



MOOKHTAR-OOL-MOOLK

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CHAP.
I.

NAMES OF APPOINTMENTS.	SALARIES PER MENSEM.*	
	Military Officers in addition to full Pay and Allowances.	Persons not in the Mili- tary Service.
ENGINEER ESTABLISHMENT.		
Chief Engineer, 1st Class,	{ 2,250 with Pay proper only }	2,250
Chief Engineer, 2nd Class, and Superin- tendent General of Irrigation, N. W. P.,	1,200	1,600
Chief Engineer, 3rd Class,	1,000	1,400
Superintending Engineer, Superintendent of Canals, Punjab,		
“ “ Embankments, Bengal, Superintendents of Works of more than one Executive charge,	600 to 800	900 to 1,200
Civil Architect at the Presidency,	700	900
Executive Engineers, 1st Class,	600	900
“ “ 2nd “	500	750
“ “ 3rd “	400	600
“ “ 4th “	300	500
Special Assistant Engineers,	250	350
Assistant Engineers, 1st Class,		
“ “ 2nd “	200	250
Probationary Assistant Engineers,	112	100 to 200
UPPER SUBORDINATE ESTABLISHMENT.		
Sub-Engineers, 1st Class,	250	400
“ 2nd “	200	300
“ 3rd “	150	250
Supervisors,	120	200
Assistant Supervisors,	100	150
Overseers,	85	100
Assistant Overseers,	70	80
Probationary Assistant Overseers,	50	60
LOWER SUBORDINATE ESTABLISHMENT. †		
Sub-Overseers, 1st Class— deserving men above 10 years' service,	5	60
all others,	5	50
Sub-Overseers, 2nd Class— deserving men above 10 years' service,	5	40
all others	5	35
Sub-Overseers, 3rd Class— deserving men above 10 years' service	5	30
all others	5	25
Sub-Surveyors as Sub-Overseers, 1st and 2nd Classes,	}	25 to 60
Cashiers according to charge,		
Store-keepers, ditto,	8 to 30	20 to 50
Head Artificers, ditto,	8 to 15	8 to 15

* Exclusive of Travelling Allowance, see Chapter XIX.

† The Salaries of all, except Head Artificers, are for men who can keep accounts in English. See para. 10, Chapter II.

4.—Commissioned and Warrant Officers employed in the Department will be allowed their Military Pay and allowances in full, unless it be otherwise specifically ruled; and Non-Commissioned Officers and Soldiers will be allowed their full pay and batta, but neither clothing, bedding, &c., nor subsistence money for their wives and families. The Military Pay and Allowances of Commissioned, Warrant, and Non-Commissioned Officers and Soldiers will be drawn from the Military Pay Offices, under audit by the Military Auditor General; but all except the Pay proper will be debited to the Public Works Account of the Presidency or Province in which each individual may be serving.

CHAP.
I.
Military Pay
and Allow-
ances.

5.—With the view of affording Military promotion to deserving Non-Commissioned Officers employed in the Department, and of supplying a Staff of Warrant Officers for service in the field with Engineer Parks, the following Establishment will be filled up by promotion from Serjeants employed in the Public Works Department; the individuals so promoted continuing in the Public Works Establishment and performing their Departmental duties, except when required for field service :—

Warrant Of-
ficers.

Deputy Commissaries,	3
Assistant Commissaries,	3
Deputy Assistant Commissaries,	3
Conductors,	15
Sub-Conductors,	20

Serjeants of not less than eight years' standing and not less than 18 years' service in the Army (including Departmental service) will be eligible for promotion to Sub-Conductors, from which grade well conducted Warrant Officers will rise by seniority as vacancies occur; but no Warrant Officer will be promoted to a higher grade till he shall have served two years in the grade below.

6.—The Chief Engineer of each Government or Province will, under the orders of the Local Administration, conduct

Chief Engi-
neers.

ORGANIZATION.

CHAP. I.

the duties of the Public Works Department generally. Each Chief Engineer will be allowed an Officer of the Engineer Establishment as an Assistant; and an adequate Office Establishment for his Executive duties, as well as for the examination and compilation of the accounts of expenditure in the Department under his control.

Chief Engineers and Auditors.

7.—He will also audit all expenditure in the Department, and will furnish to Government the prescribed Financial Statements and Returns. To him will be submitted the accounts of all expenditure by Executive Engineers, after being properly abstracted and checked in his Office of Account, and having the remarks of the Superintending Engineer recorded on them. The Chief Engineer is empowered to pass finally certain charges under the Rules laid down in Chapter III. He will submit all others to the Local Administration for orders.

Functions of Chief Engineers to be exercised by certain Officers.

8.—Officers at the head of branches of the Public Works Department under the direct orders of a Local Administration, however designated (such as the Superintendent General of Irrigation in the N. W. P. and Superintendent of Canals in the Punjab), will exercise all the functions of Chief Engineer in respect to their own branches of the Department.

Superintending Engineers.

9.—The Superintending Engineers will assist the Chief Engineer under whose orders they may be placed in the supervision and control of the Department, and particularly by making inspections within the circles assigned to them respectively. They will, under general instructions, which shall be laid down by the Chief Engineer, either dispose, by their own authority, of the matters coming under their notice, or they will report upon them for the information of the Chief Engineer.

Superintendents of Works.

10.—For any particular work, too large to form a single Executive charge, but requiring the entire energies of an individual Engineer for its efficient supervision, a Superintendent (with Executive Engineers under him) will be ap-

pointed on a salary regulated by the importance of his charge. He will reside on the spot, and conduct the duties of the particular work as a Superintending Engineer, under the orders of the Chief Engineer, or other Departmental Superior.

CHAP.
I.

11.—The duties of an Executive Engineer will be to manage the whole of the details of the Public Works under his charge, including the provision of labour and materials, the payments of cash, and the rendering of accounts of all expenditure.

Executive
Engineers.

12.—Assistant Engineers will be employed under Executive Engineers to render any general or special assistance that may be required; either by taking charge of a subdivision of works, or otherwise, subject to approval by the Superintending and Chief Engineer. Assistant Engineers in charge of works of unusual importance, or who for other special reasons may have been allowed higher emoluments, will be termed Special Assistant Engineers.

Assistant
Engineers.

13.—Officers of the Upper Subordinate Establishment and Sub-Overseers will be employed in the immediate supervision of works or portions of works, or in conducting the Departmental duties at small stations or posts, and sometimes in surveying and levelling, or other detached duties. Their principal duty will be executive supervision; it is not intended that, as a general rule, they shall be required to keep the public cash or make the payments on account of Public Works, but it will be their duty to grant cheques on Cashiers, when such persons are employed, and at all times to see that artificers and labourers receive full payment at the prescribed periods.

Upper Sub-
ordinate Es-
tablishment &
Sub-Overseers.

14.—Cashiers shall be appointed for the custody, payment, and receipt of cash, at all places where the disbursements are considerable. They will have no power to make payments except on the written orders of the Executive Engineer, his Assistant, or of such Executive Subordinate Officers as may be authorized to draw on them. They will submit their accounts direct to Executive Engineers

Cashiers.

CHAP.

I.

supported by the orders duly receipted, or pay lists witnessed by the Executive Subordinate.

Store-keepers.

15.—Store-keepers will be appointed to relieve the Executive Subordinates of the charge of the stores and of the accounts connected with them, whenever the charge involves heavy duties. The Store-keepers will receive and issue stores only on the written order of the Executive Engineer, his Assistant, or the Executive Subordinates whom they may be ordered to supply.

Head Artificers.

16.—Head Artificers will be employed, when necessary, to assist Overseers in collecting workmen and supervising their labours, and in measuring work executed or required.

Regular Departmental Establishments.

17.—The Regular Engineer and Subordinate Departmental Establishments will be fixed specially for each Division by the Government of India, as also the Regular Office Establishments of Clerks, Chupprassies, Guards, &c.

For ordinary Works.

18.—Under ordinary circumstances the Public Works in any Division must be carried on by means of the Regular Establishment.

Additional Establishment for extraordinary Works.

19.—Any permanent or temporary addition to the Regular Establishment of any Division which would be rendered necessary by undertaking new Works must be specially brought forward in connexion with the Estimates for those Works.

How to be provided.

20.—On the Works being sanctioned, the necessary additions to the Regular Establishments of the Division will generally be made by transfers from other Divisions, under the orders of the Local Administration, or from other Administrations under the orders of the Government of India; but when sanction is given to entertain new Establishments, the persons to be employed must still be appointed under the ordinary rules laid down for the several grades and classes (see Chap. II.)

Extra Establishments for short periods.

21.—Additional Survey and Office Establishments required temporarily on any account for a period not exceeding six

months, may be sanctioned by the Local Administration. But if an extension of the period become necessary, the case must be brought forward under paragraph 23.

CHAP.
I.

22.—Chief Engineers may sanction a temporary Establishment of classies for any Surveyor or Engineer whose employment on survey duty has been sanctioned by the Local Administration or Government, not exceeding six classies for each separate party, and provided that the duration of the survey does not exceed six months. For a longer period than six months, and for any number exceeding six men to one party, a regular application shall be made in the prescribed manner.

Survey Es-
tablishments.

23.—Any additional Establishments required for a longer period than six months, or any permanent increase of the Regular Establishment, not provided for in the foregoing paragraphs, must be referred, through the proper channel, for the sanction of the Government of India, with a Tabular Statement (Form No. I).

Permanent
increase of Es-
tablishment.

24.—The additional Establishments temporarily entertained under paragraphs 21, 22, and 23 will be termed Extra Establishments.

The term Ex-
tra Establish-
ments.

24.—The Establishments for the immediate supervision of Works, or for keeping the detailed accounts of them, will be considered as a charge against the Works, and will be always understood to be provided for in the Estimates. All work-people, whether of higher or lower grades, directly engaged on the Works on monthly pay, will in like manner be charged directly against the Works. Such Establishments will be termed Work Establishments.

Work Estab-
lishments.

26.—If the additional Establishment sanctioned for a Work in the Estimate, or under paragraphs 19 and 20, be found insufficient, or if there has been an omission to obtain sanction to any Establishment, the Chief Engineer shall be competent to authorize, within the sum sanctioned for the Work, the employment by the Executive Engineer of such Establishment as may

Increased Es-
tablishments
for Works
when under
Estimate.

CHAP.

I.

be necessary ; excepting such persons as can, under the Rules of the Department, only be appointed by higher authority.

The same
when in excess
of Estimate.

27.—If the amount of the Estimate will not cover the cost of the necessary additional Establishment, the Chief Engineer shall apply to the Local Administration, which shall have power to sanction the additional outlay, when the Work was originally one within its own competence to sanction ; referring to the Government of India in other cases.

The same
when their is
no Estimate.

28.—If additional Establishments be rendered necessary by a temporary press of petty Works for which there is no formal Estimate, the Chief Engineer may sanction (subject to the limitation in paragraph 26) the entertainment of any necessary Establishment, of which the expense will be covered by a charge of one per cent. on the Works.

CHAPTER II.

QUALIFICATIONS, APPOINTMENTS, PROMOTIONS.

1.—To the situations of *Office Clerks, Mohurrirs, Chupprassies*, and other inferior offices, Executive Engineers are at liberty (in the absence of special instructions), on the occurrence of vacancies, to appoint any persons whom they may deem to be properly qualified, excluding those only who have been dismissed from any situation under Government for causes that should disqualify them for the public service. As a general rule, ability to read and write is to be considered a necessary qualification for every appointment.

CHAP.
II.

Clerks, &c.

2.—For the situations of *Cashiers and Store-keepers*, Executive Engineers are in like manner at liberty to select such persons as they consider qualified, on their furnishing adequate security.

Cashiers and
Store-keepers.

