land so acquired will vest absolutely in the Union of India and the applicants for the siding will have no right or claim thereto.

960. Legal Proceedings.-When a point of law is at issue in connection with any land acquisition proceedings, the state government or administration should be consulted before legal proceedings are entered upon.

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CHAPTER X

THE CUSTODY, MANAGEMENT AND DISPOSAL OF LAND

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1001. Position of Land under the Constitution-The general position under Article 294 of the Constitution is that as from the commencement of the Constitution :-

(a) All property and assets which immediately before such commencement were vested in His Majesty for the purpose of the Government of the Dominion of India and all property and assets which immediately before such commencement were vested in His Majesty for the purpose of the Government of each Governor's Province shall vest respectively in the Union and the corresponding State, and

(b) All rights, liabilities and obligations of the Government of the Dominion of India and of the Government of each Governor's Province, whether arising out of any contract or otherwise, shall be the rights, liabilities and obligations respectively of the government of India and the Government of each corresponding Stare, subject to any adjustment made or to be made by reason of the creation before the commencement of the Constitution of the Dominion of Pakistan or of the Provinces of West Bengal, East Bengal, West Punjab and East Punjab.

Article 294, as is evident, relates to succession to property, assets, rights, liabilities and obligations in certain cases is only; Article 295 of the Constitution, which relates to succession to property, assets, rights, liabilities and obligations in other cases, provides that-

(i) As from the commencement of the Constitution :-

- *(a)* All property and assets which immediately before such commencement were vested in any Indian State corresponding to a State specified in Part B of the First Schedule shall vest in the Union, if the purpose for which such property and assets were held immediately before such commencement will thererafter be purposes of the union relating to any of the matters enumerated in the Union List, and

- *(b)* All rights, liabilities and obligations of the Government of any Indian State corresponding to a State specified in Part B of First Schedule, whether arising out of any contract or other wise, shall be the rights, liabilities and obligations of the Union Government, if the pur- poses for which such rights were acquired or liabilities or obligations were incurred before such commencement will thereafter be purposes of the Union Government relating to any of the matters enumerated in the Union List, subject to any agreement entered into in the behalf by the Union Government with the Government of that State.

(ii) Subject as aforesaid, the Government of each State specified in Part B of the First Schedule shall, as from the commencement of the Constitution, be the successor of the Government of the corresponding Indian State as regards all property and assets and all rights, liabilities and obligations, whether arising out of any contract or otherwise, other than those referred to in clause (1).

All property and assets, which include land and buildings and which vest in the State Government under Article 294 and 295 of the Constitution or otherwise shall be at the disposal of the respective State Governments, who will be at liberty to dispose them of by sale, mortgage, etc.., and the proceeds thereof shall be credited to the revenues of the respective State Governments.

1002. Determination of Disputes as to Titles-Disputes as to titles between the Union Government and State Government shall be determined by Supreme Court.

1003. Transfer of Land or Buildings from Railways to another Department of Government- In the case of transfer of land or buildings to and from the Railway Ministry the full Market value of the land or buildings shall be charged.

CUSTODY OF LAND

1004. What Custody Implies-It is the duty of every Railway Administration to preserve unimpaired the title to all land in its occupation and to keep it free from encroachment. Where, however, the management of any land has been accepted by a State Government (See paragraph 1011) this duty will devolve on that authority during the period of such management. With a view to obviate any litigation, accurate land plans of all railway lands should be maintained and boundaries adequately demarcated and verified therewith at regular intervals.

1005. Litigation-Should litigation be involved in respect of any land held by a Company-managed Railway and should the Administration of that Railway be advised that it is necessary for the Union of India to be made as a co-plaintiff, sanction to do so should be obtained from the Railway Board. In case,

where the interests of the Government and the Railway Company are the same, there is no objection to both parties being represented by the same Advocate or Advocates. A special order by the Central Government appointing an officer of the Railway to act on behalf of the Union of India and to sign the pleadings and verify their contents will be necessary. Where the State Government is asked to intervene, the costs incurred by them will be borne by the Railway Company.

Note :In cases, where it may be preferable to file the suit in the name of the Union of India as the sole plaintiff, the Railway Company be made a proforma defendant. The manner in which such litigation is to be conducted should be decided after taking legal advice.

1006. Officers of Indian Railways are competent to act on behalf of the President agreeably to the rules in force for the institution of suits by or against the President.

1007. Supplementary Rules relating to Custody of Land.-General Managers will be responsible for drawing up supplementary rules to ensure in respect of land other than that managed by a State Government, (a) that records of title are safely preserved and kept up-to-date; (b) that boundaries are periodically inspected; and (c) that any encroachments found are promptly reported and dealt with. These duties should ordinarily devolve on the authority entrusted with the management of the land, though it may be desirable to reserve the actual institution of all ejectment suits to one authority (preferably the Engineering Department). No legal proceedings in this connection may be entered upon without the sanction of the General Manager.

MANAGEMENT OF LAND

1008. All Railway land should be managed on commercial lines, and each Railway Administration should endeavour to develop the resources of, and put to profitable use, any areas in its occupation which, though not eligible for disposal (see paragraph 1035) are lying idle and can be put to profitable use. Such land is referred to hereinafter as "available" land.

Note :In regard to the small space of land required by the Postal Department for the installation of the post boxes in railway premises, the use of the necessary land, where agreed to by Railway Administration, may be permitted free of any rent or charges, as the Postal Department have agreed to shift their letter boxes when called upon to do so.

1009. Terms of Management.-The management of land entails :-

- *(i)* The custody thereof (see paragraph 1004.)
- *(ii)* The utilisation to the best advantage of such portions of it as are, "available", and responsibiilty for all arrangements in connection with their leasing or licensing (e. g., selection of tenant, placing him in possession, fixation of rental, maintenance of the necessary registers and plans, enforcement of the terms of agreement, & c.).
- *(iii)* Justifying, if called upon to do so, its continued retention by the Railways or, alter nately instituting proposals for its disposal.

1010. Responsibility for Management. The engineering or any other Department of the Railway decided by the General Manager at his discretion, will be responsible to him for the management on these terms of all land in the occupation of the Railway. The management of available land may be entrusted also to (a) or (b) a State Government, or (b) Station Committees. All land made over for management under (a) or (b) above should be properly demarcated, and accurate land plans thereof furnished to the State Government or the Station Committee, as the case may be.

1011. Management by State Government.A State Government may be offered the management of such areas of "available" land as it may agree to accept and, if necessary, may be permitted to retain a percentage (to be agreed upon between the Railway Administration and the State Government), of the gross receipts accruing from the lease, & c., of the land. In such case the following conditions will apply, viz: -

(i) That such transfer conveys no power to sell, exchange or give away the land with out the sanction of the Railway Administration (i. e. the land will still remain in the "occupation" of the Central Government); and that the latter may impose such restrictions at it may consider necessary on the use or occupation of the land so entrusted.

(ii) That the Railway Administration reserves the right to withdraw such land, without compensation after giving reasonable notice or on payment of a fair price if resumption is made at such short notice as to preclude the gathering of any crop, indigenous to the locality, sown thereon.

(iii) Receipts, less any percentage that may be agreed upon, will be credited to the Railway. Taxes, which would be leviable on the land where it retained under the management of the Railways Administration, will continue to be a charge on the Railway.

(iv) That on the resumption of the land by the Railway Administration or if under dis- posal, in its sale, it should be handed over with a clear title, any steps necessary to preserve such title being taken by the State Government on behalf of the president.

1012. Management by Station Committees. Station Committees may, at the discretion of the General Manager and on terms to be prescribed by him, be given the management of all or any portion of the land under their jurisdiction.

1013. Method of Management. To enable management to be conducted on commercial lines, Railway Administrations are permitted to grant to out-siders or other Departments, under a lease or license, rights and facilities in respect of "available" land for such purposes, whether or not connected with Railway working, as they may deem suitable.

1014. The leasing or licensing of "available" land agreeably to these rules, for purposes, connected with the working of the Railway (e.g., Bulk Oil Installations; Warehouses, Wharfs or other premises for storing goods on receipt from the Railway after arrival or before being made over to the Railway for despatch; Shops for Station Vendors; schools for the children of railway employees; & c. does not require a reference to a state Government or other authority; but, in the case of land leased or licensed for other

purposes, the State Government or other authority concerned should be consulted whenever the contingent circumstances are such as to render it relevant of advisable, particularly if the alienation is of a quasi-permanent nature.

1015. When Railway land is leased or licensed for a purpose not connected with the working of the Railway no permanent structures should be allowed to be constructed on such lands.

1016. Land is surplus to railway requirement may be licensed on nominal rent to the Railwaymen's Co-operative Credit Societies and Consumer Co-operative Societies for the purpose of construction of their own buildings subject to the conditions laid down in para 1022. The buildings that may be put up by the Societies on railway land should be according to specification approved by the Railway Administration concerned so that such buildings may be utilised for staff quarters later.

1017. The leasing or licensing of Railway land for religious or education purposes or the granting of permission for the erection on railway land of praying platforms or of new structures to be used for religious purposes or the modification or extension of existing structures, will require the sanction of the Railway Board.

1018. In addition to the lease or license of land itself, rights pertaining thereto, such as grasscutting, grazing, fruits, fishing, mooring, & c. may be let out by Railway Administration.

1019. The method by which land is managed by a State Government will be decided by that authority, subject only to the conditions on which such management is undertaken.

1020. Lease and License.--A Lease presents certain difficulties in that there is a danger of accrual of occupancy rights. Nevertheless, if the added security of tenure given thereby is likely to result in an appreciably enhanced rental, its employment should be seriously considered. A license, on the other hand, merely confers on the licensee the right subject to certain restrictions, to use the allotted land for the purpose of operations specified, and creates no tenancy therein. These instruments must be executed only on behalf of the President and by the authorities competent to do so (cf. Appendix II, Indian Railway Code for the Stores Department.)

1021. Terms of Lease Agreement and Licenses. The terms embodied in the various forms of agreement pertaining to licensing and leasing out of railway lands should, broadly speaking, be such as to ensure :---

(i) That the interests of the Central Government and of the Railway Administration are adequately safeguarded.

(ii) That the rental obtained will provide a margin of profit.

(iii) That, except as provided in clause (ii) of the conditions on which the management of the land may be entrusted to a State Government (paragraph 1011) no liability attaches to the railway administration for any compensation on resumption; and that except under the general or specific orders of the Railway Board, the Railway Ad- ministration is not committed (though it may retain an option) to the purchase, on resumption of the land, of buildings or structures erected thereon.

1022. Licensing of Land to Railway Staff. As an exception to Clause (ii) of the preceding paragraph, railway staff may, at the discretion of the Railway Administration be permitted the cultivation of small plots of "available" land and the enjoyment of usufruct free of charge. Plots of vacant railway land may also be licensed to railway employees, or to such non-railway organisations as provide facilities to railway employees, for the purpose of playing games at a nominal rent, where necessary, provided that it is made clear in the agreement in each case that the land will be resumed at short notice, not exceeding a month, without compensation for any buildings erected or improvements effected thereon.

1023. License fee for Railway land licensed to private parties.-For fixation of license fee for Railway land licensed to private parties, a return of six per cent on the market value of the land as assessed by the local revenue, authorities should be treated as "standard rent". But in actual licensing out, Railway Administration should aim at obtaining the best possible rent. They may accept in individual cases, variation from "standard rent" on merits and for good and sufficient reasons. The minimum rent in such cases should be Rs. 100/- per annum.

The assessment of market value of the land as made by the revenue authorities need not always be treated as final or binding. It may require to be suitably adjusted and escalated if sufficient time has passed since the last assessment was made or if information was available with the railway of higher prices having been paid for private and other transactions of land in the vicinity.

1024. Periodical revision of rent for Railway land licensed to private parties.-A quinquennial revision of rent for railway land licensed to private parties should be made in large towns and commercial centres. At other locations rent should be revised at interval of 10 years only. The exact locations at which five yearly revision should be applied is to be decided by the Railway Administration in consultation with their Financial Advisers and Chief Accounts Officers. In all relevant agreements provisions should exist for such periodical revision of rent and recovery of enhanced rent with retrospective effect.

1025. Security Deposit in the case of railway land licensed to outsiders.-In all cases of licensing of railway land to outsiders the license agreement should provide *inter alia* for :-

- *(i)* recovery of occupation fees monthly in advance.
- *(ii)* payment of security deposit, equivalent to 12 months occupation fee.
- *(iii)* when the duration of license is one year or more, 12 months occupation fees should be recovered in advance every year with a grace period of one month.
- *(iv)* where the duration of license is less than a year, the occupation fees for the full period should be recovered in advance.
- *(v)* in case of advance occupation fees as per sub-para (iii) above is not paid by the party within the stipulated period of one month the occupant shall also pay liquidated damages at the rate of one per cent per month or part thereof to be reckoned from the due date to the date of actual payment.

- *(vi)* in case payment of occupation fees in not made within a further period of 3 months the Government shall be entitled to :-

- *(a)* forfeit the Security Deposit referred to above.

- *(b)* initiate eviction proceedings for getting the Railway premises vacated and take ac- tion for recovery of occupation fee and liquidated damages up to the date of actual vacation.

1026. Licenses could be permitted to make the security deposit not necessarily in cash but also in other forms as approved in the case of other contracts (refer para 1246).

1027. While payment of advanced rent as indicated in para 1025 should be insisted in the case of land licensed to Government owned undertakings, payment of security deposits may not be insisted upon provided the concerned Ministry gives a guarantee to the railway against payment of dues by the Government undertakings. In the case of land licensed to Government Departments payment of advanced rent should be insisted, but security deposit may not be insisted upon.

1028. Railway land licensed to other Government Departments.-In the case of land licensed to other Government Departments, a uniform rate of 6 percent of the market value of land as assessed by local revenue authorities is to be levied. A provision for revaluation of rent at fixed intervals (refer para 1024) in the case of long term lease should be provided in the agreement.

1029. Leasing of Railway land to Defence Department.-In the case of railway land leased to Defence Department the rent for the first 10 years of occupation will be fixed on the basis of 6 per cent of the market value of the land, as assessed by local revenue authorities. If the total period of occupation extends beyond 10 years, the rent will be subject to revision after every 10 years period of occupation on the same basis of 6 per cent of the market value as assessed by local revenue authorities.

1030. Licensing of Railway lands for religious purposes.-In case of railway lands licensed for use as religious places the fee should be recovered on a uniform rate of Rs.1,000/- per annum.

(Authority: Railway Board's letter No. 2002/LML/21/16 dated 10.04.2003) **(C.S.No. 39 Dt. 28.05.2003)**

1031. Licensing of Land for Schools to be opened by State Government in Railway Colonies.-Railway land required by the State Government for opening of new schools for the children of Railway employees in Railway colonies may be licensed to them at a nominal fee. The period of license should not exceed 30 years and the amount of nominal fee should be settled by the Railway Administration in consultation with their Financial Adviser and Chief Accounts Officer.

1032. (i) License Form.A sample license form, for Bulk Oil Depots, is given in Appendix VI but other forms may be adopted to suit requirements provided that, whether for a Lease or a License, they are drafted under competent legal advice.

1032. (ii) In the case of Land rented to a Department of the Government of India, or State Government, an unstamped agreement embodying the terms and signed by authorized representatives of both parties, is all that is required.

1033 WAY LEAVE FACILITIES/EASEMENT RIGHTS

1. Way leave facilities/easement rights on Railway land involve occasional or limited use of land by a party for a specified purpose like passage etc., without conferring upon the party any right of possession or occupation of the land and without in any way affecting the Railway's title, possession, control and use of the land.

2. Sections 16 of the Railways Act, 1989 enjoins upon the Railways to make and maintain specified works for the accommodation of the owners and occupiers of the lands adjoining the railway, for the purpose of making good any interruptions caused by the railway to the use of the lands through which the railway is made. Such works include crossings, passages, drains, water courses etc. Apart from these, requests are often received for provision of way leave/easement on railway land in the form of passage/access to private houses and establishments, underground pipelines for water supply and sewerage, electrical and telecommunications lines, etc. In many cases, these are unavoidable in view of the very nature and extent of the railway alignment.

3. Such requests for granting way leave/easement facilities have to be considered with due regard to the circumstances of each case. Some such circumstances may be:-

i) Non-availability of any other means of access to properties/houses;

ii) Non-feasibility of provision of water supply, electricity, sewerage, etc. from any other direction.

4. In genuine and unavoidable cases, way leave facility/easement right may be allowed after execution of proper agreements. However, the land is not licensed, but only permission is to be granted for a limited use which is to be specified in detail in agreement. To avoid any misunderstanding on this score, the agreement should not use terms like "Licence" and "Licence fee", but only "permission" and "way leave charges" . The agreement should also clearly stipulate that the Railway Administration retains full rights to enter upon, pass through or use the land, at any time,

without any notice to the party. In the event of the way leave facility being discontinued with, the Railway will not be liable to pay any compensation or reimburse any amount to the party, nor to provide any alternative arrangement for access, etc. In such a case, any installations like underground pipelines, etc. put up by the party are liable to be removed/shifted by the party at its own cost.

5. The way leave facility/ easement right on railway land provided for these specific purposes should not be used to transverse and use Railway land along the track. Railways are advised to deal these cases in strict compliance to instructions contained above mentioned letter. In case of oblique crossing, unavoidable and bare minimum railway land parallel to the track should be used.

6. The following rates as revised from time to time may be levied for way leave/ easement rights on railway land:-

I. a) Passage/pathway on/across railway land (up to 1m. wide) for pedestrians, cyclists etc.	One time recovery of Rs. 6400/- (Way leave agreement for 35 years renewable for another 35 years)
b) Water pipeline xing for cultivation by individual farmers.	One time recovery of Rs. 12800/- (Way leave agreement for 35 years renewable for another 35 years)
c) Electric lines xing for individual houses shops, etc. (both underground and overhead).	-do
d) Water/ sewage pipelines xings for individual upto 300 mm dia.	-do
e) Electrical crossings by State Electricity Boards & Central Agencies.	-do

f) In case of ROB/RUB which are undertaken on deposit terms and do not involve closure of level crossing-----for the portion of ROB/RUB lying over/below the Railway track as the case may be.	Rs. 6000/- p.a upto two lane road crossing two tracks and Rs. 12,000/- p.a in case the Bridge is wider than two lane and/or crossing more than two tracks.
II. a) Passage/road for vehicles, scooters etc. (i.e. between 1m. to 3m. wide) by individuals, housing societies, private firms, organizations etc.	6% of the market value of land p.a. subject to a minimum of Rs. 5000/- p.a.
b) Public roads by local bodies/State Govt./ Govt. & Autonomous bodies, charitable/welfare organisations.	6% of the market value of land p.a. subject to a minimum of Rs. 10000/- p.a.
c) Underground water/ sewage/ effluent pipelines.	-do
d) Underground/overhead electrical crossing other than covered under 1(c) above, and other than for Cable TV/OFC.	-do
III.a) Open drains and overground water/sewage/oil/ gas/effluents pipelines by private parties (including Public Sector Undertakings).	10% of the market value of land p.a.subject to a minimum of Rs. 20000/- p.a.
b) Underground Oil/gas/ pipelines	. -do-
IV. Underground/overhead cables and alignments including track crossings in favour of Department of Telecommunications/ Bharat Sanchar Nigam Limited/ Mahanagar Telephone Nigam Limited/Videsh Sanchar Nigam	6% of the market value of land per annum subject to a minimum of Rs.10,000/- per annum per crossing. <u>Optic Fibre Cable:</u>

Limited. This includes laying of Optic Fibre Cable(OFC).	a) 6% of the market value of land per annum subject to a minimum of Rs.10,000/- per annum per crossing. b) For purpose of laying OFC along the length of bridge, 6% of market value of land in approaches, subject to a minimum of Rs.25,000/- per annum per bridge, would be charged. In addition, an amount of Rs.100 per metre for the length of cable under the bridge would also be recovered as bridge surcharge. c) For the purpose of laying OFC through ROBs, 6% of market value of land in approaches, subject to a minimum of Rs.10,000/- per annum per crossing through ROB would be charged.

Note (i) In cases of I(a) to (e), and II(a), the length of land involved normally should not exceed 50 m.

7. Openings of any kind into Railway land/air space should not be permitted. This includes drops and sprouts from buildings, supports for buildings, wires, poles and other such needs of permanent nature.

8. Any proposal for passage/roads for width more than 3 m. should be treated under licensing as per extant circulars on the subject of licensing.

9. For calculating these charges, in the case of Electrical crossings, the width of land may be decided in consultation with Divisional Electrical Engineer locally.

10. In case of any crossing, minimum width of land is to be taken as 1m for the purpose of assessment of way leave charges.

11. Regarding facilities specified in Paras 6.I(f), 6.II to 6.IV, it has been decided that these charges shall be payable in advance in block of 10 years. Discounting of future cash inflows at prevailing interest rates announced by RBI for Govt. Securities would be permissible. While calculating the advance equivalent to 10 years annual charges, annual increase of 7% in land value would be assumed. Adjustments needed because of variation vis-a-vis actual increase as per rates notified by local development authority or as obtained from District Collector, would be carried out at the time of payment of the installment of way leave charges for the next 10 years.

12. In all the above cases of way leave facilities (except ROBs/RUBs, and underground pipelines), no construction (whether permanent, quasi permanent or temporary), other than a kuchcha or pucca road in cases the facility is expressly given for the same, is to be permitted on railway land. If any construction comes up subsequently, the same should be immediately removed as soon as noticed, and the way leave facility discontinued with.

13. In view of the large number of cases involved, decision for granting way leave facilities may be taken by the D.R.M (without any further redelegation) in consultation with Divisional Associate Finance. Way leave facilities involving stretch of railway land more than 100 Metres, can be permitted only by the General Manager in consultations with the FA&CAO.

14.(a) All way leave proposals should be processed by the Sr.DEN(Co-ord) at the Divisional level, and the Chief Engineer at the Headquarters level. Way leave facilities should not be granted as a matter of routine, but only after consideration of each case on merits based on a site inspection. Special care should be taken to see that the way leave facility does not in any way impinge on the safety and security of railway operations and railway property.

(b) Way leave permission in respect of open drainage and surface/overhead pipelines should be allowed only in unavoidable cases. In any case, fresh permission for this in favour of private parties should not be given. All efforts may also be made to have the existing open drainage and surface/overhead pipelines replaced by underground installations at the earliest.

15. In all cases of way leave facility granted, proper agreement should be executed. The agreement should provide for revision of way leave charges from time to time.

16. Way leave permission should be accorded only after ensuring that Railways' financial interests are not affected in any manner, i.e. by way of loss of traffic, loss of revenue etc. by granting such permission. Suitable clause securing Railways' financial interests may be provided in the agreement to be executed with the party, whenever necessary.

17. Provisions of para 6.I (a) to (e) shall be applied prospectively i.e. for fresh cases. Cases already decided shall be continued with earlier provisions. However, one time recovery as per present guidelines can be applied in old cases too if the other party accords consent to the same. Fresh agreement needs to be executed in such cases.

18. The calculation of annual increase should be on the basis of the actual way leave charge and not on the minimum charge specified in Paras from 6.II to 6.IV.

19. In case such proposals envisage crossing of track in the form of road, pipelines etc., the extant rules and procedures relating to safety, provision of level crossings, pipeline crossings, etc. will govern and the provisions of this para would be limited to the use of railway land only.

(Authority Board's letters No.97/LML/24/3 dated. 27.11.2001, 3.10.2002 18.05.2005, 16.11.2005, No.2001/LML/24/20 dated 16.08.2005 & No.2011/LML/24/44 dated 05.02.2013). **(ACS NO.47 Dt.24.04.2014.)**

1034. Allocation of Receipts from Land.-The net receipts from the management of railway land should be adjusted in accounts in the following manner :--

(i) In the case of a railway, the capital account of which is charged with the cost of the land, by credit to Abstract Z- "Sundry Other Earnings" or to the head "Receipts on Capital account" according as the railway is an open line or one under construction.

(ii) In the case of Ex-Tirhoot Railway portion of the N. E. Railway, whose capital ac- count, though bearing the cost of land, does not include the capitalized value of the land revenue abated, the net receipts realized by Revenue Authorities should be credited to "Land Revenue" in the Civil Department.

1035. Disposal of Land not required by Railways. --In regard to all railway land the policy of the Railway Board is to limit holdings to actual requirements, present and prospective. Every Railway Administration should, therefore, be in a position to justify the retention of land occupied by them and where unable to do so, should classify it as "eligible for disposal" and arrange for its disposal agreeably to the rules in the following paragraphs.

1036. While land is not to be retained unreasonably, it is equally not to be disposed of at prices incommensurate with its value nor surrendered free of cost.

1037. Land Eligible for Disposal.-In deciding whether or not a certain area is eligible for disposal Railway Administrations should be guided by the consideration that land may be said to be required for the effective discharge of the duties of the Ministry of Railways, if it falls within one or the other of the following categories :

- (a) Land in the active occupation of a railway, i. e., land actually occupied by the permanent works of the railway, or acquired for their construction, maintenance or repair.
- (b) Land not so occupied but to the permanent alien control of which specific objection exist, i. e., land in the midst of or adjoining that in active occupation and to separate which from such area would be detrimental to railway interests.
- (c) Land required in the interest of the health or welfare of the staff, or for the safety of railway property (e. g., sanitary or fire zones, etc.)

1038. Disposal of Land eligible for Disposal.-When it has been decided that a certain area of land is no longer required by any department of the railway and that it is, therefore, eligible for disposal the following procedure should be observed.

(1) If the land adjoins or is in the near vicinity belonging to any other railway or department of the Central Government it should first be offered to such railway or department. If one of these desires to acquire it, a formal record of transfer should be made and the State Government advised; or if willing, the latter may be entrusted with the work of transfer.

(2) If the land is surplus to the requirements of the Central Government, the Government of the State in which it is situated will be given the option of assuming possession of the whole or portion thereof subject to the following conditions :--

- (a) the Central Government themselves shall be the judge of whether they require to retain any particular land or not;
- (b) if the State Government desires to assume possession of the land, the option to do
- so shall be exercised within six months of the date on which the Central Government signify their intention of surrendering their land;
- (c) the amount payable for the land will in all cases be its market value at the date of transfer;
- (d) when the State Government desire to assume possession of only a portion of the land surrendered, they shall be entitled to do so only if the value of land as a whole is not materially reduced by the division; and
- (e) if the State Government do not desire to assume possession of any land on the foregoing terms, the Central Government will be free to dispose it of to a third party. Before, however, so disposing of the land, the Central Government will consult the State Government as to the levy of ground rent or assessment and the conditions, if any, subject to which it should be sold and they will, as far as possible dispose of the land subject to the conditions which the State Government may de sire to impose.

The Central Government are not, however, bound to obtain the concurrence of the State Government in all cases and in case of disagreement the Central Government shall be the sole judge of the terms and conditions to be imposed.

(3) If the State Government is unwilling to assume possession as indicated in sub-para (2) above, the land should be disposed of to the best advantage possible.

(4) If neither another railway nor a department of Central Government nor the State Government desire to acquire the land, and if there has been a request from the Railwaymen's Co-operative Housing Society for the same the Railway Administration can relinquish the land to them after obtaining necessary clearance from the respective State Governments, with the prior approval of the Board. The sale value of the land in all these cases should be market value prevailing at the time of transfer.

(5) If neither another railway nor a department of the Central Government nor the State Government desire to acquire the land, and if no reasonable offer is forthcoming from other parties, the land should be retained by the Railway Administration and managed in accordance with the procedure laid down in paragraphs XX 1008 et seq until such time as one or the other of the above contingencies eventuate.

1039. Procedure for Disposal.-In the disposal of land under clause (3) of the preceding paragraph the following procedure should be adopted :--

(a) The State Government may be asked to undertake the whole process of disposal, the Rail way Administration merely concurring in the terms.

(b) If the State Government is unwilling to undertake negotiations for sale, these should be carried out by the Railway Administration, and the State Government requested to carry out the final transaction on the terms arranged.

(c) If the State Government is unwilling to effect even the actual transfer, a formal deed of conveyance should be drawn up by the Railway Administration (ordinarily at the expense of the purchaser), submitted to the authority competent to execute it for signature, and registered, the land being thereafter made over, by the responsible authority, to the purchaser.

(d) In any case the State Government should be consulted as to the manner of disposal, the conditions (if any) that should be laid down for the use of the land after sale, and the extent to which (if at all) the principles of the Resolution of the Government of India in the Department of Revenue and Agriculture No. 13/44-13, dated 30th October, 1896, reproduced below, should be applied.

Resolution No. 13/44-13, dated 30th October, 1896 of the Government of India in the Department of Revenue and Agriculture.-The Government of India desire that whenever agricultural or pastoral land has been acquired for public purposes, whether by private purchase or by compulsory acquisition, and is no longer required for such purpose, the disposal of it may be guided by the following general consideration :--

"In the first place all proprietory rights and all rights of occupancy which were extinguished by the acquisition should be first offered to the persons from whom they were acquired, or to their heirs if discoverable; the former where both kinds of rights co-existed being made subject to the latter under the provisions of the Crown Grants (Act XV of 1895)."

"In the second place the price at which these rights are offered should be the amount of compensation originally paid for them less the 15 percent in excess of the value which will have been paid if the acquisition was compulsory. This price may be reduced, if necessary, on account of any deterioration that may have taken place in the fitness of the land for agricultural or pastoral purposes while it was in the occupation of Government but it should not be increased, except in the case stated below on account of any rise in its market value during that period."

"In the case of plots which by reasons of their size or shape are practically of no value to any one but the owners of the adjoining land if those owners are nor entitled to the first offer as above, they ought nevertheless to receive the first offer; but in that case there is no objection to asking the market value, though the reasonable offer of a neighbouring holder should always have the preference over that of an outsider."

"The Superior Revenue authority will, of course always retain and exercise discretion in the application of the general rule about the charge of cost price. Special cases will occur, and exceptions will be justifiable, as for example, when the persons first entitled are remote descendant of relations of the

original holders, or when the rise in the market value of the land has been so exceptionally great as to take the case out of the general rule. the government of India lay down no hard and fast rule, but only a principle for general guidance."

"It will be observed that the above principles apply to agricultural and pastoral land only, and not to building sites or town land."

2. It will be for Local Government and Administrations to issue instructions adapted to local circumstances, in general conformity with the above considerations. Those instructions will be mere executive instructions; and the greatest care should be taken to avoid anything which might have the semblance of conferring a right, or affording a basis for any claim either as against Government or as between Private parties, and to make it clear that the concession are made as an act of grace, and are wholly within the pleasure of Government to grant or to refuse in any particular case.

1040. In the case of disposal of land to Department of the Central Government the amount payable will be the market value of the land and the buildings thereon. In all other cases land will be disposed of at the highest offer which is considered reasonable.

1041. Powers of Sanction-In all cases of disposals whether under paragraph 1038 or 1040 conditions of restriction of uses agreed upon by both parties may be embodied in the transfer of sale deeds. Where the estimated value of the land exceeds Rs. 1,00,000 a prior reference should be made to Railway Board.

1042. Refund of Capitalized value of Land Revenue.-In cases where railway land is transferred to a State Government and where the capitalized value of the land revenue had been paid to the Local Government on acquisition, the amount payable by the State Government for the land should include the refund of the capitalized value. In the case of land disposed of to private parties the refund of the capitalized value of land revenue by the State Government will not, however, be necessary.

1043. Adjustment of Sale Proceeds.-The proceeds of all railway land disposed of less any charges properly incurred in their disposal, will be credited to the Capital account of the railway. As in the case of acquisition, a State Government may be reimbursed the cost of special establishment employed in connection with disposal proceedings.

1044. Completion of Sale or Transfer. As in acquisition, the process of disposal is not completed until possession of the land is made over (and in no circumstances should this be done until the terms of sale or transfer have been settled); and until the sale or transfer is complete all rights in the land continue to vest in the Central Government, Ministry of Railways. After sale or transfer is complete, the railway boundary marks, land plans & c., should be adjusted accordingly.

Miscellaneous

1045 Exchange of Railway Land.-A Railway Administration may, at its discretion effect an equitable exchange of land in its occupation for other land equally suited to their requirements, with or without a monetary adjustment, the method of transfer following, with necessary changes, that prescribed for disposal of land.

1046. Transfer of Land to or from the Military Authorities.I-n regard to transfer of land to or from the Military Authorities the procedure laid down in paragraph 951 et seq should be followed.

1047. Demarcation of Land.-The following rules for the demarcation of land have been laid down by the Government of India under Section 13(a) of the Indian Railways Act IX of 1890 :

(a) All land permanently occupied for the purposes of a railway shall have its boundaries defined on the ground in such a manner as to enable such boundaries to be readily ascertained and identified.

(b) For this purpose the boundary of the railway land may be defined by a continuous wall, fence or ditch or by detached marks, posts or pillars.

(c) Where the boundary mark is continuous, the boundary of the railway land is to be on the outer edge of the wall, fence or ditch, that is to say the wall, fence or ditch will be situated wholly on railway land.

(d) Where detached marks, such as isolated posts or pillars are used, the boundary of the railway land will pass along the outside of such posts and pillars, Between the marks the boundary will in each case be taken in a straight line from the outside of one mark to the outside of the next mark.

(e) Detached marks should in no case be at a greater distance apart (centre to centre) than 50 (Fifty) metres. They should be of a substantial character, not easily destroyed or moved by accident or mischief, and of such size and form as can be readily found and recognized.

(Authority: Railway Board letter No.98/LML/14/156 dated 21-12-2001)(C.S.No. 34 Dt. 21.12.2001)

(f) Each detached boundary mark should bear a number. The position and number of each detached boundary mark should be shown on the Land Plan.

(g) Where a fence, wall or ditch is situated at some distance within the boundary and does not mark the actual limit of the railway land it will be necessary (in addition to such fence, wall or ditch) to have the actual boundary of the railway land properly marked and defined in accordance with these rules.

1048. Every Railway Administration is responsible for the demarcation and periodical verification of the boundaries and the maintenance of proper records in connection therewith of all land in the possession of that Railway.

1049. Eviction of unauthorised occupants.-The eviction of unauthorised occupants from public premises is regulated by the provisions of "The Public Premises (Eviction of Unauthorised Occupants) Act 1971, which is reproduced as Appendix VII of this Code. Action under this Act can be taken only by those officers who are appointed as Estate Officers by a notification in the official Gazette. The term "Act" in paras 1050 to 1058 refers to the Public Premises (Eviction of Unauthorised Occupants) Act 1971.

1050. Forms of notices and orders.- A notice or order under the Act shall be in one of the appropriate, forms indicated in Appendix VIII.

1051. Manner of service of notices and orders.--(i) In addition to any mode of service specified in the Act, a notice issued under sub-section (1) of section 4 of sub section (1) or section 6 or sub section (1) or (2) of section 7 or sub-section (1) of section (13) of the Act shall be served by delivering or tendering a copy of the notice to the person for whom it is intended or to any adult member of this family or by sending it by registered post acknowledgement due in a letter addressed to that person at his usual or last known place or residence or business.

(ii) When the copy of the notice as indicated in sub para (i) is delivered or tendered the signature of the person to whom the copy is so delivered or tendered should be obtained in token of acknowledgement of the service.

(iii) In respect of a notice issued under sub section (1) of section 4 or sub section (1) of section 6 or sub section (1) or (2) of section or sub section (1) of section 13 of the Act, where the person or the adult member of the family of such person refuses to sign acknowledgement or where such person cannot be found after using all due and reasonable diligence, and there is no adult member of the family of such person, a copy of the notice shall be affixed on the outer door or some other conspicuous part of the ordinary residence or usual place of business of such person and the original shall be returned to the Estate Officer who issued the notice, with a report endorsed theron or annexed thereto stating that a copy has been so affixed, the circumstances under which it was done so and the name and address of the person, if any by whom the ordinary residence or usual place of business was identified and in whose presence the copy was affixed.

(iv) If a notice issued under sub section (1) of section 4 or sub section (1) or (2) of section 7 or sub-section (1) of section 13 of the Act cannot be served in the manner provided in sub para(i), the Estate Officer may, if he thinks fit, direct that such notice shall also be published in at least one newspaper having circulation in the locality and he may also proclaim the contents of any notice in the locality by beat of drums.

1052. Holding of inquiries.-When any person on whom a notice or order under this Act has been served desires to be heard through his representative, he should authorise such representative in writing.

The Estate Officer shall record the summary of the evidence tendered before him. The summary of such evidence and any relevant documents filed before him shall form part of the records of the proceedings.

1053. Transfer of Pending Proceedings.-(i) On the application of any person on whom a notice or order under this Act has been served and after hearing him, if he desires to be hear, or of its own motion, the Central Government or any officer specially authorised by the Central Government in this behalf by notification in the official Gazette may at any stage transfer any proceedings pending before an Estate Officer for disposal of the same.

(ii) When any proceedings have been transferred as indicated in sub para (i), the Estate Officer who thereafter is in-charge of such proceeding may, subject to any special directions in the order of transfer, either restart it or proceed from the point at which it was transferred.

1054. Manner of taking possession of public premises.--(i) If any obstruction is offered, or in the opinion of the Estate Officer is likely to be offered to the taking possession of any public premises under the Act, the Estate Officer or any other officer duly authorised by him in this behalf may obtain necessary police assistance.

(ii) Where any public premises of which possession is to be taken under the Act is found to be locked, the Estate Officer or any other officer duly authorized by him in this behalf may either seal the premises or in the presence of two witnesses break open the locks or open or caused to be opened any door, gate or other barrier and enter the premises provided that----

- (a) No entry shall be made into or possession taken of, a public premise before sunrise or after sunset;
- (b) Where any public premises is forced open, and inventory of the articles found in the premises shall be taken in the presence of two witnesses.

1055. Assessment of damages.-In assessing damages for unauthorised use and occupation of any public premises the Estate Officer shall take into consideration the following matters namely :--

- (a) The purpose and the period for which the public premises were in unauthorised occupation;
- (b) The nature, size and standard of the accommodation available in such premises;
- (c) The rent that would have been realised, if the premises had been let out on rent for the period of unauthorised occupation to a private person;
- (d) Any damage done to the premises during the period of unauthorised occupation; and
- (e) Any other matter relevant for purpose of assessing the damages.

1056. Procedure in appeals.-(i) An appeal preferred under section 9 of the Act shall be in writing, shall set forth concisely the grounds of objection to the order appealed against and shall be accompanied by a copy of such order.

(ii) On receipt of the appeal and after calling for and persuing the records of the proceedings before the Estate Officer, the appellate officer shall appoint a time and place for the hearing of the appeal and shall give notice thereof to the Estate Officer against whose orders the appeal is preferred, the appellant and to the head of the department or authority in administrative control of the premises.

1057. Functioning of Estate Officers.- Estate Officer is an individual and the decision to be taken by him under Public Premises (Eviction of Unauthorised Occupants) Act, is personal to him and the power to decide is vested in him personally and in exercising it he has to act quasi-judicially and can not accept any private advice or guidance in coming to a conclusion. Estate Officer function as quasijudicial authority and it would be inappropriate for him to seek even informally the opinion or advice of the Ministry of Law, save with the knowledge and consent of the party to the proceeding.

1058. Proceedings of Estate Officer are not judicial proceedings and as such Evidence Act is not applicable, though the basic principles of the same should be observed. Estate Officer should maintain separate record of all his proceedings under the Act and departmental notings should not be mixed up with such record.

1059. Unauthorised fishing in Railway lakes cannot be brought under Public Premises (Eviction of Unauthorised Occupants) Act.

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CHAPTER XI
THE EXECUTION OF WORKS

1101	Commencement of Works
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1101. Commencement of Works--An order to prepare an estimate for a work is no authority for the execution of that work. The commencement of a work or the incurrence of any liability thereon should, as a rule be authorised by the competent authority by a written order sanctioning the detailed estimate therefor and allotting the requisite funds. In rare cases where verbal orders have to be acted upon, the officer complying with the verbal orders should solicit written confirmation of such orders within a reasonable time. Unless it can be shown that the complying officer has conformed to this rule, the responsibility for the expenditure incurred will rest with him.

1102. The ordinary rule is that no work may be commenced and no liability or expenditure incurred on a work until a detailed estimate for it has been sanctioned and an allotment of the requisite funds made by competent authority. This rule pertaining to preparation of estimates does not apply in the following cases :-

(i) For the construction or purchase of new work or asset under the category of new minor works if estimated to cost up to Rs.50,000/- ;

(ii) For renewals and replacement of existing works and assets chargeable to Open Line Works Revenue as a new minor work if estimated to cost up to Rs.50,000/- ;

(iii) For renewals and replacements of assets charged to Development Fund and Depreciation Reserve Fund if estimated to cost upto Rs.50,000/- ;

(iv) For renewals and replacements of assets charged to Revenue if estimated to cost up to Rs.2 lakhs ; and

(v) For reconditioning of existing assets if estimated to cost up to Rs. 1 lakh and **any repair work chargeable to revenue costing up to Rs. 5 lakh** (c.f., **para 701**).

(Authority: Railway Board's file No. 2001/CE.I/CT/17(Pt) dated 24.03.2003 and *Advance Correction Slip No. 51, Railway Board letter no. 2001/CE-I/CT/17/Pt.III dated 27.09.2017*]

1103. Work started on Urgency Certificate.-In addition to the exception mentioned in the preceding paragraph the following are the only classes of work on which expenditure or liability may be incurred prior to the receipt of sanction of the authority competent to sanction the estimates under the ordinary rules :--

(i) Works, which are considered to be urgently necessary to safeguard life or property or to repair damage to the line caused by flood, accident or other unforeseen contingency, so as to restore or maintain through communication.

(ii) deleted.

Note : Where applicable the instructions in paragraph 1260 should be observed.

1104. As regards class (i) in the para above, the Divisional Engineer may authorize the commencement of the work, but should at once submit, through usual channel, a report to the authority competent to give administrative approval to the work and to allot the required funds. This report which may be called an "Urgency Certificate" or "Urgency Report" (Form E 1104) should contain (i) a description of the work, (ii) the date of its commencement, (iii) the circumstances which bring the work within this category, (iv) the maximum probable cost of the work with an enclosure containing an abstract of calculations and (v) the date by which a detailed estimate of cost will be submitted. The Divisional Engineer should at the same time send a copy of this report (Form E. 1104) to the Accounts Officer.

Form No. 1104

.....RAILWAY

URGENCY CERTIFICATE

Department.....Division.....Station.....

1. Description of work.....

2. Circumstances which warrant the urgency.....

3. Maximum probable cost.....

4. Date of commencement of work.....

5. Probable date of submission of detailed estimate.....

6. Provision of Funds.....

No.....Station.....Date.....

Forwarded to the Divisional Railway Manager/Chief Engineer/General Manager for sanction.

(Through the Divisional Accounts Officer/Dy. FA & CAO).

Station..... Signature.....

Date..... Designation.....

SANCTIONED

Station..... Signature.....

Date..... Designation.....

Copy to.--The Divisional Accounts Officer/FA & CAO for information.

Station..... Signature.....

Date..... Designation.....

1105. In according administrative approval or sanction and in allotting funds, if required, the competent authority will give such instructions as he considers necessary regarding the execution of the work to executive officers subordinate to him and fix a date by which the detailed estimate for the work should be prepared and got sanctioned. He will at the same time furnish a copy of his sanction and instructions to the Accounts Officer.

1106. The detailed estimate of the work should be prepared and submitted to the Accounts Officer for verification well in advance of the date fixed under the preceding paragraph. Should the detailed estimate not be received by the specified date or should the sanction of competent authority not be received within one month of the date, the Accounts Officer will, in the absence of a satisfactory explanation of the cause of the delay, make a full report to the General Manager, who should in cases where the cost of the work is likely to exceed his powers of sanction, at once inform the Railway Board of the reasons for the delay.

1107. As regards works falling under class (ii) of paragraph 1103 ante, if the cost of the work is not likely to exceed his own powers of sanction and if he is able to allot the necessary funds, the General Manager may authorize the commencement of work prior to the preparation of estimates. When the General Manager accords sanction to the commencement of a work in such circumstances, he should, in communicating his sanction to the Accounts Officer supply to that officer the information required under paragraph 1104 above. If the cost is likely to exceed General Manager's powers of sanction or if the General Manager is unable to allot the necessary funds, the work should not be commenced without the consent of the Railway Board. The General Manager when applying to the Railway Board for sanction to commence a work in such circumstances, should supply all the information required under paragraph 1104 and furnish a copy to the Accounts Officer. In either case, the procedure laid down in paragraphs 1105 and 1106 will apply *mutatis mutandis.*

1108. Expedition in Executing Works.-All works should be carried on as rapidly as is possible, due regard being had to the extent of funds allotted and to soundness of execution. All interruptions to large works

in progress should be immediately reported to the Head of the Railway Administration, the causes and probable duration of such interruptions being duly explained.

1109. Material Modifications.-No material modification in a work or scheme as sanctioned, should be permitted or undertaken without the prior approval of the authority who sanctioned the estimate. In the case of estimates sanctioned by the Railway Board or higher authority, instances of what will be considered to be a material modifications of a sanctioned project or work are given in paragraph 1110 below.

1110. The following may be taken as material modifications on lines under construction and open line works estimated to cost rupees one crore and over.