3.—*Head Artificers* shall be required to possess a practical knowledge of their respective crafts.

Head Arti-
ficers.

4.—*Sub-Overseers of the 3rd Class* must be capable of supervising bricklaying, roofing, flooring, road-making, carpentry, and other work ordinarily done under Departmental superintendence.

Sub-O v e r-
seers, 3rd Class.

5.—When a vacancy occurs for the appointment of a Head Artificer or Sub-Overseer, 3rd Class, the Executive Engineer will report it through the Superintending Engineer to the Chief Engineer. For these situations preference will be given to qualified men educated at a Government Institution, and to men already employed in the Department, who may have been brought to the Chief Engineer's notice by Superintending Engineers as deserving of promotion. In the absence of such candidates, the Executive Engineer will be instructed

Appointment
of ditto.

CHAP.
II.

to take measures to fill up the vacancy. New appointments are to be considered probationary for one year, and no appointment will be permanently given unless to a fully qualified individual. It will be the duty of Superintending Engineers, on their inspections, to examine and report upon newly appointed subordinates of these grades.

Sub-Overseers,
2nd Class.

6.—*Sub-Overseers of the 2nd Class* must, in addition to the acquirements expected of Sub-Overseers, 3rd Class, be able to lay down and construct an ordinary building from working drawings and specifications, to prepare simple drawings, and to frame corresponding estimates.

Sub-Overseers,
1st Class.

7.—*Sub-Overseers of the 1st Class* must, in addition to all the above qualifications, be able to survey with the Chain and Compass, to take levels, and to plot their surveys and sections neatly.

Sub-Surveyors.

8.—*Sub-Surveyors of the 2nd Class* must be able to survey with the Chain and Compass, to take levels, and to plot their surveys and sections neatly. *Sub-Surveyors of the 1st Class* must be able to make simple surveys with the Theodolite in addition to the above.

Examination
and appointment
of the
above.

9.—The qualifications of Sub-Overseers of the 1st and 2nd Classes, and Sub-Surveyors, will generally be ascertained from certificates issued from a Government College of Civil Engineering, but Chief Engineers are empowered to authorize Executive Engineers to examine and report on candidates in special cases. The appointments will be made by the Local Administrations, on the recommendation of the Chief Engineers, on probation for the first year. These men are not required to serve first in the lower classes, and promotions among them will be made by the Local Administration, on the recommendation of the Chief Engineer.

Knowledge
of English.

10.—A knowledge of English, and particularly of English figures and Arithmetic, is to be encouraged in the lower Subordinates. The table of salaries (Chapter I.) is framed on the

supposition that they are so far proficient in English as to be able to keep accounts in that language. When this is not the case, the salaries will be less than those laid down in the table by Rs. 5 in the case of each Sub-Overseer or Sub-Surveyor, 1st Class, or Cashier, Rs. 3 in the case of each Sub-Overseer or Sub-Surveyor, 2nd Class, and Rs. 2 in the case of each Sub-Overseer, 3rd Class, or Store-keeper.

CHAP.
II.

11.—*Assistant Overseers* are required to have a good knowledge of Arithmetic, including Mensuration and Account-keeping, to know something of practical Geometry, to be able to prepare simple drawings, to have some knowledge of building materials, to understand how to lay down and construct a building from drawings and specifications, and to be able to prepare a simple estimate on being furnished with a design and the rates of work, also to survey with Chain and Compass, and to take levels. Europeans must possess a fair colloquial knowledge of Oordoo, or of the languages of the Districts in which they are to be employed, and Natives must be able to speak and write English with tolerable accuracy.

Assistant
Overseers'
qualifications.

12.—The qualifications of candidates must invariably be attested by Certificates from the Principals of the Government Civil Engineering Colleges.

Certificates
of ditto.

13.—Soldiers are permitted to study at the Thomason College for the purpose of qualifying themselves for the situation of Assistant Overseer under Rules laid down in General Orders by the Commander-in-Chief. (Vide Appendix B.) Rolls of the men who have qualified themselves will, immediately after the periodical examinations, be sent to the Secretary to the Government of India in the P. W. Department. The Principal, having previously communicated with the Chief Engineers, will, at the same time, suggest to Government the Division to which each Student should be appointed. On the recommendations being approved of, the men will be appointed Probationary Assistant Overseers.

Soldiers at
the Thomason
College.

CHAP.
II.

Soldiers with
their Corps
near the Col-
lege.

14.—Soldiers serving with their Corps, who desire admission into this grade of the Department, and who are capable of passing the required examination without going through the course of instruction at the Thomason College, will make their wishes known to their Commanding Officer, who, if there be no objection on the score of bad character or the demands of the Military service, will, when in the vicinity of the Thomason or Presidency College, arrange with the Principal for their being examined there.

Ditto at a
distance from
the College.

15.—In case of the candidate being at too great a distance from the College to be examined personally by the Principal, the Commanding Officer will apply to the College for examination papers, which, on receipt, he will make over to the Executive Engineer of the District or his Assistant (not being a Probationary Assistant), whose duty it will be to conduct the examination. The examining Officer will forward the candidate's original answers and work, with such report as he may deem necessary, to the Principal of the College, by whom a Certificate will be granted or withheld, as he may judge to be right from the papers and report.

Certificates
to Soldiers.

16.—Having obtained the necessary Certificate of the candidate's qualifications, the Commanding Officer will transmit it, with the usual descriptive and character rolls, through the regular channel, to Army Head Quarters, whence, with the sanction of the Commander-in-Chief, the papers will be transferred, for registry of the application, to the Office of the Secretary to Government, Public Works Department.

Civilians.

17.—Civilians desirous of being appointed Assistant Overseers should apply to the Executive Engineer of the District in which they reside, who, on being satisfied that the candidate bears a good character, and appears likely to come up to the standard of qualification, and is not above 25, or if a Sub-Overseer, 30 years of age, will in the first instance send him to the nearest Government Medical Officer in charge of a Hospital, who shall be required to examine him. The Medical

Officer, being satisfied as to the individual's physical fitness or employment, will furnish him with a Certificate to the following effect :—

CHAP.
II.

“ Certified that I have examined _____ and consider his eye-sight to be good, and that he appears to be able to undergo the fatigues of active employment as an Overseer in the Department of Public Works.

“(Signed) A. B.
“ Surgeon.”

18.—On being presented with this Certificate, the Executive Engineer will send the candidate to a Government College (see Appendix B.), if there is one within a short distance, otherwise he will apply to the Principal of the nearest Government College for examination papers. The examination will be conducted as above laid down for Soldiers ; and, on a Certificate being obtained, the Executive Engineer will transmit it, with the Medical Certificate and a report, stating the residence, age, and character of the candidate, through Superintending, to the Chief Engineer, by whom the papers will be forwarded, through the Secretary to the Local Administration, for registry in the Office of the Secretary to the Government of India.

Examination
of Civil candidates.

19.—Nominal Rolls of men registered as candidates under the paragraphs 16 and 18 will be sent quarterly, through the same channel as the original Certificates, to the Secretary to Government, in order that he may be kept informed of any casualties or changes. Men not in the service will be required to report themselves periodically to the Executive Engineer, failing which, their names will be struck off the Register.

Quarterly
Rolls of candidates.

20.—From the Register the Government, from time to time, as vacancies occur, will appoint candidates to be Probationary Assistant Overseers.

Appointment from the Register.

21.—All Probationary Assistant Overseers, however appointed, whether under paragraphs 13 or 20, will be considered

Probation and posting.

CHAP.
II.

as on probation for one year, and no man will be appointed permanently to the Department in this grade till he has passed through his probation. The Probationary Assistant Overseers will be posted by the Government of India to Provinces, and by the Local Administration to Districts, as near to their Stations or residences as the convenience of the public service will allow.

Probationers to acquire practical knowledge.

22.—Probationary Assistant Overseers will be expected to acquire a complete practical knowledge of the ordinary kinds of work required to be done under Departmental supervision (see qualifications of Sub-Overseers, 3rd Class, para. 4) as well as such further practical knowledge of engineering operations as they may have opportunity of acquiring.

Ditto to be reported on after a year.

23.—On completing their probationary service, the Probationary Assistant Overseers will be reported on by the Executive Engineers under whom they have been serving. If satisfied with their conduct and qualifications, the Chief Engineer will recommend their permanent appointment to the Department; if not fully satisfied, he may order them to be kept on probation for any further period not exceeding one year; if he be of opinion that they are not qualified for permanent employment as Assistant Overseers, he will recommend their being remanded to their Corps, if Soldiers, or discharged, if Civilians.

How permanently appointed.

24.—Probationary Assistant Overseers considered deserving of permanent employment will be gazetted under the orders of the Government of India as Assistant Overseers, from which date their standing in the Department will reckon, and if Soldiers, they will be brought on the Town Major's List.

Assistant Overseers for Survey duties.

25.—Persons capable of conducting all the practical operations of an ordinary survey with the Theodolite, and of plotting and preparing maps, who may be required for the service of the Public Works Department, may be entertained as Assistant Overseers for survey duties, on the same footing as Assistant Overseers for general duties.

26.—In ordinary cases the grades of the Upper Subordinate Establishment above Assistant Overseer will be filled by promotions from the lower to the next superior grade; and no one will be admitted into the Department otherwise than by entering as a Probationary Assistant Overseer.

CHAP.
II.
Promotion
of Subordi-
nates.

27.—Subordinates may be promoted to superior grades by virtue of seniority and good conduct only; but to acquire a claim on such grounds a man must have served from his first appointment as Assistant Overseer in the Department of Public Works:—

By seniority.

	Years.
For promotion to Overseer,	... 5
Assist. Supervisor	... 15
Supervisor	... 20
Sub-Engineer, 3rd Class	... 25
Sub-Engineer, 2nd Class	... 30
Sub-Engineer, 1st Class	... 35

28.—Promotions, however, will more commonly be made by selecting the individual who, from his good conduct, superior management as a Departmental Officer, and the possession of a higher degree of professional knowledge, shall appear to be the most deserving of advancement. Individuals who have passed the examination detailed in the next paragraph, or that in para. 35, will be considered as having superior claims.

By merit.

29.—Any one in the Upper Subordinate Establishment may be permitted to stand an examination in Geometry, Trigonometry, Surveying with the Theodolite, Elementary Mechanics, the ordinary rules of construction and modes of preparing materials, and in preparing designs and estimates not requiring much scientific knowledge or professional skill. The examination will be held, at the requisition of the Chief Engineer, either at one of the Civil Engineering Colleges (see Appendix B.) or on examination papers obtained by the Chief Engineer from the College. In the latter case it will be conducted by two Officers of the Engineer Establishment,

Examination
to be passed as
a claim to ad-
vancement.

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II.

or of the Corps of Engineers, of whom one must have served at least three years in the Department. The whole of the work of the candidate must be done in presence of at least one of the Examiners, and their Report will be sent to the Principal, who will inform the Chief Engineer of the result, granting a Certificate if the examination has been successfully passed. If the character and practical qualifications of the candidate be favourably reported of by the Chief Engineer, the Certificate will be forwarded by the Local Administration to the Government of India, in order that the passed candidate may be distinguished in the General List by having the letter A affixed to his name.

Promotion
to Sub-Engi-
neer.

30.—No one will be eligible for promotion to Sub-Engineer, unless entitled by seniority (under paragraph 27), until he shall have passed the examination described in the last paragraph, or that in para. 35.

Postings to
Provinces.

31.—Persons in the subordinate grades will, after promotion, unless it be specially directed otherwise, continue in their original charges, and remain posted to the Provinces in which they were previously serving, but the Government will, from time to time, make any transfers that may appear necessary.

Engineer
Establishment.