- (a) Any change in the alignment likely to affect the facilities offered to the public in the neighbourhood or likely to increase or decrease the length of the line by over one kilometre.
- (b) Introduction of any new station or omission of any station.
- (c) Any alteration in the type or number of engines or vehicles provided in an estimate for rolling-stock.
- (d) A change in the layout of a yard affecting the general method of working or increasing or reducing the number of trains that can be dealt with.
- (e) Any departure from the standards of construction as prescribed in Chapter II or as accepted by the Railway Board in the Abstract Estimate or use of any second hand material, if it affects the speed of trains or the number of trains to be dealt with than contemplated originally.
- (f) The introduction or omission of any work or facility involving a sum of Rs.5 lakhs and over.
- (g) Any modification of a sub-work provided for in the estimate of a sanctioned work involving an additional outlay on that sub-work of more than Rs.5 lakhs.
- (h) The introduction of the new sub-work not provided for in the estimate of a sanctioned work involving an outlay of more than Rs.5 lakhs.
- (i) Any alteration in the standards of interlocking.

1111. With a view to ensure effective control over the execution of works within the powers of sanction of the General Manager, it will be open to him to expand the scope of the term "material modification" as defined in the preceding paragraphs and to prescribe what other instances will be regarded as material modifications by him.

1112. Any modification other than a "material modification" in the scheme or project sanctioned by the Railway Board or a higher authority may be sanctioned by the General Manager or any lower authority, provided that the amount of additional expenditure, if any, necessitated by such modification, does not cause an excess beyond his powers of sanction.

1113. Sanctions to Material Modifications.--If the introduction of a material modification becomes necessary in a project sanctioned by the Railway Board before the work is actually commenced, an amended abstract estimate should be prepared for the project and submitted for the approval of the Railway Board. When the introduction of a material modification in a project as sanctioned by the Railway Board or higher authority becomes necessary during the progress of the work, a revised abstract estimate should be submitted to the Railway Board, even when no excess in the amount of the sanctioned estimate is likely to result. No liability should be incurred on the modification, nor, if a saving is likely to be affected by its introduction, should the saving be utilised for any other purpose, until the proposed modification has received the approval of the Railway Board.

Note.--No material modification can be sanctioned by the General Manager, if as a result thereof, an excess over sanctioned estimate occurs beyond the sanctioning powers of the General Manager.

1114. Minor Modifications.-Executive Engineers need not ordinarily refer to higher authority for orders proposals for the introduction of any modification, which is necessitated by purely engineering considerations and which involve an outlay of less than Rs.10,000 provided the financial powers of the authority who sanctioned the estimate are not exceeded thereby.

1115. Agencies for Executing Works.-Works of construction, repair or maintenance may be carried out through the agency of either :-

- (i) departmental labour, or
- (ii) contracts, or
- (iii) other departments and public bodies such as municipalities, port trusts, etc., or
- (iv) other Railway Administrations.

according as the authority sanctioning the works may decide having regard to economy and expediency. The employment of both contractors and departmental labour at the same time and for the same work should, as far as practicable, be avoided.

1116. In the first case, viz., the execution of works by departmental labour, the procedure laid down in paragraphs 1119 to 1121 should be followed. The rules relating to the execution of works through the agency of contractors have been set out in Chapter XII. The conditions governing the execution of works through the agency of other government departments and public bodies will be those laid down by such departments and public bodies (see also paragraph 1137 infra). As regards works entrusted to other railway administrations for execution, all expenditure incurred by such administrations in carrying out the works will be debited to the railway ordering the works, provided the amount involved exceeds Rs. 500.

1117. Responsibility of Executive Engineers.-The Executive Engineer in charge of the work is responsible for the proper execution of a work by whatever agency it may be carried out. He should, therefore, make inspections as frequently as necessary or possible, supply his assistants and subordinates with

such detailed instructions as may, from time to time, be necessary and see to it the instructions are complied with.

1118. Planning of Works.-In planning and monitoring the progress of works, particularly large projects, it is desirable to make use of techniques of network analysis. Similarly, it is desirable to adopt "mass haul diagrams" while planning earthwork wherever possible.

1119. Entertainment of Temporary and Works Establishment.-On receiving orders, or being authorized by any competent person to commence any work, the Executive Engineer may, if it is decided to carry out the work departmentally, entertain under competent authority, the necessary temporary and works establishment within the amount sanctioned and subject to any general rules that the Head of the Railway Administration may see fit to lay down. When it is necessary to bring labourers and artificers from a distance, they may be allowed wages for the number of days occupied in the journey to and from the site of work, provided they join the work with proper despatch. At the discretion of the Executive Engineer, bona fide travelling expenses may also be allowed to them. The above charges should be borne by the estimate of the work. The private address, and thumb impression of each labourer temporarily recruited for a work carried out departmentally should be kept on record by the subordinate under whom he is employed, for facility of identification and as a safeguard against bogus claims.

1120. Temporary Establishment includes all such non-permanent establishment, no matter under what designations employed, as is entertained for the general purposes of a division or subdivision or for the purpose of the general supervision, as distinct from the actual execution of a work or works. Under this category will come such staff as draftsmen and clerks other than "Stores" and "Muster" clerks actually employed at the site of works.

1121. Works Establishment includes such establishment as is employed upon the actual execution, as distinct from the general supervision, of a specific works or sub-works of a specific project or upon the subordinate supervision of departmental labour, stores and machinery in connection with such a work or sub-works. The entertainment of work-charged establishment is subject to the following conditions :-
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- (1) The pay allowed to holders of work-charged posts should not, except with the sanction of the competent authority, exceed the rates prescribed for such posts.
- (2) They should be paid by the day or months, their employment ceasing with the cessation of the work.
- (3) The cost of works establishment excluding labour should be shown as separate sub-head of the estimates.

1122. Field Book of Subordinates.- (a) Every member or the Engineer and Upper Subordinates establishment will, in addition to the prescribed Measurement Book, keep a note-book (Form E.1122) in which will be entered daily any particulars with reference to the works in progress which may be call for

remarks, such as the nature of soil in which foundations are about to be commenced, the quality of materials delivered at the site of a work, or of the workmanship in a building.

(b) Remarks may also be made in the note book regarding the qualifications of subordinates, artificer and other employed on the works, the satisfactory or unsatisfactory operations of contracts, and in fact anything relating to the works in progress which should be brought to the notice of superior authority either as being of general professional interest, or as requiring immediate notice or orders.

(c) The dates of all inspections, with a list of the works, and a memorandum of the accounts inspected, with details on various points considered worthy of remarks, should also be given and these notebooks should be considered as official records, to be produced, whenever required by superior authority. They should be neatly and systematically kept and indexed.

1123. Order Book.-For all important works an order book (Form E. 1123) should be opened and all instructions issued to the executive subordinate or the contractor, as the case may be should be duly entered therein with the replies opposite.

1124. Record of Important Structures.-A record should be kept of the nature and depth of the foundations of all important structures. For culverts and small buildings a note on the drawing will be sufficient; but for all major bridges, large buildings and generally all structures, the depth of the foundations of which exceeds 2 metres, plans and cross-sections, and if necessary, longitudinal sections should be prepared. These diagrams should show the nature and reduced levels of the strata passed through and reached and of all footing courses, plinth, etc., they should be filed in the Executive Engineer's or Divisional Office within one month after the masonry in the foundations has begun.

1125. General Instructions.-No religious edifice should be destroyed or injured in the execution of works without the full and free consent of the persons interested in it; nor without the concurrence of the principal civil or political authority on the spot, unless the orders of local government within whose jurisdiction the edifice stands, render such concurrence unnecessary. Officers employed on the construction and maintenance of railways should take all possible steps to prevent the destruction of ancient remains of archaeological interest.

1126. As military considerations of the highest importance may be involved in any change in through communication, all proposals for removal of bridges or ferries, should invariably be submitted for the consideration and orders of the Railway Board.

1127. Executive Engineers should as a rule, make their own arrangement for the supply of labour and materials without having recourse to the civil authorities.

1128. All unusual losses and all important accidents should on their occurrence be reported to the Chief Engineer.

1129. In the execution of works, every care should be taken that the safety and convenience of the public are duly attended to, and that all operations are carried on in such a manner as to interfere as little as possible with the traffic or ordinary pursuits of the people. Temporary roads and bridges should,

when necessary; be provided; and the occupation of land, when practicable, be so timed as not to lead to the destruction of standing crops, Brick and lime kilns should not be erected so close to the inhabited part of any town or cantonment as to be a nuisance.

1130. Executive Engineers and other officers or subordinates incharge of works should furnish immediate information to the proper civil authorities on the occasion of every serious accident; and in case of death on the spot, they should if it is reasonably possible not allow the body to be removed till a police enquiry has been held. In the case of an accident resulting in injuries to or the death of a railway servant, the procedure prescribed in the Workmen's Compensation Act and the orders issued thereunder by the Railway Administration concerned, should be followed.

1131. The employment of female labourers on works in the neighbourhood of soldiers' barracks should be avoided as far as possible.

1132. Powder-magazines and all buildings which from their height or exposed situation, are likely to be struck by lightning should be provided with lightning conductors, which should be erected and periodically tested in accordance with the rules laid down in the Government of India Pamphlet "Code of Instructions for the Erection and Test of Lightning Conductors".

1133. Execution of "Deposit Works".-No deviation from the accepted plans and designs of works undertaken for other Government Departments and outsiders should be permitted except with the concurrence of the authorities who ordered the works.

1134. If in the course of execution of a deposit work, it becomes apparent that the expenditure thereon is likely to exceed the provision in the estimate accepted by the authority ordering the work, the Executive Engineer should arrange to get the acceptance of such authority for the additional estimated expenditure. He should also arrange for the deposit of additional money to cover the estimated extra expenditure, in cases where such deposit is necessary for the execution of works (cf. paragraph 735).

1135. In order to keep the head of the engineering department informed of the state of progress of works in each division, a progress report of all works in progress during the month in a division should be submitted by the beginning of the succeeding month to the Chief Engineer. The format in which such progress report should be submitted shall be decided by the Chief Engineer. For the purpose of this rule a work should be considered to be in progress from the date on which the detailed estimate therefor is sanctioned to the date on which it is completed.

1136. Excess over Estimates.-The sanction to an estimate constitutes authority for spending a specific amount on a particular work. Executive officers should not, therefore, incur expenditure or liability on a work in excess of the sanctioned estimate without the prior sanction of the competent authority. If in the course of execution of a work it becomes apparent that there is likely to be an excess over the sanctioned estimate of the work as a whole, Executive Engineers should take steps :--

(i) to restrict further expenditure on the work to the utmost extent possible until sanction to the excess is obtained; and

(ii) to prepare a revised estimate and submit it to the authority competent to sanction it. In case of estimates sanction to which is within the competence of the local authorities, it will rest with the sanctioning authority to decide in what detail the revised estimate should be prepared. In case, where there has been no great modification in the scope of the original estimate, an abstract dealing only with the items of work which have been materially affected with explanations therefor and bring out any changes in the allocation should suffice in lieu of the full detailed revised estimate. In cases, which require to be submitted to the Railway Board, where the excess is not due to any material modification in the sanctioned work, brief abstract estimate should be prepared showing the heads materially affected, the total increase under each head and the principal directions in which the cost has been exceeded owing to rise in prices or other causes.

Expenditure in excess of a sanctioned estimate should not ordinarily be left over regularization by post-facto sanctions. The orders of the competent authority should be obtained on the probable excess at the earliest possible stage before the additional expenditure is incurred. In most cases, where the excesses are due to an increase in prices over those entered in the original estimates, these probable excesses are at once discovered when tenders are received for the work; and in such cases, a revised abstract estimate should immediately be sent to sanctioning authority in order that authority may determine whether it is advisable to proceed with the work in view of the additional expenditure involved. In all other cases, the application must be made as soon as the probability of any excess is foreseen.

In cases, however, where the work is in an advanced stage and is likely to be completed before a revised estimate can be got out, the excess may, with the prior approval of the competent authority, be dealt with in the completion report of the work. The fact that a competent authority has permitted the regularization of excess over an estimate through the completion report should invariably be intimated to the Accounts Officer.

Notwithstanding the fact that the expenditure on a work has exceeded or is likely to exceed the sanctioned estimate therefor, the following payments may not be withheld :-

(a) Payments required to liquidate liabilities which have already been incurred at the date of reporting the excess (whether actual or anticipated) to the competent authority for sanction.

(b) Payments in respect of salaries, muster sheets, labour pay sheets or other pressing claims provided that a definite statement in writing is made by the General Manager, Chief Engineer, or Divisional Superintendent, as the case may be to the effect that sanction of the competent authority to excess has been applied for or will be applied for at the earliest possibility.

Note : For the purpose of this paragraph, excess over estimates should be determined with reference to the aggregate provision (excluding credits for released material) for the work or scheme as a whole and not with reference to the separate sub-estimates for sub-works constituting the works or scheme.

1137. Departmental Charges.-When work is undertaken by the Engineering Department of a railway for outside parties including other railways, government department, public bodies (e.g., Municipalities,

Port Trust, etc.) and employees of the railway, departmental charges should be levied to cover the cost of tools and plant and of establishment supervision. The charges leviable will be $12^1/_2$ percent on the total cost of the work (wages and materials) including the cost of land, except where a rate higher than $12^1/_2$ percent is charged to governmental departments on a reciprocal basis. The charge will be levied once only on the total outlay on a work (cash and stores) and will not be in addition to a first charge of $12^1/_2$ percent on the value of stores, vide paragraph 2329-S.

Notes :1. The above rules do not apply to works undertaken by engineering workshops to which the rules applicable to works undertaken in workshops of the Locomotive and Carriage and Wagon Department apply.

2. Railway Units of the Territorial Army.-The charges under the foregoing rules may be remitted in the case of works not exceeding Rs.500 in cost executed by the Engineering Department of a railway for Railway Units of the Territorial Army provided that no additional establishment is entertained for such work.

3. The above rules do not apply to works of road over bridges/road under bridges, taken up on Build Operate & Transfer (BOT) basis in replacement of existing manned Level Crossings.

(Authority: Board&#65533;s letter No. 98/CE-I/Misc./14(BRO) dt. 30.12.1998)

1138. Remission of Departmental Charges.-The General Manager may, at his discretion, waive wholly or partially the recovery of the departmental charges leviable under paragraph 1137 provided that

- (a) the railway gains some advantage, not necessarily financial, by such remission;
- (b) the reasons for the remission are recorded in each case and the remission is allowed with the concurrence of the Financial Adviser and Chief Accounts Officer; and
- (c) the non-incurrence of extra charges on account of tools and plant and establishment supervision does not in itself constitute sufficient justification for the remission.

1139. In case of assisted or private sidings, when a portion of the work is permitted to be executed by parties, partial remission of departmental charges may be allowed (refer to para 1828). General Managers can allow such remission upto Rupees ten lakhs and if the parties apply for further remission a reference should be made to the Railway Board unless the case falls within the purview of para 1138.

When the survey and construction of a private siding is carried out through Consultant/Consulting firm/Consulting Engineer as approved by the Railway, charges leviable are as given in para 1829-E.

(Authority Railway Board's letter No. 83/W.I/SP/12(Pt.) dated 22.3.93)

1140. Departmental Charges on Joint Works.-In connection with joint works at joint stations no additional charge for supervision for the purpose of assessing interest as a charge to the joint station account should be made to the capital cost of joint works at junction stations owned and worked by the Indian Government. The full application of this rule in the case of junctions at more than one point with

a line not owned and worked by the Indian Government where the junction stations are owned severally by the Indian Government and other authorities (Companies, District Boards) is dependent on the Government and other authorities both adopting the same procedure. If the line not owned by the Indian Government levies such charges on joint works at junctions owned by them, the Indian Government line should include a similar charge in connection with joint works at junction owned by the Indian Government : See also 870 of Indian Railway Financial Code.

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CHAPTER XII

CONTRACTS FOR WORKS

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I. Awarding of Contracts

1201. Definition of Contract.--When two or more persons have a common intention communicated to each other to create some obligation between them there is said to be an agreement. "An agreement" which is enforceable by law is a "Contract" . According to Section 10 of the Indian Contract Act, 1872 only those agreements are enforceable by law which are made by the free consent of the parties (see para 1256), competent to contract (see para 1259), for a lawful consideration (see para 1224) and with a lawful object, and are not expressly declared to be void. This is subject to any special law according to which a contract should be in writing and attested by witnesses.

1202. Agency of Contractor.-The agency of contractors may, if economical or expedient be utilized for the proper execution of works of construction, repairs or maintenance on lines under construction and on open lines. Materials which are in short supply or materials requiring test certificates for quality control like cement, steel etc. may be supplied to the contractors by the Railway, the agency of the Stores or other departments of the Railway being utilized for the purpose vide paragraphs 701-S and 702-S. In exceptional or urgent circumstances, however, e.g., with a view to the expeditious execution of an urgent work, the Chief Engineer in the exercise of his personal discretion, after consultation with his Financial Adviser and for reasons to be recorded, may arrange for the supply or manufacture of materials required for the work, through a contractor.

1203. Works Contracts.-All works and supplies relating to the Engineering Department executed through the agency of contractors may be broadly classed as follows :

(i) **Zone Works.-**Such as works of ordinary repairs and maintenance and others of petty nature in a particular zone, or area;

(ii) **Special Works.-**Such as the construction of bridge, the formation of an embankment etc. other than zone works;

(iii) **Supplies of building materials.-**Such as bricks, tiles, lime, bamboos, ballies, matting, doors, windows, ballast, boulders, moorum, stone chips, fire bricks, shingle, pitching stone etc. which are not usually stocked or purchased by the Stores Department.

Contracts relating to these three classes will for the purpose of this Code be termed as `Work Contracts' as distinguished from `Stores Contracts' which pertain to the supply of stores arranged by the Stores Department.

1204. Forms of Works Contracts.-The following forms of contract are primarily intended for application to Works Contracts (c. f. para 408-S) :

- (i) Lumpsum contract :
- (ii) Schedule contract; and
- (iii) Piece work contracts.

1205. "Lumpsum" Contracts.-The Lumpsum Contract is a contract under which the contractor engages to carry out a work or effect supply as specified and within a given period for a fixed total sum; his receipt of this sum being dependent on his completing the work or supply to specification and time, irrespective of the actual quantities and kinds of work done of materials supplied in achieving his results (c. f. para 403-S).

1206. In the case of such contracts a scale of rates or prices may be agreed upon by which enhancement of or reduction from the lumpsum may be regulated in the event of any departures from the work or supply as specified being made subsequently under the order of competent authority; or by which reductions may be made, at the discretion of competent authority for failure on the contractor's part to conform to specification. (c. f. paras 1328 and 404-S).

1207. Schedule Contract.-The Schedule Contract is a contract under which the contractor engages to carry out a work or effect supply as specified and within a given period, at fixed unit rates or prices for each of the various items comprising such work or supply, the sum he is to receive depending on the actual quantities and kinds of work done or materials supplied in completing the work or supply to specification and time. It is not repugnant to the above definition to show in such contracts the approximate amount of the contract, based on approximate quantities and the fixed unit rates. (c.f. para 405-S).

1208. Piece Work Contract.-This means a contract under which only unit rates or prices for various kinds of work or materials are agreed upon, without reference either to the total quantity of work to be done or materials supplied; or to the quantity of work to be done or material supplied within a given period. The Zonal Contract adopted on the Railways (refer para 1209) fall under this category (c.f. para 406-S).

Note.- Agreeable to the above definition of a piece work contract.-(a) the Railway may indicate its intention as to the maximum value of the orders it is likely to place; but the contractor cannot claim to be given an order for more than one unit of work or supply; (b) after the contract is executed, specific orders for work or supply may be placed against it; and (c) rate of progress may not be specified; but if it is not satisfactory the contract can be terminated.

1209. Contracts for zone works and Engineering Materials.-It is often advantageous to allot all minor works and all works of repairs and maintenance in a particular zone for a definite period to one contractor. It may be likewise advantageous to make this contractor who can be called a zonal contractor responsible for the conveyance or supply of engineering materials as and when required, in a particular zone during a specified period. The Executive Officers of the Engineering Department should, therefore, take steps to select suitable contractors for zone contracts which will include :-

(i) New Works, additions and alterations to existing structures, special repair works and supply of building materials subject to the contract value of each such work not exceeding **Rs. 5 lakh.(ACS No. 51 Dt. 27.09.2017)**

(ii) All ordinary repairs and maintenance works; and

(iii) Conveyance of materials e.g. bricks, lime, sand etc. which are likely to be required in a zone during the year.

The zonal contracts should be for the period from 1st of July to 30th of June. The contracts for these works or supplies should as a rule, be on a yearly basis. If, however, any special advantage, such as more favourable rate is likely to be secured by giving out contracts for longer periods (as in the case of manufacture or supply of bricks) contracts for more than a year may, with the concurrence of the Accounts Officer, be entered into. It should be ensured that as far as practicable, no work orders are approved against the old contract after the opening of the new tenders and all works of the old contract are completed by the end of June. Exceptional cases may, however, be dealt on their merits with the approval of the competent authority, taking into account all relevant facts including such information as is available regarding the trend in rates.

[*Authority: Advance Correction Slip No. 51, Railway Board letter no. 2001/CE-I/CT/17/Pt.III dated 27.09.2017*]

1210. Tender System.-It is the primary duty of the Executive to obtain the best value possible for the money spent and the tender system should be given a very careful and serious consideration in all cases as one of the most effective methods of securing competitive rates. The exceptions made to the general rule, that the tenders should be called for, in all cases are based only on practical considerations in order

to avoid delay and unnecessary work in the cases of works of comparatively small value. (c.f. para 323-S and 602-F).

1211. Circumstances when tenders need not be called for.-Except where for reasons which should be in public interest the General Manager decides that it is not practicable or advantageous to call for tenders, all contracts over Rs.25,000/- in value should be placed after tenders have been called for in the most open and public manner possible and with adequate notice. For works contracts based on Schedule of Rates in force on the Railway, calling of tenders up to Rs. 50,000/- can be dispensed with by the General Manager without recording reasons for doing so. In all other cases where it is decided not to call for tenders, the reasons should be recorded and financial concurrence obtained.

Should the General Manager's powers of decision under the preceding sub-para be delegated to a lower authority (who will exercise it subject to the same proviso) and should the Account Officer consider the reasons adduced by such authority to be insufficient or other than in public interest, he should represent his views to the higher authority concerned and, if necessary, consult the General Manager."

Note :-General Manager may delegate powers to dispense with calling of tenders for works uptoRs.50,000/- each in value in consultation with the Associate Finance at the stage of acceptance of offer, subject to the following stipulations :-

- (i) Normally powers to despense with calling of tenders should be exercised sparingly. However, in special cases, where it is felt necessary to do so, reasons for taking such decision should be recorded by the competent authority in each case viz. JA Grade officer upto Rs. 40,000/- each and Senior Admn. Grade Officer upto Rs. 50,000/- each subject to an annual limit of Rs. 4,00,000/- per officer.

- (ii) The work should not be split up for the purpose of bringing it within the ambit of this dispensation.

- (iii) The reasonableness of rates should be gone into objectively by the accepting authority.

- (iv) Quotations should not be for items which can be executed through the existing contracts including zonal contracts;

- (v) Quotations should not be for fancy (expensive but of low utility) items;

- (vi) Quotations should only be for works which are urgent in nature.

- (vii) Quotations should normally be invited from at least 3 contractors working in that area. At least two of them should be from the approved list of the Division.

- (viii) Accepting Authority must take precautions to see that the quotations are from genuine firms (and not from fictitious firms); and

- (ix) A Register showing full particulars of works authorised will be maintained by each officer and this should be open to verification by Accounts while passing the bills. DRM/ADRM should have a monthly review as a matter of control.

1212. Classes of Tenders.-The following are amongst the different methods of obtaining tenders that may be adopted :-

- (i) By advertisement ("Open" tenders);
- (ii) By direct invitation to a limited number of firms/contractors ("Limited" tenders); and
- (iii) By invitation to one firm/contractor only ("Single" tenders). (c.f. para 323-S and 603-F).

1213. Open Tender System :-The system of invitation to tender by public advertisement in the most open public manner possible should be used as a general rule and must be adopted, subject to the exceptions noted in paragraphs 1211 and 1214.

1214. Limited Tender System :-

(i) Where for reasons which should be in the public interest, it is considered not practical or advantageous to call for open tenders, limited tenders may be invited with the concurrence of the Financial Adviser and Chief Accounts Officer and approval of the competent authority. The reasons for inviting limited tenders from firms/contractors should be kept on record while approaching finance for concurrence.

(ii) In open line railways, the systems of inviting tenders for works costing up to Rs. 40 lakhs (Rupees Forty lakhs) each from amongst the contractors borne on the approved list may also be adopted when it is considered advantageous to do so, provided the number of contractors borne on the approved list for the particular type of work is not less than 10.

(iii) Some percentage of the tenders which would normally be finalised by calling limited tenders, be finalised by calling open tenders so as to test the market rates periodically.

(iv) Notice for `Limited Tenders be sent to all eligible contractors borne on the approved list.

Note :-Notwithstanding the provision contained in para 1214 (ii) above, the Railways may invite open tenders in the following circumstances :-

- (a) In the event of insufficient response to the tender from the contractors borne on the approved list;
- (b) When the work is of special nature and contractors with requisite experience are not available on the approved list; and
- (c) When ring formation is suspected."

1214-A Single tender can be awarded under following situation such as :

(**1) EMERGENT SITUATION :**

- (a) Accidents, breaches involving dislocation to traffic.
- (b) Works of specialised nature to be personally approved by the GM/CAO (C) with prior/ concurrence of the FA & CAO. This power is not to be delegated to any other authority.
- (c) Any other situation where General Manager personally considers it inescapable to call for single tenders subject to this powers can be exercised by GM only with prior concurrence of Finance.

(**2) Annual Maintenance Contract** for equipment can be placed on single tender basis on authorised dealers with approval of Additional General Managers of Railways.

NOTE.--These powers may be delegated by the General Managers in consultation with FA & CAOs to PHODs/DRMs upto a maximum of Rs. 5 lakhs per item per annum. On re-delegation, these powers would be exercised by PHODs/DRMs in consultation with associate finance.

1215. List of Approved Contractors :-No work or supply should ordinarily be entrusted, for execution, to a contractor whose capability and financial status has not been investigated beforehand and found satisfactory. For this purpose, a list of approved contractors may be maintained in the headquarters and Divisional Offices of the Railway. Other contractors who have done satisfactory work on the Railways or outside the Railways may be added to the list, in consultation with the Financial Adviser and Chief Accounts Officer, or Divisional Accounts Officer.

1216. The list of approved contractors be prepared and maintained in Headquarter and Divisional offices of Railway, where the intending contractors would undertake to execute Railway works, by observing the under-noted procedure.

(i) Once a year, by giving wide publicity through advertisements etc., intending contractors may be invited to register themselves for different classes. Contractors already on the "Approved List" and those who have executed/done satisfactory work on the railways, thereby qualifying themselves to be relied upon for allotment of works/assignments in future, should also be invited to get themselves registered.

(ii) The basic requirements for registration as circulated vide Board's letter No. 85/W.I/CT/23- GCC dated 31-1 86 should be spelt out and made well known in order to reduce discretion and arbitrariness in the selection for registration.

(iii) Where required, capacity of the intending contractors to execute works satisfactorily as an independent and competent agency, their financial capability for satisfactory execution of railway works, field of specialisation, past experience, ability to supervise the works personally or through competent and qualified/authorised engineers/supervisors, be examined and investigated expeditiously prior to their enlistment.

(iv) An annual fee of Rs. 1,000/- should be charged from such registered contractors to cover the cost of sending notices to them and clerkage for tenders etc.

(v) The selection of Contractors for enlistment in the "Approved List" should be done by a Committee for different value slabs, and accepted by the Accepting authority. The composition of the Committee and the authority for acceptance shall be as prescribed by the Railway Board from time to time.

(vi) The "List of Approved Contractors" be treated as confidential office record and individual names of contractors on the list should not be made known to other contractors. It should be maintained upto date in a neat and unambiguous manner.

1217. Principles to be observed in framing contract agreements.-The basic principles to be kept in view by those who are authorized to enter into contracts or agreements are given below :-

(i) The terms of contract must be precise and definite, and there should be no room for ambiguity or misconstruction and matters to be agreed upon should include, in detail, the following :-

- (a) What the contractor is to do; when, where and to whose satisfaction it is to be done;
- (b) What the railway administration is to do; and on what terms;
- (c) What payment is to be made; what it is to cover, to whom it is to be made, and the method and basis of making it;
- (d) the responsibility of the contractor in respect of adequate supervision, care of Government property, and the protection of outside interest and those of the staff and workmen;
- (e) the terms on which variations and modifications, if any, are to be permitted; and authority competent to order and assess them, and the occasion and basis of such assessment;
- (f) the measures to be adopted in the event of a breach, of the contract by either party thereto; and the correct method of and the grounds for determination therof;
- (g) the method of settling disputes.

(ii) As far as possible, legal and financial advice should be taken in the drafting of contracts before they are finally entered into.

(iii) Standard froms of contract should be adopted wherever possible, the terms to be subject to adequate prior scrutiny.

(iv) The terms of contract once entered into should not be materially varied except in consultation with the competent legal and financial authority.

(v) No contract involving an uncertain or indefinite liability or any condition of an unusual character should be entered into without the previous consent of the competent legal and financial authority.

(vi) Provision must be made in contracts for safeguarding Government properties entrusted to a contractor.

(vii) In entering into long term agreements or contracts, consideration should be given to the desirability of providing for the railway administration unconditional power to cancel the agreement at any time after the expiry of six months notice to that effect.

(viii) The power to retain and "set off" all claims whether arising out of the particular contract or out of any other transaction or claim whatever against the contractor should be secured for the railway administration. (c.f. para 626 F and 402 S).

1218. Documents forming integral part of contracts.-The documents forming integral parts of a contract are the conditions of contract, standard or special; the specifications, standard or special (and any plans necessary) the schedule of items, quantities and rates; the agreement form; instructions to tenderers; and tender forms (if any). (c.f. paras 630 F and 416 S).

1219. Specification and drawings.-The execution of works and supply of materials on contract should be according to standard specifications and drawings, whenever possible rather than to sample. If no standard specifications exist for any item or work or supply, a complete specification of the item and of the materials to be used should be prepared and embodied to the contract documents. For special works, complete sets of drawings showing the general dimensions of the proposed work, and if need be, details of the various parts should be prepared and made available for reference by intending tenderers.

1220. Conditions of Contract-The conditions of contract may be either standard or special. The standard conditions of contract are prescribed by the Railway Board. In additional special conditions may be prescribed when considered necessary. (c.f. para 631 F and 417 S).

1221. Use of standard conditions.-Standard conditions are preferably embodied in all contracts to which they are applicable. In the event of such conditions proving defective in any way, it will be the duty of the General Manager to report the fact to the Railway Board, if such conditions were prescribed by them, and in all others cases to arrange, in consultation with his Legal and Financial Advisers, to amend or amplify them suitably. (c.f. para 631 F and 418 S).

1222. Unusual conditions-Any unusual conditions of contract should, before they are imposed, be approved by the General Manager, acting in consultation with his Legal and financial Advisers or if the contract to which they relate is beyond his powers to execute, by the Railway Board, (c.f. paras 632 F and 419 S).

1223. The interpretation to be placed on the word "unusual" is left to the General Manager who will use his discretion both in issuing instructions as to the cases to be submitted to him and also in deciding which cases should be referred to the Railway Board. (c.f. para 420 S).

1224. Lawful consideration.-For a contract to be legal, there must be a "Lawful consideration" for performance. Such "consideration" may take a positive form (i.e. an agreement to order a certain quantity of work or materials) or a negative form (i.e. an agreement not to order certain work or

materials from any one but the contractor). The negative form of "consideration" may be advantageously employed in cases of the supply of materials of a perishable nature or which is not necessary to store, or for the requirement of which is not possible to estimate; or for where a contractor offers to carry out all works on a division at a fixed percentage below schedule of rates. (c.f. para 422 S).

1225. If time is to be "of the essence" of a contract it should be specifically so stated. It may in some cases be found advisable to avoid `Penalty Clauses' by lowering the basic rate and providing for an enhanced rate which would bring it up to standard, if the contract is completed by the time specified. A penalty clause of any nature is, in any case pre-eminently a matter on which legal advice should be obtained. (c.f. para 423 S).

1226. Issue of Railway materials.-Where Railway materials are to be utilized and, for valid reasons net (i.e. labour) rates are not employed, the rate at which the value of such material will be recovered together with the place or places at which they will be delivered should be detailed. It should be made clear that all lead and lift from that place to the site of work would be at the expense of the contractor.

1227. Issue of tools and plant to contractors.-Where tools, plants, patterns or other Railway property are lent to a contractor for the performance of his contract, the terms of such loan should clearly be specified. In order to safeguard Railway property adequately, it is desirable that in addition to providing that any damage or deterioration is made good, a provision should exist that the contractor is responsible for `loss or destruction'. Under the Law of Bailment the contractor, in the absence of any special contract is not responsible for loss, destruction or deterioration, if he has taken the amount of care that a man of ordinary prudence, would under similar circumstances take of his good'. (c.f. para 425 S).

1228. Special conditions should not be tacked on to standard conditions until the effect of doing so has been carefully examined and consequential changes carried out. (c.f. para 427 S).

1229. One of the conditions if the contract should be that any gift or offer of illegal gratification made by the contractors or others on his behalf renders the contract void. (c.f. para 428 S).

1230. Rates.-All rates should be entered in a contract, in words as well as in figures and what they are to cover, should be clearly stated in the contract. (c.f. para 432 S).

1231. Subject to any general or specific order at the time being force the authority empowered to execute a contract is competent to decide on the rates therefor; provided that where such rates are in excess of the market or standard rates or the Railway, or rates quoted by railway workshops for the manufacture of the stores in question, the authority should record the reasons for adopting the higher rates. (c.f. para 433 S).

1232. Quantities.-All quantities should be entered in a contract in words as well as in figures. (c.f. para 434 S).

1233. Nomenclature.-As far as practicable standard forms of nomenclature or description should be employed, the terminology should be such in all cases as to show beyond all reasonable doubt what exactly is required. (c.f. para 435 S).

1234. The right should invariably be preserved to reject any or all of the tenders received without the assignment of reasons.

1235. Tender Forms.-Tender Forms supplied to tenderers should completely embody either directly or by reference the contents of the contract documents. In the event of there being any discrepancy between the two it should specifically be stated in the former as to which will prevail. Tender forms should inter-alia state:

- (a) the amount of earnest money to accompany the tender and the nature of security deposit, if any, required in the case of an accepted tender;
- (b) with whom or what authority, the acceptance of a tender will rest; and
- (c) whether or not tenders containing erasures and alterations of the tender documents will be considered.

Note.-Such alterations constitute fresh proposals and cannot be disregarded, but must definitely be accepted or rejected. All tenders should, therefore, in equity be placed on the same footing in this respect.

1236. Tenders involving foreign exchange.-In cases of tenders involving foreign exchange expenditure in excess of Rs. 50,000, prior reference to the Board shall be made for their approval, before tenders are called for. (c.f. para 604 F).

1237. Before the Railway Administration enter into any contractual arrangements involving payment or provision by the contractor of equipment like pneumatic set or other similar costly equipment as a stand-by, the orders of the Railway Board should be obtained.

1238: Tender Notice- Sufficient notice should be given for the submission of tenders, which in the case of large works should not be less than a month. The above prescribed tender notice period may be departed ·from in the most exceptional circumstances only and then too in consultation with the Principal Financial Adviser
However:

(i) For tenders valued upto and including Rs 1 crore invited through e-tendering, the tender notice period can be reduced upto 21 days by CAO/DRM without finance concurrence and upto 14 days with the concurrence of Associate Finance.
(ii) For tenders valued above Rs 1 crore and upto & including Rs 2 crore invited through e-tendering, the tender notice period can be reduced upto 14 days by CAO/DRM with the concurrence of Associate Finance.

- 1239. The tender notice should in all case state :- (i) the place and time where contract documents can be seen.

- (ii) the place and time where blank tenders forms can be obtained.
- (iii) the amount, if any, to be paid for such documents.
- (iv) the place, where, the date on which and the time when tenders are to be submitted and are to be opened.

1240. Sale of tender forms.-When open tender system is adopted the issue of tender forms need not be restricted to contractors, whose names are in the approved list. Contractors not on the approved list may on payment of the prescribed fees be furnished with tender forms and allowed to tender for the advertised requirements.

1240 A. Cost of Tender Forms. The Cost of Tender Form shall be as under :-

(i) For works costing upto Rs. 5 lakhs.	Rs. 1000/-
(ii) For works costing above Rs. 5 Lakhs and upto 20 lakhs.	Rs. 2000/-
(iii) For works costing above Rs. 20 Lakhs and upto 50 Lakhs.	Rs. 3000/-
(iv) For works costing above Rs. 50 Lakhs and upto Rs. 2 crores .	Rs. 5000/-
(v) For works costing above Rs. 2 crores and upto Rs. 50 crores.	Rs. 10000/-
(vi) For works costing above Rs. 50 crores	Rs. 25000/-

Note:

Apart from above:-

(i)	If any plan/ drawing is attached with the Tender Form, Rs.200/- per plan/ drawing will be levied extra.
(ii)	If any Tender Form is to be sent by Regd. Post, additional Postal Expenses @Rs.500/- per Tender Form will be changed.

(Authority Board's letter No. 94/CE.I/CT/53 dated 25.07.94 & 18.5.07)

1241. Earnest Money.-The amount of earnest money deposited should be sufficiently large to be a security against loss, in event of the contractor failing to undertake the contract or to furnish the

required security within the appointed time after the acceptance of his tender or until such time as the sums due to him form a sufficient guarantee, as the case may be.

1242. The amount of earnest money required to be deposited with the tenders as initial security shall be as under :-

(i)	For works costing upto Rs. 5 lakhs.	2 ﷼% ad valorem subject to a maximum of Rs. 10,000/-
(ii)	For works costing more than Rs. 5 lakhs but upto Rs. 20 lakhs.	2% ad valorem subject to a maximum of Rs. 20,000/-
(iii)	For works above Rs. 20 lakhs but upto Rs. 50 lakhs.	1% ad valorem subject to a maximum of Rs. 35,000/-
(iv)	For works above Rs. 50 lakhs.	﷼% ad valorem subject to a maximum of Rs. 50,000/-

.In case the tenderer withdraws his offer within the validity date of his offer or fails to undertake the contract after acceptance of his tender. The full Earnest Money should be forfeited. Earnest money in the form of Guarantee Bonds should not be accepted.

1243. The Railway Administration may, however, at their discretion fix a lower or higher percentage and or the maximum amount of earnest money for any individual work in consultation with their Financial Adviser and Chief Accounts Officer, keeping in view the value and nature of the work and also ensuring that provisions of para 1241 are followed.

1/5th of the amount indicated in para 1242 should be notified and collected as a security deposit for the due performance of the stipulation to keep the offer open till such date as may be specified in the tender. The tenderer after submitting his tender will not resile from his offer or modify the terms and conditions. If the tenderer fails to observe or comply with the stipulation, the amount indicated aforesaid shall be forfeited by the Railway.

The balance 4/5th amount should be notified and recovered as a part of earnest money along with the amount indicated in sub-para above, which together constitutes the earnest money. If the tender is accepted this earnest money will be retained by the Railway as a part of security for due and faithful fulfillment of the contract.

1244. Security Deposit.-Security deposits are to be paid by contractor in token for the due fulfillment of a contract. The amount of security deposit required will be as under :--

(i)	for contracts upto Rs.1 lakh in value	10% of the value of the contract

(ii)	for contracts costing more than Rs. 1 lakh upto Rs.2 lakhs in value	10% of the first Rs.1 lakhs and 7�% of the balance
(iii)	For contracts more than Rs.2 lakhs and upto Rs.2 crores.	10% of the first Rs.1 lakhs , 7�% of the next Rs.1 lakhs and 5% of the balance subject to the maximum of Rs. 10 lakhs. The amount over and above Rs.3 lakhs. to be recovered from the progressive bills of the contractors at the rate of 10% till it reaches the required value. (Authority: Railway Board letter No.88/ CE-I/CT/1 ((Vol.II) dated 1-11-02) **(C.S.No. 36 Dt. 01.11.2002.)**
(iv)	For contracts above Rs. 2 crores .	5% of the contract value. The amount over and above Rs.3 lakhs to be recovered from the progressive bills of the contractors @ 10% till it reaches 5%. Of the contract value

In special cases where a reduction in security deposit may enable the Railway to obtain a more favourable rate, the percentage of security may be reduced or a suitable lumpsum, as considered necessary, be fixed by the General Manager in consultation with his Financial Adviser and Chief Accounts Officer.

The security deposit may be collected by deduction from running bills of the contractor at the rates mentioned in sub-para above. The total security recovered from a contractor including the amount of the earnest money should not exceed the security amount recoverable at the rates mentioned in sub-para above. This does not, however, preclude the contractor from depositing the security money either in cash or in other accepted forms of payment.

1245. Standing Earnest Money.-A standing earnest money of the values indicated below can be accepted from a contractor borne on the Railway list of approved contractors to cover tendering against any number of works costing upto the limit indicated against each amount on the Zonal Railway Civil Engineering Department:--

(i)	Upto Rs. 5 lakhs	Rs. 10,000/-
(ii)	More than Rs. 5 lakhs but less than Rs. 20 lakhs.	Rs. 20,000/-
(iii)	More than Rs. 20 lakhs but less than Rs. 50 lakhs.	Rs. 50,000/-
(iv)	More than Rs. 50 lakhs.	Rs. 1,00,000/-

This amount would not be adjustable towards the security deposit of individual contracts obtained by a contractor.

1246. Forms in which earnest money and security deposit is acceptable.-The earnest money should be in cash or in the form of deposit receipts, pay orders, demand drafts or guarantee bonds executed by State Bank of India of any of the nationalised bank or by a scheduled bank. Government Securities (Stock Certificates, Bearer Bonds, Promissory Notes, Cash Certificates etc.) should not be accepted as earnest money. The proviso regarding earnest money does not apply to other railways or departments of Government.

The security deposit may be in the following forms :--

- (i) a deposit of cash;
- (ii) Government securities including State Loan Bonds at 5 per cent below the market value;
- (iii) deposit receipts pay orders, demand drafts and guarantee bonds. These forms of security deposit could be either of the State Bank of India or of any of the nationalized banks;
- (iv) guarantee bonds executed or deposits receipts tendered by all scheduled banks;
- (v) a deposit in the Post Office Saving Bank;
- (vi) a deposit in the National Savings Certificates;
- (vii) twelve years National Defence Certificates;
- (viii) ten years Defence Deposits;
- (ix) National Defence Bonds; and
- (x) Unit Trust Certificates at 5 per cent below market value or at the face value whichever is less. (c. f. para 1801 A).

1247. Tenders received by Post.-Tenders received by post should be entered in the Tender Register and the time of receipt should be recorded on the cover of the tender and deposited before the closing time in the tender box.

1248. Opening of Tenders.-Tenders should be opened at the specified time, date and place by the Officer nominated for this purpose. The presence of an Accounts representative at the time of opening of tenders is required, if the tender value is above Rs. 10,000 in the presence of the intending tenderers. (c. f. 607 F).

1249. Precautions to be observed while opening the tenders.-The Officer who opens the tenders and the Accounts representative witnessing the tender opening should :

- (i) Initial (with date) the cover containing the tender, front cover page of the tender and every page of the tender on which the rates or special tender conditions are quoted;
- (ii) Initial (with date) all corrections in the schedule of quantities, schedule of materials to be issued and specification and other essential parts of the contract document;
- (iii) Mark and initial all over writings in red ink. The corrections, overwritings and omissions should be serially numbered and the total number of such corrections etc. should be clearly mentioned at the end of each page of the schedule attached to the tender proper and attested with date;
- (iv) Clearly indicate on each page of the schedule attached to the tender, any ambiguities in rates quoted by the tenderer in words or figures;
- (v) Should specifically record whether samples have been supplied or not alongwith the tender. (c. f. para 608 F).

1250. The names of the tenderers and the rates quoted by each tenderer should be read out, wherever practicable, to the tenderers or the representative who may be present at the time of opening of the tenders. While opening the tenders, no opportunity should be given to any tenderer to repudiate, amend or explain the rate and or any condition quoted in the tender. No tenders should be entertained from any party in his private capacity who is directly or indirectly connected with Government service, or for which the specified earnest money has not been received (c f. para 609 F.)

1251. Delayed and late tenders''--Delayed' tenders i. e., "tenders" received before the time of opening but after the due date and time of receipt of tenders should also be opened and dealt with in the same manner as tenders received before due date and time. "Late" tenders *i.e.*, tenders received after the specified time and of opening should be opened by the concerned Branch Officer and marked distinctly preferably in red ink, prominently on the envelope as well as on the tender papers. A suitable remark in regard to both delayed and late tenders should be made both in the Tender Register as well as in the comparative Statements. For dealing with "Delayed" and "late" tenders separate instructions as issued by the Railway Board from time to time should be followed, (c f. para 610 F).

1252. A statement of comparative rates and other important tender conditions should be prepared by the branch concerned and verified by the Accounts Department. It must be ensured that all tenders received are tabulated in the above comparative statement and put to a Tender Committee constituted for the purpose for consideration without any screening by any other official (c.f. para 611 F.)

1253. Briefing notes for the Tender Committee--Alongwith the tabulation statement a briefing note duly authenticated at an appropriate level should be submitted clearly indicating the following details :

- (i) Complete and latest information with regard to lowest contract rates for the same or similar materials or work for the particular or continguous area;

- (ii) The conditions of supply or undertaking to work with reference to information under item (i) above;
- (iii) The latest data in regard to the availability of materials and prices thereof and the working conditions etc. to co-relate the present quotation with those obtained earlier;
- (iv) Any special condition attached to the rates and works or supplies referred to in (i) above as well as technical data required for dealing with the tenders under consideration; and
- (v) Any other relevant information worthy of consideration in the contract (c f. para 612 F).