32.—The Engineer Establishment of the Public Works Department, as limited by the demands of the public service, is thrown open to all classes of persons duly qualified; the Government reserving the right of selecting at pleasure from among all the candidates. In ordinary cases no one will be admitted to this branch of the Department except as a *Probationary Assistant Engineer*.

Probation-
ary Assistant
Engineers from
what classes
appointed.

33.—*Probationary Assistant Engineers* will be appointed :—

(1.) From Officers of the Engineer Corps, who have a prior claim to all other candidates.

(2.) From Officers (not above the rank of Captain regimentally) of Artillery, Cavalry, or Infantry of the E. I. C. S.

or of H. M.'s Regiments serving in India, who have passed the examination described in paragraph 35; and subject to the ordinary rules regarding the withdrawal of Officers from their Corps for Staff employ.

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(3.) From individuals of the Upper Subordinate Establishment, who are considered otherwise qualified, and who may have passed the same examination, and also, except in special cases, that laid down in G. O. P. C. No. 244 of 19th April 1851 (see Appendix C.), omitting fortification.

(4.) From the Civil Engineers sent out from Europe by the Hon. Court of Directors.

(5.) From persons, European, East Indian, or Native, who may have received Certificates of qualification and good conduct from the Government Colleges of Civil Engineering in India.

(6.) From persons otherwise reported qualified, as provided in paras. 37, 38, and 39.

34.—Military Officers desirous of entering the Department of Public Works may, if eligible, apply through the usual channel to the Officer Commanding the Station, who will arrange with the Principal of the nearest Government Civil Engineering College for the examination of the candidate if within a moderate distance, or for the supply of examination papers (to be delivered sealed to the Examiners) if the Station be at a distance from the College. The Examiners shall be Officers of the Engineer Establishment, or of the Corps of Engineers, of whom one must have served at least three years in the Department. They shall meet at such time and place as may be convenient, subject to approval by the Commanding Officer of the Station.

Preliminaries to examining Military candidates.

35.—The examination will embrace Mensuration, Geometry, Algebra, Plane Trigonometry, Mechanics (including the general principles of the stability of structures and strength of materials), Hydraulics; the nature and preparation of

Examination.

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materials, the ordinary practical rules of construction, and ability to frame ordinary designs and estimates on being furnished with the rates of work; as well as surveying with the Theodolite, Compass, and Chain, and levelling.

Report and
Certificate of
the examina-
tion.

36.—The Report of the Examiners, with the candidate's original work (done in the presence of at least one Examiner), shall be forwarded by the Examiners direct to the Principal of the College, who shall communicate the result of the examination to the Commanding Officer of the Station, forwarding a Certificate if he decide that the candidate has passed. The Certificate shall be transmitted by the Commanding Officer to Army Head Quarters, in order that the qualification of the Officer may be notified in General Orders and recorded in the Army List.

Candidates
not being Com-
missioned Of-
ficers.

37. Candidates for employment as Probationary Assistant Engineers, not being Commissioned Officers, must apply (through their official superiors, if in Government employ) to the Chief Engineer of the Province in which they reside. The Chief Engineer will arrange for their being examined as laid down in paragraph 34. The candidates must, in addition to the examination there prescribed, give proof that they have received a liberal education; to which end they must produce satisfactory evidence of having graduated at some recognized University, or must pass the examination laid down in G. O. P. C. No. 244 of 19th April 1851 (see Appendix C.), omitting the subject of fortification.

Certificates
admitted as
evidence of
qualification.

38.—Certificates granted by the Principals of the Government Colleges to Students, will always be considered as sufficient evidence of professional and educational qualification. The Principals of the Government Colleges are also authorized to grant Certificates to persons not Students, who may be examined by them on the application of the Chief Engineers. Certificates of qualification from Civil Engineering Institutions in Europe or elsewhere, may also, on the

report of the Chief Engineer, be admitted, at the discretion of the Government, as sufficient evidence of professional and educational qualification.

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39.—No person, not in the service of Government, will be appointed an Assistant Engineer on probation on evidence of professional and educational qualification alone, but must also satisfy Government as to his character.

Evidence of character required.

40.—Gentlemen thoroughly acquainted with the theory and practice of surveying in all its branches, who may be required for service in the Public Works Department, will be entertained as Assistant Engineers for survey duties, under the same rules as Assistant Engineers for general duties.

Assistant Engineers for survey duties.

41.—In all ordinary cases an Assistant Engineer will be considered as on probation for the first year of his service, at the end of which he will be examined as to his fitness for a permanent appointment. If an Engineer Officer, however, he may be examined any time after his entrance into the Department, provided he has served one year in India. Every Probationary Assistant Engineer, before he can be promoted, must be favourably reported on by his official superiors, and must have passed the examination in the Hindustanee language contemplated by G. O. G. G. 9th January 1837, (see Appendix D.), or a similar examination in the language of the District in which he is to be employed. The examination which each will be required to undergo before he can be promoted, will be such as to show that he is capable of preparing designs and estimates for all descriptions of buildings and works usually required of Executive Engineers; that he is acquainted with the processes for preparing materials and with the modes of construction in use in India; that he has a good knowledge of the resources of the Districts in which he has been employed, as to materials and of the best mode of applying them, and that he understands the management of work-people; also that he

Examination of Probationary Assistant Engineers for permanent appointment.

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II.

has made himself acquainted with the rules, and understands the forms of account in use in the Department.

Committees
of Examiners.

42.—This examination will be conducted by a Committee composed of one Chief or Superintending Engineer, as President, and two Officers of the Engineer Establishment or of the Corps of Engineers, of not less than three years' standing, as Members. The record of the Committee's proceedings, with the Chief Engineer's observations and recommendation, will be submitted, through the Local Administration, to the Government of India, by whom the appointments will be made. These Committees may be convened by Chief Engineers, on application for examination by candidates who have served the prescribed period, and are possessed of the preliminary qualifications.

Examination
may be dis-
penscd with.

43.—The Government of India may, in special cases, dispense with the examination, or reduce the period of service on probation.

Who eligible
to be Execu-
tiveEngineers.

44.—Any Officer who has been appointed permanently Assistant Engineer, or who may, at any time prior to the 1st May 1857, have acted as Executive Engineer or Executive Officer for a period exceeding one year, shall be eligible to be appointed Executive Engineer, provided he has passed the examination in the native languages prescribed in para. 41.

Posting to
charges, and
promotions.

45.—The posting of Assistant or Executive Engineers to particular charges will be regulated by the exigencies of the service, without reference to the class to which Officers belong. Promotions from one class to another will be made on a consideration of the services and merits of individuals.

Recommen-
dations for
promotion.

46.—In order to assist the Government of India in selecting Officers for promotion, the Local Governments and Punjab Administration will furnish half-yearly, for record in the Office of the Secretary in the Department of Public Works, the names of the two Officers of each grade in the Departmental Classified Lists, from Overseer to Executive

Engineer of the first class, who may be considered most deserving of advancement. Of the grade of Assistant Overseer five names are required. The smaller Local Administrations will submit the names of such persons only as are specially recommended for promotion, not exceeding two in each grade.

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47.—The selections of names for these lists will be made with reference to merit alone, without regard to mere seniority ; and the grounds on which each recommendation is made will be stated. No one will be brought forward who is not considered decidedly deserving of promotion ; and the Report will be sent up blank, if there are no persons who can thus be recommended for advancement.

Rules for
selection.

48.—Persons neither in the Military service, nor under covenant to the Court of Directors or Government of India, must, before they can be permanently appointed to the Engineer Establishment or Upper Subordinate Establishment, furnish security to the amount of Rs. 2,000 in the former case, and of Rs. 400 in the latter, to be forfeited in the event of their leaving the Department without permission, or without giving six months' notice. No additional security is required of any Officer on appointment to an Executive charge.

Securities.

CHAPTER III.

GENERAL RULES FOR DEPARTMENTAL OFFICERS.

Section 1.—Chief Engineers.

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III,
Sec. 1.

Application
of the rules.

General
scope of Chief
Engineer's du-
ties.

Not to be
concerned
with executive
details.

1.—ALL rules relating to the general duties and powers of Chief Engineers are to be held to apply also to all Officers, under whatever designation, at the head of independent branches of the Public Works Department, acting directly under the orders of any Local Administration, such as the Superintendent General of Irrigation in the N. W. P., &c.

2.—The duties of a Chief Engineer are to control generally the engineering operations of the Province or Department to which he belongs; to exact from all persons employed in the Department a strict performance of the duties assigned to them; to receive reports and communications from Superintending and Executive Engineers; to check and examine estimates and drawings, the progress and completion of works, and the accounts of expenditure; to suggest projects and designs suitable for effecting the objects proposed to him by Government, or by him to Government; to dispose of such matters as may be left to his discretion by the rules of the Department, and to bring clearly and faithfully before the Local Administration, accompanied by his own remarks, all subjects reserved for the decision of the Local Administration or Government.

3.—No Chief Engineer is to be concerned with the execution of public works, or the disbursement of public money on account of public works, or with the provision or custody of any materials for the construction of public works, except as an Officer of control.

CHIEF ENGINEERS.

4.—The ordinary business of the Chief Engineer with Local Administration will be conducted through the Secretary if there be one, otherwise with the Head of the Administration direct. All his communications with the Government of India will pass through the Local Administration.

Matters of Account will be referred to the Accountants in the Military Department or of the Local Administration, or to the Military Auditor General.

Questions relating to Military details will be referred to the Adjutant General of the Army, Quarter Master General of the Army, or Officers Commanding Divisions.

The Chief Engineer may correspond with the Heads of the Revenue, Judicial, Marine, Ordnance, Commissariat, Stud, and other Departments, on all matters relating to details of buildings or works appertaining to those Departments. Where the Heads of Departments are Boards, the Chief Engineer should address the Secretary.

5.—All Officers are required to furnish a Chief Engineer with any information he may require regarding buildings or works connected with their Departments.

Information to be supplied to him.

6.—A record of every official communication received by a Chief Engineer, and his proceedings thereon, will be submitted periodically to the Local Administration in half margin abstract, the communication on the left, and the proceedings on it on the right. These abstracts will be submitted weekly, or at such longer periods as the Local Administration may determine.

Abstract of Proceedings.

7.—Questions requiring the special or immediate orders of the Local Administration, or of Government, will be brought forward by the Chief Engineer (accompanied, when necessary by the Reports of the Superintending and Executive Engineer, and opinion of the Chief Engineer) as soon as they can be prepared.

Reference to Government.

GENERAL RULES FOR DEPARTMENTAL OFFICERS.

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Sec. 1.

Communi-
cations with
Executive En-
gineers.

8.—The Chief Engineer will communicate with Executive Engineers through the medium of the Superintending Engineer, when present at Head Quarters. In his absence, to prevent delay, communications may be made direct to an Executive Engineer, the substance being communicated to the Superintending Engineer.

Head Quar-
ters and jour-
neys.

9.—The Chief Engineer will generally have his Head Quarters at the seat of the Local Administration under which he serves, and will accompany the Head of the Local Administration on tours of inspection whenever required to do so. The Chief Engineer will, with the sanction of the Local Administration, make journeys to satisfy himself by personal inspection concerning any important question, project, or work, that may be in hand. In such cases the current duties of his office will be carried on by his Assistant under his orders.

To recom-
mend remo-
vals, transfers,
and appoint-
ments.

10.—It will be the duty of the Chief Engineer to recommend to the Local Administration such removals, transfers, and postings of Executive Engineers, Assistant Engineers, and Subordinates within his Province, as may seem requisite; and to recommend proper persons for such situations as may be vacant, and not within his own competence to fill up.

Power to
discharge Go-
vernment ser-
vants.

11.—A Chief Engineer may of himself direct or authorize the discharge of any member of the Public Works Establishments, whose appointment has not been notified in Government Orders, excepting only Head Accountants.

Not to alter
salaries.

12.—A Chief Engineer has no authority to sanction any alteration of salaries or any increase or decrease in Establishments, except in cases where he is specifically authorized to do so.

Granting
leave of ab-
sence.

13.—A Chief Engineer may grant leave of absence to Superintending, Executive, and Assistant Engineers, for periods not exceeding one month in each year; also to Subordinates,

CHIEF ENGINEERS.

Military or Civil, according to the rules laid down in Chapters XV., XVI., and XVII.

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Sec. 1.

14.—Each Chief Engineer will submit to the Local Administration, for transmission to the Government of India, an Annual Report on the conduct and qualifications of the Officers of the Subordinate Establishment under his control (Form No. 2).

Reports of
qualification of
Subordinates.

15.—Each Chief Engineer will keep descriptive lists and drawings of the public buildings and works in his Province, in order to enable him to furnish promptly any information called for by the Local Administration. He will also keep a series of the standard designs approved by Government for buildings of most frequent occurrence.

List of
buildings and
drawings.

16.—He will prepare annually, in communication with the Local Administration, the portion of the Provincial Budget and Progress Report relating to his charge, agreeably to the rules laid down in Appendix A. He will also prepare such periodical Reports and statistical Returns connected with the Department of Public Works as are required by Government.

Budgets and
Returns.

17.—It will be the duty of the Chief Engineer to see that all Executive Engineers are adequately, but not excessively, supplied with funds, agreeably to the rules laid down in Chapters XI. and XII.

Supply of
Cash to Exe-
cutive Engi-
neers.

18.—A Chief Engineer has power to pass the detailed estimates for current and special repairs within the general amount sanctioned for the purpose in the Annual Budget.

Sanction of
Estimates.

19.—When detached from the Head Quarters of the Local Administration, a Chief Engineer may sanction any emergent work to the extent of Rs. 2,000, reporting the circumstance forthwith to the Local Administration.

Emergent
Works.

20.—A Chief Engineer has power to accept any tender for the execution of a public work by contract, which may not be in excess of the sanctioned expenditure. But it will be his duty first to cause the specification to be drawn out with all proper precautions, to prevent, as far as may be practicable,

Contracts.

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the possibility of any additional charge being incurred for completing the work in all respects as intended.

Public Works
Account.

21.—Every Chief Engineer will cause to be kept in his Central Office proper Books of Account of the expenditure in the Public Works Department, in which all charges will be ledgered under the regulated heads as detailed in Chapter XII.

Powers to
pass monthly
Abstracts.

22.—Every Chief Engineer has power to check and pass the monthly expenditure of Executive Engineers to their credit, causing the amounts so passed to be debited to the general Public Works Account.

Exception.

23.—But a Chief Engineer must take the orders of the Local Administration before passing the accounts of an Executive Engineer in which any charges are brought forward which he cannot pass finally, or to the credit of the "Public Works Accounts."

Powers to
pass charges
finally.

24.—Every Chief Engineer has power to pass, to the credit of the Public Works Account, charges for expenditure as follows:—

(A.) Duly authorized salaries of the regular and extra establishments, travelling allowances, and any specific payments sanctioned by the Government of India, not including any unsanctioned item.

(B.) Contingencies appertaining to the Public Works Establishments proper, to the extent of 500 Rs. per mensem in each Division.

(C.) Contingent charges, disbursed by the Executive Engineers, connected with the troops and public establishments, on the established scale, and within the amount of the general estimate sanctioned for those objects in the Budget.

(D.) Charges for duly sanctioned original works, repairs, rents, or other objects, when the Chief Engineer is satisfied that they have been properly incurred within the following limits:—

Charges under 500 Rs. each, irrespective of the amount originally sanctioned.

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Charges above 500 Rs. and less than 2,000 Rs. each, when not more than 100 Rs. in excess of the amount originally sanctioned.

Charges above 2,000 Rs. each, when not more than 5 per cent. in excess of the amount originally sanctioned.

35.—All other charges brought forward for sanction must be submitted for the orders of the Local Administration by the Chief Engineer, with Reports on points requiring explanation, and recommendations as to how each charge should be disposed of.

Charges to be submitted to Government.

36.—On receiving orders from the Local Administration or Government to pass any charge, or on passing it himself (whether crediting an Executive Engineer for his monthly expenditure or passing charges finally), the Chief Engineer will forward the monthly abstract or final bill to the Government Accountant, quoting the authority under which the charge has been passed by himself, or the order of Government passing it, and stating the head of charge under which it is to be classed.

Bills and Abstracts to be sent to the Government Accountant.

37.—Every Chief Engineer will draw his own staff salary and the salaries of his establishment, and other office charges, from the Civil Treasury at his Head Quarters, on bills audited by the Civil Auditor.

Salary Bills.

38.—The Assistant to the Chief Engineer will assist generally (or in any manner required) in conducting office work; and, during the absence of the Chief Engineer, will carry on the routine correspondence and work of the office under his orders.

Assistant to Chief Engineer.

39.—A Chief Engineer may occasionally depute his Assistant on special duty.

May be such on special duty.

40.—The Assistant to a Chief Engineer will draw his staff salary in the same manner as the Chief Engineer.

Their salaries.

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III.*Section 2.—Superintending Engineers.*Sec. 2.Outline of
duties.

1.—The Superintending Engineer is the Officer next in rank to the Chief Engineer. Under the orders of the Chief Engineer he superintends the whole of the executive operations carried on within the circle assigned to him, and likewise the Branch Office of Account in the Central Office in which the expenditure on the works in his circle is checked and classified.

General control of ordinary details.

2.—It will be the duty of the Chief Engineer to entrust to the Superintending Engineer a general control of all the details of business arising in his circle, reserving to himself the supervision of the Superintending Engineer's acts, and the right of disposing at his pleasure of all important questions that may arise. Within the limits of the authority assigned to him, the decisions of the Superintending Engineer should not lightly be set aside.

Not to perform executive duties.

3.—A Superintending Engineer shall have nothing to do with the execution of public works, or with the disbursement of public money on account of works, nor with the provision or custody of any materials for the construction of public works, otherwise than as an Officer of control, except when, on any emergency, he may be required temporarily to take executive charge of a Division.

Responsible for the general executive system.

4.—The Superintending Engineer is responsible for the efficiency of the executive system throughout the several Divisions within the limits of the circle; and it is one of his special duties to see, on the one hand, that the orders received from superior authority for the execution of works are promptly and effectually carried out, and, on the other, that no unsanctioned outlay is incurred.

Designs and Estimates.

5.—Although the preparation of the detailed designs and estimates for works will commonly be entrusted to the Executive Engineer, the whole of the arrangements and general plan of the works should be concerted with the Superintending En-

gineer, who will be held strictly responsible for the engineering character of every project that he passes on with his approval.

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Inspections.

6.—It is the duty of the Superintending Engineer to make frequent tours of inspection. In these tours he shall not only minutely survey and report upon the state of the various public works, whether completed or in progress, within each Division, but shall carefully inquire into the system of management prevailing at each Station, in respect to the preparation and cost of materials, to the style of execution, and to the price of labour. He shall also ascertain that the resources of each District in the various building materials are brought into use in the most efficient and economical manner, and that materials are collected in proper quantity and quality for the works in progress or about to be commenced.

7.—The Superintending Engineer is empowered to take summary measures for the correction of any faults of system or practice, whether in the execution of work or in the preparation of accounts, which may come to his knowledge; and he will watch, with greater care, and visit, at shorter intervals, those Divisions in which such errors may have existed.

Correction of
faults in the
executive sys-
tem.

8.—The Superintending Engineer will bring specially to the notice of the Chief Engineer the case of any Executive Engineer whom he may consider incompetent or disqualified, from any cause, for his public duties. In like manner he will bring prominently forward all instances of extraordinary zeal and ability.

Reports on
meritorious
and faulty Of-
ficers.

9.—The Superintending Engineer is also required, in his inspections, to ascertain and report on the efficiency of the Subordinate Officers and Establishments, and to state whether those employed are actually necessary and adequate to the management of the Division.

Report on
Subordinates.

10.—The Superintending Engineer shall also examine the Books of Executive Officers and their Subordinates, and see that they are kept in the manner prescribed by the Regulations.

Examination
of Books of Ac-
count.

- CHAP. III. Sec. 2. Inspection Reports. 11.—Detailed Reports of such inspections will be drawn up by the Superintending Engineer for the information of the Chief Engineer. Each Executive Engineer will be furnished, as soon as convenient, with a copy of that part of the Report which refers to his management and to the works under his charge; and he must pay due attention to the Superintending Engineer's remarks, without waiting for further orders. The Inspection Report, however, must not be considered as authority for incurring any expense.
- Journeys for special objects. 12.—Besides his regular tours of inspection, a Superintending Engineer will be expected to proceed, at any time, to any place in his circle where his attention may be required, to report upon any undertaking or design, on the progress or completion of any large work, or on any serious accident or threatened danger to any works or buildings, or on any calamity, actual or anticipated, the remedy for which may appear to be within the range of engineering skill.
- Power to sanction work. 13.—When detached from Head Quarters, the Superintending Engineer has power to order the execution of any work emergently required, of which the cost is not likely to exceed Rupees 500, reporting at once to the Chief Engineer.
- Advice to Executives. 14.—The Superintending Engineer is expected to communicate freely with the Executive Engineers under his orders, and to afford them the benefit of his advice in the performance of their duties.
- Head Quarters. 15.—The Superintending Engineer, when not itinerating, will reside at the seat of the Local Government, and will have apartments for business in the Office of the Chief Engineer.
- Office. 16.—The Superintending Engineer will keep no Office records, except copies of his own reports and letters, and a memorandum, in a tabular form, of the correspondence passing through his hands. For all other records he will refer to the Office of the Chief Engineer, from which he will be

supplied with such clerks, peons, &c., as may be necessary to enable him to carry on his duties.

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17.—The communications received from Executive Engineers will, in ordinary cases, be disposed of by the Superintending Engineer under his general discretionary powers. Those which require to be laid before the Chief Engineer, the Superintending Engineer will pass on, with a simple countersignature, a memorandum (stating, amongst other things, any orders the Superintending Engineer may have issued) or a separate report, as each case may require. The orders of the Chief Engineer to the Executive Engineer will in general be issued through the Superintending Engineer, and by him passed on in original, either with a docket or letter of detailed instructions, as may be necessary.

Communications from Executives.

18.—The Superintending Engineer will, in submitting to the Chief Engineer any report, design, estimate, or other document, invariably state distinctly his own opinion and recommendations on the subject, particularly as to the suitability of designs and reasonableness of rates, on which matters his local knowledge will be valuable to the Chief Engineer. Every unusual circumstance must receive full explanation, and it will be the duty of the Superintending Engineer to return all papers which are sent to him by Executive Engineers without proper information, or which require explanation or amendment. He is not expected, however, to check calculations in detail.

Submission of Reports, Designs, and Estimates.

19.—The opinions of the Superintending Engineer, recorded on the face of original drawings or estimates, should be confined to the words "examined and approved," or "disapproved," as the case may be. Any further remarks should be recorded on a separate paper for the consideration of the Chief Engineer. It is, however, the Superintending Engineer's duty to obtain all necessary information from the Executive Engineer, and, except in cases of emergency, he should not pass on any estimate or drawing defective either in point of clearness or engineering

Opinion on, and correction of Designs and Estimates.

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III.
Sec. 2.

skill; all such projects should be returned, with a full exposition of the Superintending Engineer's objections or suggestions, to the Executive Engineer by whom they were framed, or should be modified at once by the Superintending Engineer himself.