1254. Scrutiny by the Accounts Department.--The tabulation statement and the briefing notes shall be sent thereafter for scrutiny together with the original tenders to the Accounts Officer concerned. The tabulation statement should be signed by the Section Officer (Accounts) nominated for the purpose in token of his verification (c f. para 613 F).

1255. Constitution of Tender Committee.--Tender Committee should be generally constituted by the authority competent to accept the tenders where the tender value involves more than Rs. 10,000. When the General Manager is authority competent to accept the tender, the Head of the Department concerned should arrange to constitute the Tender Committee. (c f. para 614 F).

The Tender Committee should consist of a minimum three members of whom one should be from the Accounts department and one from the concerned executive department. The third member should be from another department which also deals with such contract matters (c. f. para 615 F).

The Tender Committee should be so constituted that an officer recommending acceptance of a tender in his capacity as a member of the Tender Committee shall not also be the accepting authority of the same tender. In such cases the officer concerned should put up the Tender Committee's proceedings to the next higher authority for acceptance, notwithstanding the fact that the Tender Committee's recommendations are within his own powers of acceptance (c. f. para 616 F).

1256. Acceptance of tender.--An unqualified acceptance of a tender constitutes a binding contract until a formal agreement is constituted and in order to ensure this fact the acceptance letter should be suitably worded. However, if the acceptance of the tender by the Railway is a conditional acceptance, it requires the consent of the tenderer before the binding contract takes place.

1257. Development Orders.--At certain times, contracts may have to be placed to promote indigenous development of new technology/techniques. Such contracts are called Development Orders and in the placement of such orders the rules applicable normally in such cases can be relaxed and certain concessions may by granted. The concessions may include (i) an advance commitment for placement of orders to meet the future demand for a period of 2 or 3 years provided the rates/prices are reasonable; (ii) a commitment indicating a progressively diminishing quantum of orders for a specified period. The rate/price to be accepted will depend on factors like nature of item/work development cost involved etc. and price preference evaluated on individual cases on the merits of the case.

1258. Agreement Forms.--The Form of Agreement may in cases the tenders are invited be the Tender Form itself; the Conditions of Contract, Specification etc. may be embodied in the Agreement Form or may be an annexure thereto; or may be provided, they are readily accessible to the contractor, be merely referred to therein. On behalf of the contractor the signature of only such person or persons as are competent to bind him legally shall be accepted on a contract. (c. f. paras 414S and 436S).

1259. Signing of Agreements.--For entering into any contract of the value higher than Rs.1 crore prior approval of the Railway Board should be taken. The General Managers are empowered to sign contracts on behalf of the President for approved and sanctioned works costing over Rs.1 crore each after the Board's approval has been obtained to the terms and conditions thereof and also to sign any subsidiary agreement in respect of such contracts.

No authority may enter into contract which is beyond the limits of its financial powers. Subject to any restrictions or limitations which may be imposed by the General Managers, the powers vested with the General Manager may be delegated to subordinate authorities. On behalf of the President, contract can be signed by only such authorities as have been empowered to do so vide Appendix II to the Indian Railway Code for the Stores Department.

Note.-- For the purpose of this paragraph girders, structural steel works, rolling stock and other like material which will involve manufacture come under the category of `works' and not `stores'.

1260. Execution of contract prior to commencement of works or supplies:-

- (i) No contractor should be permitted to commence work or supply materials until the relevant contract or work order has been signed by the parties competent to do so;
- (ii) Exceptions to this rule are permissible only in cases of extreme urgency such as work or supplies necessary to safeguard life or property or to repair damage to a track caused by flood, accident or other unforeseen contingency; so as to restore and maintain through communication. Even in such case, if circumstances, permit, some form of written contract or at least an agreed statement of rates to be paid should be prepared before the commencement of works or supplies, the intention being that the conditions, specifications, etc. with sufficient items and rates to carry on with, should be agreed upon hand.
- (iii) In other exceptional but less emergent cases in which the commencement of work or supply cannot be postponed till the preparation and sanction of the contract documents, prior consultation with the Financial Adviser and Chief Accounts Officer shall be necessary.
- (iv) In all cases of departure from sub-para (i) above, the completion and execution of the main contract should be proceeded with expeditiously. (cf. pra 627 F)

1261. Refund of earnest money.- The earnest money of all unsuccessful tenderers should be refunded as expeditiously is possible. The earnest money deposited by the successful tenderer, if he so desires be appropriated towards the amount of security to he furnished by him.

II Management of Contracts

1262. Agreements and Work Orders.- As soon as possible after the acceptance of a tender, the successful should be called upon to furnish the required security (refer para 1244) and to sign the formal Agreement or Work Order. For zone-contracts separate Work Orders are issued for each specified work under Agreement. For contracts for specific works, the contract document required to be executed by the tenderer whose tender is accepted shall be either an Agreement or work Order.

1263. All Work Orders and Agreements executed against a tender should be noted on the tender with a view to see that the amount of tender is not exceeded beyond the powers of the authority who accepted it. An Agreement/Work Order Register may be maintained in the following form :-

E. 1263

..... RAILWAY

AGREEMENT/WORK ORDER REGISTER

Department□□□□. Division/District□□□□. Station□□□□.

Agreement Work order No.	Date	By whom issued	Name of work	Approximate cost	Allocation	Name of contractor
1	2	3	4	5	6	7

Work to be completed	Bill		Remarks
	On Account	Final	
	No. Date	No. Date	

Original date	Extensions				
8	9	10	11	12	

1264. Advances to Contractors -

It shall be duty of the Executives to abstain as far as possible from giving advances and they should endeavour to maintain a system under which no payments are made except for work actually *done.* General Managers may, however, sanction advances within their delegation of powers, as per limits indicated hereunder for such of the works which are capital intensive and of specialised nature, if the estimated value of the tender *exceeds* Rs.25 (twenty five) crore. Suitable provisions may be included in the special conditions of the tender for grant of Mobilisation *Advance* and advance against machinery and equipment, if the work warrants grant of such advances, subject to conditions stated hereunder:

(a) **Mobilisation Advance -**

This shall be limited to 10% of the contract value and payable in 2 stages, as indicated below :

Stage I - 5% of contract value on signing of the contract agreement.

Stage II - *5%* on mobilisation of site-establishment, setting up offices, bringing in equipment and actual commencement of work.

~~The two stages of advances shall be payable immediately after signing of contract documents and at the time of mobilisation respectively.~~

The 1st stage of advance shall be payable immediately after signing of contract documents.

The second stage of **advance shall be payable at the time of mobilisation, after submission of a utilization certificate by the contractor that the Stage 1 advance has been properly utilized in the contract. (C.S. No. 56 dt 19-03-2019)**

(b) **Advance Against Machinery and Equipment** -

This advance shall be limited to a maximum of 10% of the contract value against new Machinery & Equipment, involving substantial outlay, brought to site and essentially required for the work. This advance shall not exceed 75% of the purchase price of such Equipment and shall be payable when hypotheticated to the President Of India by a suitable bond or alternatively covered by an irrevocable Bank Guarantee for full cost of the Plant & Equipment from a Nationalised Bank in India or the State Bank of India in a form acceptable to Railways. The Plant & Equipment shall be insured for the full value

and for the entire period, they are required for the work. This Plant & Equipment shall not be removed from the site of work without prior written permission of the Engineer. No advance should be given against old Plant & Machinery.

(c) **Advances For Accelerating Progress Of The Work During Course Of Execution Of Contract -**

This advance is to be decided on the merits of each case and shall be restricted to a maximum of 5 % of contract value. This is to be granted by the general manager on the recommendations of the Chief Engineer in-charge, in consultation with the Associate Finance. While recommending this advance for sanction of General Manager, the Chief Engineer in-charge shall also confirm that progress of contract work has been as per milestones/targets laid down and no extension to Date of completion of the contract has been given on contractor's account. (C. S. No.56 dt 19-03-2019)

(d) **Advances in Exceptional Cases -**

General Managers are further empowered to grant advances in exceptional cases upto a maximum of Rs. 20 Lacs in respect of even contracts of value less than 25 crore, if considered absolutely essintial, depending on the merits of each case and circumstances in each situation, to be recommended by the Chief Engineer in-charge and in consultation with Associate Finance. (C.S. No. 56 dt 19-03-2019)

(e) **The above advances are subject to the following conditions -**

(i) The advance shall carry an interestat the rate to be decided by the Railway Board and communicated at the beginning of every financial year, to be applicable for the tenders to be opened in that financial year; [***Ref.: ACS-54, Raiwlay Board letter no. 2007/CE-I/CT/18/pt.3 dated 22.01.2018***]

(ii) *Advances* except those against machinery and equipment, shall be payable against irrevocable guarantee (Bank Guarantee, FDRs, KVPs/NSCs) of at least 110% of the value of the sanctioned advance amount (covering principal plus interest). The Bank Guarantee shall be from a Nationalised Bank in India or State Bank of India in a form acceptable to the Railways;

(iii) The recovery shall commence when the value of contract executed reaches 15% of original contract value and shall be completed when the value of work executed reaches 85% of the original contract value. The instalments on each "on account bill" will be on pro-rata basis;

(iv) That the grant of advance is primarily in Railway's own interest;

(v) That a contract does not receive advances for same work from different officers;

(vi) That arrangements are made with the Accounts Officer for proper accounts being kept with regard to payment and recovery of these advances; and

(vii) That all necessary precautions *are* taken to secure Government from the possibility of loss and for preventing the system becoming more general or continuing longer than what may be absolutely *necessary* for proper progress of the work.

(f) **Method of Recovery of Interest -**

Interest shall be recovered on the advance outstanding for the period commencing from the date of payment of advance till date of particular on-account bill (through which recovery of principal is effected) and adjusted fully against on-account bill alongwith pro-rata principal recovery. In the event of any short-fall, the same shall be carried forward to the next on-account bill and shall attract interest ~~@ 4.5% per annum above the Base Rate of State Bank of India, as effective on the date of approval of payment of the advance by the competent authority~~.

[Ref.: ACS-54, Railway Board letter no. 2007/CE-I/cT/18/pt.3 dated 22.01.2018]

The Bank Guarantee for such advances shall clearly cover at least 110% of the value of the sanctioned advance amount (covering principal plus interest).

(Authority: . *2007/* CE-I/CT/18 Pt.3, dated 23.5.2012}

(Railway Board letter No. 2007/CE-1/CT/18 Pt.3 dated 04-10-12)----ACS NO.46

1265. Variation of Contract Conditions.-The power to vary the terms of a contract lies only with actual parties thereto. The contractor and his sureties, if any, must, therefore, be consenting parties to all variations which should be the subject of a subsidiary agreement stating what is to be varied and what will remain unchanged in the original contract. The drafting of this agreement should be the subject of careful scrutiny to ensure that the conditions, specifications etc. of the main contract are adequate for and applicable to the variation or that the latter is made self-sufficient in these respects. Such subsidiary agreement should be regarded as fresh contracts and entered into before effect is given to the variation. The contract conditions may be varied by various authorities competent to do so to the extent shown below :

(a) Variation of the conditions of contract.--These may be varied with the sanction of the authority that approved the original contract acting in consultation with his Financial Adviser and after taking legal advice, if necessary.

(b) *Variation of the Rates or Items*.--Contracts in which a price variation clause is included, the rates may be varied by the authority which approved the original contract with the concurrence of his Financial Adviser. If the total value of the contract after allowing for the variation is beyond the powers of the authority which approved the original contract, a sanction of the higher authority within whose competence as to amount it lies should be obtained.

(c) *Variation of the Quantities of any Items.*---These may be varied by the authority which approved the original contract to the extant deemed necessary, provided that Indian Railway Code Rules relating to control over expenditure are not contravened thereby and provided also that the total value of the amended contract does not exceed the powers of the authority that approved the original contract. However, in the case of contracts approved by the G. M. or higher authorities quantities of any item may be varied to a reasonable extent by the Chief Engineer-in-charge.

Where materials are required during a contract period in excess of the quantities contracted for and such excess is not sufficiently large to justify the invitation of fresh tenders, there is no objection to

quantities under the existing contract being increased suitably, Efforts should, however, be made to secure more favourable terms for the increased quantities.

(d) *Variation of the Items*.--These may be varied at discretion of the authority which approved the original contract to the following extent, viz., existing items may be deleted or additional items inserted at rates, which agreeable to in general or specific orders at the time being in force, may be decided by the authority making the variation; subject only to the two provisions of Rules in sub-para (c) above. However, in the case of contracts approved by G. M. or higher authorities, powers for such variation shall lie with Chief Engineer-in-Charge (c f. para 628 F).

Note :-- Variation to be approved should be limited so as not to completely change the scope, character and purpose of the original contract.

1266. Extension of completion period.--The extension of completion periods may be sanctioned at the discretion of the authority which signed the original contract provided :

- (i) that the rate in contract was not accepted against other lower tenders in consideration of the date of completion;
- (ii) that he is satisfied that the delay will not cause loss or damage; and
- (iii) that in case it does not satisfy any or both of the above conditions such sanction shall be given only in consultation with his Financial Adviser after taking legal advice, if necessary. (c f. para 445 S.)

1267. Liquidated Damages.--It would be necessary for the Railway to serve on the contractor a notice of the intention to recover liquidated damages as required under the contract Act even though the contractor has been apprised of this liability earlier. The Railway can, however, recover by way of liquidated damages only reasonable compensation not exceeding the amount so named or stipulated in the contract. The compensation shall be computed on the basis of the actual loss sustained by the railway or the inconvenience that has been occasioned by the failure of the contractor even though no loss has actually been caused. The decision for recovery of liquidated damages should not be taken at a level lower than the authority who signed the contract.

1268. Variation in quantity of work during the execution of work.--If during the execution of a work the initial quantities of work are expected to vary substantially a check should be made immediately by comparing the value of the revised work as per the rates quoted by the original tenderers to determine whether the decision to award the contract to a particular tenderer is vitiated by the variation in quantities. A variation between 15 to 25% depending on the nature of the particular category of work to be done would not be considered as unreasonable. If such a variation of the award of the contract as between tenderers is noticed, the railway administration should immediately examine whether it is practicable to bring in a new agency to carry out the extra quantity of work keeping in view the progress of the work on the original contract and the nature and lay-out of the work. If such a course is not practicable, the reasons for the same may be recorded and approved by the competent authority and

negotiation should be carried out with the existing contractor for arriving at a reasonable rate for the additional quantities of work. If, however, it is found that there will be no serious practical difficulty in meeting the additional quantity of work done by another agency, one of the following two alternatives, as found feasible may be adopted :--

- (i) inviting fresh tenders for the extra quantity:
- (ii) negotiating the rate for the extra quantities not only with the existing contractor, but also with all the tenderers who had initially quoted for the work.

1269. Materials issued to the contractors.--The issue of materials to the contractors should be solely for the bonafide requirements of Government Works. The total issue for any particular work should be limited to the reasonable needs of that work. This precaution is particularly necessary when the issue rates are lower than the prevailing market rates or the latter are expected to rise appreciably. In cases where large issues are involved, strict watch should be maintained that the aggregate of quantities of any or all materials issued to a contractor from time to time for use on a work remains within the estimated requirements of his contract. The contract or the Work Order should specify the materials to be supplied by Government for use on the works and the rates to be charged to a contractor for such materials should also be definitely specified, vague quotations such as (at stock rates) being avoided. If materials outside the contract are supplied for use on a work on the application of a contractor or are used in excess of requirements, the Divisional Officer, should specify in each case, the rate to be charged, which should be the market rate prevailing at the time of supply of issue rate, whichever is higher plus departmental charges, which shall be computed in accordance with paragraph 2329-S. When materials outside the contracts are issued to a contractor, an acknowledgement of the receipt of the materials should be taken from him. The acknowledgement should be serially numbered and prepared in 'triplicate'-- one copy being retained as office copy, one copy for posting the contractors ledger and the third copy as a voucher in support of the recovery made in contractor's bill.

1270. Termination of Contract.--Decisions regarding the termination of contract and execution of the balance work at the risk and cost of the contractor should not be taken at a level lower than that of the authority who signed the contract.

1271. Enforcement of Contract Conditions.--It is the duty of all authorities concerned with the execution or carrying out of contracts to see that the terms of such contracts are strictly enforced and that nothing is done by them that would tend to nullify or vitiate a contract. (c f. para 452-S).

1272. Stamp Duty.--Contracts are exempted from Stamp Duty in cases where Government (as opposed to the contractor) would, but for this exemption, be liable to pay such duty. (c f. para 454-S).

1273. Responsibility of Railway Officials.--The employment of a contractor in no way relieves the authorities concerned from the responsibility as to the standard of progress of the work. (c f. para 457-S).

1274. Arbitration.--In the event of disputes between the contractor and the railway in a contract the matter may be referred to arbitration as provided for in the conditions of contract. When, however, a contractor has received all payments in respect of all his bonafide claims and has given a `No Claim' Certificate, but puts in fresh claims and demands a reference to arbitration, the Railway Administration will be justified in refusing arbitration in such cases. It is, however, advisable to take legal opinion before finally rejecting the demand for arbitration.

1275. Arbitration Awards.--All Arbitration Awards shall be executed on stamp paper in accordance with the Stamp Duty Act.

1276. Acceptance of Arbitration Award.--Where the Railway Administration decides to accept an arbitration award, it is not necessary to cause an award to be filed in a court in order to make payment to the party concerned. The party should, however, be asked to give in writing their willingness to accept the payment in full and final settlement of all claims and also furnish a `No Claim Certificate' before effecting the payment, Railway Board should be informed of payment to a contractor where as a result of the arbitrator's award, exceeded by more than Rs. 50,000 the amount considered due by the Railway Administration before the arbitration proceeding began.

In case of an award the railway has to realize the amount from the contractor, the railway should on the merits of the case, decide the course of action to be taken bearing in mind the provision of the Limitation Act 1963 in regard to finalisation of the award.

1277. Legal Proceedings.--Before any legal proceedings arising out of contracts are entered upon, the sanction of General Manager acting in consultation with his Legal and Financial Adviser should be obtained. (c f. para 451-S).

1278. Custody of Security Deposits.-The rules regarding custody of security deposits are contained in chapter XVIII of the Indian Railway Code for the Accounts Department (Part I). In the case of guarantee bonds, the Accounts Officer is responsible for safe custody as well as for giving timely intimation (say three months in advance) to the executive officer of the date of expiry of the guarantee bond. The executive officer shall take action to extend from time to time the validity of the guarantee bond for such periods as may be necessary in relevance to the completion of the work or in subsequent period of maintenance that may have been provided for in a particular contract. It will be the responsibility of the Accounts Officer to encash the guarantee bond before its expiry in case it is in necessary to take such step.

1279. Applicability of Contract Labour (Regulation and Abolition) Act.-The provision of Contract Labour (Regulation and Abolition) Act, 1970 should be followed wherever required.

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CHAPTER XIII

INITIAL RECORDS

1301	Initial Records of the Engineering Department
1302	Muster Sheets
1303	Register of Wages
1304	Muster Roll and Labour Pay Sheet
1310	Unpaid Wages
1313	Payment to Suppliers and Contractors Record of Measurements
1315	Recording of Measurements
1322	Instructions for maintenance of Measurement Books
1327	Standard Measurements
1328	Measurements based on Standard Type Drawings
1330	Measurements for lump-sum Contract
1331	Approximate Measurements
1332	Measurements of Ballast Train Work
1333	The measurement of ballast
1336	Petty Contract Bill
1337	The Running on Account Bill

1338	The Final Bill
1339	The Hand Receipt
1340	Preparation of Contractor's Bills
1342	Other Miscellaneous Payments
1343	Bills for Stores Purchased
1344	Pay Order
1345	General Rules
1354.	Check of Initial Record

1301. Initial Records on the Engineering Department relate to the payment of the following :

- (i) Wages of labourers and members of work charged establishment.
- (ii) Payments to contractors and others for work done, services rendered and materials supplied.
- (iii) Pay and allowances of Construction staff and other miscellaneous payments.

The method of preparation of initial records in all these cases is described in the following paragraphs.

1302. Muster Sheets.--The wages of labourers and work charged establishment are charged through the muster sheets on which their daily attendance and absences are marked. Since some of the labour employed may be those governed by the Minimum Wages Act, 1948, the Muster Roll form prescribed under this Act has to be followed if separate Muster Rolls are adopted. The prescribed form is available as Form No. 91 in Appendix 9 of Indian Railways Establishment Manual.

1303. Register of Wages.--Where separate Muster Rolls are used, since some of the labour employed may be governed by the Minimum Wage Act 1948, a Register of Wages as prescribed [Form E 1303] under this Act has to adopted. Alternately the combined Muster Roll and Labour Pay sheet indicated in para 1304 may be adopted as pay sheet or register of wages.

Form E.1303 (Continued to..... List of forms)

1304. Muster Roll and Labour Pay Sheet.-- A combined Muster Roll and Labour Pay Sheet can also be adopted. For this purpose the following form may be used.

Form E.1304 (Continued to..... List of forms)

1305. One muster sheet should be maintained for each gang of labourers or a convenient group of work-charged establishment. Before the commencement of a wage month, the Assistant Engineer should issue the requisite number of blank muster sheet forms to each supervisor for the purpose of recording the daily attendance of the labour working under him. Each muster sheet form so issued should bear the initial of an officer not below the rank of Assistant Engineer on the top right corner as a token of its authenticity. The muster sheet should be written up daily by the person deputed for the purpose, generally the subordinate under whom the labour or the work charged staff concerned is employed.

1306. The daily attendances and absences of labourers should be recorded in the muster sheets in such a way as---

- (i) To facilitate the correct calculation of the net wages of each person for the period of payment.
- (ii) To render it difficult to tamper with or make unauthorised additions to or alterations in, entries once made; and
- (iii) To facilitate the correct classification of the cost of labour by works and sub-heads of works where necessary.

The subordinate maintaining a muster sheet should, therefore, note in words the total number of persons present on each day and give brief remarks as to the work or work on which the labour was employed each day at the bottom of the sheet.

Assistant Engineers should check muster sheets as frequently as possible and record on the spot the number of men present in words and in ink, over their initials.

1307. At the end of every wage month the muster sheets should be closed, the amount of gross wages due to each labourer or work-charged employee should be worked out and the totals struck. The muster sheets so completed should be collected by the supervisor and submitted through the Assistant Engineer to the Executive Engineer with an abstract of all muster sheets submitted for checks and payment. In the office of the Executive Engineer the muster sheets should be checked under the supervision of the Divisional Accountant before they are sent to the Accounts Officer for arranging payment.

1308. Payments of muster sheets should be made and witnessed by the officer of the highest standing available on the spot. The witnessing officer should certify to the payments individually or by group, a the same time, specifying both in words and in figures, at the foot of the muster sheet, the total amount paid on each date. Assistant Engineers should witness payments of all labour under one or more subordinates each month. This should be done without warning.

1309. Unpaid amounts, should, in the case of a muster sheet for men employed on several works, be considered as relating to the most costly work in the group and subsequent payments of unpaid amounts should be debited to that work, if the accounts of the work are still open, otherwise to the same head of the capital account.

1310. Unpaid Wages.-Unpaid amounts on muster sheets will be paid on Extract Muster Sheets/Pay Orders. In all such cases a counter reference should be made by the executive officer against the corresponding entry in the Unpaid Wages list form A.1954 supplied by the Cashier. This precaution is necessary to avoid more than one payment. Unpaid amounts on muster sheets will not be posted in the Register of Works or Accounts.

1311. Muster sheets should never be prepared in duplicate. They should not ordinarily pass beyond the office of the responsible disburser. The Accounts Officer may, however, send for the paid muster sheets in connection with any accounts discrepancy or any investigation.

1312. The payment of daily labour through a contractor instead of through muster sheets and labour pay sheets in the usual way is objectionable in principle. In a case of great emergency it may sometimes be found impossible to employ labour otherwise than through a contractor. Should it be possible in such cases to determine the quantities of work done after its completion or at intervals during its progress the payment to the contractor should be on the basis of work actually excecuted. But if, as in the case of urgent repair of breaches of lines this method of payment is not practicable, it is permissible to pay the contractor on the basis of number of labourers employed day by day, his own profit or commission being included in the rates allowed. When this course is adopted, a report of the number of labourers of each class employed, day by day should be made in the following form (Form E. 1312) by the subordinate incharge of the work daily to the Assistant Engineer to enable the latter to keep a check on the expenditure and to deal with the contractor's claim when received. To avoid disputes the contractor should be asked to sign the Daily Report of Labour (sent by the subordinates) in token of their acceptance. The use of muster sheets or the measurement book is not permissible in such cases.

Form No. **1312**

S. No..... .....RAILWAY

ENGINEERING DEPARTMENT

Division..... Office.....

DAILY REPORT OF LABOUR EMPLOYED ON.....SECTION

Sub-Division.....Division.....

Name of work.....

Daily report for.....

LABOUR		No. of each class	Rate	Approximate quantity of work done
work on which employed	Class of labourers			

....

Signature of Subordinate-in-charge Contractor's signature

Designation ..... Station.....

Station..... Date.....

Date.....

Payment to Suppliers and Contractors

1313. Record of Measurements.-Payments for all work done otherwise than by departmental labour and for all supplies are made on the basis of measurements recorded in Measurement Books (Form E. 1313 given below) in accordance with the rules contained in this Chapter.

Form E 1313

(Sheet 1)

COVER

.....Railway

MEASUREMENT BOOK

No.....

Engineering Department..... Division.....

Name .....

Designation.....

Date of issue..... Date of return.....

E. 1313

(Sheet 1A)

Railway.....

CMB No. .....

CONTRACTOR'S MEASUREMENT BOOK

Department.....

Division/Construction Unit.....

Name of work.....

Agreement No.....

Name of Agency.....

Name to whom issued.....

Designation.....

Date of issue.....

Date of return.....

[*Authority: Advance coreection Slip No. 50, Railway Board letter no. 2016/CE-I/CT/14/Measurement/1 dated 21.09.2017*]

(Title page) ***Form E 1313***

(Sheet 2)

MEASUREMENT BOOK

No.....

Division.....

Issued to.....

(Name & designation)

..... on.....

(station) (date)

Received by.....

(Signature)

....

(Designation) (Station)

.....

(date)

Date of first entry.....

Date of last entry.....

Date received in Division office after completion of book.....

Certified that this Measurement Book contains pages numbering 1-100 (both pages inclusive) which have been counted by me and are correct.

Signature.....

Designation.....

Date.....

(Title page) ***Form E 1313***

(Sheet 2A)

Railway ……

CMB No. ……..

CONTRACTOR'S MEASUREMENT BOOK

Department……

Division/Construction Unit……..

Name of work……

Agreement No……

Name of Agency……

Issued to.....
(Name & designation)

..... on.....
(station) (date)

Received by.....
(Signature)

....
(Designation) (Station)

On .....
(date)

Date of first entry.....

Date of last entry.....

Date received back in Division/const. Unit }
office after completion of book } .....

Certified that this Measurement Book contains 100 machine numbered pages from ……. to …….. (both pages inclusive) which have been counted by me and are correct.

Signature.....

Date…… Designation.....]

E.1313

(Sheet 3A)

CONTRACTOR'S MEASUREMENT BOOK

Name of work ……

Agreement No……..

Name of Agency……..

Issued to……
(Contractor's name)

…… On …….
(station) (date)

Certified that this Measurement Book contains 100 machine numbered pages from …… to ……. (both pages inclusive) which have been counted by me and are correct. No sheet is torn.

I understand that the measurement book is very important document and hence I shall ensure its proper upkeep and safe custody.

Received by……
(Signature of contractor)

…… …….. ……..
(Name) (Station) (Date)

Date of first entry……..

Date of last entry……

Certified that this Contractor's Measurement Book pages returned by contractor have been counted by me and are correct. The details of pages received by me is under:

S. No.	On Account Bill No.	Page No. From…… To……	No. of Pages	Date of receipt in AEN/XEN office	Sign & Designation of Railway official
1					
2					
3					
4					
5					
6					
7					

E.1313

(Sheet 4A)

Railway …….

CMB No. …….

CONTRACTOR'S MEASUREMENT BOOK

Name of Work …….

Agreement No. …….

Name of Agency …….

INDEX OF M. B.

S. No.	Particulars of entries – running or final	Agreement or work order ref.	Page		Remarks
			From	To	

[*Authority: Advance coreection Slip No. 50, Railway Board letter no. 2016/CE-I/CT/14/Measurement/1 dated 21.09.2017*]

INDEX OF M.B.

(Sheet 4)

Sl. Item No.	Particulars of Entries running or final	Agreement or work Order Ref.	Page		Remarks
			From	TO	

(Sheet 5)

Particulars	No.	L.	B.	D.	Contents

E.1313

(Sheet 5A)

Railway …….

CMB No. ……

Division/Construction Unit …….

CONTRACTOR'S MEASUREMENT BOOK

Name of Work ……..

Agreement No. ……

Name of Agency ……

INDEX OF M. B.

Particulars	No.	L	B	D	Contents

[*Authority: Advance coreection Slip No. 50, Railway Board letter no. 2016/CE-I/CT/14/Measurement/1 dated 21.09.2017*]

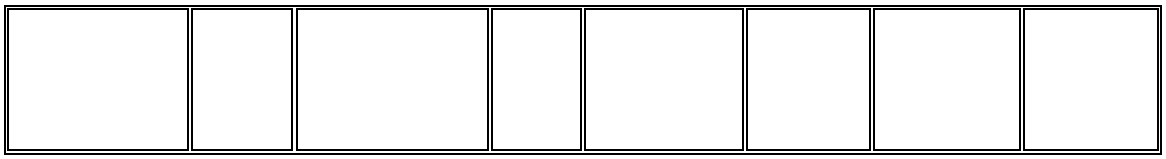
1314. The measurement books should be considered as very important record. All the books belonging to a division should be numbered serially and a register of them (Form E. 1314 given below) should be maintained in the divisional office showing (1) the serial number of each book, (2) the name and designation of the person to whom issued, (3) the date of issue and (4) the date of its return, so that its eventual return to the divisional office may be watched. A similar register (Form E. 1314 given below) should also be maintained in the sub-divisional office. Books no longer in use should be withdrawn promptly even though not completely written up. The eventual return of all measurement books should be insisted on. They should be carefully preserved for ten years. To ensure this, measurement books should be carefully listed and made over to the open line authorities when the construction divisions are closed.

Form No. E. 1314

REGISTER OF MEASUREMENT BOOKS

Department Division Station

Serial No. of the measurement book	Date of Receipt	Name & Designation of the person to whom issued	Date of issue	Name & Designation of the person to whom transfer	Date of transfer	Date of return of completed book	Remarks



1315. Recording of Measurements-On the open line organisation of the Railways the following powers can be exercised in recording measurements :--

(i) Inspectors of Works and Permanent Way Inspectors in Gr. II (Rs. 1600-2660) and Gr. I (Rs. 2000-3200) can record all measurement including ballast measurements subject to the test checks given below, but cannot record earth work sectional measurements unless they are specifically nominated by the Assistant Engineer on considerations of competency and reliability. A 10% check by the Assistant Engineer is necessary for works costing upto Rs. 25,000/-, if the value of the work exceeds the estimated cost by more than 10% and for works costing above Rs. 25,000/- a 20% check by Assistant Engineer is necessary. In the case of ballast and pitching stones measurements a 100% check on quality and the quantity by the Assistant Engineer is necessary. The Check of the Assistant Engineer in respect of earth work sectional measurements may be done at his discretion. Those Inspectors in Gr. I (Rs. 2000-3200) may finalize measurement for work upto Rs. 10,000/- even when the total value of the works exceeds the estimated value by more than 10%.

(ii) Inspector of Works and Permanent Way Inspectors in Grade III (Rs. 1400-2300) when they hold independent charge, can record measurement for works costing upto Rs. 25,000/- each, subject to a test check of 20% by the Assistant Engineer.

(iii) Sub-Overseers, Mistries having a diploma in Engineering and having more than three years of service and those not having a diploma in Engineering but having six years experience to be nominated by name by the Divisional Engineer can record measurements of works upto Rs. 10,000/-, subject to a test check of 20% by the Inspector of Works.

(iv) Recording of Measurement of Elec. open line & construction Works.

(a) Shop Supdt./ Chief Traction Foreman, in grade Rs. 2375-3500; Sr. Elec. Foreman/ Elec. Foreman/ Traction Foreman in Grade Rs. 2000-3200/- can record all measurements.

A 10% check by the Asstt. Elec. Engineer/Divisional/district Elec. Engg. is necessary for the work costing upto Rs. 25,000/- each if the value of the work exceeds the estimated cost by more than 10% and for works costing above Rs. 25,000/- and 20% check by Asstt. Elec. engineer/Divisional/District Elec. engineer is necessary.

(b) Asstt. Elec.Foreman/Asstt. Traction Foreman/Sr. Elec.chargeman in grade Rs.1600-2660/- can also record the measurements subject to 10% test check on the works costing upto Rs. 25,000/- and 20% check on the works costing more than 25,000/- by Asstt. Elec. Engg./ Divisional/District Elec. Engineer.

(c) Elec. Chargemen/Asstt. Elec. Foreman in Gr. Rs. 1400-2300 when they hold independent charge can record measurements for works costing upto Rs. 25,000/- each subject to a test check by 20% by the Asstt. Elec. Engg./Divisional/District Elec. engineer.

(d) Elec. Chargemen having a diploma in Elec. Engg. and having more than three years of service and those not having a diploma in Elec. Engg. but having six years experience nominated by name by the Divisional/District Elec. Engineer can record measurements of works upto Rs. 10,000/- subject to a test check of 20% by the Asstt. Elec. Engineer/District Elec. Engineer.

1316. On construction projects and special works, Sub-Overseer Mistries cannot record measurements. Inspector of Works and Permanent Way inspectors cannot record measurements for the supply of ballast, pitching stones and earth work. For all other works, Inspectors of Works and Permanent Way Inspectors in Grade I & II can record measurements upto a value of Rupees One lakh, subject to a 20 per cent test check by the Assistant Engineer. Measurement of ballast and pitching stones, classification of ballast and measurement for earth work will be done by the Assistant Engineer.

1316A (Applicable for contrcats wherein the measurement of work by contractor is permitted): Para 1316 of Engineering Code shall not be applicable for these contracts. For such contracts, contractor shall be responsible for carrying out measurements of work executed and recording of measurements for the release of on account/final payment. In such cases, the detailed procedure for recording of measurements, provisional payment, test check and final payment shall be aas follows:

Contractor's Measurement Book:

1. Railway shall arrange contractor's measurement book (CMB), each having sheet No. 1A to 4A (form E 1313), followed by 100 machine number pages (Form E 1313, sheet No. 5A). On the top of each sheet of CMB, there shall be provision for recording the name of the work, agreement number, name of contractor and CMB number.

2. CMBs shall be printed in such a way so as to keep a clear margin of 50 mm on the left side of page. Further, the left side shall have pinhole tear line at a distance of 15 mm from edge for ease of taking out sheets from these books. The binding shall be within 15 mm of the margin available between edge and pinhole tear line. This hall ensure availability of minimum 35 mm clear margin to re-bind measurement books later on.

Movement and upkeep of Contractor's Measurement Book:

3. Dy. Chief Engineer in charge of contract (Dy CE/C) shall handover required no. of CMBs to Assistant/Executive Engineer in-charge of contract (AEN/XEN) after taking receipt of the same on sheet no. 2A (Form E.1313) for further issuance to contractor time to time as per progress of work.

4. CMB shall be registered with unique No. in the register of Measurement Books (Form E.1314) maintained in the office of Dy CE/C. Separate accountal of CMBs for each agreement shall be maintained in the office of Dy CE/C and AEN/XEN.

5. In case of change of "contractor's authorized engineer", fresh approval shall be taken from Dy CE/C before recording of measurements.

6. While issuing the CMB to contractor, AEN/XEN shall take out sheet No. 2A to 4A from the CMB, take receipt of CMB from contractor on sheet No. 3A (Form E 1313), and keep the same in safe custody.

7. Similar system as for CMB, shall be followed for issuing Field Book/Level Book (E. 1317/A) to contractor for recording of levels in the filed book/level book.

8. The contractor's authorized engineer shall record the mesurements in CMB neatly in his own handwriting, without any use of eraser/overwriting, without use of any typing fluid or any such thing. All cuttings shall be initialed. No page shall be damaged/destroyed. No page shall be kept blank in between measurements.

9. The contractor shall communicate the date of measurement to AEN/XEN in sufficient advance to witness any measurement. Witnessing of measurement by railways is not compulsory except for initial levels in case of earthwork and hidden measurements. Initial levels of earthwork and hidden measurements are to be recorded in the presence of railway officials and test checked as prescribed.

10. In on account contract certificate, measurement shall be recorded for itmes and quantities to be paid in the concerned on account contract certificate.

11. However, in every 4th on account certificate and final contract certificate, the recording of measurements for works executed shall include all the items and their quantity included in previous on account contract certificates, irrespective of whether to be paid or not in the current on Account Contract Certificate/Final Contract Certificate.

12. No payment shall be processed on Lump sum measurement taken by contractor's authorized engineer except for earthwork. For earthwork, every 4th bill shall be based on actual levels taken and detailed calculations carried out for the work done.

13. The contractor shall take out carefully from CMB the used pages of CMB with one extra blank page for processing the bill; staple them for submission to AEN/XEN along with bill, duly signing the measurements. The contractor shall keep a photocopy of the measurements with him for future reference.

14. At the time of submission of final bill, the contractor shall submit all the remaining CMBs (unused as well as partially used) with him along with bill to AEn/XEN.

15. The contractor shall submit required copies of invoice and on account contract certificate/ final contract certificate (similar to form E. 1337 and Form E. 1338) to the AEN/XEN duly marking them – original or duplicate copy. Original shall be used for release of payment whereas duplicate copies hall be used for record purpose in different offices.

16. In case contractor requires provisional payment of on account bill, the contractor shall submit his invoice and provisional on account contract certificate for 75% of amount of work done (before deduction of taxes). The contractor shall write "For Provisional Payment" on top of such on-account contract certificate.

17. AEN/XEN while issuing receipt of stapled sheets of CMB to contractor shall clearly record the same in sheet 4 (E.1314) of concerned CMB, kept in office of AEN/XEN.

Release of Provisional Payment:

18. Senior Section Engineer/ "Junior Engineer with 5 year experience" (SSE/JE) and AEN/XEN shall sign & record a certificate on the original provisional "on account contract certificate" as under;

"*Certified that the payment being made is less than the amount due for the quantities of works executed by the contractor*".

In case of payment of earthwork items in any contract, calculation of quantity of such items along with field book / level book must be enclosed. This shall be cross checked, as considered appropriate by SSE/JE & AEN/XEN, to ensure that no excess payment is being made.

19. AEN/XEN shall keep a copy of contractor's invoice & provisional on account contract certificate in his office, and submit original invoice & original provisional on account contract certificate along with required number of duplicate copies, and used sheets of CMB to the Dy CE/C unit for passing the bill and release of payment.

20. The provisional on account contract certificate shall be passed by Dy CE/C and payment shall be released by associate finance based on above certification of SSE/JE and AXEN/XEN. After release of payment, blank sheet of CMB (if any) shall be crossed by Dy CE/C before sending the measurement sheet back to AXEN/XEN for carrying out required test checks. At this stage measurements shall not be crossed.

21. No provisional payment shall be allowed in final contract certificate. Further, once provisional payment has been released in any on-account certificate, the next on account contract certificate can be raised by contractor only when accounts of previous on account certificate (Provisional as well as remaining payment) has been finalised.

Test Check

22. Necessary test checks shall be carried out by the SSE/JE and AEN/XEN for the works done before full payment of on-account contract certificate/final contract certificate. SSE/JE and AEN/XEN shall communicate the date of test checks to contractor in advance. The contractor can accompany during test check. The contractor shall provide support staff and all required tools & plants to facilitate test check by railway officials.

23. The stipulated test checks for AEN/XEN and SSE/JE level is tabulated below:

S. No.	Description of Works	Test Check in terms of % of value by	
		SSE/JE	AEN/XEN
(a)	Measurement of Ballast, pitching stone, Earth work and hidden items	100 %	100 %
(b)	Measurement of all other items	100 %	100 %
(c)	Initial and Final levels along centre line for earth work in embankment and cutting	100 %	100 %
(d)	Intermittent levels along centre line for earth work in embankment and cutting	100 %	20 %
(e)	Initial, intermittent and final levels except centre line for earth work in embankment and cutting	100 %	20 %

Note: The check regarding levels of earth work invariably shall be carried out in cross sections having heavy cross slope.

24. Contractor's recorded measurement sheet shall be checked for any corrections/over writing during test check. All the corrections/over writing shall be initialed by SSE/JE.

25. The discrepancy noted (if any) during test check of recorded measurements shall be communicated by AEN/XEN to the contractor.

26. In case of discrepancy noticed during test check, the contractor shall submit original and required copies of fresh invoice of amount corrected for discrepancy, and in case provisional payment has been released earlier, the required copies of fresh invoice of remaining amount corrected for discrepancy (if any), along with on account/final contract certificate to AEN/XEN.

Full payment of On Account certificate / Final Contract Certificate

27. AEN/XEN shall submit original copy of invoice and on account contract certificate of remaining amount/Final Contract Certificate, along with required number of duplicate copies and used sheets of CMB (all used/blank CMBs in case of final contract certificate), duly signed by SSE/JE and AEN/XEN to the Dy CE/C for passing the bill and release of payment.

28. Once the payment is released, Dy CE/C shall return back the used sheets of CMB to AEN/XEN for safe custody, duly crossing of measurements by finance officer.

29. Once all used sheets of a particular CMB is received back by AEN/XEN from Dy CE/C, the AEN/XEN shall re-bind all 100 pages of CMB along with sheet No. 1A to 4A for submission of CMB to Dy CE/C office. Dy CE/C office shall record the receipt of same in sheet No. 2A of CMB and register of Measurement books (Form E1314).

30. The final contract certificate shall be passed by Dy CE/C only after receipt of all CMBs (used/blank) from AEN/XEN.

31. The provisions of this para 1316A shall be applicable to all the departments of Indian raiwlays and to be executed through equivalent authorities of respective departments.

32. [Authority: Advance coreection Slip No. 50, Railway Board letter no. 2016/CE-I/CT/14/ Measurement/1 dated 21.09.2017]

Railway .....

CMB No. .....

CONTRACTOR'S MEASUREMENT BOOK

Department .....

Division/Construction Unit.....

Name of Work .....

Agreement No.....

Name of Agency.....

Name to Whom Issued .....

Designation .....

Date of issue .....

Date of return .....

(Title page) **E.1313**

(Sheet 2A)

Initial ( )Binding Space

Re Binding ( )Space

Tearing line

Railway .....

CMB No. .....

CONTRACTOR'S MEASUREMENT BOOK

Department .....

Division/Construction Unit .....

Name of Work .....

Agreement No.....

Name of Agency.....

Issued to .....

(Name & designation)

..... on.....

(station) (date)

Received by .....

(Signature)

.....

(Designation)

(Station)

on.....

(date)

Date of first entry .....

Date of last entry .....

Date received back in Division/Const.Unit office after completion of book

Certified that this Measurement Book contains 100 machine numbered pages from .....to ..... (both pages inclusive) which have been counted by me and are correct.

Signature .....

Date ..... Designation .....

Railway .....

CMB No. .....

CONTRACTOR'S MEASUREMENT BOOK

Name of Work .....

Agreement No. .....

Name of Agency.....

Issued to.....
(Contractor's name)

..... on.....
(station) (date)

Certified that this Measurement Book contains 100 machine numbered pages from .....to ..... (both pages inclusive) which have been counted by me and are correct. No sheet is torn.

I understand that the measurement book is very important document and hence I shall ensure its proper upkeep and safe custody.

Received by.....
(Signature of contractor)

....
(Name) (Station) (Date)

Date of first entry.....
Date of last entry.....

Certified that this Contractor's Measurement Book pages returned by contractor have been counted by me and are correct. The details of pages received by me is as under:

S. No.	On Account Bill No.	Page No. From.....To	No. of Pages	Date of receipt in AEN/XEN office	Sign & Designation Of Railway official
1					
2					
3					
4					
5					
6					
7					

Tearing line

Railway .....

CMB No. .....

CONTRACTOR'S MEASUREMENT BOOK

Name of Work .....

Agreement No.....

Name of Agency.....

INDEX OF M.B

S. No.	Particulars of entries - running or final	Agreement or work order ref.	Page		Remarks
			From	To	

Tearing line

Railway .....

CMB No. .....

Division/Construction Unit.....

Space for Machine numbering with six digits unique number

******

CONTRACTOR'S MEASUREMENT BOOK

Name of Work .....

Agreement No.....

Name of Agency.....

INDEX OF M.B

Particulars	No.	L.	B.	D.	Contents

Tearing line

1317. For measurement of earth work cross-sections levels may be recorded by Inspector of Works in the field book which should be in ink or inked before test checking by the Assistant Engineer. The Assistant Engineer should exercise a check of 100 per cent in the case of levels along the centre line of alignment, and not less than 20 per cent of the remaining levels of the cross sections with the proviso that this check should invariably be carried out in cross sections having cross slopes. All the corrections in the field book must be initialed by the Assistant Engineer and no subsequent corrections should be made by any person other than the Assistant Engineer who while doing so should record the reasons for the same. The signature of the contractor or his authorised agent should be taken on every field book accepting the correctness of levels recorded therein.