Local Au-
thorities

20.—A Superintending Engineer is authorized to correspond with any of the Local Authorities, Civil or Military, within his circle. He will address General Officers Commanding Divisions through their Staff Officers, and all other Officers direct.

to furnish in-
formation.

21.—All Divisional and District Officers are required to furnish the Superintending Engineer of the circle with any information he may require regarding buildings or works connected with their Departments.

Local Com-
mittees.

22.—The Superintending Engineer is ex-officio Member of all the Local Road Committees in his circle of superintendence.

Maps.

23.—Every Superintending Engineer should have a skeleton map of his circle, showing—

(1.) The boundaries of the Executive Divisions and Subdivisions, and the Head Quarters of provincial Public Works functionaries.

(2.) The Chief Stations and Outposts at which public buildings exist in charge of Department.

(3.) The roads, canals, and embankments made and kept in repair by the Department of Public Works.

(4.) The extent of the Districts under each Local Committee or Union.

(5.) The roads made and kept in repair by Local Committees.

(6.) The lines of rivers, the principal towns, and the main features of the country.

Salaries,

24.—The Superintending Engineer will draw his Departmental salary and travelling charges in monthly bills, to be audited by Chief Engineer, and will receive the amount passed from the Executive Engineer at the seat of the Local Administration.

Section 3.—Executive Engineers.

1.—The territories of each Local Administration are divided into a certain number of *Divisions of Public Works*, the limits of which are determined by Government, either with reference to a merely geographical arrangement, or to the nature of the works, as may be found most advantageous.

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III.

Sec. 3.

Divisions of
Public Works.

2.—The Executive Engineer is the Officer in immediate charge of a Division. In him is vested the management of all public works within that Division. He arranges all the details of their construction; he superintends the work and the accounts; he receives all cash advances and distributes funds to his Subordinates; he is responsible for the proper custody and efficient repair of every work or building in his charge; and is answerable for the exact performance of all duties, of whatever description, connected with the Department, and the punctual execution of all orders issued by his superiors.

Outline of
Executive En-
gineer's duties-

3.—It is part of the duty of the Executive Engineer to suggest public improvements and to prepare detailed designs for them, so far as he may be able without permitting any interference with the prosecution of those designs or works specially ordered by superior authority. He is also required to report on, and suggest measures for the protection of any public monument, or building of architectural or historical interest, which appears likely to fall into decay.

Public im-
provements
and preserva-
tion of monu-
ments, &c.

4.—The Executive Engineer, in addition to his other duties, will consider himself to be, ex-officio, the professional adviser of all Departments of the Administration within the limits of his charge. He will habitually transact business of this sort with the Chief Military or Civil Authorities within his Division, according to the more detailed rules contained in Chapter IV.; but it will be incumbent on him to see that no undue formalities are allowed to interfere with the performance of those duties which are essential or pressing.

Local Au-
thorities.

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Sec. 3.

Departmental subordination.

5.—An Executive Engineer can only receive positive orders from his own Departmental superiors, the Head of the Administration, the Chief Engineer, or the Superintending Engineer of the circle to which his Division belongs. The duty of yielding implicit obedience to any positive orders of his superiors must be clearly understood; but in the interpretation of general instructions an Engineer is not only authorized, but bound to act upon his own judgment, where he sees what he may consider sufficient ground for wishing to defer compliance with those instructions, or even in cases of emergency for acting decidedly at variance with them. This latter responsibility should of course not be assumed excepting in cases where it is not possible to await the result of a further reference.

Relative importance of various local demands on the Executive Engineer.

6.—An Executive Engineer, even though a Military man, is purely a Civil Officer, and is not under the orders of the Military Authorities, excepting as laid down in Chapter IV., or so far as he is bound to show all respect to those who may be his seniors in rank, or who exercise the Chief Commands at the stations within his Division. In his dealings with all functionaries, Civil or Military, he will, excepting in those cases where a special authority has been vested in these Officers, honestly exercise his judgment of what he deems conducive to the public interests. Neither will he hold Military works to be primarily more important than Civil, or Civil than Military, but will bestow his attention on them either according to the peculiar circumstances of his charge, or the instructions he may receive from the Superintending and Chief Engineer, under whose orders he will dispose of the agency at his command in the manner considered best suited to the wants of the various Departments.

Head Quarters, and channel of communication with Departmental Superiors.

7.—Executive Engineers will have their Head Quarters at any places in their Divisions which the Chief Engineer may direct; and will receive their orders from, and make their reports to, the Superintending Engineer of their circle, or, under special instructions, to the Chief Engineer.

8.—They will correspond with the Local Authorities in their Divisions, addressing General Officers and Brigadiers through their Staff Officers.

CHAP.
III.
Sec. 8.

Correspon-
dence.
Preparation
of Designs and
Estimates.

9.—Executive Engineers will prepare designs and estimates under the orders of the Chief or Superintending Engineer; but they may prepare and submit to the Superintending Engineer any design and estimate on the requisition of the Local Authorities, Civil or Military, provided the work be one of the necessity for which they are themselves convinced. At the request of the Executive, the Superintending should transmit to the Chief Engineer, in its original shape, any design which the Executive has submitted. This, however, will in no way relieve the Executive from the duty of modifying his projects in accordance with the directions of the Superintending Engineer as laid down in paragraphs 5 and 19, section 2.

10.—Executive Engineers are responsible for the accuracy of all drawings they submit, and must attest them by their signatures.

Responsi-
bility for accu-
racy of drawings.

11.—Although the calculation of the rates at which their work is executed does not devolve on the Executive Engineer, it is not the less his duty to pay strict attention to the economical application of all labour and materials. He will also use every endeavour to ascertain the causes of discrepancies in the rates of work in various parts of his own Division, or of differences compared with other Divisions, which are pointed out to him from the Office of Account. He should also strive to make arrangements for bringing economically into use, on all occasions, the articles procurable in the local markets, and the natural resources of his District.

Economy en-
joined.

12.—Executive Engineers are strictly prohibited from executing any work without the sanction of competent authority; and all unauthorized expenditure will be considered to be incurred at their own personal risk.

No unautho-
rized expendi-
ture allowed.

CHAP.
III.

Sec. 3.

Works not
under the Exe-
cutive Engi-
neer.

13.—Executive Engineers shall not interfere directly with works not under their charge ; but are authorized to offer their advice to any unprofessional Officer carrying out public works, and to report to superior authority any bad work, or important defects, which may come under their cognizance in in such cases.

Works under
the Executive
Engineer.

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

Completion
of works.

15.—On any work being finished, it will be the duty of the Executive Engineer to prepare a Completion Report, giving an accurate detail of the measurements and quantities of the work done. In case of engineering works, the maintenance, management, or uses of which are solely under the control of the Public Works Department, the attestation of the Executive Engineer himself, subject to the result of the inspection of his Departmental Superiors, will be considered sufficient. In case of buildings or works constructed for the use of other Departments, the countersignature of the Heads of those Departments, in the manner detailed in Chapter IV., will be required, in testimony of their being satisfied with the general provision made by the works in question for the objects for which they were designed.

Procuring
funds.

16.—Executive Engineers will take the necessary steps for obtaining cash for the works under their control, and will submit their accounts punctually to the Central Office under the rules laid down in Chapter XI.

Accounts.

17.—Executive Engineers shall keep up their accounts regularly from day to day, in order to be able to make over charge of their Divisions at any time on the shortest notice.

Transfers.

18.—On the arrival of the Officer ordered to relieve him, an Executive Engineer will immediately make over charge agreeably to the rules laid down in Chapter XIII.

19.—Executive Engineers will disburse their own Departmental salaries and those of their Assistants and Subordinates under the rules laid down in Chapter XI. They will also draw and disburse the Military pay and allowances to which the Subordinates placed under their orders are entitled by the Regulations.

CHAP.
III.
Sec. 3.

Salaries.

20.—In order to facilitate the transaction of business, and complete the chain of responsibility, Divisions of Public Works may be divided into Sub-divisions; each Sub-division consisting of a portion of canal, road or embankment; or a cantonment, or part of a large cantonment, or of two or more small Civil or Military Stations; or of some convenient combination of such charges.

Sub-divisions.

21.—The charge of each Sub-division will be held by an Assistant Engineer or Officer of the Subordinate Establishment. Executive Engineers are, subject to the approval of the Superintending Engineer, at liberty to select any Assistant or Subordinate for the charge of a Sub-division, without reference to his grade or standing in the Department; taking care that no person of a superior, shall be required to serve under one of an inferior grade.

Appointment
to the charge of
Sub-divisions.

22.—The Sub-divisional Officer will, under the instructions of the Executive Engineer, have the immediate control of all the Subordinates and all the details of duty in his Sub-division; and will be specially responsible for the accounts, which he will collect and combine from those of the Subordinates under him, and submit to the Executive Engineer in a fit state to be forwarded, without further elaboration, to the Central Office of Account. (See Chapter XI.)

Duties of
Sub-divisional
Officers.

23.—Executive Engineers will afford their Assistants every aid in acquiring professional knowledge, and will, as far as possible, arrange their location (under sanction of Superintending Engineers), so that they may have the best opportunities of learning their duty.

Aid to Assis-
tants.

- CHAP. III.
 Sec. 3.
 Supervision of Subordinates.
- 24.—Executive Engineers must exact from their Subordinates a correct performance of their duties and give them all proper instructions. They will furnish them with working drawings and written instructions, as to the execution of any works they may be entrusted with, using additional precautions to prevent errors or accidents at a distance from the Head Quarters of the Division.
- Inspection of Outposts.
- 25.—They will frequently inspect Outposts, and see that the work carried on by their Subordinates is well and economically done. They are not required to make formal inspection Reports, but, when on tour, will keep a journal in which the distances travelled will be noted, and the results of their inspections will be shortly entered. See Chapter XV., sec. 3.
- Transfers of Subordinates.
- 26.—Executive Engineers may transfer Subordinates from one station to another without reference to superior authority. The removals will be reported in the ordinary course of business, and noted in the Quarterly Returns.
- Leave to Ditto
- 27.—Executive Engineers shall not grant leave to the Officers of the Upper Subordinate Establishment (except in special cases to be reported immediately) without the sanction of the Chief Engineer obtained through the regular channel, nor are they to permit a senior Subordinate at an Outpost to grant leave to a junior serving under him. But Executive Engineers may grant leave to individuals of the Lower Subordinate Establishment under the rules laid down in Chapter XV.
- Application for additional Subordinates.
- 28.—Executive Engineers requiring additional Subordinates, will make application to the Superintending Engineer, clearly stating whether it is proposed to create new situations, or only to fill vacancies in existing situations.
- Accidents.
- 29.—Every Executive Engineer is required to report immediately to the Superintending Engineer any important accident or unusual occurrence connected with the performance of his duties, and to state how he may have acted in consequence.

30.—Executive Engineers are *ex-officio* Members of the District Committees for the management of the Roads and Ferry Funds within their Divisions, and are expected, as the professional Members, to afford the Committees all the assistance in their power, particularly by inspecting the state of roads, and pointing out improvements required, furnishing designs for bridges, &c., and looking after works in progress. They will also call upon the Assistant Engineers to aid in the same way whenever their other duties admit of it; and may occasionally give the aid of Subordinates. In no case is any additional salary or gratuity other than authorized travelling allowance to be received for the performance of such duties, unless on the special authority of the Government of India.

CHAP.
III.
Sec. 3.

Road and
Ferry Fund
Committees.

31.—Executive Engineers are required to assist Officers in charge of Magazines by their advice in arranging for the safe keeping, or examining into the condition of surveying or other valuable instruments.

Instruments
in Magazines.

32.—Every Executive Engineer shall be guided by the rules laid down by the Superintendent and Remembrancer of Legal Affairs on the subject of law suits. See Appendix E.

Law suits.

33. At Stations where no Barrack Masters are appointed, the Principal Executive Officer of the Department of Public Works will carry on the duties of the Barrack Department.

Barrack
Masters duties.

Section 4.—Assistant Engineers.

1.—Assistant Engineers will be placed under the orders of Executive Engineers to assist them in the performance of their duties, and will have their Head Quarters at any place in the Division which the Executive Engineer may appoint, subject to approval by the Superintending Engineer.

Duty and
location.

CHAP.
III.

Sec. 4.

Branches of
duty.

2.—Assistant Engineers will be employed in examining and reporting on any matter requiring investigation ; in making surveys, collecting information concerning, and drawing up projects, designs, and estimates ; in superintending the construction of important works ; in conducting the general duties of superintendence and control in any portion of the Division that may be assigned to them ; or in assisting the Executive Engineer in any other way that he may require, under the approval of the Superintending Engineer.

When de-
tached.

3.—When detached, an Assistant Engineer will, under the control of the Executive Engineer of the Division, correspond with the Local Authorities, and conduct his duties generally, agreeably to the rules laid down for Executive Engineers.

Duty to ac-
quire local and
professional
knowledge.

4.—It will be the duty of Assistant Engineers to take every opportunity of making themselves acquainted with the resources and capabilities of the Districts in which they may be serving, and of improving themselves in professional knowledge.

Duty to ac-
quire a know-
ledge of Forms
and accounts.

5.—Probationary Assistant Engineers will generally be kept at the Head Quarters of the Division, until they have made themselves thoroughly acquainted with the office work and forms of account, and with the general routine of duty.

*Section 5.—Upper Subordinate Establishment.*CHAP.
III.Sec. 5.Duties similar
for all grades.

1.—Sub-Engineers, Supervisors, and Assistant Supervisors, Overseers, and Assistant Overseers will be employed on similar duties, the more able or more experienced being selected for the most important situations.

2.—Individuals of the Subordinate Establishment will generally be employed to superintend works, or portions of large works, either at the Head Quarters of the Executive Engineer or his Assistant, or in detached localities. They may also be placed in charge of the current duties of the Department at an Out-station or Sub-division, Europeans being generally selected for those where European troops are quartered ; and they will sometimes be employed in surveying.

Branches of
duty.

3.—Executive Subordinates are not to be employed as Clerks or Draftsmen in the Offices of Executive Engineers, except temporarily in urgent cases, to be especially reported, or under especial sanction, or as a means of instructing them while probationers. This is not to prevent Executive Engineers from requiring their subordinates to prepare, or copy drawings or documents connected with works or projects on which they may be employed ; but in no case shall any Executive Subordinate receive any salary or remuneration for employment as a Clerk or Draftsman.

Executive
Subordinates
not to be em-
ployed as
Clerks or
Draftsman.

4.—When in charge of a work or Outpost, the Subordinate will keep muster rolls of Artificers and labourers, and accounts of the quantity of materials used.

Accounts of
labour and ma-
terials.

5.—Each Subordinate in charge of a work or Outpost will generally have a Cashier attached to him, who will keep the cash, and whose duty it will be to make all necessary payments on the cheques of the Executive Subordinate Officer ; the payment of day labourers and Artificers will, however, be made, as far as practicable, in the presence of the Executive Subordinate himself, on a pay list of his preparation, and signed by him as witness of the payment.

Duties in
connexion with
Cashiers.

CHAP.

III.

Sec. 5.

Duties in connexion with Store-keepers.

Case when there is no Cashier or Store-keeper.

Duties in connexion with work.

and workmen.

Duties connected with Local Authorities.

6.—A Store-keeper will also be attached to each Executive Subordinate who has a charge requiring such an appointment. The Store-keeper will issue materials only on the written order of the Executive Subordinate.

7.—In cases when Cashiers and Store-keepers are not appointed, their duties will devolve upon the Executive Subordinate, who will himself take charge and keep the accounts of the cash and stores.

8.—It will be the duty of the Subordinate to see that materials supplied are of good quality and in sufficient quantity; that work is done in a substantial and workman-like manner, and agreeably to the instructions he may have received from the Executive Engineer or his Assistant; that the Artificers and labourers are diligent; and that they are economical in the use of materials; and the Executive Subordinate is expected to use his best endeavours in every way to have work executed as rapidly, efficiently, and economically as possible.

9.—It will be his duty also to see that his workmen are fully and punctually paid, according to the custom of the place, or to the orders of the Executive Engineer or his Assistant.

10.—In communicating with, or executing the orders of, the Local Authorities, Civil or Military, at any Outpost of which he may have charge, the Subordinate Officer will be guided by the general orders of Government embodied in this Code, and the special written instructions which he may receive from the Executive Engineer.

Section 6.—Lower Subordinate Establishment.

CHAP.
III.
Sec. 6.

1.—Sub-Overseers will be employed under the same general rules as individuals of the Upper Subordinate Establishment, but when detached they will generally not be placed in charge of Outposts where European troops are quartered.

Sub-Over-
seers.

2.—As the charges assigned to Sub-Overseers will generally be less extensive than those assigned to the higher grades of Subordinates, they will frequently be required to perform the duties of Cashier in addition to those of Overseer.

Extent of
their charges.

3.—Cashiers and Store-keepers have no authority to make any payments, or issue any stores, except upon the written order of the Executive Engineer or Assistant Engineer, or of the Subordinate Officer in charge of the works or Station to which they may be attached.

Cashiers and
Store-keepers.

4.—They are to transmit their accounts monthly, or after shorter periods if ordered, to the Executive Engineer direct, sending as vouchers the receipted orders on which their payments or issues have been made.

Their Ac-
counts.

CHAPTER IV.

DUTIES CONNECTED WITH THE LOCAL AUTHORITIES.

Section 1.—Military Authorities.

CHAP.
IV.
Sec. I.

Public Works
Department, a
Civil branch of
the Adminis-
tration,

and under
the Civil Head
of the Admini-
stration.

Responsi-
bility of Com-
manding Offi-
cers in regard
to Military
works.

Extent to
which they
may interfere
in their execu-
tion.

1.—The Department of Public Works is clearly to be understood as strictly a Civil branch of the Administration, although a large proportion of its Officers are Military men, and although among its more important duties is the provision for those wants of the Military service which call for the professional aid of the Engineer.

2.—The general management of the construction and maintenance of all Military works or buildings is vested in the Civil Head of the Local Administration, who is of course subject to the instructions laid down for his guidance in such matters by the Government of India, and is bound to use due diligence and discretion in obtaining advice of the proper Military Authorities in all things calling for the exercise of professional judgment or the light of professional experience.

3.—Commanding Officers of Military Divisions and Stations are directly responsible to their immediate superiors, and to the Government, that the public works, buildings, &c., within the limits of their commands are properly maintained, and that these works and buildings properly provide for the wants of the troops under their orders ; and it will be their duty to bring to the notice of superior authority all deficiencies that may exist in these respects, from whatever cause they arise.

4.—Although Commanding Officers should avoid interfering in the details of the duties of the functionaries of the Public Works Department, they are fully competent to

point out any apparent defect of arrangement, want of diligence in the prosecution of works, or the like ; and to report any shortcomings, if the case shall appear to demand such a step.

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Sec. 1.

5.—Executive Engineers will comply with the requisitions and act in conformity with the wishes of Commanding Officers whenever they can do so without infringing Departmental rules ; and they are at all times to treat Commanding Officers with becoming respect.

Executive Engineers to comply with the wishes of Commanding Officers,

6.—It will be the duty of an Executive Engineer, and of his Assistant or Subordinate in charge of any Station or Outpost, to afford the Commanding Officer every assistance in forming his judgment and issuing his orders on any subject relating to Military works or buildings, and to lay before him, when necessary, any General or Departmental orders which may bear upon such subjects.

and to afford them assistance in deciding questions connected with Military buildings.

7.—Commanding Officers have power to sanction expenditure, whether for new works, additions, alterations, or repairs within the undermentioned limits, and subject to the conditions prescribed in the following paragraphs:—

Powers of Commanding Officers to sanction Works.

Officer Commanding a Division of the Army,	500 Rs. each work.
Field Officer Commanding a District or Station and the Town Major of Fort William,	200 “ “ “
Any other Commissioned Officer Commanding a Station or Outpost, ...	50 “ “ “

8.—In the case of works of which the cost does not exceed Rs. 50, the requisition will be made by the Regimental or Departmental Officer for whose use or convenience the work is required in a Form (See Form No.) which will be supplied by the Public Works Department. The Executive Engineer, or an Assistant or Subordinate empowered by him to

Works costing less than 50 Rs.

CHAP.

IV.

Sec. 1.

act in such cases, will record upon the requisition his own opinion as to what work is proper to be done, and will give an estimate of the probable cost. The countersignature of the Officer Commanding the Station to the recommendation of the Public Works functionary will be sufficient authority for executing the work recommended, without any publication in orders. In case of the Commanding Officer not being satisfied with the Report of the Subordinate Officer of the Public Works Department he should refer the matter to the Executive Engineer.

Works costing more than Rs. 50.

9.—If the work be likely to cost more than Rs. 50, the following rules must be observed :—

I. The works must be applied for, or reported necessary, by the officer Commanding the Regiment or Detachment, or by the Officer in local charge of the Department for whose use or convenience they are designed ; and, if in consequence of their estimated cost exceeding Rs. 200 they require the sanction of the Commanding Officer of the Division, they must also be recommended by the Officer Commanding the Station or District, where such an Officer exists.

II. They must be formally reported on by a qualified person of the Public Works Department, and must be approved by the Executive Engineer, who will record his opinion both as to the general utility or expediency of the proposed work, and the suitable character of the way in which it is proposed to be carried out.

III. A definite design and estimate must be prepared under the orders of the Executive Engineer, and countersigned by the Officer on whose authority the work is to be executed.

IV. An immediate Report of the sanction, and intended commencement of each work must be made to the Chief Engineer by the Executive Engineer, and the latter is held strictly responsible that the work is not begun till this Report is dispatched.

V. The Chief Engineer shall send up, accompanied by any remarks that may appear necessary, a monthly List of

works sanctioned under this paragraph to the Local Administration, who will be expected to put an immediate check upon any tendency to extravagance.

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Sec. 1.

10.—Nothing in these regulations is to be construed into a permission to Officers to carry out in portions any system of alterations of which the cost in the aggregate will exceed that which they are thus empowered to sanction. Nor are they at liberty, without the permission of Government, to cause any alteration of design or arrangement to be made in buildings constructed according to standard plans laid down by authority, or to authorize any work to be undertaken at variance with authorized standard designs when they exist, or which would occasion a departure from the established rules for quartering troops. The Executive Engineer is to be held responsible that no breach of this rule takes place.

An authority to sanction expenditure under these Rules how restricted as to the character and cost of the proposed Works.

11.—The powers thus entrusted to Commanding Officers are intended to facilitate the execution of works really necessary for the health and comfort of those under their command ; and they must be exercised with a conscientious regard to the objects contemplated by Government, and with a strict attention to proper economy.

Object of giving the powers. Economy enjoined.

12.—Commanding Officers are invariably to cause sanction given by them under paragraph 9, to be notified in Division, District, or Station Orders (as the case may be), and to be regularly transcribed in the copies of orders periodically submitted to their Military superiors. A copy of each order is also to be furnished, at the time of issue, to the Executive Engineer, who will forward it immediately to the Superintending Engineer with a copy of his own Report on the subject.

Publication of sanctions in orders.

13.—The superior Military Authorities are required to maintain a careful supervision over the exercise of the powers entrusted to Officers Commanding Stations, Districts, and Divisions ; and the Superintending Engineer shall bring to the notice of the Chief Engineer, and the Chief Engineer shall

Supervision of the superior Military Authorities.