Plotting of the cross sections may be done on graph paper taking care that sufficiently large scale is adopted for plotting and there is not much distortion of horizontal and vertical scales adopted. After plotting the cross sections the levels should be inked and each sheet containing the cross section should be signed by the Inspector of Works, Assistant Engineer and the contractor. While plotting the cross sections, the proposed theoretical profiles of the earth work should also be plotted to ensure that the work is done to actual requirements and to avoid future claims from the contractors. For computing the quantity of earth work arithmetical calculation is to be preferred but if necessary counting of square method can also be adopted.

1317-A: The field Books/Level Books used for recording the levels should be machine numbered and these books should be maintained, accounted and kept in safe custody in the same way as Measurement Books are maintained, accounted and kept.

(Authority Boards letter No. 2007/ce.1/ct/8 dated 9-5-08)---ACS NO.44 (C.S.No.44 Dt. 09.05.2008)

1318. In the case of bridge girders and steel fabricated structures the contractor can be permitted to submit his bill based on completion drawings. These bills may be checked in the Drawing Office and accepted for payment. No detailed measurements need be recorded in such case by the Assistant Engineer in the measurement book.

1319. All measurement except as specified in paras 1317 and 1318 should be neatly taken down on the measurement book issued for the purpose and nowhere else. For large works a separate measurement book may be set apart, or if found convenient two or more books may be set apart for different classes of works.

1320. Each set of measurements should commence with entries stating :-

- (i) In the case of work done :-

(a) Full name of work as given in the estimate;

(b) Situation of work;

(c) Name of contractor;

(d) Number and date of agreement entered into with contractor or of work order issued in his favour;

(e) Dates of commencement and completion of work; and

(f) Date of measurement;

- (ii) In the case of materials supplied :-

(a) Name of supplier;

(b) Number and date of agreement with supplier or of the order for supply;

(c) Purpose of supply;

(d) Dates of commencement and completion of supply; and

(e) Date of measurement;

and should end with the dated initials of the person making the measurements. A suitable abstract should then be prepared which should collect, in the case of measurements for work done the total quantities of each distinct item of work relating to each sub-head of estimate.

1321. As all payments for work or supplies are based on the quantities recorded in the measurement books, it is incumbent on the person taking the measurements to record the quantities clearly and accurately. If the measurements are taken in connection with a running contract account on which work has been previously measured, the reference to the last set of measurement should be recorded, and if the entire job or contract has been completed, the fact should be recorded prominently and initialed by person taking the measurements. If the measurements taken are the first set of measurements on a running account, of the first and final measurements, this fact should be suitably noted against the entries in the measurement book.

1322. Instructions for the Maintenance of Measurement Books.--The pages of the book should be machine-numbered and no page should on any account be torn out, nor should any entry be erased or deffaced so as to be illegible. If mistake be made, it should be corrected by crossing out the incorrect words or figures, and rewriting the correct words or figures, and the correction thus made should be initialed. The entries must be made directly in the measurement books at the site of work. The copying of entries from another rough note book or similar record is strictly forbidden. A reliable record is the object to be aimed at, as it may have to be produced as evidence in a Court of Law.

1323. The entries in the measurement book should, if possible be made in ink, but when this is not possible, the entries should be recorded with indelible or special copying pencil so as to render it difficult to tamper with or to make unauthorised additions to or alterations in entries once made, the pencil entries should not be inked over, but left untouched. The entries in the "contents or area" column should, however, be invariably made in ink.

1324. Entries should be recorded continuously in the measurement book. No blank pages should be left nor should any page be torn out, the cancellation being attested. When any measurements are cancelled, the cancellation should be supported by the dated initials of the officer ordering the cancellation, or by a reference to his orders initialed by the officer who made the measurement. In either case, the reason for cancellation should be recorded.

1325. Each measurement book should be provided with an index which should be kept up to date.

1326. From the measurement book, all quantities should be clearly traceable into the documents on which payment are made, and a reference to the voucher in which the quantities are entered for payment, as well as the date of entry, should be given by an endorsement upon the original entries in the measurement book, No contract certificate or bill should be signed without thus crossing off the connected entry in the measurement book, and the document on which payment is made should invariably bear a reference to the number and page of the book in which the detailed measurement are recorded.

1327. Standard Measurements.-Detailed measurements may be dispensed with in the case of periodical repairs when the quantities are recorded in efficiently maintained Standard measurement books. In the case of letting out the work of whitewashing of quarters on contract the Railways can group the quarters in Division or Sub-Division Area in such a way that each group includes quarters which would individually entrail approximately the same equivalent surface area for whitewashing. The grouping should broadly be such that all the quarters in one group should be susceptible of being given to one contractor for the purpose of whitewashing. Non-standard bungalows of officers may, however, be excluded from such grouping. The standard areas of white washing to be paid for in respect of one unit of quarters in each group and approximate number of units to be whitewashed should be clearly shown in the tender documents. Payments should be made for the number of quarters actually whitewashed on the basis of such area per unit as indicated in the tender documents.

1328. Measurements based on Standard type Drawings.-Detailed measurements are not required in the case of measurements of standard type staff quarters provided there is a suitable clause in the agreement with the contractor to protect the railway legally and the Assistant Engineer certifies that the work billed for has been carried out in accordance with standard type drawings then the quantities as given in the schedule of Estimates for standard type quarters for the type concerned may be entered in measurement books for all work above floor level without actual measurements being recorded.

For this purpose tenders for the construction of buildings for which type designs have been prescribed should be invited at a rate per unit of complete building. The detailed specifications and measurement of the type of building should be fully given out in tender papers. Bills for payment should be paid in

terms of the number of buildings put up multiplied by the rate approved per unit building. For regulating `on account' payments a schedule of percentage payment due at various stage of construction of the building e.g. up to sill level, up to ceiling level etc. should be included in the tender documents. Where items not covered in the rate for the unit are required to be provided, they should be separately shown in the tender documents clearly bringing out what would constitute these "extras" and how they would be measured and paid for. Similar provision should also be made for any unforeseen items that may be required.

1329. This system may be extended with advantage to certain items of repair work almost invariably done in complete units, such as colour washing and oiling, varnishing or painting of doors provided that the Schedule of Estimates for standard type drawings gives the quantities for these items separately for each room, the rooms being distinguished on the drawing and in the `estimate' by separate letters and also to the painting of bridges, tank, tank staging and similar items which involves a very large number of entries, if the work has been previously done and recorded in some extant measurement book. In the latter case it should be sufficient to refer to the previous measurement and merely enter total quantities for each bridge, tank, etc. provided that the Assistant Engineer is able to certify that the quantity of work done is the same as that of the previous measurement which will have to be carefully filed under the Executive Engineers signature.

1330. Measurements for Lump-Sum Contract.-Detailed measurements are not required in the case of a work done under a lump sum contract. Final payment in such cases may be made on the certificate of the Assistant Engineer to the effect that the work has been completed according to the drawings and specifications.

1331. Approximate Measurements.-Detailed measurements may dispensed with in cases in which payments `on account' for work actually executed are made on the certificate of a responsible officer (not below the rank of Assistant Engineer) to the effect that not less than the quantity of work paid for has actually been done and that the measurement are from plans or that they are approximately estimated. The officer granting such certificate will be held personally responsible for any overpayments which may occur on the work in consequence. Final payments should, however, in no case be made without detailed measurements.

1332. Measurement of Ballast Train Work.-It is not usually convenient to record in measurement books detailed measurement of work done by contractors in connection with the working of ballast and material trains e. g. loading and unloading of ballast, permanent way and other construction materials. In such cases ballast train or material train challans in the following form (E. 1332) should be prepared in four copies by the subordinate supervising the loading of ballast or material. One copy should be retained as office copy of the subordinate who trained out the material. Two copies should be sent to the receiving subordinate through the guard of the ballast or material train. One copy should be sent directly to the Assistant Engineer concerned immediately after loading to reach within 24 hours to enable the Assistant Engineer to verify the `ballast or materials if required. The receiving subordinate should check the quantites of materials received with those shown on the challan and accept it subject to any remarks he may have to make. One copy of the accepted challan should then be submitted to the

Assistant Engineer concerned to enable the latter to prepare the contractor's loading and unloading bill. In this case, the accepted challan takes the place of a measurement book.

Form No. E. 1332

.....RAILWAY

BALLAST/ MATERIAL TRAIN CHALLAN FORM

Department.....Division.....

Ballast Train Report of .....train, ordered vide D.E. N's/A.E.N's No.....

.....working from Km. .....Km. .....

on.....Engine No. .....Class.....Composition of train

.....Labour.....Mistries/Mates.....Men

.....Women.....Name of Contractor.....

Station		Time		Hours occupied	Trip No.	Work done	Trains crossed	Allocation	
From	To	From	To					Name of work	Head account

Loaded						Unloaded					
At		Trip No.	Contents			At		Trip No.	Contents		
Km.	TP		Wagon	Description	Quantity	Km.	TP		Wagon	Description	Quantity

Contractor or his authorised Agent.

Inspector No□□□□□.

Section

B.T. Guard/Engg. Official incharge

□□□□□□..20□□

□□□□□□□□20□..

A.E.N. No□□□□□.

Sub. Divn

D.E.N□□□□□□.

Division

□□□□□□20□□□

□□□□□□..20□□□..

Note:□ On reverse of this form, the class, capacity and number of each wagon should be shown. Also, particular of detentions to trains other than for Engineering work.

1333. The Measurement of Ballast.--Ballast should as a rule, be measured in stacks. When ballast taken over by the Railway is trained out, the correctness of the measurements recorded in the ballast train challans, after making due allowance for shrinkage enroute should be checked with the original stack measurements. In cases where owing to uneven surface of the stacking ground or for want of space in the quarry, etc. ballast cannot be stocked in stacks of convenient sizes and where in consequence ballast has to be measured and taken directly in wagons, the procedure laid down in para 1332 may be adopted subject to a test check of 20% of the wagon measurements by the Assistant Engineer.

1334. The Divisional or Executive Officer should make it a point to see that the measurement books are maintained in accordance with the rules laid down in paragraphs 1313 to 1332 ante and that the measurements recorded are complete records of each kind of work done for which certificates have been given.

1335. Subject to provisions of paragraph 1312 and 1327 to 1332 ante, the bills of contractors for work done or supplies made should be prepared in any one of the following forms according to that circumstances mentioned below against each :-

- (i) Petty Contract bill, Form E. 1336.
- (ii) Running or On Account bill, Form E. 1337.

- (iii) Final Bill, Form E. 1338. and
- (iv) Hand Receipt, Form E. 1339.

The final bill Form (E. 1338) should specifically provide that the contractor concerned accepts the amount billed for as a final payment in settlement of all his claims in respect of the particular work. Bill for work done should necessarily be prepared in any one of the above forms. Bills of supplies submitted on supplier's own forms may, however, be accepted when prepared in English or Hindi, any further particulars required by the departmental form being added by the disbursing officer. All bills passed against a work order should be noted on the work order.

1336. The petty bill form (Form E. 1336) should be used for making payments to contractors in connection with works or supplies when a single payment is made for a job or contract on its completion. It may also be used in paying several contractors employed on parts of one large work or several works on one section of the line.

From E 1336 (Continued to..... List of forms)

1337. The Running or Account bill from (Form E.1337 below) is indicated for use in contract works only and not supplies. On account payments before the completion of a work should be made through this form.

Form E. 1337

..... RAILWAY

ENGINEERING DEPARTMENT

ON ACCOUNT' CONTRACT CERTIFICATE

No. ����������. Division ����������.

Name & Address of Contractor ����������.

Name of work ����������.

Authority for work ������ Agreement No ������

I. Account of work executed

On account payment for work covered by	Item of	Unit	Rate	Quantity executed since last	Quantity executed upto date as	Payment on the basis of actual	Remarks (with reasons for delay in

approximate or plan measurement			work			certificate	per measurement	measurement		recording measurement shown in column (1)
Total as per last certificate	Since last certificate	Total Upto date						Upto date	Since last certificate	
1	2	3	4	5	6	7	8	9	10	11
Rs.	Rs.	Rs.						Rs.	Rs.	

Whenever there is any entry in column 10 on the basis of actual measurements the whole of the amount previously paid without detailed measurement should be adjusted by a minus entry in column 2 equivalent to the amount shown in column 1, so that the total up to date in column 3 may become nil.

When there are two or more entries in column 10 relating to each sub-head of estimate they should in the case of works the accounts of which are kept by Sub-heads, be totalled and the total recorded in column 11 for posting the Register of Works.

			(B)	Total value of work done to date (A) Deduct value of work shown on last Certificate Net value of work since last Certificate (F) Figure (F) in words.			

II. Certificate and Signature

1. The measurements on which are based the entries in columns 4 to 10 of Account I were made by ��. On ��� and are recorded at pages ��. of measurement book, No. ��������.

2. Certified that in addition to and quite apart from the quantities of work actually executed as shown in column 8 of Account I. some work has actually been done in connection with several items and the value of such work is in no case, less than the on account payments as per column 3 of Account 1, made or proposed to be made for the convenience of the Contractor in anticipation of and subject to the results of detailed measurement which will be made as soon as possible.

3. Certified that no materials the cost of which has not been recovered, were issued to the contractor.

**********.. **********.....Rank-incharge of work

Signature of Contractor Signature of Officer

Preparing the Bill

Dated ******** Dated**********.

.....

**********..

Witness of Signature to Contractors Designation

III. Memorandum of Payments

1. Total value of work actually measured as per Account I, Column 9, entry (A)

2. Total up-to-date on account payments for works covered by approximate or Plan measurement as per Account I, Column 3, entry (B).....

3. Total (1 and 2).....

4. Deduct amount withheld on account of security deposits :--

(a) From previous bill as per last certificate (*k)

(b) From this certificate

5. Balance i. e. up-to-date payments.....Item (3-4)

6. Total amounts of payments already made as per entry (k) of last certificate

No.....dated.....20.....forwarded

to the Accounts Officer on .....

7. Payments now to be made :

(a) For stores supplied ... ... **

(b) By Cash or Cheque ... ...

IV. Here enter the nature of check measurements taken or other examination of work and the results of such examination.

Certified for payment of Rs.....chargeable to.....and to be including in accounts for.....20.....

To be paid in cash / by cheque in presence of.....

....

Head Clerk or Accountant Executive Engineer.....Division

V. Received Rs. ** in cash..... as per above memorandum on account of this work

Dated.....20..... Value of stock supplied..... Stamp

Witness (1) ..... Total as above.....

(2) ..... Signature of Contractor.....

VI. Entries to be made in Accounts Office

Accounts Bill No.....dated.....20.....

Entered in Abstract No.....dated.....20.....

Passed for Rs.....(.....)

Amount passed.....

Less deduction Rs.....

Net amount payable.....

Rupees.....

Chargeable to.....}

} Posted by.....checked by.....

Passed by..... }

.....

Accounts Officer

VII. Entries to be made by Pay Department

Cash entry dated.....20.....

Amount paid Rs.....

Amount unpaid Rs.....

Total unpaid Rs.....

Paid in presence..... .....

.....

Head Pay Clerk

_____

_____

***** This figure should be tested to see that it agrees with the total of item 6 & 7.
** If the net amount to be paid is less than Rs. 10 and it cannot be included in a cheque, payment should be made in cash, this entry being altered suitably and the alteration attested by dated initials.
* Here specify the net amount payable vide item 7 (b).
The payees acknowledgement should be for the gross amount paid as per item 7(i. e., A &B).
** Payment should be attested by some known person when the payee's acknowledgement is given by remarks seal or thumb impression.

1338. The final Bill from (From E 1338) should be used for making final payments, i. e. on closing running accounts for works. Normally only one final bill should be prepared against an agreement or work order. But in cases where groups of annual repair works are included in one agreement or work order, there is no objection to more than one final bill being prepared on the completion of each group or certain groups.

From E. 1338

��������Railway

ENGINEERING DEPARTMENT

FINAL CONTRACT CERTIFICATE

No. ��������. Name & Address of Contractor ��������.

Name of work ����� ����� Division ��������.

Authority for work ������ Agreement No ������

I. Account of work executed

On account payment for work covered by approximate or plan measurement			Item of work	Unit (in words and figures)	Rate (in words and figures)	Quantity executed since last certificate	Quantity executed upto date as per measurement	Payment on the basis of actual measurement		Remarks (with reasons for delay in recording measurement shown in column (1)
Total as per last certifi-cate	Since last certificate	Total Upto date						Upto date	Since last certificate	
1	2	3	4	5	6	7	8	9	10	11
Rs.	Rs.	Rs.						Rs.	Rs.	

Whenever there is an entry in column 10 on the basis of actual measurement, the whole of the amount it previously paid without detailed measurement should be adjusted by a minus entry in column 2 equivalent to the amount shown in column 1, so that the total up to date in column 3 may become nil.

When there are more entries column 10 relating to each sub head of estimate, they should, in the case of works, the accounts of which are kept by sub-heads, be totalled and the total recorded in column 11 for posting the Register of works.

			(B)	Total value of work done to date (A). Deduct value of work shown on last certificate. Net value of work since last certificate (F) Figure (F) in words.			

II. Certificate and Signature

1. The measurements on which are based the entries in column 4 to 10 of Account I were made by ******.. Overseer on******.. No and are recorded at pages ********* of, Measurement Book No. **********.

2. Certified that no materials, the cost of which has not been recovered, were issued to the Contractor.

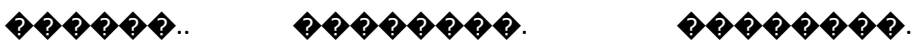
Rank Incharge of Work

**********. ********** **********

Dated Signature of Date Signature of Officer Designation

Contractor preparing the bill

I have no other claim outstanding against *******. Railway for work done or for labour or materials supplied or on any other account and the payment of this bill shall be in final settlement of all my claims in respect of the work to which Agreement/Work Order No..... dated .....20 with the Railway relates.



Witness of Signature Signature of Officer Signature of the Contractor

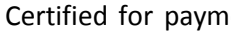
Full Address

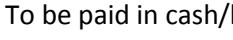
Dated ...

III. Memorandum of payments

1. Total value of work actually measured as per Account 1, column 9, entry (A)	Rs.	P.
2. Total amount of payments already made as per entry (k) of last certificate No . dated ..19 .forwarded to the Accounts Officer on		
3. Payments now to be made-		
(a) For Stores supplied		
(b) By Cash .		
(c) Cheque..		

IV. Here enter the nature of check measurements taken or other examination of work and the results of such examination.

Certified for payment of Rs @ @  . chargeable to and to be included in accounts for .. 20.

To be paid in cash/by cheque in presence of 

Head Clerk or Accountant Executive Engineer Division

V. Received Rs.* as final payment in settlement of demand as per details above on account of this work ..

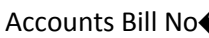
..... STAMP

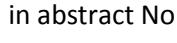
@@Signature and designation of Signature of Contractor

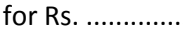
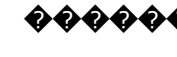
witnessing Officer

Date Date ..

VI. Entries to be made 'm Accounts Office (on open line)

Accounts Bill No  dated .

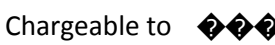
Entered in abstract No  . dated

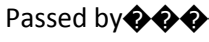
Passed for Rs. .....( .)  ..

Amount passed Rs.....

Net Amount payable .....

Less deduction Rs ..

Rupees 

Chargeable to  .Posted by

Passed by Checked by.

.

Accounts Officer

VII. Entries to he made by Pay Department (on open lines)

Cash entry dated[illegible].

Amount paid Rs[illegible]..

Amount unpaid Rs[illegible] ..[illegible]..

Total Rs[illegible].. .

Paid in my presence. [illegible]..

.....

Head Pay Clerk

@ If the net amount to be paid is less than Rs. 10 and it cannot be included in a cheque, the payments should be made in cash, this entry being altered suitably and the alteration attested by dated initial.

@@ Here specify the net amount payable, vide item 3 (b and c).

* The payee's acknowledgement should be for the gross amount paid as per item 3 (i.e., a and b-c).

@ Payment should be attested by some known person when the payee's acknowledgement is given by mark, seal or thumb impression.

1339. The Hand Receipt (Form E. 1339) is intended to be used for all miscellaneous payment and advanced for which Forms E. 1336 to E. 1338 are not suitable.

Form E. 1339

HAND RECEIPT FORM

	(To be used indifferently for payments for works materials or other services.)

Payee.....	No. ..... Division	
Name of work	Dated.....	
Date of present payment.....	Received from the Executive Engineer in charge of.....	
Value of work or supplies to date of latest measurements Rs.....	Division the sum of Rs..... Name of work or purpose for which payment is made-	
Payments previously made ...Rs.	Paid by cash@.....	
Payments now made ...Rs.	Paid by cheque@.....	
Distribution of payments and quantity by sub- heads or other necessary particulars :-	Paid by me*.....	
	Paid in my presence*	
Rs. P.		
Initials of officer making the payments	Witnesses	: Signature : Stamp
.....	.....	
Executive Engineer	Designation	

If the person receiving money signs in the vernacular, he should also enter in the vernacular the amount received and his place of residence, his name being noted in English on the voucher. If unable to write, his mark or seal to the above entries should be attested by two competent witnesses, in whose presence the nature of the payment should be fully explained.

_____

@The officer or subordinate authorising payment will initial the remark applicable to the case.

*The person actually making the payment or in whose presence the payment is made, should initial, the mark applicable

1340. Preparation of Contractors Bills.-No fees should be charged either for forms of bills supplied or for clerical assistance rendered in the preparation of bills. A contractor requiring a copy of his contract certificate or an extract from his account in the contractor's ledger (see paragraph 1483) should be furnished with the same at a charge of Rs. 10/- which should be credited to Government as a miscellaneous receipt under the head "Receipts on Capital Account-Miscellaneous Receipts". In the case of works charged to ordinary Revenue such receipts may be booked to Z-650.

No request from the contractor for supply of a copy of contract certificate or an extract from his account in the ledger beyond a period of six years from the date of closing of contract should be entertained

1341. In all contractors' work and store bills the units calculation and rates should be entered in words as well as figures. Whenever fraction of rupee occur in the totals of contractors' bills fractions less than half may be disregarded and half a rupee and over may be taken as rupee, before forwarding a contractor's bill to the Accounts Officer for payment the Executive Engineer should satisfy himself as to the correctness of the quantities billed, for the rates and all recoveries.

1342. Other Miscellaneous Payment.--Other payments which an Executive Engineer has to arrange are with regard to pay, allowances and other miscellaneous personal claims of the constructions staff such as advances of pay, travelling allowances, withdrawals from P.F. etc. Such claims should be dealt with in accordance with the rules and orders in the relevant sections of the Indian Railway Codes.

1343. Bill for Stores purchased.--This bill will be prepared in Form S. 2817 which will be printed in English, Hindi and the vernacular of the district in which used. Vendors of stores should be encouraged to use these forms which may be supplied free of charge. In the case of final payment on a running contract for the supply of stores, the same form, but printed on yellow coloured paper, will be used, and disbursement made as on final contract certificates. The procedure laid down in paragraph 739 of the Indian Railway Code for the Stores Department should be followed in passing claims for stores supplied.

1344. Pay Order.--This Form (E. 1344) is to be used only in the case of such miscellaneous payments as refund of earnest money, payment of court attachments., & Pay orders will be bound in books and will be machine-numbered. These books will be issued on requisition only to those officers who have been authorised by the General Manager to use them.

Form No. E. 1344

PAY ORDER

Book No����..Serial No����	Book No����..Serial No����
Case No�����Dated������	Case No�����Dated������
(Counterfoil)	
TO�����..	TO�����..
��������.	��������.
Pay to�������������.	Pay to�������������.
Rupees (in words)���������	Rupees (in words)���������
on account of�������������.	on account of�������������.
chargeable to ������..in����	chargeable to ������..in����
account for������20�����..	account for������20�����..
	Rs�������.Signature�����.
Rs�������.	
account for������.20������..	Designation������
Rs .....������������	Received the sum of Rupees��.as above in full settlement of all demands.
.....	
initials of the Officer signing the pay order.	Signature of payee������.

	Date of payment.
Designation..	Witness

1345. General Rules.-Should any of the prescribed forms not be used, care should be taken to see that no particulars, certificate or signature required by the prescribed forms are omitted. The general rules laid down in the following paragraphs should be observed in connection with the claims referred to herein as "bills".

1346. Executive Engineers submitting bill for payment should satisfy themselves that the same are correct and complete in every particular and that sufficient authority exists for their payment.

1347. All bills be signed by the officer responsible for the outlay in token of his acceptance of the claims, any alterations or corrections therein being duly initialed. In the case of contractors' bill the signature of the contractor are also required in token of their acceptance of the correctness of the bill submitted.

1348. A programme should be drawn up by the Accounts Office fixing the dates for the submission to it for check and payment of pay and allowance bill, muster sheets or labour pay sheets and other claims of a recurring nature. In the submission of bills executive officers should, except in emergent cases, adhere strictly to the dates laid down in the programme in order to ensure punctual payment.

1349. Bill should be dated and correctly allocated to the heads of accounts classification and sub- heads of works concerned. In the case of bills chargeable to works, for which estimates are sanctioned (see paragraph 701) the allocation should be given in full detail as on the sanction estimates. This rule applies to all vouchers, whether cash or adjustment and whether of open lines or of lines under construction.

1350. In the case of bill pertaining to Revenue working expenses, the month to which the bill is debitable should be noted, as owing to the use of the head "Demands Payable" it is, as a general rule practicable to adjust the liability against the final head of account in the accounts of that month, even if the payment may be made in the following month.

1351. No receipts from the parties to whom the bill is payable should normally be taken in anticipation of payment. The receipt of the payee should ordinarily be taken upon the original passed bills or pay order. But when two or more bills or pay orders are paid by a cheque, a receipt for the cheque should be treated as a joint acknowledgement of payment of all the bills or pay orders, as the case may be. The receipt should, however, give full particulars of all the bills or pay orders in discharge of which the payment is made.

1352. No claims of any class or description other than pay and other personal claims of employees may be drawn in bills in the name of any servant of the railway.

1353. To facilitate payments, the name of Pay District, the place of payment and the name and designation of Witnessing Officers (if necessary) should be noted on all bills and in the case of labourers, the name of the father of each payee in addition to his own name should be entered in Labour Pay Sheets.

Check of Initial Records

1354. All initial records, whether of lines under construction or of open line should, before they are presented for payment, be checked to see--

- *(a)* That they have been prepared in the prescribed forms and that they are arithmetically correct;
- *(b)* that the expenditure recorded has received the sanction either special or general, of the authority competent to sanction it ;
- *(c)* that the expenditure recorded has been incurred by an officer competent to incur it ;
- *(d)* that the expenditure does not involve a breach of any of the canons of financial propriety.
- *(e)* that the expenditure recorded is covered by provision in the sanctioned budget allotment; and
- *(f)* that the charge is correctly classified, and if a charge is debitable to the personal account of contractor, employee or other individual or is recoverable from him under any rule or order, it is so recorded on the initial record and in prescribed account (where such account is kept by the Executive Engineer).

1355. The following subsidiary points require attention in the check of (i) muster sheets and labour pay sheets and (ii) Contractors bills :-

(i) Muster Sheets and Labour Pay Sheets.--- It should be seen---

- (a) that no classes of establishment not properly chargeable to works vide paragraph 1121 have been included therein;
- (b) that the wages of employees are charged at the rates sanctioned by the competent authority;
- *(c)* that the wages charged for each gang or a group of labour under each subordinate in the case of maintenance works do not without sufficient reason (which should be investigated and recorded) vary materially form month to month; and
- *(d)* that the number, rates, period of employment and total amount are within the sanction.

- The check as regards (c) above will be exercised in the Accounts Office through a manuscript register called the gang register (Form E. 1354) wherein will be posted the amounts of wages passed for payment every month for each gang or group of labour.

(ii) Contractor's Bills.---It should be seen--

- *(a)* that there are no delays in making measurements or in preparing bills after the measurements have been taken;
- *(b)* that rates higher than those provided in the agreement or work order are not allowed without the specific sanction of the competent authority;
- (*c)* that the running account and final bills are checked with the postings in the contractor's ledger, form E. 1483;
- *(d)* that recoveries have been correctly made according to rules on account of materials issued against items of works for which labour and material rates are paid;
- *(e)* that for items for which labour, rates only are paid the quantities of materials issued and charged finally to works are not excessive (the cost of materials wasted in defective works subsequently rectified should be recovered);
- *(f)* that the quantities executed are according to the sanctioned plans and estimates; and
- *(g)* that the methods of measurement are correct.

Technical checks detailed as items (e) to (g) above should, as a rule be exercised in the Drawing Office under the supervision of the Executive Engineer.

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CHAPTER XIV

INITIAL ACCOUNT OF REVENUE AND WORKS EXPENDITURE

1401	Introduction
1403	cash Payments Imprest
1405	Withdrawal from station earnings
1406	Receipt of cash
1407	Stores General
1408	Imprest stores
1413	Surplus stores
1414	Accounts and Returns of Imprest and Surplus Stores
1416	Day Book
1417	Monthly Stores Return
1418	Check of Monthly Stores Return
1420	Pricing of Monthly Stores Return
1421	Monthly Abstract of Receipts and issues
1422	Allocation Summary
1424	Divisional Balance Register of Stores
1425	Half-yearly Review of Imprest and Surplus Stores

1428	Departmental Stock verification of Stores Balances
1429	Surplus materials held on line
1434	Charged Off stores
1435	Consumable and Petty Stores
1436	Stores obtained for specific works materials at site
1441	Materials at site of works for which Accounts are kept by sub-heads in the Register of Works
1443	Engineering Stores Depots
1446	Quarterly Materials at site returns
1447	The check of materials at site return
1448	Accountal in the Register of Works
1450	Verification of materials at site
1451	Review of materials at site
1452	Materials at site of works for which Accounts are not kept by sub-heads in the Register of Works
1453	Monthly return
1454	Check of Excess Materials Return
1455	Accountal in the Register of Works
1456	Tools and Plant for Maintenance
1458	Tools Machinery and Instruments procured for Works

1460	Adjustments
1461	Adjustment Memo
1463	Adjustment Bills
1465	Carriage Bill
1466	Ballast Train Returns
1468	Departmental Registers - Registers maintained in the Accounts Office
1469	Revenue Allocation Register
1471	Reconciliation of Allocation Registers with General Books
1472	Register of Works
1473	Single set of Works Registers
1476	Value of materials received in advance of payment to contractors
1477	Advance payment to suppliers before receipt of materials
1480	Reconciliation of Register of works with General Books
1481	Register of Works for Deposit Works
1482	Register of Works for New Minor Works
1483	Contractor's Ledger
1484	Closing of Contractor's Accounts
1485.	Prompt settlement of contractor's claims

1401. Introduction.--The expenditure incurred by the officials of the Engineering department in the discharge of the duties and the responsibilities is brought to account through the various returns accounts and bills submitted by them. These returns, accounts and bills which constitute the initial accounts of the depatrments are dealt with under the heads `Cash', `Stores', 'Adjustment' and `Departmental Registers' which are the main sections into which this chapter has been divided.

1402. The rules in this chapter are not applicable to the initial accounts of workshops attached to Bridge. Signal & Electrical Departments. The method of accounting in such Bridge. Signal and Electrical Workshops will be similar to that prescribed for the Mechanical Workshop of the Railway and the detailed rules for such workshops will be laid down by the Financial Adviser and Chief Accounts Officer in consultation with the concerned head of the Departments.

Cash Payments

1403. Imprest.--The payments which the Executive Engineer has usually to make are arranged by the Accounts Officer. Normally, therefore, all initial accounts of cash expenditure are kept in the Accounts Office. However, for the purpose of making certain specified class of payments and also to enable the Engineer to meet petty office expenses and emergent disbursements which cannot be foreseen, the General Manager of a Railway, may with the concurrence of the Accounts Officer sanction an imprest or standing advance of a fixed sum of money to him. The General Manager may also redelegate his powers to sanction cash imprest, to authorities subordinate to him on such condition as he may think fit to impose.

1404. The following rules will govern the sanction and operation of an imprest to an executive officer :-

- *(i)* The amount of the imprest money must not be larger than is absolutely necessary. It should be the lowest sum adequate to meet the type of expenses referred to in the foregoing para.
- *(ii)* The arrangements for the safe custody of money rests entirely with the imprest holder but he should at all times be ready to produce the total amount of imprest in vouchers or in cash.
- *(iii)* The imprest should be kept in duplicate in Form given below (E. 1404) and the original with 1 the supporting vouchers forwarded to the Accounts Officer for recoupment from time to time. The duplicate will be retained by the imprest holder. The imprest account should ordinarily be closed by the 27th of the month and recouped before the end of the month so as to ensure as many the as possible, of the months, transaction being accounted for in same month.
- *(iv)* Should any item in the imprest account appear to the Recouping Officer to be open to objection, the imprest should nevertheless be recouped in full and the items placed under Suspense (Miscellaneous Advances), until the objection is removed or the amount is made good by the imprest holder.

Form E.1404

����.... RAILWAY &

CASH ACCOUNT

Department[illegible].

Office [illegible] Imprest [illegible]

Dr [illegible] in Account current with the[illegible].Railway for the [illegible].Cr.

Date of payment	Voucher reference	Particulars of receipt	Allocation	Items	Amount
1	2	3	4	5	6

Date of payment	Voucher reference	Particulars of receipt	Allocation	Items	Amount
1	2	3	4	5	6

Certified that the cash in hand amounting to Rupees has been actually counted by me on this date and is of the amount above stated.

Signature[illegible].

Designation[illegible].

1405. Withdrawal from Station Earnings -Apart from the facility of cash imprest, an Executive Engineer may also authorise withdrawal of cash from station earnings to meet the expenditure under the following circumstances.

- *(i)* Payments to comply with the Payment of Wages Act, in certain cases where pre- check and payment by Accounts Office is not possible, for want of time e. g. settlement of dues of staff whose service are terminated by administration;

- *(ii)* Payment of wages of temporary and permanent staff who cannot be paid by Pay Clerks within ten days of the expiry of the wages period;

- *(iii)* Departmental expenditure necessitated by floods, accidents or earthquakes;

- *(iv)* Payment of cost for obtaining decrees/judgements from the Court under the orders of the Head of the Department only in cases where an appeal has to be filed within a specified period;

- *(v)* Payment in cash to staff governed by Worksmen's Compensation Rules;

- *(vi)* Advance of travelling allowances in an emergency such as court attendance at short notice.

Receipt of Cash

1406. Any cash receipt by departmental office should be remitted to the cashier through the nearest Station Master or direct, as convenient. The remittance should be accompanied by Miscellaneous Receipt Transmit Note (Form E. 1406) which consists of a note giving particulars of the remittance and receipt in duplicate. The latter will be signed and returned by the Station Master or the Cashier to the transmitting officer who will send the original receipt to the Accounts Officer and paste the duplicate to his counterfoil. The remittance made to Station Masters and Cashiers by departmental officers who do not submit any cash for (imprest) account should be intimated monthly with particulars of Transmit Note to the Accounts Officer to enable, him to check that the remittances are duly credited to the Railway by the Station Masters and Cashiers.

E.1406.....(Continued to List form)

Stores

1407. Large quantities of stores remain in the custody of the subordinates of the Engineering department. All such stores may be broadly grouped into :--

- *(a)* Imprest Stores.

- *(b)* Surplus Stores (Reserve Stores in the case of other than permanent way materials), and

- *(c)* "Charged-off" Stores.

The stores included in group *(a)* and *(b)* above, execpt Signal and Tele-communication stores are borne at debit of Capital Suspense, "Stores", under the following sub and detailed heads :--

- *(i) Engineering Stores*--Imprest.

(a) Permanent way,
(b) Other than Permanent way.

- (ii) *Engineering Stores*--Surplus.

(a) Permanent way,
(b) Other than Permanent way.

- (iii) *Engineering Stores.*--Surplus awaiting sale.

The imprest stores in the custody of the subordinates of the Signal and Telecommunication Department of the Open Line shall we charged off stores their cost having been finally debited to the Revenue working expenses.

Imprest Stores and Surplus Stores

1408. Imprest Stores.--Materials obtained, not for specific works but as a standing advance for the purpose of meeting urgent requirements as and when they arise should, with the exception of consumable stores such as cotton waste, jute, oil and grease, be treated as imprest stores, so long as they are under the control of the authority in charge of the executive unit. All such stores should be borne on an imprest account to be maintained by the departmental subordinate in charge of the stores and thus form part of the stores balances of the railway. Materials such as cement, ballast bricks, brick bats, lime, sand surkhi etc. required for repairs and maintenance should be directly charged off to revenue heads and as indicated in para 1435 and no materials at site account need be maintained. Girders required for emergency use may be kept charged off to Engineering--Stores--Imprest--other than permanent way/materials required for works and procured specifically should be treated as charged off stores (o.f. para 1434)

1409. The imprest with every subordinate should be fixed by the head of the department or the Divisional Manager or any lower authority to whom the power has been delegated. The scale of imprest sanctioned for each subordinate should not be increased or decreased except by the authority who originally fixed the scale.

1410. The imprest stock should be kept segregated and a sign board 'marked'.....Inspector's Imprest erected thereon.

1411. Materials issued from Imprest stock, should be recouped as soon after the issue as possible. The subordinate concerned may arrange recoupment of imprest stores in accordance with the procedure given in Chapter XVIII of Stores Code.

1412. No transfer of stores between imprest holders should be permitted except when stores are immediately required in a particular area in an emergency and are not available at the time with the imprest holder of that area. In such exceptional cases, the stores required may be obtained from a neighbouring imprest holder. Who will then charge them off to the final head in his own account.

1413. Surplus Stores - Comprise stores which are surplus to requirements and include materials released from renewals and replacements as well as from dismantled works, such stores should be kept distinct from imprest or any other kinds of stores. The disposal of such stores either by transfer to other works or by return to Stores Depots or by transfer to "Engineering Stores-Surplus" should be arranged by the Divisional Engineer concerned in accordance with the instructions of Headquarters (cf. 1430 E).

1414. Accounts and Returns of Imprest and Surplus Stores - Quantity accounts showing the daily receipts, issues and balances in the following details (Form E. 1414) should be maintained by the permanent way and other Engineering subordinates in respect of each item of imprest and/or surplus stores under them.

Form E. 1414

(1) Description of materials-category whether new, second hand or unserviceable and size.

(2) Unified Nomenclature List No.

(3) In the case of imprests, the quantity of sanctioned imprest.

(4) Opening balance.

(5) Receipts.--

(a) Source of Receipts.
(b) Quantity.
(c) Allocation.

(6) Issues--

(a) Work or service to which issued.
(b) Quantity.
(c) Allocation.

(7) Closing balance.

(8) Remarks.

If convenient the quantity accounts referred to herein may be kept in the numerical ledger form (S. 1402-B) used by Stores Depots.

1415. The category and Unified Nomenclature List Number of all items of imprest and surplus stores should generally follow those shown in the U. N. lists published by the Stores Department of the Railway. In the case of items of surplus stores not specified in the U. N. list such as windows, doors, beams pillars, rafters etc., the full specification should be shown on all records, any grouping, such as "door frames of sizes", being avoided.

1416. Day Books.--All actual receipts and issues of imprest and surplus stores should, in the first instance, be entered by the subordinates concerned in separate note books (Form E. 1416) designed specially for the purpose of recording chronologically transactions affecting imprest and surplus stores. The quantity accounts (Form E. 1414) maintained by the subordinates should be posted from the entries in these note books.

Form E. 1416

..

��������.RAILWAY

MATERIAL ACCOUNT NOTE BOOK

Book No. ������. Accounted for in ������. Page No. ���������

Date of transaction	Work and Location	Description Unified Nomenclature List No. Category(New, Second Hand etc.)	Reference to Receipt or issue	Quantity	No.	Received or Issued Voucher	Allocation	Remarks

Date����.

Countersigned ������

1 Signature of P. W. I./IOW

Station/Office ���������..

��������..

Signature of the Subordinate

1417. Monthly Stores Returns.-At the close of each month, separate returns showing receipts, issues and balances of all items of imprest and surplus stores operated on during the month should be submitted by each engineering subordinate to the Divisional Office through his Assistant Engineer. These returns are referred to in this chapter as Imprest Stores Accounts and Surplus Stores Accounts and should be submitted in the form printed below **(Form E.1417**). Both the accounts should, as far as possible, be supported by the various receipt and issue vouchers, i.e., Issue Notes, Adjustment Memo and Advice Notes. These accounts should bear a certificate from the subordinate concerned that no stores other than those included in the accounts have been received or issued during the month and that the balances of all items of stores not included in the accounts remain the same as at the end of the previous month.

Form E. 1417

�����..... RAILWAY

ACCOUNT OF ENGINEERING MATERIALS

Permanent Way Imprest for the month of ....20..

Division ��������. Section ��������

Section of material	U.L. No.	Class I or II	Rate	Description of material	Sanctioned imprest quantity	Opening balance		Receipt		
						Quantity No.	Value	Source of receipt & particulars of receipt documents,	Quantity No.	Value
1	2	3	4	5	6	7	8	9	10	11

Issues			closing balance			Corresponding material released						
Work to which issued	Quantity No.	Value	Quantity No.	Value	Remarks	Description	U.L. No.	Class	Rate	Quantity	Value	How disposed of with particulars of document reference

12	13	14	15	16	17	18	19	20	21	22	23	24

Forwarded to ����. **Signature����.**

Station/Office ����. **Designation ����.**

1418. Cheek of Monthly Stores Returns-In the Divisional Office, the Imprest and Surplus Stores Accounts (**Form *E. 1417***) received from the subordinates should be checked to see--

(i) that the opening balances of the items appearing in the accounts agree with the closing balances of the accounts in which the items last appeared

(ii) that all receipts have been taken correctly to account as debits:

(iii) that the issue of materials are in order and reasonable and have been correctly taken to account as credits:

(iv) that all transfers within the Division agree - i.e. that the issues in the account of one subordinate agree with the receipts in the account of another subordinate, any disagreement noticed being rectified and the subordinates concerned advised of the correction; and

(v) that in the case of Imprest Accounts, the sanctioned imprest has not been exceeded without proper authority.

1419. The correctness of receipts of materials taken to debit of Imprest and Surplus Stores Accounts should be checked with the relevant Issue Notes (Form S. 1313 or S. 1319) and other debit vouchers. The correctness of the credits to Surplus Stores Accounts and account of materials returned to Store or transferred elsewhere, should be checked with the relevant Advice notes of returned Material (S. 1539) or the Adjustment Memo.

1420. Pricing of Monthly Stores Returns - After check in the manner indicated in paragraphs 1418 and 1419, the receipt and issues of Imprest and Surplus Stores, as shown in the monthly returns (Form E. 1417) should be priced as follows. The value of stores received from stores depots or other divisions should be valued be taken as the debits by the depots or divisions. The materials released from works should be valued at recent issue rates as shown in Stores Department Issue Notes, failing which at price list rates, due attention being paid to the stores being new or second-hand or unserviceable (scrap). The

value of stores returned to depots should be taken as per credits afforded by the Stores Accounts Officer through daily summaries.

1421. Monthly Abstract of Receipts and Issues - The value of receipts and issues of Imprest and Surplus Stores by the various engineering subordinates in a division should be abstracted in a separate register in Form E. 1421. In this register separate folios should be set apart for Imprest and Surplus Stores. The register should be in the following form :-

Form E. 1421

ABSTRACT REGISTER OF RECEIPTS AND ISSUES

������ 20.....

Imprest/Surplus stores Dr./Cr. Sundries (Revenue heads. works or division of depots). Cr/Dr.

Total	Receipts	Monthly return of subordinates	Depot	Work and so on	Total	Remarks
Rs. P.		1. P.W.I 2. I.O.W. and so on	Rs. P.	Rs. P.	Rs. P.	
		Total:				

1422. Allocation Summary.-_ From the priced Abstract of Receipts and. Issues, an Allocation Summary (Form E. 1422) should be prepared showing the amounts to be debited and credited to the several works and heads of accounts and submitted to the Accounts Office for the preparation of journal entry and incorporation in the accounts of the railway. This journal entry should be prepared by the section of the Accounts Office responsible for the internal check of expenditure of the Engineering Department. A copy each of the journal entry and of the Allocation Summary should be furnished to the Stores Accounts Branch in support of the debits and credits to `Stores' suspense.

Form E.1422

ALLOCATION SUMMARY

Dr. Cr.

Rs. P. Engineering-Stores, Imprest Permanent Way Revenue Abstract (A) (B)Rs. P. .....

Engineering Stores, Surplus Permanent Way-(Details of work and heads of allocation for purposes of posting in the register of works)

..

. and so on

Total.....

1423. In cases where stores issued by a stores depot or by another, division in a month have not been received and accounted for by the subordinate concerned in the same month, the debits received on account of the cost of such stores should be adjusted under the head "Miscellaneous Advances", which should be cleared subsequently when the stores are accounted for by the subordinate. In the converse case, i.e., when stores are received and accounted for by a subordinate before the receipt of debits, the value of stores received should be credited to "Deposits Miscellaneous" which should be cleared on receipt of the corresponding debits. A similar procedure should be followed in the adjustment of credits for stores returned to a depot or transferred to another division.

1424. Divisional Balance Register of Stores.--Each Division should maintain a register in the following form showing the Monetary values of the opening balances, receipts, issues and closing balance every month of all imprest and surplus stores in the Division. Separate pages should be set apart in this register (Form E. 1424) for each of the following categories, viz., *:*

(1) Engineering Stores Imprest-Permanent Way.

(2) Engineering Stores Imprest-Other than Permanent Way.

(3) Engineering Stores Surplus-Permanent Way.

(4) Engineering Stores Surplus Other than Permanent Way.

(5) Engineering Stores Surplus Awaiting sale.

The total of the outstanding balance of all the above categories will be the Divisional balance of Engineering Stores on a given date.

Form E. 1424

Sub-bead- **ENGINEERING STORES** **Imprest**

Surplus

Detailed head– Permanent-way/other than Permanent way

Moth	Opening balance	Debits	Credits	Closing balance
	Rs. P.	Rs. P.	Rs. P.	Rs. P.

1425. Half-yearly Review of Imprest and Surplus Stores.- Divisional Engineer should review periodically the position in regard to imprest and Surplus Stores in other Division. The review should include review of the scales of Imprest with reference to actual issues as indicated in 1811 S and 1842 S (both moving and non-moving items). For this purpose twice a year on the 30th September and 31st March each subordinate should prepare a statement in **Form E. 1425** giving details of imprest and surplus Stores with him on those days and submit it by the 5th of the following month to the Divisional Officer through his Assislant Engineer. In the case of Imprest Stores no statement needs be prepared. Instead the Divisional Office will supply cyclostyled statement (standard forms) to the subordinate on which a certificate will be recorded by the Supervisor about the completeness/deficiencies and action taken for recoupment.

Form E. 1425

. . . . . RAILWAY

HALF-YEARLY STATEMENT OF ENGINEERING MATERIALS

Imprest/Stirplns/Rescive Material in the custody of ––––– for the half-year ending –––––..

–––––––––––––––––––––––––––––––––––––––.

Class	Unified Nomen-clature List No.	Descri-ption of material	Unit	Sancti-oned Imprest	Receipts	Issues	Balance	Rate	Value	Remarks
1	2	3	4	5	6	7	8	9	10	11

Note. - 1. To be submitted to reach the Divisional office by the 5th April and 5th October for half year ending 31st March and 30th September previous.

2. Column 5 to be filed in for Imprest only.

3. Column 9 and 10 to be filled in by the Accounts Section of the Divisional Office.

Date . .. . 20. **Signature ����**

Designation ����.

1426. In the Divisional Office, these statements should be test-checked with the monthly Imprest and Surplus Stores Accounts (Form E. 1417) submitted by the subordinates and discrepancies, if any, taken up with them. After test-check, they should, if necessary, be consolidated and separate Abstracts of Imprest Stores and Surplus Stores for the entire division prepared.

1427. A copy of the half-yearly statement of surplus permanent-way stores (Form E. 1425) for the entire division should be furnished to the Headquarters Office. In the Headquarters Office, these statements should be reviewed by the nominated officer, who will bring to the notice of the Chief Engineer accumulation of Permanent Way materials in the surplus stores accounts of any division.

1428. Departmental Stock-verification of Stores Balances.-- It is desirable that there should be a frequent reconciliation of the balances as shown in the numerical ledgers kept by the subordinates (and as brought out in the half yearly statements) with the actual quantities in hand. The Divisional Engineer should therefore arrange that approximately one-sixth of the stock under each subordinate is verified by actual count each month, so that the whole divisional stock is verified at least once every six months. This verification is in addition to the stock verification made by Accounts Stock-verifiers. All discrepancies should be enquired into. Discrepancies, if small i.e., not amounting in value to more than Rs. 100 may, after the Divisional Engineer has satisfied himself by investigation that no irregularity has occurred, be adjusted to final heads under his orders. If the amount involved exceeds this amount the matter should be reported to higher authorities for orders.

1429. Surplus materials held on line.-- After a work is physically completed and when Completion Report is to be finalised, released serviceable second hand Permanent-Way materials, both standard and non-standard and scrap shall be initially booked under suspense head. "Engineering Stores- -Surplus Permanent Way". This transfer shall be carried at rates fixed for this purpose which should be periodically revised in accordance with the instructions laid down in the Indian Railway Code for the Stores Department.

1430. So long as the materials are held under the suspense head "Engineering Stores Surplus Permanent-Way", the responsibility for disposal will rest with the Engineering Department at

Headquarters Office. The nominated Officer of the Headquarters Office will issue appropriate instructions to the Divisional Engineers either for transfer thereof to some other works or declare them as surplus for disposal.

1431. The details of items which should be disposed off ex-site on line and those which should be transferred to nominated Stores Depot for disposal may be fixed by the Railways in accordance with 2313 and 2314-S

1432. In case of materials which are declared as surplus to requirements and disposal ex-site has to be arranged, the materials should, after necessary survey by Committee, be transferred to the suspense head "Engineering StoresSurplus awaiting sale". The responsibility regarding the disposal of surplus items booked under this head will devolve on the Stores Branch which will arrange disposal as envisaged in Chapter XXIII of the Indian Railway Code for the Stores Department.

1433. Provisions contained in paras 1429 to 1432 will apply *mutatis mutandi* for the disposal of materials other than permanent way found surplus to works or released from works. In this case as well suspense head of account "Engineering Stores-Surplus-other than Permanent way" and "Engineering Stores Surplus awaiting sale" will be operated.

Charged-off Stores

1434. Charged-off Stores will comprise

- *(i)* consumable stores, such as cotton waste, jute, oil, grease, etc., issued for ordinary repairs and maintenance.
- *(ii)* petty stores, such as material for patch-work repairs to buildings.
- *(iii)* Stores obtained for specific works; and
- *(iv)* tools and plant.

1435. Consumable and Petty Stores.--A monthly scale of consumption of consumable stores should be fixed for each engineering subordinate by the Divisional Engineer concerned with the approval of the Chief Engineer, Within the limits of the approved fixed scale, each subordinate may obtain direct on requisition from the prescribed Stores Depots, such items and such quantities of consumable stores as are actually required by him. As regards petty stores engineering subordinates may be permitted to keep a small stock of materials such as ballast, bricks-bats, surkhi, lime, sand, cement, etc. for use on spot renewals and patch work repairs to buildings for which no materials at site account is maintained. The cost of such materials should be charged off to Revenue. At the close of every month, each subordinate should make out a (numerical or quantity) statement (in Form E. 1435) of receipts, issues and balances in hand of petty stores, and submit the same to the Divisional Office through the Assistant Engineer together with the Issue Notes received from the Stores Depot.

Form E. 1435

PETTY STORES RETURN

for ������19

Transactions	Details of Stores	Remarks and explanation
Sanctioned scale		
Opening Balance Receipt		
Total Receipts and Balance		
Issues		
Closing Balance		

Dated������ Signature������..

Designation������

Note– If numerical ledgers are kept for petty stores by engineering subordinates the monthly returns may at the discretion of the Chief Engineer may be dispensed with.

In the Divisional office, the petty stores returns received from the subordinates will be checked with the sanctioned scales of consumable stores and the relative issue notes. Any discrepancies between the summaries of issues received from the Stores Accounts Officer and the issue notes received from subordinates should be promptly taken up with the depot concerned. If there is an accumulation of any item of stores with no certainly of early consumption, the Divisional Engineer should prohibit the subordinates concerned from requisitioning further for such items till the accumulated stores are consumed or take other suitable action to relieve the accumulation.

Stores obtained for Specific Works

1436. Materials at site.--_Materials obtained for specific works should be kept outside the accounts of any other category of stores. Such stores should be separately requisitioned for by the Executive Officers and arranged to be despatched to the sites of works. Materials other than petty consumable stores issued to a work, the account of which is kept by sub-heads in the Register of Works, if not consumed on, the work immediately on receipt at the site work of should be temporarily held at charge of a sub-head of work known as the "Materials-at-site Account". The estimated value of works for which account

is to be kept by sub-heads in the Registers of Works will be Rs. 3 lakhs in the case of Track Renewal Works and Rs.1 lakh for other works.

1437. For the purpose of the rules contained in the following paragraphs :-

(i) Materials when obtained specially for a particular work or when released in connection therewith, so long as they are under the control of the authority in executive charge of that work, be deemed to be 'Materials-at-site'.

(ii) Materials released from works, if not re-used thereon will be deemed to be "Surplus Stores".

(iii) The term "Sub-work" will be deemed to mean any distinct unit of a work that is sufficient large or important to be-kept distinct for purposes of accounts.

(iv) The term "Sub-heads" whether with reference to accounts or estimates of works, will be deemed to mean the sub-divisions into which the total cost of the work (or its sub-works) is divided for purposes of financial control and statistical convenience. The various descriptions of work that have to be executed in the course of a work are usually though not invariably, the sub-heads of it.

(v) The term "Register of works" will be deemed to mean the register kept to record collectively the expenditure incurred in the unit of executive charge on each work during the year (para 1472).

1438. No material should be obtained for a work unless the incurrence of the expenditure or liability involved thereby is authorized under the rules nor should they be obtained in excess or advance of requirements due allowance being made for all factors that may properly be taken into consideration. In case where materials obtained specifically for a work are left over on the completion of the work or are found surplus, such materials should under the orders of the Executive Engineer in charge of the work be either returned to Stores Depot or transferred to some other works which are likely to use them or to Engineering Stores Surplus Permanent Way or Engineering Stores Surplus-other than Permanent Way. The Executive Engineer should certify on the completion report of each work (Chapter XVII) that all materials originally charged to the work but not used up have been returned to Stores or transferred to some other works or Engineering Stores Surplus Permanent Way or Engineering Stores-Surplus-other than Permanent Way and the accounts of the work credited with their value.

1439. Materials required for a work may be obtained either from Stores or by purchase or transfer. In the case of direct purchase, the responsibility as to quality will devolve on the Purchasing Authority, unless arrangements have been made for inspection and passing by other agency. The authority in Executive-in-charge of the work should be responsible for holding in safe custody, for controlling consumption and to the extent prescribed hereinafter, for the correct accountal of all materials at site of such works, also for the return to stores, transfer or disposal otherwise to the best advantage of the Railway, of any materials at site which, it appears certain, will not be consumed on that work.

1440. Custody of Materials.--The materials held under. "Materials-at-site Account" can be either under the custody of the Supervisor who is executing the work himself or is kept in Engineering Stores Depots

under the custody of a Depot Stores Keeper or Stores Supervisor. In both the cases only a numerical account will be maintained of the stores held.

Materials-at-site of Works for which Accounts are kept by Sub-heads in the Register of Works

1441.1. Daily Record.--The estimated value of the works for which accounts are kept by Sub Heads of the register of the works will be provided for in para 1436. A daily numerical record of receipt and issues of the material shall be maintained by the stock holders in the form E-1441.

1441.2. To cater for leading, classification and stacking of P. Way material the accountal should be made in form E-1441 as follows :--

(i) **FOR PWI/O. L.**

The accountal should be made within 15 days.

(ii) **FOR PWI TRACK RENEWAL/CONSTRUCTION**

The accountal should be made within 15 days.

(iii) **FOR PWI/GC**

The accountal should be made within 30 days.

Form E. 1441

. . . . . RAILWAY

MATERIALS-AT-SITE RECORD LEDGER FORM

Division ��������. Station ��������

Description of material	Unified nomenclature Llist No.	Classification I or II	Opening balance	Unit	Receipts			Issues			Closing balance	Remarks
					Date	Source	Quantity	Date	Sub-head to which chargeable & Particulars of documents under which issued	Quan-tity		

Received for the work B.F. From page No.

Carried forward B.F . To Page No. ..

Corresponding B.F. From Page No. .

Material

Released

from the

work.

Carried forward To Page No. Return submitted on ...

Stock Holder's initials.

1442. Materials obtained for the work should on receipt, be entered as such under the 'Receipts together with the date, quantity, issue notes or other reference. In the case of materials obtained by direct purchase particulars should be entered in a Measurement Book as well.

As materials are issued for consumption on the work, the date, the quantity and the sub-head to which they are chargeable should be recorded under 'issues' Materials so issued, but found subsequently to be surplus to requirements should be brought back into record as `Minus Issues'. Such transactions should wherever practicable be avoided by confining issues to exact and immediate requirements.

Materials released from the work should on displacement be recorded separately as such and be entered with the date and quantity as 'Receipts'. When subsequently utilized on the work again they should be shown as `Issues'.

Materials-at-site returned to Stores, transferred or otherwise disposed off should be shown in the respective records with date, quantity and disposal reference as `Minus Receipts'.

1443. Engineering Stores Depots.--Since an Engineering Stores Depot can cater for more than one field supervisor, a field supervisor executing the work can draw materials from such Depots only to meet his immediate requirements. In this case the Depot Store Keeper or Stores Supervisor will be the stock holder who will maintain the numerical record of receipts and issues.

1444. The sub-head `Materials-at-site' should be cleared from time to time as the materials are actually used on the work. The stock Holder should submit a numerical account in Form E-1441 monthly of the materials at site of each work to the Divisional Office. The Site Account received in the Divisional Office should be checked as regards receipts with relevant monthly Stores summaries, contractors' bills, etc. The issues as shown in the site accounts may be accepted and the issues priced and necessary book adjustments debiting the sub-heads of works and accounts of which the Materials are issued and crediting the relevant site accounts carried out. The pairing and verification of issue notes sent along with the site account with the accepted copies of the issue notes forwarded by the indentors should be done subsequently and discrepancies taken up.

1445. When the materials are under the custody of the Supervisor executing the work himself, the Supervisor can himself draw the materials for utilization as and when required. In this case also, daily numerical record of receipts and issues of materials shall be maintained in the Form E-1441.

1446. Quarterly Materials at site Returns.--The Supervisor who is executing the work and is also functioning as stock holder shall prepare a quarterly Materials At Site account return (Form E-1446) in respect of each work valued at Rs.3 lakhs in the case of Track Renewal Works and Rs.1 lakh in other works for which Register of Works is maintained by sub-heads of estimates, and send the same to the Divisional Office. This return should include only those items for which there have been any receipt or issues/transactions during the quarter. The quarterly return may be followed by a complete Materials-At-Site account returns for all the items at the end of half year ending September and March. A number of works may be included in one form provided that all such works are under the executive charge of the same authority.

Form E.1446 (continued to.....List of forms)

1447. The check of materials-at-site return.--The Materials-At-Site return received in the Divisional Office should be checked in the following respects :--

- *(a)* The opening balance should be checked with the closing balance of the previous return;
- *(b)* The receipts during the period covered by the returns should be checked with the relevant issue notes, the summary of stores. adjustment memo and other receipt vouchers;
- *(c)* The reasonableness of the issues during the period covered by the return should be checked with reference to the relevant sanctioned estimate, and the progress of work reported during the period;
- *(d)* As regards materials returned to Stores Depots or transferred elsewhere, the correctness of credits to site accounts should be checked with the relevant advice of returned stores or adjustment memo;
- *(e)* The arithmetical accuracy of the returns should be checked.

1448. Accountal in the Register of Works.---All materials obtained specifically for a particular work should be charged off immediately to the head to which the cost of that work as a whole is allocated (or if more than one head is involved to that bearing the greatest cost); but should, so long as they are not consumed on the work be borne under a suspense head "Materials-At-Site" opened under that head. All materials released from a work should also be borne under the same suspense head. The adjustment from the "MAS" suspense to the relevant final detailed heads should be carried out as soon as the materials are shown in the monthly return as having been issued for use on work.

1449. The responsibility for having a daily record maintained, a monthly return prepared. checked and valued and cost adjusted as prescribed in these rules devolves on authority in executive charge of the works. The Accounts Officer who maintains the Works Register is responsible for the final adjustment of all materials-at-site transactions.

1450. Verification of Materials-at-site.--The authority in executive charge of works for which material at site accounts are maintained should arrange for a periodical verification of the following materials at site pertaining thereto.

- (a) Permanent Way materials.
- (b) Other materials at site which can be readily separated and distinguished from any of the same description but of a different category.

It is not necessary that all articles should be checked at the same time; but every item should be verified at least once in a year. A certificate by the authority in executive charge of works that such verification has been carried out should, together with a note as to whether or not the materials were found to be unduly depreciated, be furnished on the materials at site return for the month of March, or on the last return on which a balance is shown, submitted in the year. The stock verification prescribed in this paragraph is in addition to the periodical stock verification of engineering stores arranged for by the Accounts Officer.

1451. Review of Materials-at-Site.--At the end of every financial year the Accounts Officer should prepare a schedule of the materials-at-site balances on the various works and should review it in consultation with the executive.

Materials-At-Site of works for which accounts are not kept by

Sub-heads in the Register of Works

1452. Daily Record. - A daily numerical record in respect of materials-at-site of works in this category for which a separate account is not maintained by sub-heads in the Register of Works shall be kept in **form E. 1441**.

1453. Monthly Return.- At the end of every month an excess materials return in **form E. 1453.** given below should be prepared in respect of all completed works in this category. These returns should show separately for materials obtained and materials released, the numerical balance only of materials at-site

i.e. those that have neither been consumed on the work nor returned to the stores, transferred or otherwise disposed off and the date of completion of the works to which they relate.

Form E. **1453**

..... RAILWAY

MATERIALS-AT-'SITE RECORD EXCESS MATERIALS RETURN

Division�������������� Section��������

Balance of materials still "At-Site" on��.....�������������..

Name of works		Materials obtained for the work		Materials released in connection with the work		Date of completion of the work	Remark
Description of materials	Classification	Rate	Quantity	Rate	Quantity		

Station/Office �������������� Signature������..

Date �������������� Designation�����.

1454. Cheek of Excess Materials Returns.-The Excess Materials Returns should be checked in the Divisional Office as regards the correctness and reasonableness of the balances shown therein against the various receipt vouchers and the sanctioned estimates and put up to the Executive Engineer for his orders as to the disposal of the balances. If the "Excess Materials" cannot be utilized on some other works, they should either be returned to the Stores Depot or taken to Engineering Stores Surplus--(i) Permanent Way, (ii) other than Permanent Way, (iii) Awaiting sale.

1455. Accountal in the Register of Works.- Materials obtained specifically for particular works in this category should be charged off finally in accordance with their allocation.

Tools and Plant

1456. Tools and Plant for Maintenance.- A scale of tools and plant will be fixed for each gang under a Permanent Way Inspector; and the total with his gangs plus a small reserve in his own godown will form the scale fixed for each Inspector. A scale of tools and plant will similarly be fixed for other engineering

supervisors. On issue to the permanent way and other engineering supervisors, the cost of these tools and plant is charged off finally. It will, therefore, be necessary for the supervisors to maintain a tools and plant register (Form E.1462) and submit it after the close of each financial year to the Divisional Officer for check.

Form E.1456

..... RAILWAY

REGISTER OF TOOLS & PLANT

Department ������. Division��� Office���.. Sanctioned strength���.

Authority��������

Class	Name of articles	Sanctioned scale	Balance brought over	Receipts				Total receipts and balance	
				April����..... March (to show 12 months separately)				Quantity	cost
				Date	Particulars of voucher	Quantity	cost		
1	2	3	4	5a	5b	5c	5d	6a	6b

Issues		Quantity	Total	Balance at the end		Explanation of difference remarks
April ��� March (to show 12 months separately)				As per return	As actually	
Date	Particulars of vouchers					

7a	7b	7c	8	9	10	11

Place��������. Signature��������

Dated��������. Designation������..

1457. The permanent Way and other Engineering Supervisors should not retain in their hands any tools in excess of the number allowed in their scale. Should additional articles come into stock from any stores, the order of the Divisional Officer should be obtained through the Assistant Engineer for their disposal. If replacement of worn out, damaged or lost articles is required a requisition for the articles required should be submitted to the Divisional Office with an explanation of the circumstances in which the replacement is applied for. The Divisional Officer will after satisfying himself as to the correctness of the explanation, approve the requisition and pass orders for the disposal of worn out or damaged tools and for the recovery or write-off of the cost of lost tools.

The tools and plant register received in the Divisional Office should be checked completely as regards arithmetical accuracy. The correctness of all items of receipts and issues should also be completely checked with relevant Issue Notes, Advice Notes, sanctions or writes-off etc. and the discrepancies taken up. The registers should then be put up for the information of the Divisional Engineer who will, if he considers necessary, order any redistribution of the tools.

Toots, Machinery, and Instruments procured for works

1458. In the case of tools, machinery and instruments procured for works, apart from the periodical returns, which may be prescribed by the Chief Engineer. A yearly balance return in the Form E-1456 should be submitted by the Executive Engineer to the Chief Engineer. A record may be kept in the same from by each Assistant Engineer or Supervisor of all tools, machinery and instruments in his custody.

1459. Proper Accounts of tools and plants issued for use by the subordinates of the sub-division or temporarily lent to contractors, as well as those of articles lent to local bodies and others under competent authority should be kept in a manuscript register showing:--

(i) the person to whom tools and plants have been lent,

(ii) description of tools and plant,

(iii) elate of issue, and

(iv) elate of return.

These accounts should be reviewed periodically with a view to see that articles are returned without unnecessary delay and in good condition. This applies also to tools and plants sent out for repairs. On completion of works a review should be made of the available tools, machinery and instruments and action as required. and indicated in Chapter XIX of the Stores code be taken.

Adjustments

1460. Adjustments in the accounts of an Engineering Division will be necessary for:--

(i) the liquidation of liabilities not payable in cash under the rules or the realization of outstanding credits otherwise than by receipt of cash.

(ii) the transfer of debits and credits originally borne against a suspense head to the proper works or accounts heads.

Under the first category come such items as freight bills, work done bills received from workshops. Railway printing presses, ballast train charges, debits received from other Railway and the departments on account of stores supplied or services rendered (through Advices of Transfer Debits/Credits) etc. All transactions concerning the issue of stores from stock, the transfer of materials from one work to another and the clearance of items of debits and credits placed under the suspense heads come under the second category.

1461. Adjustment Memo.--In carrying our adjustments referred to in the preceding para the officer or subordinate initiating an adjustment should fill an Adjustment Memo (in the form given below, from **E-1461**) as far as he is able to do so and forward it to the Divisional Office for completion and further action. Reasons for the adjustment should invariably be recorded in such sufficient detail as to establish clearly the correctness of the necessity for adjustment. All Adjustment Memo requiring acceptance of third party should as far as possible be got accepted by such party before submission to the Divisional Office. If a debit is to be raised against another Division. Railway or Department, suitable action should be taken by the Divisional Office to obtain the acceptance of the parry concerned and to raise the debit through the Accounts Officer. If another Division or Department of the same Railway is affected the Adjustment Memo should be sent to the officer concerned who should fill in the debit column and pass it on duly completed to the Accounts Officer returning the counterfoil to the originating officer. If another Railway or State is concerned, the officer to be credited having obtained the debited officers acquiescence in the charge should send the Adjustment Memo to the Accounts Officer for the necessary transfer debit to be raised. Necessary entries in the respective Registers of Expenditure shall be made by the Accounts Officer.

Form E. 1461

Department .... RAILWAY Office ������

ADJUSTMENT MEMO BY THE ��..����. SHOWING ADJUSTMENT TO BE MADE IN THE ACCOUNTS FOR THE MONTH OF ..... 19 .....

Particulars of transaction	Circumstances under which the write-back is proposed or authority for transfer	Amount	Head of account to be credited	Head of account to be debited
1	2	3	4	5

No.....dated.....
Forwarded to the..���..for acceptance, allocation and early return.

Signature .....
Designation��������� Divn. .....

No.....dated.....
Accepted for Rs. ..... in the account for .....20.....�. by debit to Revenue/Capital����..

Signature of Accepting Officer .....
Designation��������� Divn. .....

1462 Adjustment Memo may be used in three different ways; first for advising an adjustment to be made within accounts of the division itself secondly, for advising certain adjustment between two divisions or departments of the same Railway; and thirdly, for advising an adjustment to be made with another Railway administration. The following procedure should be followed in these cases:--

(1) In every case the officer whose account is to receive credit should fill up the column showing the credit and if the adjustment is to be made in his own division, he should also fill in the column showing the debit. If another division or department or another Railway or State Government is involved the office to be credited should send the Adjustment Memo to the Accounts Officer for the necessary transfer debit to be raised. Adjustments relating to stores transactions for which allocation is furnished should be adjusted by tile responding Accounts Officer in the same month's account in which it is recorded in the books of the originating unit in terms of para 410-A.

(2) The entries in the register of expenditure will be made by the responding Accounts Officer when filling up the debit columns and by the Originating Accounts Officer on receipt of the accepted counterfoil.

1463. Adjustment Bill--Adjustment of charges incurred by one departmental officer on behalf of another should, as a rule, be made on the basis of accepted bills. The form on which bills for acceptance should be prepared is given below. (c.f. **para 1138-A**).

Form E. 1463/A 1138

BILL FORM

To,

****

Name of the party.

Dear Sir

Subject.....

Reference.- Agreement dated.....

The following amount has become due to be paid to the Railway:--

Particulars of claims	**Amount**	**Previous dues, if any**	**Total**
1	2	3	4

Please remit the amount shown in column 4 by cash/cheque/Bank draft to the Chief Cashier/Divisional Cashier ..... on or before ..... under advice to this office falling which interest @ % will be charged on the outstanding balance. The Amount is creditable to the Head of Account .....

Please acknowledge receipt Yours faithfully

Error & Omissions Excepted Accounts Offer

Designation**..

Copy forwarded to (Executive Officer) for information and necessary action.

1464. The bill (form E. 1463) besides being used for adjustment transactions may also be used for preparing claims which are settled by cash recovery. In either case, a register of bills recoverable should be kept in the following form with a view to watch recoveries. (**c.f. para 1139-A**).

Form E. 1464/ A1139

REGISTER OF BILE RECOVERABLE

1. Name of the party ..... .
2. Particulars of the charges..... .
3. Reference to agreement etc..... .
4. Amount Recoverable..... .
5. Period viz. Monthly, Quarterly, Half-yearly, Annually ....
6. Due date of payment..... .
7. Accounts Officer (Initials) .....

No. and date of bill	Amount	Period	Date of realisation	Particulars of remittance	Outstanding dues	Remarks
1	2	3	4	5	6	7

1465. Carriage Bills.--The bill for freight charges should be supported by a detailed carriage bill in the following form (***Form E. 1465***).

Form E. 1465

CARRIAGE BILL

Bill No. ??????.

To,

The ..... Railway

For carriage charges as under during the month of .....20.

Sl. No.	Credit Note or Warrant		Station		Details	Weight		Checked Amount	Remarks
	No.	Date	From	To		Qts.	Kgs.		
1	2		3		4	5		6	7

1466. Ballast Train Returns.--A monthly or fortnightly return in the form given below, showing the working, of each ballast train will be prepared for the purpose of debiting the necessary charge on account of ballast train freight to the works or heads of revenue working expenses concerned. This return will originate from the office which controls the movements of engines and drivers and will be sent to the Divisional Engineer for completion and transmission to the Accounts Officer for effecting the necessary adjustment. "The ballast train charges should be adjusted by debit to the works and account heads concerned and credit to Revenue head K-693-Demand No. 12, treating the same as reduction in expenditure on the pattern of other railway material."

(Authority: Railway Board's letter No. 83-ACII/3/1 DATED 26.3.84)

Detailed rules relating to the working of ballast trains are printed as **Appendix X** to this code.

Form E. 1466

BALLAST TRAIN RETURN

Statement showing the working of ballast trains for the month of Fortnight ending.....20??.

Date	Name of Driver	Engine	No. of trucks**	Distance between stations	Weight in	Engine under steam

		No.	Class		From	To	Kilometres*	tonnes	Hours	Minut.
1	2	3	4	5	6	7	8	9	10	11

Head of Account and Work Chargeable	Amount*	Remarks
12	13	14

*To be filled in by the Accounts Office. The hire charges for the trucks and engines should be separately shown.

**These columns should be filled in by the Office of the Executive Engineer.

1467. Transfer of documents. --Charges preferred by other railways and Administrations are adjusted by Transfer Documents. These are usually sent to the Accounts Office, which in turn will pass them on to the Departmental Officer concerned for verification and acceptance. The detailed procedure to be observed in regard to transfer transactions is laid down in the Indian Railway Code for Accounts Department.

Departmental Registers

1468. Registers maintained in the Accounts Office. --With a view to facilitate the control of expenditure and also to record, collect and abstract under the prescribed heads of administrative accounts total outlay of the Railway, the following Registers are required to be maintained by the Accounts Officer: --

(i) Revenue Allocation Register (Form E.1469).

(ii) Register of Works (Form E.1473).

(iii) Registers of Capital, Depreciation Reserve Fund, Development Fund and Open Line Works--Revenue Expenditure. (Form E.1480).

Each of the first two registers will be maintained by months and every voucher after being passed in Accounts will be posted in the register concerned in the appropriate column as regards allocation. The fact that a voucher has been so posted will be noted on the voucher. The up-to-date figures in the registers will enable the Accounts Office to exercise necessary checks with reference to estimates and allotments.

1469. Revenue Allocation Registers. --The entries in the Revenue Allocation Registers maintained in the Accounts Office shall be sub-divided as under:--

Cash;

Transfers;

Stores.

and sufficient space should be left after each head for the entries which normally come under it. Alternatively, separate registers may be maintained to record the expenditure in these three divisions, in which case a separate summary will have to be prepared to arrive at the total expenditure under the various heads of revenue classification. The sanctions by heads of accounts as given in the Authorization Rolls or the Distribution Statement of budget allotment should be entered in red ink at the head of the several Abstracts so as to form a ready means of comparison and check with the outlay and to admit of this being done the grand total expenditure for each month will be deducted at the foot of the abstract form ((Form E.1469); the sanctioned amount and the balance thus arrived at will be carried forward in red ink from month to month. At the end of the month when the Registers have been totalled, the 'Cash' totals will be agreed with the debits to 'Demand Payable' in the Monthly Classified Abstract of Cash transactions and a journal slip will be prepared crediting 'Demand Payable' and debiting the various Abstracts of the Revenue Accounts.

Form E.1469

ALLOCATION REGISTER

(Abstract A to II.....and J to N)

For the month of ...Allotment for the year

Sl. No.	Particulars of transactions	Voucher		Detailed heads of accounts as per Revenue Classifications and Demand heads			Total	Grand Total	Serial No.	Remarks
		No.	Date	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.		

Total for the month. ....

And total to end of the.....����

previous month.

Total to end of the. ....

month.

_____

*In column 5 under Total should be posted "Wages and Materials" or "Ordinary and Special" According to the requirements of the rules.

Note:� The expenditure (other than on Survey) under the major head 345-A/B policy formulation direction, research and other miscellaneous Organisation should be recorded in separate register in accordance with the prescribed classification.

1470. The Registers (Form E.1469 for Abstract B.)--Maintenance of Permanent Way and Works should be maintained for each Executive Division and for each branch line worked under agreement. These registers may be kept by sub-divisions as well, if the Executive Officers so desire, for the effective control of expenditure against allotment. Expenditure on particular sections of the line may also be separately booked in these Registers if such booking is needed for the proper classification of expenditure or for any statistical or other purposes. At the end of the month the totals of these Registers should be abstracted into a separate sheet of the same Form E.1469 in order to arrive at the total outlay against Abstract �B'.

1471. Reconciliation of Allocation Registers with General Rooks.--The total expenditure in the Registers should be verified each month with the debit to each Abstract in the General Books and a certificate of examination and verification enfaced on the register. The 'month' totals of each register should then be posted into the yearly Registers month to month to provide the figures required for the preparation of the Working Expenses' portion of the yearly Administrative Capital and Revenue Accounts. Alternatively the up-to-date totals may be brought forward in the Allocation Registers themselves.

1472. Register of works. --is a collective record of expenditure designed :

(i) for effecting control of expenditure on works with reference to estimates, by facilitating comparison between the expenditure incurred on each work and the detailed provision made in the estimate for work;

(ii) for effecting budgetary control, by facilitating a comparison between the budget allotment for the work and the actual expenditure to the end of the month; and

(iii) to enable any material modification (see para 1109) occurring being spotted.

1473. Single sit of Works Register--Detailed Register of Works in Form E.1473 given below should be kept for all sanctioned works including those chargeable to Revenue, new minor work showing the amounts of estimates sanctioned. This register shall be maintained in the Accounts Office both for open line and construction organisation.

Form E.1473

.....Railway

WORKS REGISTER

Name of work .....

Authority .....��.

Capital..... .Rs. case�����Rs����. Budget allotment for the year

Depreciation Fund.....Rs. Stores..... Rs. Original Estimate No����..

Development Fund ..... Rs. Total .....Rs. Revised Estimate No....

Accident Compensation.....

Passenger Amenities Fund ....

Open Line Works Revenue .....

Revenue ..... Rs.

Date of Commencement .....

Date of Completion .....

Date	No. of voucher	Particulars	Items of Estimate					Head of Accounts		
			Amount	Amount	Amount	Amount	Capital	DRF	Revenue	Development Fund

1	2	3	4	5	6	7	8	9	10	11

Advance payment for supply of materials	Materials at site	Value of materials received in advance of payment of contractor	Total charges		
			Cash	Stores	Total
12	13	14	15	16	17

1474. This register should show the amount of estimate sanctioned, the budget allotment and details of expenditure on each work by heads of accounts and in addition under sub-heads of estimates in case of track renewal works estimated to cost Rs.3 lakhs and over and Rs.1 lakh and over In the case of other works. In this register sub-heads of estimate estimated to cost less than Rs. 10,000 need not be separately detailed, hut may be grouped together as may be found convenient. The Register may be arranged by detailed heads of classification (for works falling under the demand relating to creation and replacement of assets) separate folios being set apart for each work. At the close of every month the Register of Works should be totalled up and the monthly, yearly and 'up-to-date' totals for each work struck. The Register of Works should be preserved for a period of 10 years.

1475. In posting the Register of Works in the case of works, the accounts of which are kept by sub-heads, the last column relating to each work will always show the 'total charges', the last column but one will show value of materials received in advance of payment 'to contractors', the last column but two will show the value of the 'materials-at-site' and the last column but three will Show advance payment for supply of materials'. In the Ease of works, the accounts of which are not kept by sub-heads (Form E.1479), the value of 'Materials-at-site' need not be separately shown but the value of materials received in advance of payment to contractor and advance payment for supply of materials, if any should be shown in all cases.

1476. Value of materials received in advance of payment to contractors.--When the materials are received before payments have been made, such transactions should be credited to a separate suspense head "Value of materials received in advance of payment to contractors" in the Register of Works under the head of account that will record a major part of the cost of work, the credit under the suspense head should be cleared as and when payment is made.

A Subsidiary Register for all purchase orders for such items should be maintained work wise by the Accounts Office and entries on credit side should be made under the initials of sub-head/Section Officer (Accounts) from the Receipt Note Part III received duly evaluated from Executive Officers concerned in terms of **para 739-S.** Receipt Notes should simultaneously be posted in Works Registers by debit to

'materials-at-site account/final head' and contra credit to 'value of materials received in advance of payment to contractors' referred to above. All payments chargeable to this head should be made after being posted on the debit side in the subsidiary register under the initials of the Controlling Officer. The balances in the subsidiary register should be reconciled monthly with those in the Works Registers.

Thus, for stares purchased for specific works the transactions will not find a place in the Stores budget under this procedure. Arrangements should, however, be made to ensure that the total figures of purchases during a year for specific works which do not pass through Stores Account are available with the Railways for statistical purposes etc.

1477. Advance Payment to Suppliers before Receipt of Materials.--Where stores are purchased for specific works and can be identified ab initio as such, the expenditure should be debited directly to the works concerned and not pass through General Stores suspense head, irrespective of the physical movement of stores. Such advance payments should be recorded in the Register of Works under the suspense head 'Advance Payment for supply of materials under the head of account that will record a major part of the cost of the work. The payment should also be recorded on the debit side of a subsidiary register similarly to the one mentioned in para 1476 under the initials of the Controlling Officer. The contra-credit entry or the transaction will be made in the subsidiary register on receipt of Part III of the Receipt Note from the Executive Officer, as and when the materials are received, the suspense head 'advance payment for supply of materials' should be cleared to materials-at-site/final head. The balance under the former head in the Works Register should be reconciled monthly with those in the subsidiary register.

1478. With a view to facilitating control over works expenditure against estimate as well as allotment, the Executive Engineer should be furnished by the Accounts Officer periodically with a statement showing estimated cost allotment during the year, expenditure during the year and up-to-date expenditure incurred on each work.

In order to ensure that no document/voucher generated is lost sight of, the Executive Engineer's office should send a statement (in duplicate) of vouchers generated by his office every month to the Accounts Office. One copy of the statement should be returned to the Executive Engineer's Office with an indication of the vouchers not accounted for, with reasons. Similarly, Accounts Office should send to the Executive Engineer's Office a list of vouchers forced into the accounts which may have been taken into account in posting the Works Register in the Accounts Office.

1479. In the case of track renewal works costing less than Rs.3 lakhs and other works costing less than Rs.1 lakh, the Register of Works should be maintained in the following form (Form E-1479). This form will show merely the total charges against the work by account heads.

Form E-1479

REGISTER OF WORKS

(For Works not accounted for by sub-hearts)

Name of Work .... Cash ..... Rs. Budget allotment for this year..... Rs.....

Amount sanctioned ....

Date of commencement ....

Dale of Completion.....

Months etc.	Total value of work done	value of materials received in Advance of payment to contractors	Advance payment for the supply of materials	Total charges by Accounts Head			
April 20..... Total for April Total for the year Total up to date May 20..... And so on							

1480. Reconciliation of Registers of Works with General Books--Register of Capital, Depreciation Reserve Fund, Development Fund ACSPAF and Open Line Works-Revenue. In order to ensure an agreement between the figures of expenditure charged to Capital. Depreciation Reserve Fund. Development Fund and Open Line Works-Revenue and ACSPAF as recorded in the detailed Register or Works, and the figures of the Ledger the Accounts Office should maintain a Register of Sources of funds for works expenditure in Form E.1480 shown below. This register will be posted from the detailed Register of Works (Form E.1473) in accordance with the minor, main and sub-heads of accounts classification and the totals under minor and main heads (i.e. each Plan head) for each month will be compared with the Cash Abstract Books, the journal and the Ledger. Separate folios may if necessary be set apart for each Plan head of classification (corresponding to the minor/main head of accounts) the monthly total being carried into a Summary at the end of the register, where the reconciliation with the general books should be recorded.

Form E.1480

REGISTER OF CAPITAL, DEPRECIATION RESERVE FUND, DEVELOPMENT FUND AND OPEN LINE WORKS REVENUE AND ACCIDENT COMPENSATION SAFETY AND PASSENGER AMENITIES FUND EXPENDITURE

Reference to No. of volume and folios of registers of works	Names of works	Capital				Depreciation Reserve Fund				Development Fund			
					Total Capital				Total Depreciation Reserve Fund				Total Development Fund
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Open Line Works--Revenue

			Total Open Line Works Revenue	Total
15	16	17	18	19

1481. Register of Works for Deposit Works. --The expenditure on Deposit Works should be recorded separately by each work in the detailed Register of Works in the same way as for other open line works and reconciled monthly with the general books of the railway (c.f.para 1848). Timely action should be taken to bring to the notice of the executive authority concerned the necessity for additional deposits. This will not, however, relieve the executive from taking such action on their own initiative. Expenditure incurred in excess of deposits will he at the risk of the officer who incurs the expenditure. When the cost of a work is chargeable partly to railway funds and partly to deposits, the register should record the outlay under those heads separately, and in case there are two or more distinct deposits for the same work, the amount chargeable to each deposit should be shown separately.

1482. Register of Works for New Minor Works. - Separate Register of Works should be maintained for recording expenditure on new Minor Works. The total expenditure booked against the New Minor Works should be reconciled monthly with that recorded under the head "New Minor Works" in the revenue allocation register. As the contracts with certain worked lines stipulate that the expenditure

(chargeable to working expenses) on new minor works should be limited to a fixed amount per annum per kilometer of the line, it is necessary to watch the progress of expenditure on new minor works on each such line against the stipulated limit. This fact should be borne in mind in reviewing the new minor works register of the worked lines.

Accounts of Contractors

1483. Contractors' ledger. --Accounts relating to contractors should be kept as personal accounts in Contractors' ledger (form E-1483 shown below) and a separate folio should be opened in the Contractors' Ledger for each contractor. The accounts of each contractor should exhibit all transactions with him, whether relating to one or several works or to materials purchased from him or supplied to him. The Contractors' Ledger should show the number and amount of each passed bill and certificate, briefly naming the work and the number and amount of the cheque. The amount of advance granted to a contractor as well as the value of material made over to the contractor against items for which he is paid the labour and material rates should be debited to his account and a receipt for the value thereof taken from him in respect of the debits.

The Contractors' Ledger should be posted as bills are paid and it should be closed and balanced monthly. A copy of his account in the ledger may be furnished to any contractor who wants it. Stores supplied to works under execution by contract should be accounted for as follows :-

(i) when the contract is for labour only, by a direct charge as stores to the work to which it is issued.

(ii) when the contract is for both labour and materials, as a debit to the contractor, the cost of stores as prescribed in para 1269 being either recovered in cash or debited to the Contractor's account for subsequent recovery by deduction from the amount due to him for work done, in these cases an unstamped acknowledgement of the receipt of the material should be taken from the contractor.

Form E. 1483

CONTRACTORS LEDGER

Dr.	Contractor's Ledger			Cr.	
	Rs.	P.		Rs.	P.

1484. Closing of Contractors' Accounts.-Contractors accounts should be closed without delay on the completion of the contract. If a contractor delays to receive final payment for more than one month

after the final certificate has been passed, the accounts of the work and of the contractor should be closed and the balance due credited to Deposit Miscellaneous'. Thereafter, action as indicated in paragraph 1485 should be taken.

1485. Prompt Settlement of Contractor's Claims.--All contractors' claims pertaining to a work should be settled as expeditiously as possible. It is not merely enough to have final bills prepared checked and passed for payment. If any contractor declines to accept payment of a final bill, he should be (1) asked to state his objections in writing and to receive on account whatever the Administration is prepared to admit at once as due; and (2) warned that no claim to interest would be admitted by the Administration. The objection raised or claims put forward by the contractor, whether in reply to the notice or of his own accord, should be investigated anti settled within a reasonable period. If the investigation is prolonged or thwarted by dilatory or obstructive tactics on the part of the contractor, the Administration should arrange to refer the case to arbitration as provided in the contracts. In all importance cases, where the amounts at stake are large or any important question of principle arises, legal advice should be taken at as early a stage as possible.

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CHAPTER XV

EXPENDITURE AND BUDGETARY CONTROL

Responsibility with regard to expenditure

1501	General Rules on Budget
1502	Responsibility with regard to expenditure
1505	Mixed-works
1506	Budgetary control over revenue demands
1508	Budgetary control over expenditure on Acquisition Construction and Replacement
1509	Budgetary Reviews
1510	Exchequer Control
1511	Implementation of Exchequer Control
1512	Information to be furnished by Executive Officers
1513	Limitation of Exchequer Control
1514	Watch on Credit or Recoveries
1515	Expenditure control
1516	Method of exercising control over expenditure
1517	use of Works Register
1518	Progress Report cum Financial Review
1519.	Preparation of Progress Report cum Financial Review

1501. General Rules on Budget.-The general rules on budget are contained, in Chapter Ill, IV and V of the Indian Railway Financial Code to which reference may be made.

1502. Responsibility with regard to expenditure.-No expenditure shall be incurred by any authority without the allotment of funds. The expenditure on each work shall be limited to sum allotted for it. If for exceptional reasons expenditure in excess of Budget allotments has to be incurred and if the authority incurring expenditure is either not empowered to sanction a reappropriation therefor application for additional funds shall be made to the next higher authority stating how the expenditure is proposed to be met. In doing so it should invariably be explained why the need for the expenditure was not foreseen in time for inclusion in the Budget and why the outlay could not be postponed to the next financial year. (c f. 367 F, 368 F).

1503. The authorities to whom the funds are allotted are responsible to report at once to the next higher authority, the probability of any lapses of excesses over the sums placed dt their disposal. No liability may be incurred in one year against anticipated grants of a succeeding year, except that advance commitments for procurement of stores for works may be made as provided in para 812-S to the extent authorised by the Railway Board from time to time. (c f. 371 -F).

1504. It should be the duty of the administration to see that the allotments made to them are fully expanded, in so far as is consistent with economy and the prevention of large expenditure in the last months of year for the sole purpose of avoiding lapses. They shall be responsible for ensuring that money which is not likely to be needed during the year is promptly surrendered as to allow its appropriation for other purpose, (c f. 372+).

1505. Mixed Works:- In the case of mixed works involving more than one department, the department to which major portion of the estimated cost relates will co-ordinate the budgetary and expenditure control. On receipt of allotment of funds for the year, the co-ordinating departments shall arrange to distribute funds to other departments connected with the execution of such works.

Budgetary Control

1506. Budgetary Control over Revenue Demands: --For exercising control over Revenue expenditure, Revenue Allocation Registers (refer para 512+) serve as an important management tool. All revenue expenditure is recorded in this Register by various heads of accounts as prescribed in the Revenue Expenditure Classification. A monthly comparison is made of the expenditure, with Budget Allotment and for this purpose the sanctioned Budget Allotment for a year is distributed among the various months after taking in to account various known factors of disturbance keeping the guidelines outlined in para 508-F in view. The proportionate budget allotment for each month, for each sub-head of grant is worked out by the Accounts Officer at the beginning of each financial year in consultation with the officers responsible for the control of expenditure. The progress of expenditure is monitored through monthly Financial Reviews prepared by the Accounts Officers in Form 513-F, and furnished to the controlling authorities every month by such dates as may be fixed in consultation with them. (c f. 508-F. 512-F)

1507. The monthly Financial Reviews provide two projections viz. (j) actual expenditure compared to the proportionate allotment of the end of the month under review, and (ii) actual expenditure to the end of the month under review compared to the expenditure to the end of the corresponding month of the preceding year. The financial reporting system provided by the monthly Financial Reviews offers a means of exercising control over expenditure under Revenue Demands.