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Sec. 1.

immediately report to the Local Administration all instances of the abuse or misapplication of these powers that may come to their notice.

Chief Engineers empowered to stop
ro-

14.—If in any case the foregoing orders shall appear not to have been complied with, the Chief Engineer may, if he deem it necessary, direct the Executive Engineer to suspend the commencement or progress of the work until the pleasure of Government shall be known.

Mode of applying for works beyond

Officers.

15.—Works beyond the powers of sanction entrusted to General Officers Commanding Divisions may be applied for to the Quarter Master General of the Army through the usual channel. The Quarter Master General will, under the orders of H. E. the Commander-in-Chief, submit the applications to the Local Administration, or to the Government of India, as the nature of each case may seem to require. Or the requisitions for such works, countersigned by the Officer Commanding the Station, may be forwarded, with a Report by the Executive Engineer, to the Superintending and Chief Engineer, with a request that the subject may have the immediate attention of the proper Authorities.

Cases of emergency.

16.—In cases of actual emergency, however, where the interests of the State would suffer by the delay of a reference, the Commanding Officer, after obtaining the Report of the Executive Engineer, may issue an order directing the immediate execution of the work. But he shall, on the same day, send a copy of the order, and make detailed report to the Chief Engineer of the circumstances which constituted the emergency, which will be forwarded by the Chief Engineer, with his observations, to the Local Administration. In these cases, if the Executive Engineer shall not concur in the emergent necessity for the work, he shall record his opinion to that effect, and the entire responsibility of the execution shall then rest with the Commanding Officer, whose orders, however, the Executive Engineer will meanwhile carry out.

17.—The Local Administration may confirm the orders for emergent works thus given, if within their own powers, or submit them to the Government of India.

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18.—The Commanding Officer of a Station or Division may call upon the Executive Engineer to report on any proposal, and to state roughly the probable cost ; but Executive Engineers cannot, except by their Departmental superiors, be required to prepare detailed drawings and estimates of projects in the necessity for which they do not concur. The Executive Engineer should, however, at the earliest possible period, forward to the Superintending Engineer a detailed estimate of any work applied for by the Commanding Officer which he may himself think expedient and likely to be sanctioned.

Local Administrations may confirm sanctions to emergent Works.

Executive Engineers to furnish Reports when required by Commanding Officers.

19.—Commanding Officers of Stations or Corps, and Heads of Departments, are required to fill up and sign all authorized Forms of requisition, Completion Report, or other voucher that may be required by the Executive Engineer, in consequence of the execution of any work on their application or order.

Commanding Officers required to fill up and sign vouchers.

20.—The simple countersignature of a Commanding or Departmental Officer (without any additional remarks) to any statement signed by the Executive Engineer, or his Subordinate, does not imply any further responsibility on the part of the countersigning Officer than that he is not aware of any objection to the statement ; or, in Completion Reports, that he has satisfied himself to the best of his judgment that the work has been done properly. Where the countersigning Officer objects to any or all of the statements in the paper presented to him for signature, he must still sign it, adding any remarks he may think proper ; but he should remember that, in making remarks which are unnecessary or irrelevant, he may occasion much trouble and delay.

Nature of the responsibility incurred in so doing.

21.—Before submitting to the Engineer Authorities any proposals, estimates, drawings, &c., connected with Military works, Executive Engineers shall invariably submit them to

Countersignatures to Estimates, &c.

CHAP.

IV.

Sec. 1.

the Regimental or Departmental Officers concerned, as well as to the Commanding Officer of the Station, and obtain their countersignatures and opinions, for transmission with the papers under despatch. Care must be taken to make the drawings and specifications as intelligible as possible to the countersigning Officer.

Superintending Engineers on their tours to communicate with Commanding Officers.

22.—Superintending Engineers will communicate with the Commanding Officers of the Divisions and Stations through which they pass on their tours of inspection, and will attentively consider all their suggestions ; and, in submitting proposals for alterations or improvements on Military works or buildings at any Station, a specific statement should always be made of the opinion of the Commanding Officer.

Government Studs.

23.—The Government Studs, though belonging to the Military Administration, are not located at any of the principal Stations of the Army, and are not under the orders of the Divisional General Officers. The construction and repair of buildings or works connected with them will, therefore, be more conveniently carried on under the rules applicable to the Civil Departments, which are contained in the following section ; and the Stud Officers will be found included in the List of functionaries empowered to sanction works under those rules.

Section 2.—Civil Authorities.

CHAP.
IV.

Sec. 2.

1.—The construction and repair of buildings or works connected with the Civil Administration may be carried on either through the professional Officers of the Public Works Department, or directly under the unprofessional Officers of the several Civil Departments.

Civil buildings not necessarily under charge of the Public Works Department.

2.—Civil Officers have power to sanction expenditure for new works, additions, or repairs connected with the administration of their own Departments, within the under-mentioned limits, and subject to the conditions proscribed in the following paragraphs :—

Civil Officers powers of sanction.

Commissioners of Revenue and Police	}	Rs. 500 each work.
Commissioners of Customs.....		
Agents of Salt or Opium.		
Superintendent of Studs.....		
Judges.....	}	Rs. 200 each work.
Deputy Commissioners		
Magistrates		
Collectors.....		
Deputy Superintendents of Studs		
Officers in charge of Studs.....	}	Rs. 50 each work.
Chaplains.....		

3.—In the case of any work to be done by the Public Works Department of which the cost does not exceed Rs. 50, the requisition will be made by the Civil Officer for whose use or convenience the work is required in a Form (see Form No. 3) which will be supplied by the Public Works Department. The Executive Engineer, or an Assistant or Subordinate empowered by him to act in such cases, will record upon the requisition his own opinion as to what work is proper to be done, and will give an estimate of the probable cost. The countersignature of the Civil Officer to the recommendation of the Public Works functionary will be sufficient

Works which cost less than Rs. 50.

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IV.
Sec. 2.

authority for executing the work recommended. In case of the Civil Officer not being satisfied with the Report of the Subordinate Officer of the Public Works Department, he should refer the matter to the Executive Engineer.

Works which
cost more than
50 Rs.

4.—If the work be likely to cost more than Rs. 50, the following rules must be observed :—

I.—Commissioners, the Agents of Salt and Opium, and the Superintendent of Studs, can only exercise the authority above assigned to them on the application of the Magistrates, Collectors, or other District Executive Officers under them.

II.—If the work is to be done by the agency of the Public Works Department, or if it is an alteration or addition to any building under the charge of the Executive Engineer, or on the premises on which such buildings are situated, it must be reported on by some qualified person of the Public Works Department, and approved by the Executive Engineer, who will record his opinion both as to the general utility or expediency of the proposed work, and the suitable character of the way in which it is proposed to be carried out.

III.—In this case also a definite design and estimate must be first prepared by the Executive Engineer and counter-signed by the Officer on whose authority the work is to be executed.

IV.—An immediate report of the sanction, and intended commencement of the work, if to be executed by the Public Works Department, must be submitted to the Chief Engineer by the Executive Engineer, who will be held strictly responsible that the work is not begun till the Report is despatched ; and should any irregularity appear to have taken place in according the sanction, the Chief Engineer may, if he thinks fit, direct the Executive Engineer to suspend the commencement or progress of the work till the orders of the Local Administration shall be obtained.

V.—A monthly Report will be made by the Commissioners and other Officers named in para. 2, to the Local Administration of all sanctions given under this paragraph.

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Sec.

5.—Nothing in these Regulations is to be construed into a permission to Officers to carry out in portions any system of works or alterations of which the cost in the aggregate would exceed what they are thus empowered to sanction. Nor are they at liberty, without the permission of Government, to cause any alteration of design or arrangement to be made in buildings constructed according to standard plan laid down by authority, or to cause any work to be undertaken at variance with authorized standard designs when they exist, or in contravention to established custom or the standing orders of Government. Further, these powers are to be understood as strictly confined to the sanction of works necessary to secure the efficiency and proper convenience of the buildings, &c., made use of by the various branches of the Civil Administration, and are not to be held applicable to carrying out public improvements. The Executive Engineer is held responsible that no breach of these Rules occurs.

Authority to sanction expenditure under these Rules how restricted as to the character and cost of the proposed Works.

6.—Proposals for the execution of work under these powers should be made in English letters addressed to the Executive Engineer. Requisitions in the native languages, being constantly liable to be misunderstood or neglected, should be avoided as much as possible in dealing with the European Officers of the Department of Public Works. The responsibility of any delay arising from want of attention to this Rule on the part of the Civil Officers must rest with them.

Requisitions for works usually to be in English.

7.—Any Civil Officer being the Head of his Department within the zillah, requiring an addition or alteration to a building borne on the Executive Engineer's books, or a new work such as is usually done by the Executive Engineer and borne on his books, the cost of which is likely to exceed the powers of the Commissioner, or superior Departmental Officer to sanction, will apply to Government through the usual channel.

Mode of applying for works beyond the powers of Local Officers.

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The Government will decide whether the work shall be done by the Executive Engineer or by the Civil Officer.

Civil Officers may call upon the Executive Engineers for Reports.

8.—A Civil Officer in charge of a Department may call upon the Executive Engineer to report on any proposal for additions or alterations to the buildings in his use, and to state roughly the probable cost, but Executive Engineers cannot be required to prepare detailed drawings and estimates, except by their Departmental superiors. An Executive Engineer should, however, to avoid delay, forward to the Superintending Engineer a detailed Estimate of any work applied for by a Civil Officer which he may think desirable and likely to be sanctioned.

Civil Officers required to fill up and sign vouchers.

9.—Civil Officers are required to fill up and sign all authorized Forms of requisition, Completion Report or other voucher that may be required by the Executive Engineer in consequence of the execution of any work on their application or order.

Responsibility incurred in so doing.

10.—The simple countersignature of a Civil Officer, to any statement signed by the Executive Engineer or his Subordinate, does not imply any further responsibility on the part of the countersigning Officer than that he is not aware of any objection to the statement, or, in Completion Reports, that he has satisfied himself, to the best of his ability, through his Subordinates, or otherwise that the work has been done properly. Where the countersigning Officer objects to any or all of the statements in the paper presented to him he must still sign it, adding any remarks he may think proper, but he should remember that, in making remarks which are unnecessary or irrelevant, he may occasion much trouble and delay.

Executive Engineers to consult Civil Officers on the subject of public works.

11.—The Executive Engineer shall invariably consult the Civil Officers of the District on the subject of the general arrangements of all public works for their use, or for the improvement of their Districts, which he may have to design.

12.—Before submitting to the Engineer Authorities any proposals, estimates, drawings, &c., connected with works appertaining to the Civil Administration, Executive Engineers shall invariably submit them to the Civil Officer concerned for countersignature and for his opinion, for transmission with the papers under despatch. Care must be taken to make the drawings and specifications as intelligible as possible to the countersigning Officer.

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And to obtain their countersignatures to designs.

13.—Every Civil District Officer should bring to the immediate notice of the Executive Engineer any dangerous decay of any public work, building, monument, or remains of antiquity of architectural or historical interest, which may come under his notice.

Civil Officers to inform Executive Engineers when certain structures need repair.

14.—Superintending Engineers will communicate with the Civil Officers of the Districts through which they pass on their tours, and will attentively consider their suggestions; and in making proposals for alterations and improvements in the buildings they occupy, or for the construction or repair of works of public utility, will always refer to the opinions of the Civil Officers of the Districts.

Superintending Engineers on tour to consult with Civil Officers.

15.—Civil Officers may often need the advice and assistance of the Executive Engineer in matters not connected with works on his books. In such cases the Executive Engineer is required, both in his own person and by means of his subordinate establishment, to render all the assistance he can without interfering with operations more specially ordered by superior Authority.