1508. Budgetary Control over expenditure on Acquisition, Construction and Replacement of Railway Assets.- In the case of works chargeable to Capital, Depreciation Reserve Fund, Development Fund, Accident Compensation Safety and Passenger Amenities Fund and Open Line Works Revenue, Railway Administrations are required to exercise budgetary control not only under each sub-head of grant. but also against the allotment sanctioned for the year for each work costing over Rs. 50,000 each. For this purpose the financial reporting system provides for the preparation of two review statements by the Accounts Officers every month (i) by sub-head of grant in Form 525-F and *(ii)* by individual work in Form 526-F These reviews are furnished to the authorities concerned by the Accounts Officer by such dates as may be fixed in consultation with them (c.f.519-F).

1509. Budgetary Reviews.- During the financial year three budgetary reviews are made during August, December and February to review the requirements of funds. Reference may be made to Chapter 111 of Indian Railway Financial Code, regarding the relevant provisions in this connection. These reviews provide a means of reassessing the requirements of funds and they should commence at the "grassroots level" i.e. Division. Workshop as the case may be. Since the responsibility for framing the requirements devolves upon the spending authorities concerned. care should be taken to see that the data on which the forecast is based is adequate and reliable and that the conclusions arrived at from the data can be sustained by past experience and future expectations of likely events to make the assessment as accurate as possible.

1510. Exchequer Control.- Exchequer Control is an important tool for budgetary control, and functions as a mechanism for concurrent of cash outgo by each disbursing officer against the cash content of the budget allotment. The regulation of cash disbursements will be made by disbursing officer separately under each grant and executive officers should assist the disbursing officer in framing the data as indicated in para 1512. (cf. 540-F).

1511. Implementation of Exchequer Control.- Implementation of Exchequer Control involves the following steps

- *(i)* Correct assessment of the `cash' and `adjustment' portions of the sanctioned annual budget under each demand by cash disbursing officer;
- *(ii)* As accurate an assessment as possible of the quarterly requirement of cash.
- *(iii)* Issue of quarterly/monthly cash authorisation to disbursing officer, and
- *(iv)* Concurrent control of cash outgo by each disbursing officer (c f. 545-F).

1512. Information to be furnished by Executive Officers.-Executive officers, should assist the disbursing officer in making a correct assessment of `cash' and `adjustment' portions of the sanctioned annual budget under each Demand, keeping the guidelines indicated in para 546-F in view. They should also make an assessment of quarterly forecast of expenditure under the categories 'cash' and 'adjustment' and finish the data to the disbursing officer for exercising control of cash outgo.

1513. Limitation of Exchequer Control.-Exchequer Control is a self imposed expenditure disciplirie by means of a system of day to day monitoring. to ensure that the cash contents of the budgetary allocation is not exceeded (cf. 543-F).

1514. Watch or Credit on Recoveries . The credit for released materials do not figure in the gross Demands, and are outside the scope of the Grants, but constitute a reduction of expenditure in accounts. The expenditure voted by Parliament is on gross basis but the compilation of expenditure by Plan Heads is on a net basis taking into account the credit or recoveries reflecting the effect of the resources generated by the realisation of credits for released materials. The resource allocation made for framing the Works Programme take into account the additional resources that would accrue by the realisation of credits indicated by the Railway Administrations and hence it is necessary that a watch on the actual credit realised is maintained. If credits as indicated at the planning stage do not materialize, it will have an adverse effect on the resource position.

Expenditure Control

1515. Expenditure Control.-The sanction to an estimate constitutes authority for spending a specific amount on a particular work. Executive Officers should not, therefore, incur expenditure or liability on a work in excess of the sanctioned estimate without the prior sanction of the competent authority. From the moment expenditure or liability is incurred on works, a check at regular. and frequent intervals should be made on its progress both against estimates and funds. The check should originate at the lowest executive level viz. a Division.

1516. Method of exercising control over expenditure.-The control over expenditure on railways is exercised through

- *(i)* The preparation in advance of estimates of the expenditure;
- *(ii)* The allotment of funds through budget grants for the year on the basis of these estimates; and
- *(iii)* The continuous and concurrent review of the expenditure as incurred against the details of the estimates and against the sanctioned grants, so that revisions of estimates or reappropriation of funds are arranged for at the earliest possible point of time.

1517. Use of Works Register.-The Works Register (refer to para 1472) maintained in each division serve as an important management tool in providing information which enables a comparison of the expenditure incurred against a work with the provisions made in the estimate. The Executive Officer should examine the information recorded in the Works Registers monthly or at more frequent intervals

and watch the progress of expenditure on each work so that any tendency towards excess over sanctioned estimate may be investigated and curbed or fresh administrative and technical sanction obtained in time to cover the anticipated excess.

1518. Progress Report-Cum-Financial Review.-For effective financial control of works a system which will monitor the relation between achievement and expenditure is essential. Financial Reviews assist in such a monitoring process and also serves as a management reporting system linking the progress of work with the expenditure incurred. Financial Review provides a means of assessing probable variations from* sanctioned estimate at the earliest possible date.

1519. Preparation of Progress Report-Cum-Financial Review.-Financial Reviews are to be prepared half yearly in the proforma given below (From E-1519) and should include (a) new construction conversions, doubling, (b) open line works costing Rs.50 lakhs (gross) and over, and (c) track renewal - works costing Rs.50 lakhs (gross) and over.

Form E-1519 (continued to.....list of forms)

1520. Progress Report-cum- Financial Reviews are to be prepared by the Divisional Executive Officer and countersigned by the Divisional Accounts Officer and sent to Chief Engineer and the Financial Adviser and Chief Accounts Officers. These Financial Reviews should be submitted before the end of the 3rd week of the 2nd month following i. e. before 21st May and 21st November for the period ending 31st March and 30th September respectively.

1521. These reviews are to be prepared from the time the expenditure is incurred on the work even though the work might not have been physically commenced. The review should show both the progress of works based on physical progress as well as progress of expenditure, actual and anticipated for each of the works. They should also give the overall financial and the physical progress as also the dates of commencement of the work and the probable date of completion.

1522. In the remarks column of the Financial Review (E-1519) any anticipated excess of not less than Rs.20,000 or 10 per cent over the provision under sub heads of account should be explained briefly When a financial review shows the probability of a variation which is beyond the power of the Railway Administration to sanction, an explanation should be given of the measures taken or proposed to be taken to regularize the position. Explanations for savings of 20 per cent or one lakh. whichever is less occurring under any main head of account such as "Formation` "Bridge Work etc. should also be given in the remarks column.

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CHAPTER XVI

COMMISSIONING OF RAILWAY PROJECTS

Commissioning of new lines

1601	**Commissioning of New Lines-opening for Goods Traffic**
1602	**Arrangements to be made before opening of line to goods traffic**
1603	**Responsibility of the Construction Engineer**
1604	**incidence of Operating Expenses and Earnings**
1605	**Opening for Passenger Traffic**
1606	**Fixing date for opening for Passenger Traffic**
1609	**Handing over of New Lines to Open Line**
1610	**Allocation of Maintenance charges**
1611	**Commissioning of Doubling Projects**
1615	**Commissioning of gauge conversion Projects**
1616	**Commissioning of other Railway Projects**
1617.	**Taking over by Open Line**

1601. Opening for Goods Traffic.-A line under construction should not be left unremunerative longer than is a absolutely necessary. As soon as possible after the rails have been linked through a section of a line under construction, reasonable facilities for the receipt and despatch of goods and parcels should be provided at all the important station on that section, so that it may be opened for goods traffic, Reasonable facilities for goods and parcels traffic at a station should include the following :-

- *(a)* A siding or part of a siding of a suitable length set apart for the exclusive use of the goods wagons when loading and unloading.
- *(b)* A suitable space property dressed and free from all construction material or debris for the stocking of inward and outward goods.

- *(c)* A goods shed, if provision for one is included in the sanctioned estimate of the project; otherwise tarpaulins should be provided for the protection of goods.
- *(d)* A small office for the goods clerk when a goods shed is not provided.
- *(e)* Office furniture according to the scale prescribed by the open line administration.
- *(f)* A weighing machine and weights of standard types for the goods shed.
- *(g)* Residential accommodation for the traffic staff.
- *(h)* Supply of drinking water for the staff.

1602. The Chief Engineer (Construction) or the Senior Engineering Administrative Officer, under whose Administrative control the line under construction is vested should fix the date of opening of the line or a section thereof for goods traffic in consultation with the General Manager of the connected open line administration. Before fixing the date the General Manager should arrange to have an inspection of the line proposed to be opened for goods traffic by responsible officers of the Commercial and Operating Departments so that they may satisfy themselves that adequate facilities will be provided before the date fixed. He should at the same time arrange for :-

- *(a)* the compilation and issue of the necessary rates and fare tables in accordance with regulations.
- *(b)* advertising the opening of the line to goods traffic;
- *(c)* the posting of the necessary goods booking clerks, etc. to all the stations to be opened.
- *(d)* the supply of the station scale, consumable stores, form, stationery, etc. required by the goods booking staff at call the stations to be opened.

1603. Responsibility of the Construction Engineer- The responsibility for opening a line to goods traffic and for seeing that everything is ready for such opening rests entirely with the Chief Engineer (Construction) or the Senior Engineering Administrative Officer, under whose administrative control the fine under construction is vested. It is his duty to see that all stations are adequately equipped and staffed for working of the goods traffic efficiently and cheaply. He should notify the Additional Commissioner of Railway Safety concerned of the date fixed for opening the line for goods traffic.

1604. Incidence of Operating Expenses and Earnings.-The operating expenses (including the pay and allowances of the traffic staff engaged) incurred in working the goods traffic on an "unopened" line (for definition of 'opening' see paragraph 1702) are a charge against the construction estimate of the project, and should, be debited to Capital 11970perating expenses pending opening of the line to traffic. The goods earnings are likewise creditable to the project under the head 1198 Receipts on Capital Account-Miscellaneous Receipts.

Opening for Passenger Traffic

1605. Every new line or a section thereof should, before sanction can be obtained for its opening for public carriage of passengers be inspected and passed by the Additional Commissioner of Railway Safety concerned, in accordance with the "Rules for the opening of a Railway for the public carriage of passengers". No new line or a section thereof should be offered for the inspection of Additional Commissioner of Railway Safety until it has been completely equipped. No temporary or make-shift arrangements, however safe, should be permitted.

1606. Fixing Date for opening for Passenger Traffic.-The date for the opening of a line for the public carriage of passengers should be fixed by the Chief Engineer (Construction) or the Senior Engineering Administrative Officer under whose administrative control of the line is vested, in consultation with the General Manager of the connected open line administration so that the latter may make suitable arrangements for working the new line for public traffic from the date fixed. After fixing the date the Additional Commissioner or Railway Safety concerned should be invited to inspect the new line and give the necessary permission for the opening of the line. At least one month's notice should be given to the Additional Commissioner of Railway Safety of the date on which it is desired that the inspection should take place.

1607. The date for the inspection of a line by the Additional Commissioner of, Railway Safety, prior to the opening for the public carriage of passengers should in consultation with that Officer, be fixed a week or so prior to the date of opening so as to allow time for complying. with the Inspecting Officer's requests or recommendations before actual opening of the new line. The Chief Engineer (Construction) or the Senior Engineering Administrative Officer under whose administrative control the new line is vested is responsible for seeing that the new line offered for inspection of the Additional Commissioner of Railway Safety is in every respect fit for opening by the date fixed for the inspection and is fully equipped.

1608. A new line should not ordinarily be considered fit for opening unless :-

- *(i)* all station buildings and quarters included in the construction estimate are completed and ready for occupation and use;
- *(ii)* the track is thoroughly packed and boxed throughout;
- *(iii)* all stations and locomotive yards provided in the construction estimate are completed;
- *(iv)* all station signals, point indicators, derails or Scotch blocks are in position and in perfect working order.
- *(v)* all points and crossings are correctly and truly laid;
- *(vi)* watering arrangements are complete;
- *(vii)* All ..... Special", `W' and "B" class level crossings are manned by gatemen; and

- *(viii)* Adequate arrangement is made for the maintenance of track and other infrastructure facilities.

1609. Handling over of New Lines to Open Line.-All new lines should be taken over by Open line organisation within six months of the date of opening for goods traffic. Ballasting and other residual works if any should be got done by the open line against the construction estimates.

1610. Allocation of Maintenance Charges.--The maintenance charges of a new line is allocated to Revenue from the date of its opening. The date of opening in the case of new line should be held to be the date of opening for passenger traffic of the whole line included in the construction estimate. In case there is likely to be much time lag between the date of opening of the new line for goods traffic and passenger traffic, Board's specific orders should be obtained regarding the allocation of maintenance charges.

Commissioning of Doubling Projects.

1611. Opening for Goods Traffic.--The new line of a doubling project should be opened to traffic as early as possible after the rails have been linked through, to obtain financial benefits of the investment made.

1612. Opening to Passenger Traffic.--Provisions contained in paras **1605 to 1608** will apply *mutatis mutandis* to doubling projects also.

1613. Handing over of doubling projects to open line.--All doublings should be taken over by open line organisation within six months of the date of opening to goods Traffic, Ballasting and other residual works if any should be got done by the open line against the construction estimates.

1614. Allocation of maintenance Charges on doublings.--The doubling are usually justified on goods traffic Kind hence the working expenses should be debited to Revenue from the date the new double line is opened to goods traffic and earnings also credited to Revenue. If some works are yet to be done on the date of opening to goods traffic, they should be charged to the doubling estimates.

Commissioning of Gauge Conversion Projects

1615. Gauge Conversion Projects are opened to passenger traffic straightway and provisions contained in **paras 1605 to 1608** will apply **mutatis mutadis** for conversion projects also.

Commissioning of other Railway Projects

1616. In the case of other projects the completion of the projects should be reckoned from the date on which the project fulfils the purpose for which it when sanctioned was intended.

1617. Taking over by Open Line.--All such works should be taken over by the open line organisation with the least possible delay within three months of their completion without prejudice to the obligation of the contractors within the maintenance period prescribed under the relevant contracts.

Taking over by open Line

1618. When handing over a project or work to the open line authorities at least two copies of the document specified in **paragraphs 1620 to 1633** should be prepared. One copy of each of the documents should be sent for record in the division and the other for record in the headquarters Office of the open line administration.

1619. Transfer of Charge. --The charge should be made over to the open line Assistant Engineer by the construction engineer in the manner indicated in **Chapter 1.**

1620. Narrative Handing over Notes under the following heads should be prepared by the construction engineer: --

(a) General Description of the Line. --All point, of importance under several main heads of works should be dealt with under this head. Special attention should be paid to:

(i) ruling grades, maximum curvature, compensation for grades, vertical curves, transition curves.

(ii) axle loads for which bridges hive been constructed;

(iii) Number of sleepers per rail;

(iv) type of ballast; and

(v) list of works to be completed by the open line and charged to construction estimates, the dates by which these should be billed and paid for being specified.

(b) *Important Bridges.--For* each important major bridges a separate notes should be prepared giving details of training works provided. Estimated discharges, maximum scour allowed for etc.;

(c) Maintenance Notes.--Notes, in particular on special portions of banks , cuttings, catch water drains, etc. which require special attention in monsoon or during sand storms should be prepared.

1621. List of Bridges.--This should be prepared on **Form E. 1621**, taking care that details regarding founds are accurate:

Form E. 1621

LIST OF BRIDGES

Division.....

No. of Bridge	Kilometerage and Telegraph post	Spans	Type	Standard strength of girders			Nature of Found	Training works	Remarks
				Flange	Rivet Shear	Rivet bracing			

1622. List of Buildings.--This will be prepared on printed **Form E. 1977**.

1623. List of level Crossings.--This should be prepared on the following form:-

Form E. 1623

LIST OF LEVEL CROSSING

No.	Kilometre and telegraph post	Chainage	Description and class of level crossings	Remarks

1624. List of Bench Marks.--This should be prepared in the following form:--

Form E. 1624

LIST OF BENCH MARKS

No.	Value	Kilometre and telegraph post	Chainage	Description	Remarks

1625. List of Completion Drawings.--A list of all the drawings and tracings, made over to the open line should be prepared and signed by the construction engineer.

1626. List of Tools and Plants Made Over.--This should be prepared in the form given below:-

Form E. 1626

LIST SHOWING TOOLS AND PLANTS MADE OVER BY

P.W.I����.. Construction to P.W. I ����. Open line.

Item No.	Description	Number handed over	With gangs 1 2 3 4 5 6 7 8 9 10 so on	Gate Keepers	Work shop staff	PWI Head Trolley man	SWI 1 2

Handed over ����� Taken over�������..

(Signature) (Signature)

1627. List of Permanent-Way Material Made Over as imprest.--This should be prepared in the following form:-

Form E.1627

LIST OF PERMANENT-WAY MATERIAL MADE OVER BY

P.W.I. ⁂ construction at ����. to P.W.I. Open line, as an imprest

Item No.	Particulars	With gangs 1 2 3 4 5 6 7 8 9 10	P.W.I.	Remark

Handed over ⁂.. Taken over⁂

(Signature) (Signature)

1628. List of Petty and Consumable Stores Made Over.--This should be prepared in Form E. 1628. Petty stores, such as speed boards, clear, Boards, hand flags, etc., which are handed over to the open line at the of Transfer should be shown in this form.

Form E. 1628

PETTY STORES HANDED OVER BY

P.W.I. ������. to P.W.I. ������.

First Equipment

Item No.	Description	Quantity or number	Remarks (This should give notes as to distribution)
MM			

Handed over ���.. Taken over������

(Signature) (Signature)

1629. List of Interlocking Material Made Over. Interlocking if any, handed over by the Construction Branch should be shown in the following form:-

Form E. 1629

LIST OF INTERLOCKING MATERIAL MADE OVER BY

P.W.I. ��construction at ����. to ���. Open (line)

Item No.	Description	Quantity of material made over	Remarks

Handed over ���.. Taken over������

(Signature) (Signature)

1630. List of Material lying at Site of Works Made Over--This should be prepared in the following form:--

Form E. 1630

LIST OF MATERIAL LYING AT SITE OF WORKS ON

Construction made over to. . . . . Division Open Line.

Item No.	Telegraph post chainage	Ballast	Bricks	Bricks bates	Lime	Surkhi	Sand	And as on	Remarks
		Brick Stone	1st 2nd 3rd						
		C.m. C.m.	No. No. No.	C.m.	C.m.	C.m.	C.m.		

1631. List showing Maintenance Labour and Staff Transferred to Open Line--This statement should show the name, father's name, rate of pay and date of appointment of the employees who are on maintenance duty at the time of handing over and transferred to open line.

1632. Track Renewal Graphs--These should be prepared in accordance with the rules prescribed by the open line administration.

1633. Statement showing Route and Track Kilometrage--This statement should show:--

(a) route Kilometrage;

(b) track Kilometrage (which usually differs slightly from the route Kilometrage, the latter being from the centre of station to centre of station);

(c) siding Kilometrage (which should show *(i)* Operating *(ii)* sidings, *(iii)* Commercial sidings; and

(d) *t*otal sidings and

(d) total kilometrage of tracks, i.e. total of *(b) and (c).*

It should be noted that (b) "Track kilometrage" should correspond exactly with the track renewal graph. This statement should be prepared in the form given below:--

Form E. 1631

STATEMENT SHOWING KILOMETRAGE OPEN TO END OF..... ON..... RAILWAY CONSTRUCTION.

Particulars	Route--Kilometres			Track--Kilometres			Siding Kilometres	Total track Kilometres	Remarks
	Main Line	Branch Line	Total	Main Line	Branch Line	Total			

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CHAPTER XVII

COMPLETION OF RAILWAY PROJECTS

Projects costing over rupees one crore

1701	Completion Estimates
1702	Date of opening
1704	Closing the Accounts of a Project
1705	Project Completion Report
1706	Form of Completion Report
1707	Financial Prospects
1708	Completion of Works
1712	Accounts Verification of Completion Reports
1713	Completion report of Unfinished Works
1714	Completion Statements
1715	Expeditious Closing of Accounts of Works
1716	Entry in the Register of Works
1717	Adjustment of charges and credits relating to completed works
1719	Completion Report for Land
1720.	Docketting investment cost, Assets Register

1701. Completion- Estimates.--In the case of Railway Projects costing over rupees one crore, the Construction or Abstract Estimate should be closed at the end of one of the first three financial half years after the date of "opening" (as defined in para 1702) as may be convenient and a "completion estimate" prepared (see paragraph 713). The completion estimate is a "stock taking estimate". and all

works not started on that date are excluded from the scope of the project and are to be dealt with separately The financial half year ir. which the project is opened should be excluded for determining the date. of closing of project estimate and preparation of completion estimate. The completion estimates should invariably be signed by or on behalf of the Financial Adviser and Chief Accounts Officer, and by or on behalf of competent executive authority. if this is sanctioned at Railway's level, the sanctioning authority's designation should be indicated.

1702. The date of "opening" in the case of new line should be held to be the date of opening for passenger traffic of the whole line included in a construction estimate. If different sections of a project Are likely to be opened at intervals exceeding one year separate completion estimate should be submitted for each section. In the case of lines justified solely for the movement of goods traffic for e.g., ore traffic the date of" opening" shall be the date on which the line is opened to goods traffic. In the case of open fine projects the date of "opening" should be held to be the date on which the project fulfils the purpose for which it was sanctioned. In the case ot doubling or quadrupling of lines or provision of third line the purpose for which the project has been sanctioned will be deemed to have been fulfilled when the new line is opened for goods traffic.

1703. Completion estimates, which involve any material modifications (see paragraph 1109) in a project sanctioned by the Railway Board, or an excess over the estimate beyond the powers of sanction of the General Manager (vide paragraph 748) should, after verification by the Accounts Officer-be submitted for the sanctioned of the Railway Board. Completion estimates which involve no such modifications or excess may be sanctioned by the General Manager, the Railway Board being informed, when sanction has been accorded, an abstract of the completion estimate being at the same time forwarded for the information of the Railway Board. The completion estimate should reach the authority competent to sanction it, within four months, after the close, of !he financial half year upto which it shows actual expenditure.

1704. Closing the Accounts of a Project.--Those items of work which were in progress at the time of closing of Construction of Abstract estimate should be got completed and the accounts of the project should be closed as soon as possible. Executive Engineers in charge of project should therefore take prompt action to bring to account all charges and credits pertaining to the projects. They should before closing the accounts of a project, take steps to liquidate all outstanding liabilities, clear suspense balances, pay up all outstanding contractor's claims and dispose of all surplus stores and tools and plants returned from works. After all charges and credits relating to the project have been booked in the accounts of the project a Completion Report of the project should be prepared.

1705. Project Completion Report. -*Its compilation and object of submission.* -The object of a Completion Report is to compare the cost of work actually constructed with those provided in the last sanctioned estimate. The completion report of a project duly verified by the Accounts Officer in accordance with **para 1712**, should be submitted to the Railway Board within 18 months after the end of the financial half year in which the completion estimate is submitted. It should state the expenditure in the same details as the abstract estimate sanctioned by the Railway Board and should indicate any material

modifications thereto. In addition it may contain such other information as would in the opinion of the Railway Administration be of interest to the Railway Board.

1706. Form of Completion Report. -The Completion Report should be prepared in the following form and brief explanations should be furnished for: -

(i) excess of not less than 10 per cent or Rs. 25,000 whichever is less over the estimated provision under each sub work;

(ii) saving of not less than 20 per cent or Rs.1 lakh whichever is less, occurring under any sub-work.

Note. - The Divisional Superintendent/Deputy Chief Engineer concerned may be empowered by the General Managers to approve the completion reports of works within the General Managers competence in the works Registers if variations are within 5 per cent of the sanctioned estimate.

Form E. 1706

COMPLETION REPORT FOR THE WORK.....

Particular Heads of Account and Description of works	Amount of Estimate with reference to authority for sanction	Actual Expenditure	Difference		Remarks & Explanations
			Excess	Saving	

1707. Financial Prospects. - In the case of railway lines newly constructed the completion report should be accompanied by a comparative statement showing the financial prospects of the line as anticipated and as updated with reference to the completion cost. If at the time of preparation of completion report, the earnings upto that period have undergone radical changes from original anticipations, this factor should also be taken into account while working out the financial prospects.

Works Costing Rupees One Crore and less

1708. Completion of Works. - In common with works costing over Rupees one crore, a work or scheme costing less than this amount should be considered as completed when it fulfils the purpose for which it when sanctioned, was intended, and when there has been no expenditure thereon for three months thereafter. All outstandings debits and credits pertaining to a completed work should as a rule be adjusted in the account of the work within three months of the date of completion. The accounts of a completed work should be closed six months after the date of completion and a completion report of the work drawn.

1709. A completion report for works costing Rupees one crore and less should subject to the detailed instructions issued by the Railway Administration, be prepared in the same form as that for works costing over Rupees one crore. It should compare the actual expenditure incurred with the sanctioned amount and should give under each sub-work brief explanations of all excesses and savings of over 5 per cent or Rs.10,000 whichever is less. The authority sanctioning the estimate `may prescribe any additional information to be submitted alongwith the completion report.

1710. A certificate to the effect that necessary agenda or corrigendato the list of Buildings have been issued (see paragraph 1977) should be recorded on all completion reports for staff quarters and other buildings. A certificate to the effect that the necessary entries have been made in the siding register (Form E. 1840) and the register of deposit works (Form E. 1852) should be recorded on all completion reports relating to assisted sidings and deposit works.

1711. A Completion report duly verified by the Accounts Officer should ordinarily be submitted to the authority who accorded the administrative approval to the work for information or regularization. in respect of structural and track renewal works costing over Rupees ten lakhs included ifi the sanctioned budget with the prior approval of the Railway Board and works sanctioned out of turn with the administrative, approval of the Railway Board being beyond the General Managers' powers of sanction the completion reports may be finally dealt with by the General Managers except (a) when they involved an excess beyond the General Manager's powers of sanction or (b) when a material modification is involved. For works costing rupees one crore and less the completion report should be submitted within six months of' the completion of work. In the case of works on which no expenditure is recorded for three consecutive months, the Accounts Officer should call for the completion reports. if the works are incomplete the executive officer should advise the Accounts Officer of the probable dates of completion and submission of of the completion reports. Abnormal delay in the submission of reports by the executive officers should be brought to the notice of the Head of the Railway Administration by the Accounts Officer.

1712. Accounts Verification of Completion Reports. -Completion Reports should be checked in the Accounts Office to see that they have been prepared in the proper form and that the entries therein correspond with the particulars of the sanction and booked outlay. Special Attention should be devoted to the following points.

- (a) Checking the correctness of postings of aII final bills relating to a work in the account of the work;
- (b) test-checking the correctness of a percentage of other items
- (c) seeing that satisfactory explanations are forthcoming for excesses and savings in the account;
- (d) seeing that all materials charged to the work or works; but. not used up, have been returned to stores or transferred elsewhere and. the account of the work credited with their value;

- (e) seeing that credit for the released materials. provided for in the estimate has been adjusted against the work concerned.

All completion reports should be "verified" by the Accounts Officer as correct. The verification certificate of the Accounts Officer should state the authority competent to sanction the outlay shown in the report.

1713 Completion Reports of Unfinished Works.-If for any reason a work on which expenditure has been incurred is stopped, and if there is no reasonable prospect of completing it in near future, the account of the work should, as in the case of a completed work, be closed and a completion report drawn and submitted to the authority which accorded the administrative approval to the work, for information. In the case of structural works, other than Track Renewal works, costing more than Rupees one crore each for which administrative approval of the Railway Board is obtained by the submission of separate Abstract Estimates not withstanding their specific inclusion in sanctioned budget, the completion reports in such case should be submitted to the Railway Board, duly verified by the Financial Adviser and Chief Accounts Officer.

1714. Completion Statements As a general rule, completion report should be submitted in respect of each completed work. Nevertheless, in the case of works the expenditure on which is within the competence of the head of the railway to sanction a formal completion report on the prescribed form need not be prepared. In such cases all the information required in the Completion Report Form, the certificate of the Accounts Officer and the sanction of the competent executive authority may be recorded in the register of works under the relevant accounts, Completion Statements (Form E. 1714) showing the following information being prepared and recorded under the orders of the competent executive authority, after verification by the Accounts Officer :-

- (i) Reference to estimate.
- (ii) Amount of sanctioned estimate.
- (iii) Actual expenditure as finally booked.
- (iv) Brief explanation of excess or saving.

Note.-The provisions of this paragraph do not apply to works, for which detailed estimates are not required to be prepared.

1715. Expeditious Closing of Accounts of Works.-The account of a work costing rupees one crore and less should not kept open beyond three months of the date of its completion. Efforts should be made to bring to account ail liabilities and credits pertaining to the work by liquidating the former and realising the latter within that period. If a contractor's claim could not be finally settled within that period (cf. paragraph 1704) whatever the railway considers as legitimately due to the contractors should be adjusted by debit to the work and credit to "Deposit" and the account of the work finally closed. If the disposal of released materials is likely to delay the closing of the account of a work, credit should be afforded to work on the basis of estimates by the Stores Department in consultation with the Engineer.

Should the actual payment made or credit realised differ from that already booked, such difference should be dealt with in accordance with paragraph 1717 and 1718 below.

1716. Entry in the Register of Works.-When a work is completed and its accounts closed a double red ink line should be ruled below the last entry in the Register of Works and a note made as under :

Work completed.

Completion report submitted on..... .....

General Rules Applicable to all Works

1717. Adjustment of Charges and Credits Relating to Completed Works.(1) If charges or credits are received for a work, the account of which has been closed, but the completion report of which has not yet been sanctioned, the account of the work should be reopened and necessary postings should be made in the Works Register against the work concerned. A revised completion report should then be prepared and submitted to the competent authority.

(2) If the charges or credits are received for a work the completion report of which has been sanctioned

- *(a)* Except in the case of land, charges not exceeding Rs.10,000 should be adjusted against the appropriate head of account under ordinary Revenue Maintenance and credits not exceeding Rs.10,000 against Abstract Z-650.

- *(b)* When the charge or credits exceeds Rs.10,000 or relate to land, the account of the work should be reopened and the necessary adjustments made thereunder the completion report should also be revised accordingly.

(3) In cases where the accounts of works are closed after affording estimated credit for released materials as provided in paragraph 1715 the difference between the credits so afforded and the amounts actually realised subsequently on the final disposal of such materials should not be forced into the accounts of the works by reopening them. Subsequent depreciation or appreciation. of the materials should be dealt with in the same way as fluctuations in the price of stock item.

1718. In applying the rules in the preceding paragraph care should be taken to see that:-

- *(i)* In the case of residential buildings the total cost of the building is correctly noted in the list of buildings; and

- *(ii)* In the case of deposit works, the actual amount spent on the work is recovered from the party for whom the work is executed, even though an adjustment is not made either in the Register of Works or in the Completion Report.

1719. Completion Report for "Land".--if, in the case of any project, there is likelihood of delay in regard to the final adjustment of charges on account of land acquisition owing to its being outside the control of railway administrations the Completion Report may be submitted in two parts, *viz.,* one showing all

expenditure on the project excluding" Land" and the other dealing with "Land". For purposes of allocation and for determining the authority competent to sanction expenditure both the parts should be treated as one Completion Report.

1720. The investment cost of all projects including buildings costing over Rs.20 lakhs should be docketed in an Assets Register, irrespective of the fact whether the project concerned is proposed to be subjected to a post project appraisal or not in form E-1720, to facilitate retrieval of information and to conduct post project appraisal if required. The information will be posted from sanctioned completion reports. When the project is executed by the Construction Organisation, the Register will be handed over as a part of the handing over records to Open Line Organisation for retention as permanent record.

Further, in the case of buildings, the information will be docketed in the Building Register in form E. 1977- For all works other than buildings and costing less than Rs.20 takhs the sanctioned completion reports and completion estimate should be preserved for five years. The Completion Reports of other works need not be Preserved, once the information is docketed in the Assets Register or Building Register.

Form E. 1720

ASSETS REGISTER

1. Name of work
2. Date of commencement
3. Date of completion
4. Completion report No. and date.
5. Authority sanctioning the completion report.
6. Completion cost.

Note-The completion cost will indicate the break-up of cost sub-work/sub-estimatewise. Total.

7. Investment Schedule

Year	Amount of investment			
	Capital	DRF	DF	Revenue

Total				

....

Accounts officer **Divisional Engineer**

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CHAPTER XVII

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1716	Entry in the Register of Works
1717	Adjustment of charges and credits relating to completed works
1719	Completion Report for Land
1720.	Docketting investment cost, Assets Register

1701. Completion- Estimates.--In the case of Railway Projects costing over rupees one crore, the Construction or Abstract Estimate should be closed at the end of one of the first three financial half years after the date of "opening" (as defined in para 1702) as may be convenient and a "completion estimate" prepared (see paragraph 713). The completion estimate is a "stock taking estimate". and all

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1703. Completion estimates, which involve any material modifications (see paragraph 1109) in a project sanctioned by the Railway Board, or an excess over the estimate beyond the powers of sanction of the General Manager (vide paragraph 748) should, after verification by the Accounts Officer-be submitted for the sanctioned of the Railway Board. Completion estimates which involve no such modifications or excess may be sanctioned by the General Manager, the Railway Board being informed, when sanction has been accorded, an abstract of the completion estimate being at the same time forwarded for the information of the Railway Board. The completion estimate should reach the authority competent to sanction it, within four months, after the close, of !he financial half year upto which it shows actual expenditure.

1704. Closing the Accounts of a Project.--Those items of work which were in progress at the time of closing of Construction of Abstract estimate should be got completed and the accounts of the project should be closed as soon as possible. Executive Engineers in charge of project should therefore take prompt action to bring to account all charges and credits pertaining to the projects. They should before closing the accounts of a project, take steps to liquidate all outstanding liabilities, clear suspense balances, pay up all outstanding contractor's claims and dispose of all surplus stores and tools and plants returned from works. After all charges and credits relating to the project have been booked in the accounts of the project a Completion Report of the project should be prepared.

1705. Project Completion Report. -*Its compilation and object of submission.* -The object of a Completion Report is to compare the cost of work actually constructed with those provided in the last sanctioned estimate. The completion report of a project duly verified by the Accounts Officer in accordance with **para 1712**, should be submitted to the Railway Board within 18 months after the end of the financial half year in which the completion estimate is submitted. It should state the expenditure in the same details as the abstract estimate sanctioned by the Railway Board and should indicate any material

modifications thereto. In addition it may contain such other information as would in the opinion of the Railway Administration be of interest to the Railway Board.

1706. Form of Completion Report. -The Completion Report should be prepared in the following form and brief explanations should be furnished for: -

(i) excess of not less than 10 per cent or Rs. 25,000 whichever is less over the estimated provision under each sub work;

(ii) saving of not less than 20 per cent or Rs.1 lakh whichever is less, occurring under any sub-work.

Note. - The Divisional Superintendent/Deputy Chief Engineer concerned may be empowered by the General Managers to approve the completion reports of works within the General Managers competence in the works Registers if variations are within 5 per cent of the sanctioned estimate.

Form E. 1706

COMPLETION REPORT FOR THE WORK.....

Particular Heads of Account and Description of works	Amount of Estimate with reference to authority for sanction	Actual Expenditure	Difference		Remarks & Explanations
			Excess	Saving	

1707. Financial Prospects. - In the case of railway lines newly constructed the completion report should be accompanied by a comparative statement showing the financial prospects of the line as anticipated and as updated with reference to the completion cost. If at the time of preparation of completion report, the earnings upto that period have undergone radical changes from original anticipations, this factor should also be taken into account while working out the financial prospects.

Works Costing Rupees One Crore and less

1708. Completion of Works. - In common with works costing over Rupees one crore, a work or scheme costing less than this amount should be considered as completed when it fulfils the purpose for which it when sanctioned, was intended, and when there has been no expenditure thereon for three months thereafter. All outstandings debits and credits pertaining to a completed work should as a rule be adjusted in the account of the work within three months of the date of completion. The accounts of a completed work should be closed six months after the date of completion and a completion report of the work drawn.

1709. A completion report for works costing Rupees one crore and less should subject to the detailed instructions issued by the Railway Administration, be prepared in the same form as that for works costing over Rupees one crore. It should compare the actual expenditure incurred with the sanctioned amount and should give under each sub-work brief explanations of all excesses and savings of over 5 per cent or Rs.10,000 whichever is less. The authority sanctioning the estimate `may prescribe any additional information to be submitted alongwith the completion report.

1710. A certificate to the effect that necessary agenda or corrigendato the list of Buildings have been issued (see paragraph 1977) should be recorded on all completion reports for staff quarters and other buildings. A certificate to the effect that the necessary entries have been made in the siding register (Form E. 1840) and the register of deposit works (Form E. 1852) should be recorded on all completion reports relating to assisted sidings and deposit works.

1711. A Completion report duly verified by the Accounts Officer should ordinarily be submitted to the authority who accorded the administrative approval to the work for information or regularization. in respect of structural and track renewal works costing over Rupees ten lakhs included ifi the sanctioned budget with the prior approval of the Railway Board and works sanctioned out of turn with the administrative, approval of the Railway Board being beyond the General Managers' powers of sanction the completion reports may be finally dealt with by the General Managers except (a) when they involved an excess beyond the General Manager's powers of sanction or (b) when a material modification is involved. For works costing rupees one crore and less the completion report should be submitted within six months of' the completion of work. In the case of works on which no expenditure is recorded for three consecutive months, the Accounts Officer should call for the completion reports. if the works are incomplete the executive officer should advise the Accounts Officer of the probable dates of completion and submission of of the completion reports. Abnormal delay in the submission of reports by the executive officers should be brought to the notice of the Head of the Railway Administration by the Accounts Officer.

1712. Accounts Verification of Completion Reports. -Completion Reports should be checked in the Accounts Office to see that they have been prepared in the proper form and that the entries therein correspond with the particulars of the sanction and booked outlay. Special Attention should be devoted to the following points.

- (a) Checking the correctness of postings of aII final bills relating to a work in the account of the work;
- (b) test-checking the correctness of a percentage of other items
- (c) seeing that satisfactory explanations are forthcoming for excesses and savings in the account;
- (d) seeing that all materials charged to the work or works; but. not used up, have been returned to stores or transferred elsewhere and. the account of the work credited with their value;

- (e) seeing that credit for the released materials. provided for in the estimate has been adjusted against the work concerned.

All completion reports should be "verified" by the Accounts Officer as correct. The verification certificate of the Accounts Officer should state the authority competent to sanction the outlay shown in the report.

1713 Completion Reports of Unfinished Works.-If for any reason a work on which expenditure has been incurred is stopped, and if there is no reasonable prospect of completing it in near future, the account of the work should, as in the case of a completed work, be closed and a completion report drawn and submitted to the authority which accorded the administrative approval to the work, for information. In the case of structural works, other than Track Renewal works, costing more than Rupees one crore each for which administrative approval of the Railway Board is obtained by the submission of separate Abstract Estimates not withstanding their specific inclusion in sanctioned budget, the completion reports in such case should be submitted to the Railway Board, duly verified by the Financial Adviser and Chief Accounts Officer.

1714. Completion Statements As a general rule, completion report should be submitted in respect of each completed work. Nevertheless, in the case of works the expenditure on which is within the competence of the head of the railway to sanction a formal completion report on the prescribed form need not be prepared. In such cases all the information required in the Completion Report Form, the certificate of the Accounts Officer and the sanction of the competent executive authority may be recorded in the register of works under the relevant accounts, Completion Statements (Form E. 1714) showing the following information being prepared and recorded under the orders of the competent executive authority, after verification by the Accounts Officer :-

- (i) Reference to estimate.
- (ii) Amount of sanctioned estimate.
- (iii) Actual expenditure as finally booked.
- (iv) Brief explanation of excess or saving.

Note.-The provisions of this paragraph do not apply to works, for which detailed estimates are not required to be prepared.

1715. Expeditious Closing of Accounts of Works.-The account of a work costing rupees one crore and less should not kept open beyond three months of the date of its completion. Efforts should be made to bring to account ail liabilities and credits pertaining to the work by liquidating the former and realising the latter within that period. If a contractor's claim could not be finally settled within that period (cf. paragraph 1704) whatever the railway considers as legitimately due to the contractors should be adjusted by debit to the work and credit to "Deposit" and the account of the work finally closed. If the disposal of released materials is likely to delay the closing of the account of a work, credit should be afforded to work on the basis of estimates by the Stores Department in consultation with the Engineer.

Should the actual payment made or credit realised differ from that already booked, such difference should be dealt with in accordance with paragraph 1717 and 1718 below.

1716. Entry in the Register of Works.-When a work is completed and its accounts closed a double red ink line should be ruled below the last entry in the Register of Works and a note made as under :

Work completed.

Completion report submitted on..... .....

General Rules Applicable to all Works

1717. Adjustment of Charges and Credits Relating to Completed Works.(1) If charges or credits are received for a work, the account of which has been closed, but the completion report of which has not yet been sanctioned, the account of the work should be reopened and necessary postings should be made in the Works Register against the work concerned. A revised completion report should then be prepared and submitted to the competent authority.

(2) If the charges or credits are received for a work the completion report of which has been sanctioned

- *(a)* Except in the case of land, charges not exceeding Rs.10,000 should be adjusted against the appropriate head of account under ordinary Revenue Maintenance and credits not exceeding Rs.10,000 against Abstract Z-650.

- *(b)* When the charge or credits exceeds Rs.10,000 or relate to land, the account of the work should be reopened and the necessary adjustments made thereunder the completion report should also be revised accordingly.

(3) In cases where the accounts of works are closed after affording estimated credit for released materials as provided in paragraph 1715 the difference between the credits so afforded and the amounts actually realised subsequently on the final disposal of such materials should not be forced into the accounts of the works by reopening them. Subsequent depreciation or appreciation. of the materials should be dealt with in the same way as fluctuations in the price of stock item.

1718. In applying the rules in the preceding paragraph care should be taken to see that:-

- *(i)* In the case of residential buildings the total cost of the building is correctly noted in the list of buildings; and

- *(ii)* In the case of deposit works, the actual amount spent on the work is recovered from the party for whom the work is executed, even though an adjustment is not made either in the Register of Works or in the Completion Report.

1719. Completion Report for "Land".--if, in the case of any project, there is likelihood of delay in regard to the final adjustment of charges on account of land acquisition owing to its being outside the control of railway administrations the Completion Report may be submitted in two parts, *viz.,* one showing all

expenditure on the project excluding" Land" and the other dealing with "Land". For purposes of allocation and for determining the authority competent to sanction expenditure both the parts should be treated as one Completion Report.

1720. The investment cost of all projects including buildings costing over Rs.20 lakhs should be docketed in an Assets Register, irrespective of the fact whether the project concerned is proposed to be subjected to a post project appraisal or not in form E-1720, to facilitate retrieval of information and to conduct post project appraisal if required. The information will be posted from sanctioned completion reports. When the project is executed by the Construction Organisation, the Register will be handed over as a part of the handing over records to Open Line Organisation for retention as permanent record.

Further, in the case of buildings, the information will be docketed in the Building Register in form E. 1977- For all works other than buildings and costing less than Rs.20 takhs the sanctioned completion reports and completion estimate should be preserved for five years. The Completion Reports of other works need not be Preserved, once the information is docketed in the Assets Register or Building Register.

Form E. 1720

ASSETS REGISTER

1. Name of work
2. Date of commencement
3. Date of completion
4. Completion report No. and date.
5. Authority sanctioning the completion report.
6. Completion cost.

Note-The completion cost will indicate the break-up of cost sub-work/sub-estimatewise. Total.

7. Investment Schedule

Year	Amount of investment			
	Capital	DRF	DF	Revenue

Total				

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Accounts officer **Divisional Engineer**

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CHAPTER XVIII

MISCELLANEOUS WORKS

Works required for Defence Purposes

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1852	**Register of Deposit Works**
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1854	**General Interest during construction**
1855.	**Railway owned stone or ballast quarries General Rules**

1801. The cost of works constructed to meet the special requirement of Defence Department/ Ministry is divided between Railway estimate and Defence Estimate in accordance with the principles stated in paragraphs 1802 to 1807.

1802. Strategic Lines.--The entire expenditure of Defence Works carried out on strategic line will be borne by the Railways subject to the same rules of exemption from payment of dividend as are applicable to the expenditure incurred on strategic lines. All such works costing upto Rs.25,000 will be charged Open Line Works Revenue and works costing above this limit will be charged to Capital in terms of para 734-F.

1803. Commercial Lines.--The Railway estimates bear.--

(i) The cost of all recoverable material used in the construction of troops sidings and platforms etc., such as permanent way, girders, signals and other movable things, which are unlikely to be required for Defence services.

(ii) The cost of land acquired for troop sidings and platforms etc., It the railway administration chooses to acquire it for its own purpose; and

(iii) In the case of large Defence projects where, at least a full gang has to be exclusively employed in the maintenance of railway siding/s etc., the cost of residential accommodation for the Railway staff so employed.

1804. The Defence estimates bear.--

(i) The cost of construction of troop sidings, platforms etc., including the signalling arrangements required in the event of the siding or platform taking off from the main line beyond the limits of station yard, except the cost of recoverable material defined in clause (i) of paragraph 1803 above.

(ii) The cost of land acquired for troop sidings, platforms, etc., if the railway Administration does not choose to acquire it for its own purpose;

(iii) The interest and maintenance charges on Railway's share of the cost in respect of Defence works executed by Railways on behalf of Defence services as indicated in item *(i), (ii)* and *(iii)* of paragraph 1803 which would be as under.

(a) Interest charges on the Railway's share of cost comprising items *(1)* to (ill) of paragraph 1803 which will be at par with the prevalent rate of dividend payable by the Railways to the General Revenues, and will, therefore, be subject to revision, from time to time. The current rates are as under:

- On pre-1 964 Capital: @ 5.5%
- On post- 1964 Capital: @ 6.00%

(b) Maintenance charges @ 4.5% on Railway's share of cost; and

(c) Maintenance charges @ 2.5% per annum upto 31-3-75 on the cost of work borne by Defence as in item (i) and @ 2.5% per annum upto 31-3-75 on the cost of works borne by Defence as in item (i) and @ 4.5% per annum upto 1-4-75 onwards on the book value of the assets mentioned in item (i), and the cost of the working of signals required for platforms and sidings taking off the mainline; and

(iv) Maintenance charges at the rate of 4.50 per cent on the cost of residential accommodation constructed at the cost of- Defence Department for the Railway staff required for the maintenance of Defence works.

(v) The cost of taking out and returning to stores the materials defined in clause (i) of paragraph 1803 in the event of the sidings being abandoned;

(vi) Supervision charges at the rate of 12 % of the entire cost of the work including Railway's share of cost in terms of para 1137-E.

(vii) Works Establishment charges in accordance with para 1121- E;

(viii) Code charges as under

(a) Freight and incidental charges at 7% in terms of para 2328-S
(b) Contingencies at 3% in terms of para 727-E
(c) Temporary Establishment charges in terms of para 2158-Rll

(ix) Compensation for the quarters constructed by the Railway at their cost in the event of quarters being rendered surplus or the project abandoned. If the quarters are on Defence owned land the Ministry of Defence will take over the quarters at a fair valuation of their market cost. The quarters constructed on Railway owned land will be taken over by the Railways and if they cannot be utilised by the Railways the Ministry of Defence will pay fair Compensation therefor

1805. Defence Works. The cost of building and maintaining works for the defence of railway bridges, stations and tunnels, which are designed for occupation by regular troops, or which may in certain circumstances be garrisoned by them is debitable to the Defence estimates. But the Railway estimates bear the cost of maintaining buildings, which are required to be garrisoned by regular troops only in certain circumstances and which the railway administration concerned retains the right to occupy free of rent when not required by the military authorities and which are suitable for occupation by railway servants.

1806. Similarly, where the railway administration changes the site of bridges, necessitating the provision of new defences thereon, the cost of provision of such defence works, when they are considered necessary from a military point of view, will be a charge against Defence estimates.

1807. The cost of staff, whether railway, police or military, employed on protecting railway bridges (in the latter two cases if employed at the request of the railway), will be borne by the Railway, but when the service is taken over, on general grounds of Government policy, by the police, Defence Services or other public service department as part of their regular duties, the charges will be borne by the police Defence Services or the public service department concerned, as the case may be.

Work required to meet the requirement of the Civil and Defence Department/Ministries Road- cum-Rail bridges & public footpaths over Rail bridges

1808. Roadways over Railway Bridges. -The following rules regulate the incidence of the cost of roadways over Railway bridges.

1809. The necessity for a roadway for other than railway traffic on a Railway bridges, will be decided on its merits, the State Government being afforded an opportunity in each case of offering to share in the cost of the combined structure, but the final decision in an individual case will rest with the Central Government. Before taking up any such work, the Road Authority should be required to execute an agreement with the Railway in which amongst other things the latter's liability to pay the initial, recurring/maintenance and replacement or any other costs, should be clearly spelt out.

1810. Cost Construction and Renewal.-.Should the provision of a roadway be decided upon, the division of cost will be on the following basis. It must, however, be understood that payment for a roadway will only secure the provision of a road during the life of a structure for railway purposes and that if it has to be reconstructed for any reason, the division of cost will have to be made afresh.

(a) New Bridges.-

(i) **Common Deck road-cum-rail** bridge. In view of the increasing road and rail traffic, common decking cannot be retained permanently. The road traffic can be permitted only so long as it does not adversely affect the railway traffic. Common decks shall not be permitted where the rail traffic exceeds 10 trains per day each way. The State Government/ Road Authority need not share the original cost of the bridge, but they shall have to bear the initial cost of the road decking and agree to bear the cost of the dismantlement of the same and restoration of the bridge for proper railway working, when the decking is no longer required by them, or can no longer be permitted to be continued by the Railway. They would however be credited with the value of the released materials of the decking. Prior approval of the Board should be taken for provision of common decking on railway bridges.

(ii) **Roadway on a separate deck above the railway track-New Bridge.(**1) In the case of Broad Gauge single track with 7.2 M (24 ft.) roadway and 1.8M. (6 ft.) wide footpaths, the total cost of the combined structure inclusive of piers, abutments, protection and training works will be divided in the proportion of 60 per cent to the Railway and 40 per cent to the Road Authority and in the case of double track with

7.2M. (24 ft.) wide roadway and 1.8M (6 ft.) wide footpaths, the division of cost will be in the proportion of 72 per cent to the Railway and 28 per cent to the road, (2) For Metre Gauge bridges, the division of cost will be in the proportion of 50 per cent to the Railway and 50 per cent to the road for single track with 7.2M. (24 ft.) roadway with 1.8M. (6 ft.) wide footpaths, and 64 per cent to the Railway and 36 per cent to the road in the case of double track with 7.2M. (24 ft.) roadway and 1.8M (6 ft.) wide footpaths.

(b) Bridges registered.

The division of cost when a roadway is provided is registered will be as follows i. e. the actual cost of the registration including the provision of the roadways, will be divided as in (a), but no contribution will be required of the Road Authority as a share of the cost previously incurred on the piers, protection works, etc.

(c) Existing roadways on Bridges (i. e. those in existence on 15th May, 1942):-

No division of the cost on the revised basis will be attempted in these cases, until the bridges come to be rebuilt or repaired, when they will be dealt in accordance with the foregoing principles.

1811. Maintenance.-This should be considered under two heads, viz. (i) The general upkeep of the bridge structure excluding the permanent way and ballast but including painting of girders, repairs to piers, protection and training works, etc., which are essential both. for the railway and the road and

(ii) The upkeep of the road-surface as well as the annual charges for gatemen lighting, signalling - etc., in case, where these have to be provided.

(a) (i) In the case of new roadways, i. e., whether on new or repaired bridges, item (1) will be carried out by the Railway Administration but the annual cost will be divided between the Railway and the Road Authority in the same proportion as the division of the capital cost. However, in the case of common deck bridges the recurring/maintenance charges shall be borne by the State Government/ Road Authority, based on the original cost of the bridge in terms of para 1942 to cover interest, depreciation and maintenance charges. Their share shall however, be restricted to 1/3rd of this amount in the case of M. G. and 114th in the B. G. bridges considering the fact that only restricted use of the bridges will be allowed to the State Government/ Road Authorities.

(ii) The annual charges under item (11) will, however, be borne entirely by the Road Authority which may, however, if it so desires, undertake the actual work of maintenance, but on the express condition that no material change in the road surface, as for example in the quality or weight of the road material, is made without the consent of the Railway Administration, In case of common-deck bridges, however, the maintenance will necessarily be done by the Railways and the road authority will bear the recurring charges for the upkeep of the surface arrangements for lighting, signalling or and the wages of the gateman.

(b) **Existing roadways** (i.e., those in existence on 15th May, 1942).-No division of the maintenance cost shown under item (1) will be made in the case of roadways already existing and these will continue to be borne by the Railway Administration. The charges shown under item (11) above will, however, with

effect from 15th May, 1942, be borne by the Road Authority except where it can be shown that a Railway Administration has been compensated in any manner for the maintenance charges incurred by it.

Note. -The provisions in this paragraph are not intended to disturb existing agreements for the maintenance of roadways during the terms of such agreements, but when the agreements terminate in the normal course, they should not be renewed.

1812. The procision of paragraphs 1808 to 1811. will apply *mutatis mutanclis* also where provision is made for roadways facilities for purely military traffic over railway bridges.

1813. Footways over Railway Bridges.-These rules do not apply to footways over railway bridges. Footways will be considered on their merits as each case arises under the general principles that the requiring, Department/Ministry shall meet the first cost and the maintenance charges thereof.

Works for Civil Departments/Ministries Level crossing, over and under bridges

1814. Level crossing, road over bridges and under bridges: The cost of level crossings, road over and under bridges constructed at the time of construction of a railway line or subsequently but with in the period laid down in the Railway Act, is chargeable to the Railway.

(Authority: Railway Board letter No.99/CE-I/LX/80 dated 13-12-2000) (**CS No. 32 Dt. 13.12.2000)**

1815. If the construction of a bridge is found necessary otherwise than in pursuance of a Railway's liability under the Railway Act, its cost will be borne by the Railway if its necessity has arisen from railway requirements, and by the Road Authority if its necessity has arisen from the growth of road traffic or other requirements of the Road Authority, provided that in either case any extra cost due to additional width or length or other facilities required on account of probable future developments will be borne by the Authority requiring such addition or facilities.

1816. If an existing busy level crossing originally provided at Railway's cost is to be replaced by a road over or under bridge the apportionment of the cost of replacement will be as under

- *(i)* The Railway will bear 50 per cent of the total cost of the over or under-bridge including approaches. The total cost would include the cost of diversion of road ` sewers, cables, gas and water mains, etc., but would exclude the cost of acquisition of any land and structures thereon required for approaches or diversifies.

- *(ii)* The Road Authority will bear 50 per cent of the total cost of over or under-bridge including, approaches, etc., as referred to above and the cost of acquisition of any land required for approaches and diversions and structures thereon.

- *(iii)* For two Lane Bridge on other than National Highways, the bridge width shall provide for 7.5m carriageway plus a minimum of 1.5m footpath on either side wherever required as per provisions of IRC-5, 1998. For two lane bridges on National Highways, the overall width shall be

provided equal to the full roadway width of approaches subject to a limit of 10m for hill roads, and 12m for other cases inclusive of crash barrier and/or footpath. The carriageway shall be 9.5m wide with two raised herbs of 0.75m OR 7.8m with two footpaths of 1.5m each on either side; total width limited to 12m between the outer faces of railing kerbs inclusive of the crash barrier. For four lane bridge on National Highways, the overall width of bridge deck shall be limited to roadway width approaches with distance between the inner kerb lines in the median portion equal to the median width of approaches; total width limited to 24m (9.75+4.5+9.75) between the outer faces of railing kerbs. The provision of cross slopes, median, footpath width, crash barrier shall be as per stipulations & requirements of MOSRTH Circular No. RW/NH/33044/2/88/S&R dt. 09.05.2000 read along with the provision of clause 112ofIRC:5-1998. (This supersedes Railway Boards letter of even no. Dt.30.09.2002) (Authority Railway Board's file No. 2002/CEJ/BRO/64 (Policy) dt19.02.2008 **(C.S.No.43 Dt. 19.02.2008)**

- *(iv)* If provision is required to be made in the bridge structure for crossing additional railways tracks in future, the cost of such extra length of the bridge structure will be borne by Railway in addition to its share of the cost for the rest of the bridge and its approaches. If the provision for extra tracks is already a sanctioned scheme or included in the Works Prograrnme the cost of extra length of bridge on that account shall also be shared on a 50:50 basis between the Railway and Road Authority.

- *(v)* If additional width of roadway is required by the Road Authority over and above the limits of the width specified in item (iii), the cost of this additional width will be borne

(a) Fully by the Road Authority for the length of the bridge required to span the existing tracks and the future tracks the provision of which has already been sanctioned or included in the Works Programme.

(b) Equally by the Road and Railway Authorities for any extra length provided for crossing additional railway tracks in future, not covered in (a) above.

The Railway will be responsible for the construction of the over or under-bridge proper across the tracks and the Road Authority for the construction of the approaches. On the actual completion of the work, a completion certificate for the work (excluding cost of land and structures thereon) giving the total cost of the work carried out by the Railway and by the Road Authority, separately, will be signed by the representatives of State Government/Road Authority and the Railway. The amount incurred by any party in excess of 50 per cent or its due share of the total cost will be reimbursed by the other party. With a view to ensure that the amount required to be spent in excess of the sanctioned share does not remain under suspense in the books of the party responsible for the execution of the works, arrangement will have to be made in with the State Government/Road Authority for adjustment in the same year's accounts through transfer transactions of any amount spent by either party in excess of its share of the cost of the bridge.

1816 A. Construction of Rail Overbridge/Underbridge in replacement of a manned level crossing on Build-Operate-Transfer(BOT) basis - With a view to enlisting participation from private sector in the matter of construction of road overbridges/underbridges, private entrepreneurs have been permitted to

build road overbridges/underbridges in replacement of existing level crossings on BOT (build, operate and transfer) basis. Under this system, the entrepreneur provides the full funds and builds the road overbridge/underbridge as per plans and drawings approved by the railway administration/road authority. In turn, the private entrepreneur is permitted to levy toll on road traffic and/or commercially exploit the space under the approaches of the bridge. The duration and other terms and conditions for levy of the toll/commercial exploitation of space are to be decided by the Road Authority. At the end of the agreed period, the structure would revert back to the Road/Authority/Railway Administration. During the contract period, the maintenance of the approaches and bridge proper will be the responsibility of the Road Authority / private entrepreneur. After the expiry of the contract period, the bridge portion will be maintained by the railway administration and the approaches by the road authority at their own cost. Railways' liability towards maintenance of bridge proper will be limited to two lane wide ROB/RUB only and the Road Authority will pay to the Railway administration maintenance charges attributable to the additional width, if any. Before the work is taken up the Road Authority is required to execute an agreement with the Railway Administration. Two model agreements - one to be executed with the National Highways Authority of India and the other to be executed with the State Government, as the case may be, are given in appendix. (Please see Appendix-XI)

(Authority: Board's letter No. 98/CE-I/Misc./14(BRO) dt. 30.12.1998) **(ACS 30 dtd. 14.11.2000)**

1817. If an existing road over or under-bridge is required to be raised, lowered, extended widened or rebuilt on a new site, the cost will be borne by the authority requiring such raising, lowering, extension or relocation. Any extra cost due to additional width or length or other facilities required by any authority shall be borne by that authority. Where an existing bridge constructed originally at the cost of the Railway has reached a stage where its repairing or rebuilding is justified on age or condition basis and the Road Authority desire to have the same repaired or rebuilt to improve standards, the Railway should agree to bear a portion of the cost of the improved bridge to the extent of the expenditure necessary to replace or rebuilt the-existing bridge to the original standards at present day rates.

1818. The maintenance and lighting of the roadway of the bridge and its approaches after its opening to public traffic is a charge against the Road Authority, while the maintenance of the bridge structure generally (excluding the roadway) is a charge against the Railway. Where, however, the cost of the bridge structure is shared by the Railway and State Government/Road Authority, the maintenance charges shall be borne by the parties in proportion to their share of the cost. In case the Road authority concerned is agreeable, the capitalised value of the maintenance charges may be recovered, calculated on the basis of the average rate of interest applicable to Commercial Departments for that particular year.

Before undertaking construction of any over/under-bridges, the cost of which is to be entirely or partially borne by the Road Authority, they should be required to execute an agreement with the Railway which should *inter-alia* clearly spell out their liability to bear initial, recurring/maintenance and other costs.

1819. (a) If the construction of a new level crossing or an improvement or alterations in an existing one, whether necessitated by local conditions or any other cause, is asked for by a State Government or local authority, the capital cost of the works asked for will be borne by such Government or authority, except in cases where the liability is that of a Railway under the Railway Act. In regard to the incidence of maintenance costs in such cases no hard and fast rules can be laid down but ordinary maintenance costs should be borne by the party requiring the facility, and agreement to this effect should-be reached before the work is commenced. In a case where the party asking for the facility agrees to pay only the initial cost but declines to bear maintenance, the case. should be referred to the Railway Board for orders before any commitment to provide the work is entered into.

(b) If a level crossing provided initially and maintained at the cost of the Railway in compliance with the statutory obligation under the Indian Railways Act, is required to be manned (if it is unmanned) or upgraded/provided with additional gatekeepers due to subsequent increase in both road and rail traffic, the initial cost of such manning, additional manning or upgradation is to be borne by the State Government/ Road Authority concerned, and the recurring and maintenance cost by the Railway. If such a level crossing is required, to be shifted, the capital cost involved in the shifting of the level crossing, is to be shared equally between the State Government/Road Authority and the Railway.

if, however, such a need arises due to subsequent improvement in the standard of the road or change in the nature and volume of the road traffic only, the cost (both initial as well as recurring and maintenance), has to be borne fully by the State Government/Road Authority concerned. For level crossings provided originally at the cost of State Government/Road Authority the recurring cost on account of its subsequent manning/additional manning or upgradation has also to be borne by the State Government/ Road Authority.

(c) If a `D' class cattle crossing (which is meant for the use of cattle and pedestrians only), is required to be converted into a regular level crossing to suit the requirements of the vehicular traffic, the cost involved (i. e., both initial as well as recurring and maintenance) has to be borne by the State Government/Road Authority concerned.

1820. In case any party desire to undertake the construction of a narrow gauge project at their own cost and the Railway Board allow them to undertake the construction under an agreement to be mutually settled vide note under paragraph 122-1ndian Railway Administration and Finance-An Introduction, the cost of the survey which the Railway Board may agree to undertake at the request of the sponsoring party or according to the terms of the agreement, will be borne by the parties/ concerned.

Note.- Incidence of cost will be governed non-retrievable portion will be borne by the siding owner. The interest and maintenance charges will also be borne by the siding owner as in case of track.

1821. The cost of surveys undertaken by the Railways at the specific request of any other Central Government Department, State Governments, etc., which do not materialize into the construction of a line should be debited to the Department or State Government, etc., concerned.

Assisted Sidings

1822. Scope. - The rules contained in this section govern the construction, working and maintenance of assisted sidings other than those in mining areas. They are also applicable to sidings constructed for other Government Department. The rules prescribed in **paragraphs 1821 to 1838** below are meant for guidance only. The terms and conditions embodied in them may be relaxed wholly or in part, by the General Manager of a Railway, in cases where it is the interest of the railway to provide any siding in order to attract competitive traffic. The General Manager may also at his discretion in consultation with his Financial Adviser and Chief Accounts Officer, levy reduced rates but not lower than the Home Line material rates, for the carriage of materials required for the construction or maintenance of such portions of assisted sidings as are required to be financed by the applicants.

1823. Terms and Conditions. - Sidings to serve a factory, mill collieries or other industrial premises, other than in a mining area, may be provided by a railway administration, subject to the terms and conditions laid down in **paragraph 1824 to 1838**. The applicant for a siding should, before sanction is accorded to the construction of the siding by the competent authority, be required to execute an agreement which inter alia should embody the provisions of paragraphs **1824 to 1838**.

1824. Land. - The land to be acquired for assisted siding outside the applicant's premises should be paid for by the applicant; ownership of such land should vest in the Central Government absolutely.

1825. Deposit Towards Preliminary Expenses. - A deposit to cover the cost of survey and preparation of the necessary plans and estimates should be made by the applicant.

1826. The incidence of the cost of the assisted sidings as between the Railway Administration and the applicant should be in accordance with the following general principles: -

(i) Outside the applicant's premises, the cost of all works which would have to be abandoned in the event of the siding being closed, e.g., earthwork, bridges (exclusive of girders), culverts ballast, buildings, etc., should be borne by the applicant,

(ii) Outside the applicant's premises, the cost of all works which would be removed by the Railway Administration in the event of the siding being closed, e.g., sleepers, rails, fastenings, points and crossings, girders of bridges, fencing, signalling and inter-locking appliances and machinery of any kind, should be borne by the Railway Administration;

(iii) The entire cost of the siding within the applicant's premises should be borne by the applicant;

(iv) Overhead Electric Traction Equipment

(a) For all existing Private/Assisted Sidings, if the rate of return (RoR) is at least 14% on traffic offered in the previous 24 months, the entire cost of electrification shall be borne by the Railways, If the RoR is less than 14%, the cost of electrification shall be borne by the siding owner.

(b) In all cases of existing as well as new sidings, the cost of maintenance of OHE (Over Head Equipment) shall be borne by the Railways.

(c) In case of all new sidings, in electrified territory or territory approved for electrification, the entire cost of electrification of the siding shall be borne by the siding owner. This will also apply to the military sidings.

(Authority: Railway Boards letter No. 2007/CE-I/SP/2 dated 14.11.2007) **(C.S.No. 42 Dt.14.11.2007)**

1827. Interest and Maintenance of Assisted Sidings.-The applicant should pay annually to the Railway administration interest and maintenance charges as follows

(a) Interest to be charged on the book value of the portion of the cost of siding borne by the Railway at the prevalent rate of dividend payable by the Railways to the General Revenue as may be fixed from time to time.

1. Repair and maintenance charges at the rate of **4.5** % on the cost of the portion, of siding borne by the railway or its present day cost, whichever is higher. For calculating these charges, the cost of the portion of siding borne by the Railway will be revalued every five years in accordance with such general or special orders as may be issued by the Railway Board from time to time. This payment will ordinarily cover the maintenance by the railway of the works paid for by the applicant outside his premises. The maintenance of the works inside the applicant's premises is the applicant's own concern. Railway should however' ensure that the maintenance of work by the applicant beyond the railway limits conforms to the requisite standard prescribed by the railway. For this purpose railway should undertake periodical inspections and the cost of such periodical inspection should be a charge against the applicant. if, in any case, it is considered desirable that the railway should also maintain works beyond the railway limits, the railway may undertake maintenance of these works, provided the applicant agrees to pay the required charges to be fixed by the railway.

In case provision of office and residential accommodation for Railway staff posted at the siding becomes necessary directly as a result of providing the facility to the party, the Railway Administration should recover repair and maintenance charges for these structures as an additional charge over and above the percentage charges levied on the Railway's share of-the cost.

1828. **Execution of Private and Assisted Sidings**.-All works relating to construction of private and assisted sidings should be normally done by the Railway. If the party concerned desire to carry out portion of such works themselves, they may be permitted to do so provided the Railway administration is satisfied that the party concerned is capable of doing the work satisfactorily according to Railway specifications and the work is carried out under Railway's supervision. The parties can also be allowed to supply stone ballast, permanent way and building materials provided the Railway Administration is satisfied that the material supplied are according to Railway's specification after proper inspection.

If the party concerned desires to carry out the work of Survey and Construction of their private siding through a Consultant/Consulting Firm/Consulting Engineer who is approved by the Railway, they may be permitted to do so. The approved consultants can also be allowed to carry out S & T and OHE works in the siding and yard under the close supervision of Railway for which separate supervision charges should be levied, vide paragraph 1829-E.

(Authority Railway Board's letter No. 83/W .I/ SP12 (Pt.) dated 22.3.93. and 1.3.96)

1829. **Departmental charges**.-Departmental charges should be levied in terms of para 1137. These charges are in addition to any work charged staff (both gazetted and non-gazetted) that may be required for actual execution of work. The General Managers are empowered to waive wholly or partly these charges in terms of para 1138.

When a portion of work concerning an assisted or private siding is allowed to be carried out by the party asking for the siding in terms of para 1827, departmental charges shall be levied at a reduced rate of ~~61/4~~ 6.25 per cent of the cost of the work carried out by the party itself including the cost of any material such as ballast, permanent way, building materials, etc., supplied by the party. For the portion of the work executed by the Railway full departmental charges as per para 1137 should be levied.

In cases where land required for the siding is acquired by the applicant at his own expense ~~and is made over to the Railway~~, the cost of such land should not be included in the total cost of the work for the purpose of levy of departmental charges.

In case of very large works where departmental charges calculated according to the above principles exceed Rs.10 lakhs and the parties apply for a further reduction, a reference should be made to Railway Board for a decision unless the case ~~fails~~ falls within the purview of para 1138.

When the work of survey and construction of a private siding is allowed to be carried by the party through an approved Consultant/Consulting Firm/Consulting Engineer, total charges (including departmental charges) to be recovered from the Consultant/Consulting Firm/Consulting Engineer shall be as follows:-

Surveys	(a) 1 % of the assessed cost of the project at the stage the party's proposal for undertaking the survey is approved by the Railway.
	(b) Balance amount to complete 2% of the estimated cost of the project at the stage of conveying approval to Survey/Plans and Estimates.
Final Inspection	2% of the cost of project while applying for the final approval of the completed works.

ACS No.57
Dt.11.07.20178

~~(Authority Railway Board's letter No. 83/W .I/ SP12 (Pt.) dated 22.3.93.)~~

1830. Deposit of Estimated Cost.-The estimated amount of the cost to be borne by the applicant for the execution of assisted/Private Sidings should be deposited with the Railway Administration before the construction of the siding is taken in hand. In the case of works costing Rs.3 lakhs or more, if the

applicant is a private firm of established repute and reliability or a public sector undertaking, the work may be commenced against an initial cash deposit of 20 per cent of the estimated cost of the work or Rs.3 lakhs, whichever is more, by the applicant. In the case of works to be executed for Private firms, an irrevocable letter of credit (Form E. 1830) for the residual value of the work should be obtained. The period of validity of the letter of credit should cover at least one year after the completion of the work as may be estimated by the Railway in each case.

In the case of public sector undertakings the 20 percent amount, subject to a minimum of Rs.3 lakhs obtained as initial cash deposit, should be treated as a revolving fund and replenished from time to time on not more than two weeks notice or at monthly quarterly intervals as may be considered necessary. This concession is liable to be withdrawn in the case of delay of default in replenishment by any of the undertaking.

Form E. 1830

. . . . . BANK LIMITED

(Place)��������..20

IRREVOCABLE LETTER OF CREDIT NO. ��������.

WITHOUT RECOURSE TO DRAWERS. ��������..

Dear Sirs,

You are hereby authorised to draw on ����� or a sum not exceeding ������. (say ������..) available by your Drafts on them at ... . sight. Total of Rs. ����... representing cost of construction of a private siding at��������. for the account of M/s�������. of which Rs. ������ has already been deposited by M/s������.. with you.

Credit Expiry date. - This Credit is irrevocably valid in ������ until������ Draft drawn under this credit are to be negotiated without recourse to the drawers and are to bearer the following clause Drawn under ���. Bank, Credit No. . Dated ..

Purchaser are to note the amounts of the drafts separately on the back thereof:-

You are hereby authorised to draw the amount covered by this Credit at any time during the currency of the credit in one lump sum or more than one installment or such amount as may be deemed necessary by you in your sole and absolute discretion.

We hereby guarantee to protect the Drawers, Endorsers and bonafied holders from any consequences which may arise in the event of' the non-acceptance or non-payment of drafts in accordance with the terms of this Credit.

Your's truthfully,

P. Chie Accountant-P. Secretary, & Treasurer.

1831. Siding Charges : The applicant should pay a siding charge to be fixed by the railway administration, for every wagon whether loaded or empty, hauled over the sidings in each direction. The amount of the siding charge should be specified in the agreement.

If a siding has been provided with complete facilities for direct receipt and despatch of trains and such trains do not require to be dealt with at the station from which the siding takes off/serving station but ran through to or from the siding with railway locomotive or originate from or terminate in the exchange/ peripheral yard provided by the siding holder, the railway administration will have the powers for levying freight charges on through distances basis upto the buffer end of the siding or the farthest point of the exchange yard instead of levying freight charges upto the serving station and siding charges for haulage of wagons over the sidings.

1832. Local Taxes.-The Railway Administration should be responsible for any municipal, union or district board taxes on land on which the siding lies; and the applicant should be responsible for any such taxation on any structures built or owned by him or erected by the railway on his behalf within the assisted siding limit.

1833. Determination of the Agreement.-The siding agreement should provide for the closing down of the siding and the determination of the agreement, on either party giving to the other such notice, as may be considered expedient, in each case, the length of notice being specified, if the applicant wishes, to abandoned the use of the siding, or if it any time the Railway Administration considers that the traffic to and from the siding is insufficient to justify the continuance of the siding. The Railway administration should reserve to itself the right to terminate the agreement on not less than six months notice in the event of its being considered necessary that in the public interests the siding should be closed or that the Railway Administration should acquire the siding for the purpose of working it for public traffic. If an agreement is so terminated, the capital cost borne by the applicant in respect of the portion of the siding outside the applicant's premises, less dismantling charged if the siding is closed and dismantled, should be refused to him, no compensation should be paid to the applicant in respect of that portion of the siding which falls within his premises.

1834. For the purpose of paragraph 1833 above.--

(i) The term "Capital Cost'' includes the cost of the land recoverable under paragraph 1824 above.

(ii) The term "dismantling charges'' includes the cost of returning the dismantled permanent way etc. to Stores, in the event of the siding being abandoned or close.

1835. Construction of Branch or Extension to Siding.--The Railway Administration should reserve to itself the power to construct or permit the construction of any branch or extension of the siding and to work traffic over the siding to and from such branch or extension or to permit the use of the siding for the traffic of, other persons on payment to the applicant of a remuneration for such use, the amount of the remuneration being. determined by the Railway Administration.

1836. Modification of Siding Charges.-The Railway Administration should have power, on giving not less than one month's notice, to modify the rate for the haulage of wagons over the siding and the amount of rebate, if any, to be paid.

1837. Interest on amount overdue.-The Railway Administration should be entitled to interest at a rate to be specified on any sums due to it if such sum is not paid within one month from a date on which a written demands is made by the Railway Administration.

(1) The GM. may at his discretion, waive wholly or partially the levy of interest due on delayed payment of any Railway charges owed by a party, taking into consideration the individual merits of a case of such delayed payment provided that:-

(a) The Railway gains some advantage, not necessarily financial, by such waival; and

(b) The reasons for the waival are recorded in each case and the waival allowed with the concurrence of Financial Adviser and Chief Accounts Officer.

(Authority Railway Board letter No. 94/CE.I/SP/22/ dated 14.02.2000)

1838. Breach of Agreement.-The Railway Administration should be entitled to determine the agreement without notice for any breach of the agreement, and in the event of the failure of the applicant to pay any sums due from him under the agreement.

1839. Siding not in use.-In the case of sidings which are not in use whether temporarily or permanently and which their owners desire should not be closed or dismantled, charges on account of interest maintenance and depreciation should continue to be recovered from the owners of such sidings. While the interest and maintenance charges will be those normally leviable in cases of siding in use as per para 1827, depreciation charges will be worked out at one percent of the Capital cost of the portion of the siding borne by the Railway or its present day cost, whichever is higher.

1840. Siding Register.-Every Railway Administration should maintain a register (Form E. 1840) of all assisted sidings (including sidings of other Government Departments) in that Railway showing the following particulars in respect of each siding

Form E. 1840

- *(a)* Name of the siding.
- *(b)* Party for whom the siding was constructed,
- *(c)* Authority for the construction of the siding Reference to
- *(i)* the estimate sanctioned by the Railway Administration; and
- *(ii)* the acceptance of the party concerned.
- *(d)* Total cost of construction.

- *(e)* Cost borne by the Railway Administration.
- *(f)* Cost borne by the party for whom the siding was constructed.
- *(g)* Main provisions of the siding agreement.
- *(h)* Date of opening of the siding.
- *(i)* interest, maintenance, & c., charges recoverable.
- *(j)* Special remarks, if any.

Provisional entries should be made in this register on receipt of the sanctioned estimates and that final entries from the Completion Reports. This register (Form E. 1840) should be regarded as permanent record and should be kept up to date. A copy of this record should be kept in the Accounts Office also. With a view to ensure that there is no omission in the register kept in the Accounts Office, a statement Qf all sidings in each district or division should be furnished annually (in April each year) by the Executive Engineer to the Accounts Officer.

1841. Recovery of Siding charges, Interest and Maintenance; Subject to the provisions regarding the interest payable during construction (Paragraph 1854) interest and maintenance charges in respect of a siding are leviable from the due date of its "opening". In order that the recovery of these charges may be effected from the due date , an intimation of the date of "opening` of each. siding should be sent by the Executive Engineer to the Accounts Officer within ten days of that date. On receipt of this intimation, the Accounts Officer should issue a provisional 151 for interest and maintenance on the basis of the booked outlay, subject to final adjustment after the verification and sanction of the completion reports of the siding. The Accounts Officer is ordinarily responsible for the correct recovery of the siding charges and charges on account of interest and maintenance in respect of ail siding on a railway. If, in any case, the amounts due to the railway have not been realised within a month from the date on which the demand for payment was made by him, the Accounts Officer may make a reference to the concerned Commercial or Executive Officer to assist in the recovery of dues together with interest thereon as laid down in paragraph 1837 and 1838.

1842. Use of Land Surplus to the Requirements of a Siding.-Land acquired at the cost of applicants for assisted sidings, outside their premises, may be allotted to them for their use *e. g.* erection of a garage or shed for storing materials, subject to the condition that no sales of materials to the public at the sheds or depots are carried out and that if such land is required for railway purposes, the structures erected thereon should be removed and the land surrendered to the railway. The recovery of rent for such land may be waived at the discretion of the General Manager.

Deposit Works

1843. Definition.-The term "Deposit Work" is applied to works of construction or repair, the cost of which is met, not out of railway funds, but out of funds from non-railway sources. Works executed by a

railway for other Government, Departments, municipalities and other local bodies, and private firms and individuals fall under this category.

Note:- Deposit Works executed in railway workshops are not governed by the rules in the following paragraphs.

1844. Procedure for Undertaking Deposit Works.-As a general rule, ail works within railway premises should be executed only by or under the direct supervision of the railway authorities. When, therefore, any other Government Department or a non-railway party wants any work to be executed in railway premises *(e. g.* a level crossing required by the public Works or Canal Department ten years, after the opening of a line, a culvert required by the Irrigation Department or a private individual, electric or telephone wires required to be laid by an Electric Supply or Telephone Company over or under railway line & c.), such other Government Department or non-railway party should approach the Divisional Officer of the railway concerned for having the required work executed. In applying for the execution of work the department or non-railway party requiring the work should furnish a rough sketch of the work and other particulars relevant thereto.

1845. Cost of Plans and Estimates.-On receipt of applications for Deposit Works, the applicants should, in the case of a Government, Department, be called upon to accept and in all other cases to deposit, the charges leviable is accorded with paragraph 732, to meet the cost of plans and estimates of the required works. After obtaining the acceptance of the Government Department concerned or after the cost of plans and estimates has been deposited with the railway, detailed plans and estimates of the required works should be prepared and got accepted by the applicants in accordance with the rules in paragraph733 et seq.

1846 (A) Funds arrangements for works of other Government Departments:- When a work is undertaken on behalf of another Government Department it will be the duty of department concerned to intimate to the Railway Administration the sanctioned grant and the Railway Administration will be responsible for seeing not only that the allotment placed at its disposal is not exceeded but also that any anticipated savings are notified in time, to the department concerned. In case where an excess is anticipated, the Railway Administration will be responsible for obtaining the additional allotment in proper time from the department concerned.

(B) Funds arrangement for works for Special Purpose Vehicles (SPVs) having Government participation:- The estimated amount of the cost to be borne by the SPVs having Government participation for the execution of work by Railway shall be deposited with the Railway Administration concerned before the construction of the work is taken in hand. In the case of works costing Rs.3 lakhs or more, the work may be commenced against an initial cash deposit of 20 percent of the estimated cost of the work, by such SPV . This initial cash deposit shall be treated as revolving fund and replenished from time to time on not more than two weeks notice or at monthly/quarterly intervals as may be considered necessary. In such cases, if so requested by the SPV, the replenishment may also be arranged through an irrevocable revolving letter of credit. The period of validity of the letter of credit shall cover

atleast one year after the completion of works as may be estimated by the Railway and the cost incidental to operation of letter of credit shall be borne by the SPV.

(Authority: Board's letter no. 2003/ACII/ 1/1 dated 12.12.03)

1847. Booking of Expenditure.-All Deposit Works will be executed in the same manner as railway works. The expenditure including the departmental charges, should as far as possible, be charged direct to the departments concerned as and when incurred: that incurred on other Deposit Works. *i. e.,* works, the estimated cost of which has already been deposited with the railway and credited to "Deposit Miscellaneous" vide paragraph 735, should be charged to the head "Deposit miscellaneous".

1848. Register of Work.-A separate register of works (see paragraph 1481) should be maintained for all Deposit Works in a division. In this register, a separate account should be kept for each deposit work undertaken in the division. The postings in this register should be totalled up and reconciled with the general books monthly. In the case of works of other Government Departments suitable remarks as to the amounts adjusted monthly should be given in the register. In other cases, the expenditure incurred on each work should be reconciled with the "Deposit Miscellaneous" Register monthly and a certificate of reconciliation recorded in the Register of Works.

1849. Executive Engineer's Review.-In his monthly review of the Register or Works of Deposit Works the Executive Engineer should pay particular attention to the fact that no expenditure in excess of either the sanctioned estimate or the sanctioned allotment of the deposit made, is incurred on any work. It any excess of anticipated, the acceptance of the party concerned should be called for and additional allotment or deposit, as the case may be, demanded. A revised estimate should, if necessary, be prepared and got sanctioned by the competent railway authority. Further expenditure on the works should be restricted to the utmost extent possible till the acceptance to the party is obtained and additional funds are allotted or deposited.

1850. Completion of Deposit Works: On the completion of a Deposit Work, an intimation of the date of completion (and of handing over to the party concerned) should be sent to the Accounts Officer, the account of the work should as a whole be carefully scrutinized with a view to see that no expenditure properly chargeable to the work is omitted; and a completion report (From E. 1706) should be prepared showing the variations of actual expenditure with the sanctioned estimate and furnished to the party for whom the work was executed. Any unexpended balance lying at credit of "Deposit Miscellaneous" should be refunded to the party who deposited the money, after the completion report ig approved by the competent railway authority.

1851. Maintenance of Deposit Works: All Deposit Works in railway premises should, as a rule, be maintained by the Railway Administration concerned at the cost of the parties who applied for them. Charges for maintaining (keeping in good repair) Deposit Works should be recovered from the parties concerned on the basis of:

- (1) either a fixed percentage of the works, the rate being fixed by the General Manager.

- (2) or actual expenditure (including departmental charges).

The basis to be adopted in respect of particular classes of Deposit Works is left to the discretion of the General Manager. In cases where extra establishment is engaged in connection with the maintenance and operation of any Deposit Work (e. g., a gateman engaged for operating the gate of level crossing constructed at the cost of another Government Department) the actual pay and allowances of such establishment together with such additional charges as are prescribed in paragraph 575 of the Indian Railway Establishment Code should be recovered. **In case of level crossings, works capitalised value of recurring maintenance and operational charges should be recovered, calculated on the basis of average rate of interest applicable to commercial departments for that particular year.** In every case, therefore, before a Deposit work is undertaken or commenced, **capitalised value** of the maintenance charges and the cost of extra establishment, if any should be **recovered in full.** A formal agreement should also be executed between the parties concerned before a Deposit Work is undertaken. If the transactions of the party with whom the agreement is being made are governed by the provisions of any legal enactment, the railway administration should satisfy itself that the agreement has been executed in accordance with these provisions.

(Authority Railway Board letter No. 99/CE-I/LX/80 dated 07.04.2000)

Note.- Where the railway was the first in the field, bridges for new canals are provided at the expense of the Civil Department. The maintenance and renewal of such canal bridges devolve on the railway.

1852. Register of Deposit Works. A register of all Deposit Works in a division should be maintained in the divisional office in Form E. 1852, showing the following particulars in respect of each works.

Form E. 1852

- *(a)* Name of the work
- *(b)* Party at whose cost the work was constructed.
- *(c)* Authority for the construction of the work.
- *(i)* Reference to the estimate sanctioned by the Railway Administration.
- *(ii)* Reference to the acceptance of the party.
- *(d)* Total cost (including departmental charges) of the work.
- *(e)* Maintenance charges to be recovered.
- *(f)* Cost of extra establishment, if any, to be recovered.

Provisional entries should be made in this register on receipt of the sanctioned estimates and final entries from the completion report. This register (Form E. 1852) should be considered as a permanent record and should be kept up-to-date. A copy of this record should be kept in the Accounts Office also. A

complete list of all Deposit Works in a division should be furnished annually (in April) by the Executive Engineer to the Accounts Officer, so as to enable the latter to keep his register up-to-date.

1853. Recovery of maintenance and Other Charges. The Accounts Officer of a railway is responsible for the correct recovery of the maintenance charges and the cost of extra establishment, if any, pertaining to all Deposit Works on that railway. Maintenance charges, if due, in respect of a Deposit Work is leviable from the date of completion (and handing over to party concerned). On receipt of intimation of completion of a Deposit Work (cf. paragraph 1850) the Accounts Officer should issue a provisional bill on account of maintenance charges, subject to final adjustment after the verification and sanction of the completion report. If, in any case, the amounts due to the railway have not been realized within a month from the date on which the demand for payment was made by him, the Accounts Officer should promptly report the fact to the Executive Engineer concerned or higher authorities for taking suitable action for recovering the amounts due.

General

1854. Interest during Construction. The amount of interest recoverable should be calculated for the exact period of construction and not in term of whole years. Thus for works for which construction period covers one or more full financial years, the interest charges for these years should be calculated on the mean unadjusted outlay for these years. The interest for broken periods both during the year of commencement and year of completion should be charged for the exact periods the basis of reckoning being monthly mean unadjusted outlay. The rate of interest for this purpose will be the ruling dividend rate. The amount recovered should be adjusted in the accounts of receiving department as a miscellaneous receipt under the major heads `145-1ndian Railway Commercial/strategic-Lines Miscellaneous Receipt' and in that of the Paying department in the same manner as payment of rent or as part of the cost bf the work, according as the work falls under the first or the second category mentioned above.

Railway owned stone or ballast quarries

1855. The working of, Metalliferous Mines (which include stone or ballast quarries also) comes under the purview of the Mines Act. 1, 952(35 of 1952), the Metalliferous Mines Regulation 1961, (which have been framed under the said Act.) Workmen's Compensation Act, Industrial Disputes Act, Payment of Wagon Act, the Maternity Benefit Act and the rules thereunder and Factory Law etc.

1856. The responsibility for enforcing the provision of mines Act. mentioned in para 1855 devolves on the railways in the case of Railway quarries under Section 76 of the Mines Act unless the quarries are leased out to contractors on payment of royalty or tent and Railway remain only as owners of the land without being interested in the material quarried from the mines. If the contractor through whom the stone or ballast quarry is worked can be made "lessee" or "occupier" under the agreement then the Railway administration can transfer the responsibilities to the contractor for enforcement of the Mines Act., Regulations etc. alongwith the Railways. The primary responsibility for complying with the

provisions of the mines Act. Regulations etc. will remain with the Railway. For the definition of word "Owner" when used in relation to a mine refer to Appendix X.

1857. Under Section 83 (Sub-Section 2) of the Mines Act 1952 (35 of 1952) the Central Government has authorised the Chief Inspector of Mines (now designated as Director General of Mines Safety) to exempt, subject to any specified condition open cast working from the provisions of Regulations 34, 115 and 182 of the Metalliferous Mines Regulations 1961 and Rule 40 of the Mines Rules 1955. The exemption is to be granted by the Director General of Mines safety if he is of the opinion that the condition in open cast workings are such as to render compliance with the above provisions unnecessary or impracticable. The exemption regarding Regulation 34 relating to the appointment of qualified manager is subject to the appointment of a Foreman at the mine.

1858. The provisions of Metallifeous Mines Regulations 1962 except those provisions contained in sections 7, 8, 9, 44 and 46 of the Mine Act 1952 (Refer Appendix X) are not applicable to stone or ballast quarries (irrespective of any owner) vide section 3.1. (b) of the Mines Act 1952 (35 of 1952) provided that--

- (i) the working does not extend below superjacent ground.
- (ii) when it is an open or cast working.
- (a) the depth of the excavation measured from its highest to the lowest point nowhere exceeds sex meteres.
- *(b)* the number of persons employed on any one day does not exceed 50, and
- (c) explosives are not used in connection with the excavation.

1859. if the stone or ballast quarries belonging to the Railways are not limited to be within the condition specified in para 1858 the provisions under Mines Act, Metalliferous Mines Regulations 1961 along with other rules and laws connected thereto will have to be observed by the owner (Railways) as well as the contractor appointed to by the Railway subject to para 1856.

1860. In the event of contractor not providing the facilities and welfare amenities as required under Mines Act and Regulations made thereunder at the ballast quarries owned by the Railway which can be classified as mines (refer para 1858), the Railways should provide the minimum facilities and charge the contractor rent for the same as per agreement.

1861. To ensure safety of the workers it is absolutely necessary that stepping of the sides is done in accordance with the provisions of the Metalliferous Mines Regulations throughout the working life of the quarry.

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CHAPTER XIX

BUILDINGS AND RENTS

Staff Quarters

1901	Staff Quarters Conditions for provision of staff quarters
1902	Classification of Quarters
1903	Scale of Accommodation for staff
1904	Accommodation for Officers
1906	Assessed rent
1915	Provision of furniture and other amenities
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1918	Rent for temporary huts and tented accommodation
1919	Hire charges for furniture
1920	Payment of service charges to local bodies
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1931	Schools
1934	Hire of private buildings for Institutes
1935	Conversion of existing building
1936	Incidence of maintenance and upkeep of Institutes
1939	Club House for Officers

1940	Other structures for the benefit of Railway Staff
1941	Railway building occupied by other Government Departments and private individuals or vice versa
1942	Railway buildings including residential quarters permanently allotted for the exclusive use of other Government Departments
1943	Recovery of rent from Post and Telegraph Department
1944	Surrender of buildings
1945	Surrender of fittings
1947	Defence and Post and Telegraphs Department quarters constructed for railway servants
1949	Railway building including residential quarters temporarily allotted to other Government Departments
1950	Railway residential quarters temporarily allotted to non-railway Government employees
1951	Other Government Department quarters allotted temporarily to Railway employees
1953	Occupation of Railway Rest Houses or Rest Rooms
1956	Military building on railway lands
1957	Buildings for Railway Police
1960	Accommodation for Railway Cooperative Societies
1963	Buildings to house Staff Welfare Organisations
1964	Accommodation for Refreshment Rooms

1965	**Rent for premises let out to recognised Unions and Federations**
1966	**Railway Building let out to outsiders**
1967	**Service Buildings**
1969	**Recovery of charges for maintenance of lawn**
1974	**General Rules**
1977.	**List of buildings and rent rolls**

1901. Conditions for Provisions of Staff Quarters.- While residential quarters for staff may be provided by railways where conditions are such that private enterprise does not adequately meet the demand for housing the staff, or where it is necessary for special reasons to provide quarters for certain staff near to their work, no employee has any right to be provided with quarters.

1902. Classification of Quarters.- For the purpose of assessment of rent, quarters should be divided by the General Manager into separate classes approximately according to the standard of accommodation approved for various classes of Staff.

1903. Scale of Accommodation for Staff .- The scale of accommodation and the unit cost for each class of quarters are prescribed by the Railway Board. Motor garages should not as a rule be provided in staff quarters. In exceptional cases, however, where the General Manager considers that the provision of a garage is essential in the interest of an official's work it may be provided. In such cases, the cost of the. garage should be taken into account in assessing the rent for the quarters on arriving at the requisite return of six per cent on the total capital cost of all the quarters of the particular class concerned.

~~**1904. Accommodation for Officers.-** The scale of accommodation and the unit cost for each class of officer's quarters is prescribed by the Railway Board. No expenditure should be incurred on building houses or on making alterations and or additions to existing houses for officers without the specific and prior approval of the Railway Board except to the extent of expenditure not exceeding **Rs. 1,00,000/-** on essential new works which include provision of electricity and sanitary installations (other than repairs and maintenance) on any one officer's quarter subject to the total expenditure in a financial year on this account on an individual Railway not exceeding Rs. **30,00,000/-** per annum. In the case of class III staff quarters temporarily occupied by officers, the specific approval of the Railway Board will be necessary if any additions and alterations are to be made to such quarters~~.

(~~Authority: Railway Board letter No. 2014/LMB-II/1/1 dated 25/27.08.2014, ACS no. 49~~)

DRM/PHOD will have full powers for incurring expenditure keeping in view the status and the works required to be undertaken as per extant instructions of Railway Board.

{Ref. Railway Board's letter no. 2018/TF/Civil/Works datedb 12.06.2018}.

1905. Temporary garages may be provided in officer's quarters which are not entitled to garages and in quarters meant for staff which are temporarily upgraded for the use of officers at the request of officers who own cars. The cost of such temporary garages should not exceed Rs.**10,000/-** (Rupees Ten Thousand only) in each case. The garage except flooring should be built with such materials only which, can be fully reclaimed and should be dismantled as soon as the quarter is downgraded or is allotted to an officer who does not own a can Extra rent should be charged from the officer on whose request the temporary grade is provided at the rate of six percent per annum on the cost of the garage including cost of flooring, erection and dismantlement plus depreciation and maintenance charges to be calculated according to the life of the garage and cost of maintenance. Life of the garage should be determined on the basis of the average occupancy spread over the life of the assets and not on the basis of life of the assets only.

(Authority : Railway Board letter No. 99/LMB/10/29 dated 3.5.2000)

Rent

1906. Assessed Rent.--The assessed rent for each class of quarters should be fixed at six percent of the total cost of all the quarters in that class, whether the total cost is charged to Capital Development Fund or Open Line Works Revenue.

1907. In the case of officers' quarters all the quarters on each Railway should be pooled in one class and the rent to be charged for such pooled accommodation calculated on the floor area basis. The assessed rent of staff quarters should be fixed on floor area basis wherever possible. Substandard quarters not provided with essential basic amenities such as kitchen, store, lavatory and without source of water supply in the vicinity and with very low roof should be excluded from the general pool of quarries and constituted into a separate pool and their rent fixed at six per cent of the total outlay on such quarters.

1908. Rent should be reassessed once in **five** years on the basis of the total cost as on 31st March, and for the purpose of working out the details a period of two years is allowed, e. g. the rent worked out on the basis of the cost as on 31st March, 1971 will be effected from 1st April, 1973.

1909. The approximate capital cost of electric, sanitary and water supply installations should be segregated from the capital cost of the building proper so that a reasonable assessment of the increase in the pooled rent on account of the provision of such installations is made and added separately to the pooled rent only in respect of quarters within a pool which are provided with such amenities.

1910. In the case of leased and requisitioned buildings, the rent paid to the landlord should be treated as the assessed rent.

1911. Cost. For the purpose of assessment of rent, the total cost of quarters should include the entire cost of construction irrespective of its allocation, including sanitary, water supply and electric installations and fittings but not the cost of land and its development. When there is no record to show the actual cost of acquisition or construction of residential buildings, the estimated original cost

(whether charged to Capital Development Funds or Open Line Work-Revenue) may be taken as its cost for the purpose of paragraph 1906.

1912. Development of land will include the following :--

(a) Raising, levelling and dressing of sites.

(b) Construction of revetments, retaining walls, compound walls, fences and gates. (c) Storm water drainage.

(d) Approach roads and paths within the Compound.

(e) Sewerage, Street lighting including transformer house distribution mains etc., water Supply arrangements including ground reservoir, overhead tank, distribution system etc., and plantation in the colony. Any extra expenditure incurred on development of and in special terrain containing black cotton soil or seismic belt as in Assam etc., is also to be treated as development expenditure for this purpose.

1913. It is permissible to pool the total cost of electric installations in all the quarters belonging to a class at each station and to adopt the average total cost for purpose of assessing rent on electric installations. The average will be applicable to railway employees only and not quarters let to other Government departments or outsiders.

1914. Fittings. --Only the following should be regarded as fittings for the purpose of paragraphs **1911 and 1913**: -

Electric Fittings

(a) Lamp fittings of all kinds.

(b) Fans, including switches and regulators, the hire of which is not charged separately.

(c) Meters, the hire of which is not charged separately.

(d) Electric heaters and water heaters fixed to the buildings.

Sanitary and water supply Fittings

(a) Apparatus for hot water supply fixed to the building.

(b) Baths, basins and lavatory equipment, and

(c) Meters, the hire of which is not charged separately.

Electric bulbs may be provided from railway funds as first equipment their cost being included in the first cost for purposes of charging rent. The cost of all subsequent replacements should be charged to the occupants.

1915. Provision of Furniture and Other amenities.--The provision of other special installations and fittings such as heating installations, electric lifts, refrigerators, and of furniture requires the prior sanction of the Railway Board. Chicks may be provide d or replaced only against specific requests from allottees of residences and wherever they are so supplied/or replaced hire charges should be recovered in addition to the normal rent of the quarter. The rate for the charges will be the rate prescribed from time to time by the Railway Board. For the purpose of this paragraph, portable heaters or water heaters which obtain their electrical energy by means of movable plug in a socket in the wiring system should be classed as furniture.

1916. Cost of Buildings partly used as on Office.--When a building is used partly as a residential and partly as an office for which no rent is paid, the cost of the portion occupied as residence should be separately estimated by the General Manager for the purpose of assessing rent, When separate office accommodation is provided for the occupant and the use of part of his residence for office purposes is optional, no deduction from the rent is permissible on this account.

1917. Hire of Private Buildings.--(I) The hiring by the Administration of a private building for use as residence by a gazetted officer requires the prior sanction of the Railway Board. The General Manager may hire private buildings for use as residence by non-gazetted staff subject to the following conditions: -

(i) That it is necessary, in the interest of the railway, for the employee to reside in a particular locality and suitable accommodation owned by the railway does not exist in that locality, and

(ii) That houses are not engaged which provide a scale of accommodation in excess of that usually allowed to the employees in question.

(iii) There is no restriction on the powers of the Railway Administrations or of Chief Engineers to rent officer accommodation.

1918. Rent for temporary huts and tented accommodation.--No rent is to be recovered from the staff who are temporarily accommodated in huts built of bamboo framing grass mat walling and thatched roofs at ghats and also from staff who are provided with tented accommodation on relaying, surveys and construction.

1919. Hire Charges for Furniture.-Hire charges for furniture let out to Railway officers by Railway administrations should be recovered at 14 per cent per annum on the cost of furniture supplied in respect of durable articles and at 24.75 percent per annum for non-durable articles. These are inclusive of repairs and maintenance charges also and are to be levied on the original cost of furniture as borne in the books (Tools and Plants Register) and not on depreciated cost. For this purpose, articles with longer life *e. g.,* beds, almirahs, tables, chairs etc. may be classified as durable furniture and articles with comparatively shorter life *e. g.,* door mats, curtains, mattresses, durries, chicks etc., are to be treated as non durable articles.

1920. Payment of Service Charges to Local Bodies.-Under clause (i) of Article 285 of the constitution the properties of the Government of India are exempt from all taxes imposed by local authorities in the States. Without prejudice to the legal rights conferred under the appropriate laws on any property held by the Central Government within the jurisdiction of local bodies, payment should be made with effect from 1st April 1954 to local bodies in States except in the State of Jammu and Kashmir, for "Service Charges" in respect of Central Government properties on the following basis :-

(i) The Railway will make payment in respect of their properties for "Specific Charges" rendered by local authorities but payment of such "Service Charges" shall be treated not as payment of taxes but of compensation payable in quasi contract. "Specific Charges" will include not only direct services such as water and electric supplies, scavenging etc., but also general services such as street lighting, town drainage, approach roads connecting the Railway properties etc. But such items as educational, medical or, public health facilities will be excluded.

(ii) For large and compact blocks of these properties the Railway will not pay for such Specific services as they themselves arrange.

(iii) The assessment of "Service Charges" should be on actual basis in case of metered water or electricity etc. or where services like drainage and scavenging etc. are charged for separately. But where some or all such specific services are not charged for separately but are part of a consolidated property tax, the quantum of `Service charges" payable to the local bodies should be calculated in terms of paras 1922, 1923 and 1924.

(iv) Railway Administration may also enter into separate contract with any local authority for the supply of water and electricity or scavenging or any other services.

1921. Under Article 285 (2) of the Constitution, Central Government is liable to pay such local taxes as were being paid before 26th January, 1950. Accordingly, with effect from 1st April, 1966 the Railway will pay the following :-

(i) In respect of properties owned by the Railways on 31st March, 1937 and liable on that date to specified taxes by virtue of a notification under Section 135 of Indian Railways Act, 1890 and notification re-issued under Section 3(1) of the Railway (Local Authorities Taxation) Act, 1941 taxes at rates not exceeding the rates in force on 31st March, 1937.

(ii) In respect of properties held by the Railways on 26th January, 1950 and liable on that date to local taxes by virtue of a notification under the Railway (Local Authorities Taxation) Act, 1941 taxes at a rate not exceeding that levied prior to 26th January, 1950.

(iii) As regards properties acquired by the Railways subsequent to 31st March, 1937 or ?6th January, 1950, payment of increased taxes due to an increase in the valuation of property may be admitted, the rate of tax remaining the same. These taxes would be payable with effect from 1st April, 1966 only at the rates prevailing before 26th January, 1950 or 1st April, 1937 as the case may be (Cf. para 1249).

1922. The Quantum of "Service Charges" payable to local bodies should be calculated on the following basis with effect from 1st April, 1967 if they are levied as consolidated tax as distinct from separate taxes for each item of service :--

(i) In respect of isolated Railway properties where all services are availed of by the Railway in the same manner as in respect of private properties, the Railway will pay service charges equipment to 75 per cent of the properly tax realised from individuals.

(ii) In the case of large and compact colonies which are self-sufficient with regard to services or where same of the services are being provided by the Railways themselves the service charges will be calculated in the following manner

(a) In the case of colonies which do not directly avail of civic services within the area and are self-sufficient in all respects, the payment of service charges will be restricted to 33-1/3 per cent of the normal rate of property tax applicable to private, properties.

(b) In respect of colonies where only a partial use of the services is made service charges will be paid as 50 per cent of the normal property tax rate.

(c) In respect of colonies where all the services normally provided by the municipal body to the residents of other areas within its limits are being availed of, service changes will be paid as 75 per cent of th property tax rate realised from private individuals.

Note:- If in a property tax assessment, elements of charges for individual services which are not availed of, are identifiable, the quantum of general tax for the application of para 1922, should be excluding such elements.

1923. The annual ratable value of the properties for arriving at the service charges payable to local bodies whether as consolidated tax (in terms of para 1922) or as distinct and separate taxes for different services provided (in terms of para 1924) based on the annual ratable value (item iii of para 1920), shall be 9 per cent of the' Capital Value' of the property concerned both in respect of residential and non-residential properties. The 'Capital Value' shall include the cost of acquiring or constructing the building including the cost of site. its preparation and any other capital expenditure incurred after acquisition or construction or when this is not known the present value of site as borne on the records of the Railway.

1924. In the case of taxes being levied separately for each item of service the share of general services rendered by a local body to be borne by the Railway will be on the following basis with effect from 1 st April, 1954.

Water and Drainage Tax :

- (a) Where a Railway Administration derives no direct benefit. 1/3 of the tax
- (b) Where a Railway Administration derives only partial benefit. 1/2 of the tax
- (c) Where a Railway Administration derives full benefit. Full tax

Scavenging Tax :

(a) Where a Railway Administration has made efficient arrangements of its own for the daily removal and disposal of rubbish, filth etc. from its premises.	No tax
(b) Where the Railway Administration has made arrangements for removal of fifth etc., but where the local authority is responsible for its final disposal.	1/2 of the tax

Lighting Tax :

(a) Where the Railway Administration does not take power from the local authority for lighting its premises and where the roads leading to be Railway station are also not lit by the local authority.	No tax
(b) Where the Railway Administration does not take power from the local authority for lighting its premises but the roads leading to the Railway Station are lit by the local authority.	1/2 of the tax
(c) Where the Railway Administration takes power from the local authority for lighting its premises	Full tax in addition to the charges for energy consumed

1925. The arrangements arrived at between Railways and local bodies in respect of property tax and service charges prior to 1 st April, 1967 may be continued to be followed and will not be disturbed. The arrangements regarding Railway properties in Delhi will not be disturbed. (in the case of Calcutta upto 31-3-1968 only.)

1926. In the case of residential buildings occupied by officers, taxes which are by local law, rule or custom ordinarily leviable on tenants should be paid by the occupants during the term of his occupancy. If by local law, rule or custom the tax is chargeable to the owner it will be payable by the railway.

1927. The municipal taxes assessed on the annual value of residential buildings in which office accommodation is also provided or on the land appertaining to them should be treate as separate from the rent. The officer. occupying the residential portion should pay the share of such tax corresponding to the share of the rent payable by him and the railway should be debited with the balance.

1928. Staff are exempted from the payment of local taxes leviable on railway buildings (as opposed to taxes of a personal nature leviable on railway employees such as Haisiyat Tax, Circumstances and Property Tax etc.) whether the services are rendered by the railway or by a Municipality or similar local bodies. This concession is also admissible to staff during the period they officiate as officers.

Buildings not Essential to Railway Working

1929. Except as specifically provided in the following paragraphs no expenditure should be incurred by a Railway Administration on buildings and other works, not essential to Railway working.

1930. In ordinary circumstances the Railway Administration should endeavour to keep the expenditure during the year on existing schools for children of staff, institutes, hospitals, dispensaries, etc. within the amount provided for such works in the sanctioned budget subject to the limitations in paragraph 1931 et esq. and other extent orders on the subject, Special cases involving expenditure in excess of these limits, such as, the provision of institutes, etc. as part of a new railway colony,, should be submitted for the orders of the Railway Board.

1931. Schools.-No new Railway school should be opened without prior sanction of the Railway Board. The Railway Administration may, however, incur expenditure on the existing schools in each case up to Rs.15000. The previous sanction of the Railway Board should be obtained to all expenditure proposed to the incurred on the existing railway schools in excess of the provision in the sanctioned budget.

1932. For the purpose of paragraph 1931, a Railway school includes quarters for teaching staff but does not include schools intended for the training of Railway staff and apprentices, such as the Chandausi Training School and Loco or Traffic Training Schools.

1933. The Railway Administration should exercise considerable care in dealing with proposals for expenditure on all such works so as to ensure a proper distribution of expenditure over the various classes of the staff.

1934. Hiring of Private Building-When no Railway building is available and an outside building is hired for accommodating a new institute, etc, the rental value of the building so hired, should be capitalized at 5% and set against the sum provided in the sanctioned budget of the year in which the arrangement is entered into. The same procedure should also apply in leasing land for tennis courts. in the latter case a suitable condition be included in the lease so as to obtain same payment by the lessor to the Railway for improvement to the land due to the construction of the tennis courts. The cost of the improvement may be met from open Line Works-Revenue or Development Fund, as the case may be.

1935. Conversion of Existing Building.---When an existing building of the Railway is converted for the purpose of accommodating an institute, etc., the original cost of such building as also the cost of conversion should be taken into account for balancing against the budgetary provision.

1936. Incidence of Maintenance and Upkeep of Institutes-A Railway Institute should be looked upon as a club provided by the railway rent-free for the benefit of its employees. As a general principle, therefore, the railway should provide everything which a landlord ordinarily would and the institute should pay for all that a tenant would usually be liable.

1937. Accordingly the Railway Administration will bear:-

(a) The first cost of the building including the cost of electric installations (which include electric

fans), with necessary furniture, road, fences, tennis courts and other playing grounds. The term "Furniture" is not intended to include billiard tables, pianos and pictures, It includes lamps, other than billiard table lamps, and keys of almirahs and book boxes.

(b) The cost of maintenance and alterations, except as provided in paragraph 1938 below in the case of tennis courts and other playing grounds, the railway administration will bear only the ordinary engineering repairs.

The expenditure incurred by the Railway Administration will be allocated in accordance with the rules and orders on the subject,

1938. The institute funds will bear-

- *(a)* the cost of rolling, watering grass-cutting and other maintenance charges of playing grounds, other than engineering repairs ;
- *(b)* the cost of maintenance of its gardens and ornamental grounds;
- *(c)* the cost of maintenance and renewal, whether partial or complete, of electric installations (which include electric fans) payable at a flat rate of 5 per cent per annum on the capital
- cost of installation;
- *(d)* the cost of electric current consumed and hire of meter;
- (e) occupier's share of municipal taxes for specific direct services rendered to an institute by a Municipality, such as conservancy, water and the like taxes, as distinct from taxes of a general nature;
- *(f)* water charges calculated as so much per tap, each railway administration fixing its own scale of charges.

In cases where large quantities of water are supplied by Railway Administrations, as in the-case of swimming baths, the actual cost of water supplied should be recovered.

Note No charges for supply of water to swimming baths should be recovered in cases where waste water from such baths is utilized for definite Railway purposes, *e. g.* flushing of sewers and watering of gardens, etc.,

1939. Club House for Officer.-Club Houses may be provided for the use of Railway Officers on the same basis as Railway institutes are provided for other Railway Staff. Paragraphs 1937-E and 1938-E will apply to Officer clubs also.

1940. Other Structures for the Benefit of Railway Staff.-Works, such as structures for the *Hat* on the local markets, for the benefit of the Railway staff at a station where a Station Committee exists may at the discretion of the General Manager and within the amount provided in the sanctioned budget, be constructed at the request of the station committee out of the funds of the Railway. In such cases, the

station committee should pay to the Railway Revenues such rent as may be fixed by the Railway Administration. In fixing the rate of rent, it should be seen that an adequate return on the amount expended is ensured so as to cover the interest, maintenance and depreciation charges in respect of the structure (c. f. paragraph 1942). Formal agreement should be executed by the station committee before an arrangement outlined above is entered into.

Railway buildings occupied by other Government Departments and private individuals or vice-versa

1941 Subject to the provisions of paragraph 1966, no railway building may be occupied by any person not in the service of the railway without the sanction of the General Manager of the Railway.

Railway buildings, including residential quarters, permanent allotted for the exclusive use of other Government Department.

1942 Rent In the case of buildings, including residential quarters, permanently allotted for the exclusive use of other Departments of the Central Government, other than Post & Telegraphs Department (refer paragraph 1943) and of the State Government, rent shall be recovered in accordance with the following rules:-

(i) Rent charged by Railway Administration to all Government departments will be uniform except in the case of Post and Telegraphs Department for which separate rules have been evolved (refer paragraph 1943) and except as provided in note 1 to rule *(iv)* below and will cover interest, maintenance and depreciation in respect of both of the buildings and the electric installations therein.

(ii) There will be only two classes of buildings- viz.-pucca (permanent) and kutcha (temporary).

(iii) The rate of interest will be the rate prescribed from time to time by the Railway Board. (The rate of interest is 6 percent from 1st April 1965). The rate of interest to be adopted in the case of buildings and of the electric installation is the rate in force on the date on which each was completed.

(iv) The following uniform rates will be adopted to cover the maintenance and depreciation :--

- For Permanent buildings 3 per cent
- For Temporary buildings 7 per cent
- For Electric installations in either case 8 per cent

Note .--North-east Frontier and Eastern Railway.

Administration should charge rent on the capital cost of purely temporary buildings at the rate of 15 percent and 25 percent over the former Assam-Bengal and Eastern Bengal areas respectively,

Note 2-- As the rate of 8 percent is intended to cover both maintenance add depreciation, the charges for current should not include any element to cover maintenance or depreciation charges of these installations.

(v) The charges under *(is) and (iv)* above abaft in either case be calculated line total cost. the cost of land being included in the case of buildings. The total cost for this purpose in either case, include the usual departmental charges for supervision and storage besides freight and incidental charges laid down in paragraph 2328-S, whether the buildings and installations at newly provided or provided in replacement of old ones.

(vi) The rates Prescribed above do not include municipal and other taxes payable under local laws. The actual charges on account of such taxes will be recovered from the occupying department of Government in addition to the percentage payable as rent. Similar taxes if Payable under the local laws by occupiers, will be paid direct by the occupying department to the local authorities concerned.

(vii) The buildings and/or installations will be replaced or renewed out of railway funds when the occasion arises, but the charges for interest and maintenance after such replacements or renewals will be recalculated on the book values of the new buildings and/ or installations, the original transaction in each case being considered as having been finally closed on the assumption that the railway administrations has recovered line total cost of line original building and c' installations through the provision for depreciation included in the rates prescribed in rule (!v) above.

1943. Recovery of Rent from Post and Telegraphs Department-With effect from I st April 1968 the recovery of rent for buildings constructed for Post and Telegraphs Department shall be calculated on the following basis

(a) **Interest Charges.**

(i) On capital invested from 1st April 1964 at the prevalent dividend rate *i.e.,* 6 per cent.

(ii) On capital invested prior to l st April 1964 at 4 , per cant.

Note .For the above purpose the original cost of line building would include book value of the building and the land, usual departmental charges for supervision and storage and freight and incidental charges as laid down in be.1942 E.

(b) Depreciation and Maintenance charges for Civil Works

(i) Depreciation charges-at 2-per cent of the original cost of the building as mentioned in the note above but excluding the cost of land.

(ii) Maintenance Charges :--

(1) For service buildings at 2,4 percent of the original of building as mentioned in the note above but excluding the Cost of land.

(2) For residential building at 3.5 per cent of the original cost of building as mentioned in the note above but excluding the cost of land.

(c) Depreciation and Maintenance Charges of electrical installation at 8 per cent of the original cost.

1944. Surrender of buildings.--If the buildings are not required by the using department any loss sustained by railways consequent on the surrender of the buildings will be borne by such departments provided that the abandonment is not effected in the interest of, or necessitated by changes introduced by the railway. The loss should be assessed in the following manner :--

The Department concerned should be debited with.--

(i) the depreciated value of the building and

(ii) the cost of dismantlement of the buildings, and credited with the sale proceeds of recovered material, no allowance being made for land.

Note 1-- This paragraph is for the present applicable only to the Posts and Telegraphs, the Police and the Defence Departments.

2-- If, in any case, a railway administration decides to use (after surrender) a building permanently allotted to the Police Department, that Department should be debited with the depreciated value of the building and credited with the depreciated value of a building of the type required for railway purposes, provided that depreciation should for the purpose of the credit, be reckoned on the present day cost of providing such a building and on the assumption that it is as old as the building surrendered by the Police Department. A claim for the recovery of loss in the aforesaid circumstances, should, however, not be made unless the loss involved in a particular case is substantial.

3-- The provision of Note 2 above will apply to the Posts and Telegraphs and Defence Departments except that the compensation, if payable, should be determined by negotiations between those departments and the railway administration concerned.

4-- Depreciation should not be calculated from a date earlier than the date on which the new rates of rent (including depreciation) for all Government Departments come into force, *viz.,* the 1st April, 1936. It should, however, be calculated for the period the building may have remained in the occupation of the railway.

5--Depreciated value should be arrived at by assuming the normal life of buildings to be 50 years allowing for depreciation at 1/50th of the original cost per year.

6-- The sale proceeds will be the net sale price after taking into account the cost of carriage, if any of dismantled materials.

7-- The provisions of this rule, will, for the present, apply only to railway building specially constructed for other departments and not to building originally constructed for railway purpose but subsequently allotted to other departments.

1945. Surrender of fittings.--When electric and other fitting provided in the buildings are not required by the using department the loss consequent on the surrender of such fittings should be borne by such departments. The loss should be calculated on the same basis as that prescribed in paragraph 1944

except that for fittings other than electrical instead of the depreciated value of such fittings the original value should be taken into account for debit to the department concerned.

Note--The paragraph is for the present applicable only to the Posts and Telegraphs, the Police and the Defence Departments.

1946. Notice to surrender of buildings and fittings.--In all cases, where the buildings or electric or other fittings provided therein are not required the using departments will have to give the railway administration at least, three months notice of their intention either to vacate a building and surrender if finally or to dispence with the use of electrical and other fittings. If such notice is not given, the departments concerned will be liable for rent up to three months from the date of actual surrender or up to the date on which dismantlement of the buildings or the fittings is commenced, whichever is less.

Note--This paragraph is for the present applicable only to the Posts and Telegraph, the Police and the Defence Departments.

Defence and Posts and Telegraphs Departments Quarters constructed for railway servants

1947. In the case of Defence Department and Posts and Telegraphs Department quarters specifically constructed for occupation by railway servants, the standard rent according to the rules of those departments shall be payable to the department concerned.

1948. For the purpose of maintenance of telegraph lines the Posts and Telegraphs Department will at its own cost keep linemen at convenient stations of the Railway for which it supplies telegraph wires and the railway authorities will provide accommodation for such linemen and also cable jointers and cable mechanics in electrified sections to live on the premises, in the immediate vicinity of those stations and will afford them all reasonable facilities for constantly inspecting its telegraph lines cables. The accommodation will be such as is provided for railwaymen of corresponding pay and rent for it will be charged in accordance with paragraph 1943.

Railway buildings including residential quarters temporarily allotted to other Government Departments.

1949. Railway Buildings including quarters may be let out temporarily to other departments of the Central Government or State Governments. The rent for such buildings shall be recovered in accordance with para 1942. In this case the quarter is placed at the disposal of the department of Central Government or the State Government who makes the allotment at its own discretion.

Railway residential quarters temporarily allotted to non-railway Government employees.

1950. When available railway quarters may be let out temporarily for occupation by employees of non-railway Departments of the Central and of State Governments by official arrangements. Residential accommodation will be deemed to have been procured by official arrangement only if it is done under orders of an authority competent to assume on behalf of Government responsibility to provide residential accommodation. In this case the names of the employees are sponsored by the Department

or State Governments and the allotment is made by the Railway direct to the employee in question. In such cases the following rules will apply :--

(i) Officials of the departments of the Central Government subject to the provisions of paragraph 1952, rent as due under civil rules *i.e.,* Fundamental Rule 45-A shall be recovered.

(ii) Officials of Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Nagaland, Tamil Nadu, Maharashtra, Karnataka, Orissa, Punjab, Rajasthan and Uttar Pradesh Governments--10 per cent of the official's emoluments or standard rent adopted by the railway for its own employees whichever is less.

When accommodation is provided at *(i)* at officer's own request or *(ii)* not by official arrangement or *(iii)* in excess of what is appropriate to their status at their own request full rent in accordance with para 1942 shall be charged. If the accommodation provided is leased or requisitioned full rent will be payable.

Whatever may be the rules of each Government for providing rent free or concession rent quarters to their respective employees, when accommodation is provided by one Government to the employees of the other Government, the former Government would recover assessed rent or 10 per cent of the occupant's emoluments whichever is less.

(iii) For officials of Jammu and Kashmir, Madhya Pradesh and West Bengal, rent shall be recovered in accordance with paragraph 1942.

Other Government Department quarters allotted temporarily to Railway employees.

1951. When quarters belonging to other departments of Central Government or to State Governments are let out temporarily to railway employees, the following rules will apply.--

(i) Central Government quarters--Subject to the provisions of paragraph 1952, rent as due under F. R. 45-A shall be recovered.

(ii) Quarters belonging to Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Nagaland, Tamil Nadu, Maharashtra, Karnataka, Orissa, Punjab, Rajasthan and Uttar Pradesh Governments :--

When accommodation is let out by official arrangement rent for such accommodation shall be charged at the rate of 10 per cent of the occupant's emoluments or the standard rent adopted by the State Government for their own employees whichever is less.

When accommodation is provided *(i)* at the officer's own request or *(ii)* not by official arrangement or *(iii)* in excess of what is appropriate to their status at own request or *(iv)* the accommodation provided is leased or requisitioned full rent will be charged.

Whatever may be rules of each government for providing rent free or concession rent quarters to their respective employees, when accommodation is provided by one government to the employees of the

other Government, the former government would recover the standard rent or 10 per cent of the occupant's emoluments, whichever is less.

(iii) For quarters belonging to Jammu and Kashmir, Madhya Pradesh and West Bengal Governments full rent according to the rules of the State Government shall be payable.

1952. In cases covered by clause (i) of paragraphs 1950 and 1951, if the occupant of a quarter is exempted from payment of rent under the rules of his department, no rent of the quarter including rent on electrical installation and fittings shall be payable, though in cases covered by paragraph 1951 (i) rent on electrical installation and fittings, as due under the railway rule, shall be recovered from the occupant and credit to railway revenues.

Note.--This exemption does not extend to payments, if any, made by the owning Department in respect of occupier's share of taxes, or of charges for the consumption of light water, etc. Such charges will, in any case, be recovered from the Department to which the quarters have been temporarily allotted, leaving it to that Department to recover them from its employees, or not, in accordance with its own rules.

1953. Occupation of Railway Rest Houses or Rest Rooms.--Railway Rest Houses and Railway Rest Rooms are primarily intended for the use of Railway officers. They can be allotted to retired Railway officers also when they are not required by serving Railway officers, for a maximum period of 7 day at a time on payment of charges which will be computed on daily basis at the rate of 15% of the last pay drawn by the retired Railway officer and on the basis of a month constituting 30 days.

Members of Estimates committee of Parliament, Members of Railway Convention Committee, officers and staff of Lok Sabha Secretariat accompanying the Convention Committee may be permitted to occupy Railway Rest Houses and Rest Rooms whenever they undertake tours on behalf of Railways on payment of Rs.5/- per day per suite.

The Rest Houses and Rest Rooms may, however, be occupied by non-railway Government officers on tour on payment of charges as indicated in para 1954 provided the accommodation is not required by Railway officers. The non-Railway officers may have to vacate the Rest House when Required by the Railway in an emergency. Rest Houses and Rest Rooms may be booked for a period of 4 days only at a time after which the occupants may be required to vacate the accommodation if required by other and no booking can be made more than one month in advance. The rest rooms at Victoria Terminus station at Mumbai are excluded from the scope of allotment to non-Railway Government Officers.

1954. Charges for the occupation of Railway Rest Houses and Rest Rooms by non-Railway officers, as a contribution towards the maintenance of such establishments shall be levied at rates which will be notified from time to time.

For the purpose of these rules 24 hours from the time of arrival will be reckoned as a day and charges recovered accordingly. Officers who book the Rest Houses and Rest Rooms and who for any reason fail to occupy them shall be charged half rates, for the period the booking has been made, unless the room

is taken up by some other officer. The charges should be recovered in cash in advance before or at the time of occupation of the accommodation.

1955. Notwithstanding the provisions contained in para 1953 non-Railway officers indicated below will be treated as Railway Officers on duty in the matter of recovery of charges :--

(a) Officers of the Posts and Telegraphs department having free duty passes in the area covered by the Railway Pass.

(b) Officers of the Special Police Establishment and Government Railway Police working on Railways.

(c) All officers serving under the conciliation officers, Railways and Supervisor Railway Labour.

(d) The Officers of the Audit department (Railway Wing) and Special Railway Magistrates.

(e) The Officers of the Industrial Security Inspection Team of the Intelligence Bureau (Ministry of Home Affairs).

(f) The Commissioners of Departmental Enquiries, Central Vigilance Commission, New Delhi.

Any addition or alteration if required to be made to the above list of officers may be made by the Railway Administration in consultation with the Financial Adviser and Chief Accounts Officers of the Railway under advice to the Railway Board.

Military buildings on railway Lands

1956. In the case of railway units of Territorial Army the expenditure of which is borne by the Ministry of Defence, the works connected with such units on railway land will be constructed, maintained and kept in repair through the agency of the Railway Administration concerned at the cost of Ministry of Defence, a fixed charge of 2 $^{1}/_{2}$ per cent per annum on the capital cost (including departmental charges in terms of para 1137 being levied by the railway to cover the cost of maintenance). In the event of the head-quarters of such units being changed the railway administration will take over the buildings at a fair valuation.

Buildings for Railway Police

1957. The Railway Administration will own the buildings already built and to be built in future within railway premises and the State Government will own the rest. The rent of quarters built by Railway Administration for the Police staff before the 1st April, 1937 will be regulated by the rules in force prior to the date.

1958. Reasonable accommodation should be provided free of rent at railway stations on the Indian Railways for Police stations, including malkhanas and Godowns, and lock-ups having due regard to the needs of the railway station. Where, however, electric installations and water metres are provided, rent for the installations and the metres should be recovered together with the cost of current and water consumed.

If any municipal taxes are payable by railways in respect of such Police stations and lock-ups, their incidence will be as follows :--

Taxes of the nature of house or property tax which are payable by owners, should be borne by railways. Taxes levied for special services rendered for the benefit of the occupier should be recovered from the Police Department irrespective of whether they are under the local law or custom recoverable separately or form part of a consolidated property tax.

(The orders in this paragraph have effect from the 1st April, 1937).

1959. As from the 1st April, 1937 the railways are responsible for payment to the local administrations concerned of the entire cost of "Order" Police employed on Indian Railways. Railway Administrations will debit State Governments with the full standard rent *(i.e.,* rent calculated on actual total cost) for all railway buildings occupied by the "Order" Police staff (including supervising staff) the State Governments debitting the railways with :--

(1) the difference between the standard rent and actual rent recovered in the case of staff other than supervising, and

(2) one-forth of this difference in the case of supervising staff.

In the case of temporary buildings at Ghat stations which are provided by the old Assam Railway for the Police Department the Railway Administration will recover from the State Government 25 per cent per annum of total cost on account of rent and the cost of shifting such buildings, with effect from 1941-42.

1960. Accommodation for Railway Co-operative Societies.--Where convenient, suitable existing premises may be offered to the Consumer Co-operative Societies on rent. If these are not available, private accommodation may be taken ensuring that the rent is reasonable and the accommodation is not excessive. If neither of the courses is feasible new buildings may be constructed with Railway Board's sanction. The buildings should be so designed as to admit of their conversion into staff quarter later if necessary. In the newly established railway colonies it should be possible to provide accommodation to consumer co-operative societies where provision for construction of a market exists. Where, however, a market is not provided the construction of a building for allotment to the society on a reasonable rent should be dealt with separately for each case on merits and with prior approval of the Railway Board.

1961. Recovery of Rent.--Railwaymen's Consumer Co-operative Societies as well as any agency authorised by the State Governments to run fair price shops will be charged nominal rent of Rupee one per annum (plus actual municipal taxes) which also includes the rent of electrical installations provided in the building so licensed.

In the case of Railwaymen's Consumer Co-operative Societies which do not run fair price shops the rent to be charged should only cover maintenance charges at 2 $^{1}/_{2}$ per cent per annum on the capital cost with effect from 23-5-66. Municipal and other taxes payable under local laws are to be recovered in addition. In case of Railway buildings constructed after 26-1-1950 the service charges paid to the local

bodies in lieu of Municipal taxes should be recovered from the Societies allotted with such accommodation. The rent will be recovered from the existing as well as from the new societies whether they are housed in railway buildings which are already available or in buildings which are specifically built for the purpose as under :--

During the first year from 1st October 1958 or the date of inauguration of the society whichever is later.	Nil
During the 2nd year from 1st October, 1958 or the date of inauguration of the society whichever is later.	◆ rent
During the 3rd year from 1st October, 1958 or the date of inauguration of the society whichever is later.	◆ rent
During the 4th year from 1st October, 1958 or the date of inauguration of the society whichever is later.	◆ rent
During the 5th year and onwards from 1st October, 1958 or the date of inauguration of the society whichever is later.	Full rent

1962. Accommodation for Railwaymen's Co-operative Credit Societies and Banks.--Facility may be afforded to provide accommodation in railway premises for Railwaymen's Co-operative Credit Societies and banks. Rent for such accommodation including their Branches should only cover maintenance charges at 2 $^{1}/_{2}$ per cent annum on the capital cost with effect from 1st October, 1971. Municipal and other taxes payable under local laws are to be recovered in addition.

Accommodation for office and for running canteen etc. for workers, if available may be allotted to such of the Co-operative labour Contract, Societies as are awarded handling contracts for goods, parcel, coal, coal ashes, cinder picking, ash pit, cleaning etc., on the Railways on a nominal rent of Rs. 100/- per annum.

1963. Building to house Staff Welfare Organisation.--Spare Railway building may be allotted after obtaining Board's prior approval, to Staff Welfare Organisations like Handicraft Centres, Homeopathic dispensaries, Vocational Training Centres, Social Welfare Centres, Staff Canteens, Bharat Scout and Guides Associations, privately managed schools in the Railway colonies, Temple Committees etc. A nominal fee is recovered in such cases except that of Bharat Scouts and Guides Associations at a uniform rate of Rs.1,000/- per annum. In case of buildings licensed to Bharat Scouts and Guides Associations, a nominal fee of Rs.20/- per annum will be recovered.

(Authority: Railway Board letter No. 99/LMB/3/25 dated 27.09.99)

1964. Accommodation for Refreshment Rooms.--For the buildings, furniture and other allied equipment provided by the railway for any contract catering establishment a rent will be charged, which will be equitable and not more than eleven per cent per annum of the capital cost of the building and equipment provided. The rent fixed should have an approximation to that for similar type of premises in the local area.

1965. Rent for Premises let out to recognised Unions and Federations.--The rent for service buildings let out to recognised Unions and Federations should be charged on the following basis :--

(i) Where the services and facilities are provided which are comparable with staff quarters, the comparable unit has to be taken into account. The rent to be charged may be on the basis of pooled rent of the nearest type of quarter provided for comparable built space, amenities and facilities.

(ii) Where the service buildings, do not have the comparable facilities with the staff quarter, the rent may be assessed only on the plinth area on the basis of the pooled rent. It would, still, however, be necessary for them to equate the service buildings to a particular type of quarter on the basis of the material and type of construction as they may have to adopt the pooled unit rate per sq. metre of that particular unit of quarter.

(iii) It is not necessary to re-fix the rent of these buildings once in five years when the rent is initially fixed to pooled unit rate per sq. metre adopted during that five year period is adopted and no periodical revision is necessary. The Administration will have the right to revise the rent on giving due notice (as may be specified) to the Union.

1966. Railway quarters and other buildings not required for housing railway staff or other railway purposes may at the discretion of the General Manager be let, in consultation with the Financial Adviser, to outsiders, on the highest rent that can be secured. This power may, subject to such restrictions as the General Manager may impose, be delegated to officers not below the rank of Divisional Managers. The rule in this paragraph applies also to vacant land, temporary structures and wagon bodies leased to outsiders.

SERVICE BUILDINGS

1967. Service buildings are those which are used as stations, offices, depots, workshops, etc., No rent is chargeable for such class of buildings, Buildings designed to provide certain facilities to staff in the discharge of their duties such as running rooms of drivers and guards, officers' and subordinates' rest houses, etc., should be considered as service buildings and no rent should be charged in respect of such buildings for so long as they are used for the purposes for which they were designed. If at any time such buildings are with the permission of the head of the railway used as residences, standard rent for the portions occupied should be recovered from the occupant or occupants. The power to permit the temporary use of rest houses, etc., as residences may be delegated to Divisional Managers.

1968. No rent should be charged for accommodation provided for the officers of the Government Inspectors of Railways or for Statutory Audit Officers.

Recovery of charges for the maintenance of the Lawn in staff quarters and bungalows

1969. The maintenance of community parks, common gardens, hedges, plantation of trees in children's playgrounds in Railway colonies will be done by the Railways at their own cost. The Railways will also undertake the maintenance of lawns inside the compounds of bungalows of officer and quarters of senior staff in grade Rs.1600-2660 and above. The maintenance charges of such lawns will be recovered at a rate to be fixed by the Railway Administration in consultation with the Financial Adviser and Chief Accounts Officer so as to realise 25 per cent of the cost incurred by the Railway on such maintenance, the recoveries from various grades of staff being on a graded scale.

1970. In the case of Multi-storeyed and Double storeyed buildings the charges recoverable for maintenance of lawns should be distributed prorata among all the occupants provided the lawns are community ones, *e.g.,* if a lawn is serving six occupants, one sixth of the charges should be recovered from all the occupants concerned. In cases, however, the lawns are demarcated for each occupant of the building or specifically allotted to an occupant living in a particular floor the charges should be recovered from the individuals concerned at the rates laid down.

1971. In the event of any lawns inside a bungalow or quarters not being maintained on account of shortage of water or any other difficulties charges may not be recovered from the occupants for such period of non maintenance.

1972. The occupants of the quarters may be allowed to derive the benefits of the harvest from the trees grown in the compound. The trees will, however, remain the property of the Railway Administration and the occupants of the Railway quarters will not be permitted to sell the fruits etc. under any circumstances.

1973. For assessing proportion of the cost incurred by the Railway to be recovered from the staff, (ref. para 1969), it is sufficient if the total expenditure is assessed on an approximate basis in consultation with the Financial Adviser and Chief Accounts Officer taking into account the emoluments of malis, cost of water, fertilizer and manure, depreciation on tools and plants and other allied expenditure. The charges for maintenance of lawns are to be revised once in five years.

GENERAL

1974. Insuring Institute Buildings against Fire.--Railway buildings (whether used as service buildings, residential quarters, institutes, etc., or leased to outsiders) should not ordinarily be insured but they should not be allowed to be used for Cinematograph performances unless the occupant or the institute concerned insures the building against fire.

1975. Provision of Fire Extinguishers.--The head of the railway will arrange to provide fire extinguishers at all stations, residential railway colonies officers etc., and will see that all persons occupying railway buildings or otherwise connected therewith are made acquainted with such arrangements.

1976. Obligation of Tenants.--All tenants are under obligation to keep their quarters in a clean and whole some state. They may not make any additions or alterations to quarters without the permission of the Executive Engineer in charge.

List of Buildings and Rent Rolls

1977. List of Buildings.--Railway Administration is responsible for maintaining a complete and up-to-date list of all buildings, both residential and service, in each division. The list should be maintained in the form indicated below (Form E. 1977). This register should be reviewed by the Divisional Engineer once in every quarter to see that the information is compiled properly and the register maintained up-to-date (Form on next page).

1978. Whenever works of construction of new buildings or of additions and alterations to and dismantlement of existing buildings, are undertaken-necessary addenda or corrigenda to the list of buildings should on the completion of such works be prepared and incorporated in the list of buildings, Copies of such addenda or corrigenda should also be furnished to the Accounts Officer and to the department to which the buildings affected are allotted.

1979. Information for Preparation of Rent Rolls.--At the commencement of each financial year, the various engineering supervisors concerned will furnish information regarding quarter No. whether allotted to officers or staff, the type of quarter the cost of the building the period for which the quarter was tenanted or vacant, the details of accommodation and the area in the prescribed form as shown in chapter XVI-A in triplicate in respect of each residential building in his charge and get this signed by the concerned officer of the Engineering Department. One copy of the form should be sent to the pay preparing unit, and another to the Accounts Office, the third copy being retained as office record. In the case of transfer of buildings from one railway to another or from one division to another the forms relating to such buildings should also be transferred to the new bill preparing authority and to the new Accounts Office "Change Statement" intimating changes of tenants, the rate of rent and other connected charges should be sent by the engineering supervisor every month to the pay preparing unit of the occupant.

form E-1977.....continuted to List form

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