Executive Engineers to assist Civil Officers in Engineering matters.

16.—The supply in ordinary cases of Office furniture, record racks, punkhas, &c., by the agency of the Department of Public Works, is forbidden. Civil Officers will make their own arrangements for such matters. In cases when articles of difficult or costly construction are required, the Civil Officer may apply for the aid of the Executive Engineer, which should be granted when possible.

Furniture of Civil Offices.

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IV.
Sec. 2.

Petty repairs
of Civil Build-
ings.

17.—All mere petty repairs, as defined in chapter VI., whether in buildings especially under the charge of the Executive Engineer or not, will be executed by the Civil Officers, and charged in their ordinary contingent bills, and passed by the Authority who usually audits those bills.

Buildings
borne on the
books of the
Public Works
Department
how to be
dealt with.

18.—With this exception, no work is to be done upon any Government building borne on the books of the Department of Public Works except through the agency, or with the consent of the Executive Engineer, unless under the orders of Government.

Local Com-
mittees.

19.—The rules Regarding works under the Local Committees are given in the Appendix F. These Rules are subject to revision at the discretion of the Local Administrations.

CHAPTER V.

MILITARY STATIONS.

Section 1.—Cantonment Lands and Boundaries.

1.—ALL matters connected with Cantonment lands and boundaries will be conducted, under the orders of the Commanding Officer, by the Officer of the Quarter Master General's Department at the Station, or, in his absence, by the Cantonment Magistrate or Station Staff Officer, assisted, if necessary, by the Executive Engineer or his Subordinate.

2.—Questions requiring the decision of higher Authority should be referred, by the Officer Commanding the Station, through the regular channel, to the Quarter Master General of the Army.

3.—The following Clauses of Regulation XX. of 1810 should be strictly attended to :—

V. On receipt of this Regulation, the limits of the Cantonments and Garrisons, including the Military Bazaars attached thereto, at which any Division or Corps of the Army, or any considerable Detachment, not being less than half a Battalion, may be quartered, shall be marked out, in all cases in which it has not already been done under Regulation III., 1809, by the Commanding Officer, in concert with the Magistrate [now Collector]. The Commanding Officer at each of these Stations, from which a report of the nature hereafter described has not been already furnished under section IV., Regulation III., 1809, will accordingly submit to Government, through the Commander-

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Conduct of
business con-
nected with
Cantonment
lands.

Reference to
higher Autho-
rity.

Regulations
for the forma-
tion of Can-
tonments.

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Sec. 1.

in-Chief, without delay, a Report framed in concert with the Magistrate [now Collector] of the District in which the Cantonment or Garrison may be situated, upon the local limits of the Cantonment or Garrison, forwarding at the same time any separate remarks which the Magistrate [now Collector] may wish to make on the subject, for the final orders of Government. As soon as the limits of the Cantonments and Garrisons shall be approved and confirmed by Government on the report of the Magistrate [now Collector] and Commanding Officer above required, plans shall be prepared of the limits of the Cantonments and Garrisons, including the Military Bazars attached thereto.

VI.—The plans shall be prepared in quadruplicate, and signed by the Commanding Officer and the Magistrate [now Collector] of the District ; one copy shall be deposited at the Head Quarters of the Station, another at the Cutcherry of the Magistrate [Collector], and the other two shall be transmitted to the Commander-in-Chief, by whom one copy will be forwarded to Government.

XXVI.—Nothing in this Regulation is to be construed to give any authority to Commanding Officers to dispossess the proprietors of land or houses which may be situated within the limits of Military Bazars, although such persons shall refuse to be registered as attached to Bazars, or shall have lost or forfeited or resigned their privilege of registry. In all cases in which the ground allotted to those Bazars, or any part of it is the property of Government, and the occupation of individuals has been declared by Government merely permissive, the Commanding Officer is empowered to make such General Regulations as he may think fit (subject to the approbation of the Governor General in Council) respecting the tenure or occupation of houses, shops, or other fixed place, situated upon such ground as belongs to Government, which Regulations shall in all cases be reduced to writing, and shall,

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after receiving the approbation of the Governor General in Council, be published in Station Orders, with a translation in the language commonly used in the District, and the same shall not be in force until fourteen days after they shall have been so published within the limits of the Station Bazar.

4.—The boundaries of Cantonments, when confirmed by Government, should be marked by pillars, which are to be supplied whenever they have been destroyed or are not forthcoming. Any existing village within the limits of a Cantonment should also have its boundry marked by pillars, beyond which it should not be permitted to encroach.

Boundaries to be marked by pillars.

5.—The ground allowed for the compounds of Officers of all branches of the Army is as follows :—

Extent of ground allowed to Officers.

Field Officers,...	...	...	83½ × 50 yards.
Captains,	...	...	60½ × 50 “
Subalterns,	...	...	50 × 50 “

6.—The dimensions of the Lines of European Corps will be decided in each case by instructions from the Quarter Master General. The Bazar should be placed in rear of one wing, and the space allowed for it should have a front equal to half the front of the Corps, with a depth of 160 yards. The corresponding space in rear of the other wing may be occupied by the cattle and establishments.

Lines of European Corps.

7.—The dimensions of the Lines of Native Corps are laid down in the Tables, Form No. 4.

Lines of Native Corps.

8.—Ground is always to be allotted for the Bazars of Corps in the rear of the troops, whether in Cantonments or in Camp, and, in all practicable cases, within the rear Guards of Corps. The ground allotted to the Bazars of Corps is on no account to be blended with the General or Station Bazars.

Bazars.

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Sec. 1.

The boundaries to be marked by pillars.

Bazars not to be allowed to extend beyond the fixed boundaries.

Boundaries not to be altered without sanction of Government.

Cultivation of unoccupied land forbidden.

Funds realized by sale of grass, &c., to be credited to Government.

Land not required, to be made over to the Civil Authorities.

Committees for farming Cantonment lands.

9.—The Boundaries of all Bazars, both Sudder and Regimental, should be marked by pillars.

10.—The quarterly Bazar Committees will report in their proceedings, whenever the limits so marked out have been exceeded, and the Officer Commanding the Station will direct all houses, walls or enclosures, so improperly built or pushed beyond the authorized boundaries of the Bazar, to be thrown down, and the ruins and fences to be removed at the expense of the persons by whom they were erected. This applies also to houses which may have been built beyond the limits of villages included in a Cantonment (see para 4.)

11.—No deviation from the limits fixed for Cantonments or from those of the Lines, Bazars, or enclosures surrounding Government buildings is permitted without the sanction of Government obtained through the regular channel (para 2.)

12.—The cultivation of unoccupied Cantonment lands is not permitted without the special sanction of Government.

13.—All sums realized by the sale of grass or wood from Cantonment lands and Fortresses will be brought to the credit of Government in the accounts of the Executive Engineer, unless it be otherwise specially ordered.

14.—When, from any cause, any portion of the area of an existing Cantonment is found to be no longer required for Military purposes, a report to that effect is to be made by the Commanding Officer to the Quarter Master General, in order that it may be made over to the Civil Authorities.

15.—Government have, at some Stations, specially sanctioned the letting of Cantonment lands for cultivation or grazing, with the view of forming a fund for the general improvement

of the Statement, under the directions of Committees formed as follows :—

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Officer Commanding the Station,	<i>President.</i>
All Officers Commanding Corps at the Station,)	} <i>Members.</i>
Superintending Surgeon,	
Assistant Commissary General,	
Executive Engineer,	<i>Secretary.</i>

These Committees are under the orders of the Commander-in-Chief, and correspond with the Quarter Master General.

16.—A proper plan of every Cantonment, clearly showing its boundaries and the limits of the several villages, bazars, public and private enclosures or estates, shall at all times exist in the Office of the Executive Engineer, and the old maps shall be revised from time to time by the Executive Engineer in concert with the Officer of the Quarter Master General's Department, to ensure the accuracy of the record. When a revised survey of a Cantonment is made by the Executive Engineer, he will prepare a register of the buildings, estates, &c., in the Form No. 5, to accompany his map. Two copies of each of these documents are to be sent to the Chief Engineer, one copy for record in his Office, and the other for transmission to the Quarter Master General.

Maps of Cantonments.

17.—The Lines of troops are to be designated in public documents according to the arm for which they are designed, as European Infantry, Dragoons, European Horse Artillery, Native Foot Artillery, &c., and their position in the Cantonment as Right, Centre or Left, &c., and not by the numbers of the Corps occupying them.

Designation of the Lines of Corps.

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Section 2.—Grants of Land and Private Buildings.

Sec. 2.

Authority of the Commander-in-Chief required for new enclosures.

Applications for land to whom to be made.

No land to be occupied in any way to the injury of the health or comfort of the troops.

Form of application, and map to accompany it.

Registry of grants.

1.—In no case is any Cantonment land to be enclosed or occupied without the sanction of the Commander-in-Chief; nor are the boundaries of compounds to be changed, old roads closed, or new ones opened without similar authority.

2.—All applications for unoccupied ground, for the purpose of being enclosed, built upon, or in any way appropriated to private purposes are to be forwarded for transmission to the Officer Commanding the Station through the Officer of the Quarter Master General's Department, or, in his absence, through the Cantonment Magistrate or Station Staff Officer.

3.—The health and comfort of the troops are paramount considerations, to which all others must give way, and the Commanding Officer will be held responsible that no ground is occupied in any way calculated to be injurious to each, or to the appearance of the Cantonment. In forwarding (*vide* section 1, paragraph 2) any application for a grant, he must certify that it is not objectionable in these or any other respects.

4.—All such applications shall be in Form No. 6, and must be accompanied by a sketch or rough plan of the site applied for, embracing the portion of the Cantonment adjacent to it and exhibiting the roads, public buildings or private estates by which it is bounded. This plan is, in practicable cases, to be authenticated by the Officer of the Quarter Master General's Department, or, when no such Officer is present, by the Executive Engineer of the Division in which the Cantonment may be situated.

5.—All grants are to be registered (Form No. 5) by the Officer of the Quarter Master General's Department, or, at Stations where no such Officer may be present, by the Cantonment Magistrate or Station Staff Officer; and all grants are

immediately to be noted upon the plan of the Cantonment in the Quarter Master General's Office.

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Sec. 2.

6.—No ground will be granted except on the following conditions, which are to be subscribed to by every grantee, as well as by those to whom his grant may subsequently be transferred:—

Conditions on
which grants
are made.

I. Government to retain the power of resumption at any time on giving one month's notice and paying the value of such buildings as may have been authorized to be erected.

Power of re-
sumption.

II. The ground being in every case the property of Government cannot be sold by the grantee: but houses or other property thereon situated may be transferred by one Military or Medical Officer to another, without restriction, except in the case of relief, when, if required, the terms of the sale or transfer are to be adjusted by a Committee of Arbitration.

Ground not
to be sold.

III. If the ground has been built upon, the buildings are not to be disposed of to any person of whatever description, who does not belong to the Army, until the consent of the Officer Commanding the Station shall have been previously obtained under his hand.

Sales of build-
ings to per-
sons not in the
Army require
sanction.

IV. When it is proposed, with the consent of the Commanding Officer, to transfer possession to a Native, should the value of the house, buildings or property to be so transferred exceed 5,000 Rs., the sale must not be effected until the sanction of Government shall have been obtained through H. E. the Commander-in-Chief.

And if the
purchaser be a
native, the
confirmation of
Government if
the amount ex-
ceed 5,000 Rs.

V. When paths or roads specially leading to any private estate shall cross any line of drainage, proper drains, on designs approved by the Executive Engineer, shall be provided by the person in possession of the estate, on the requisition of the Commanding Officer, either at the time of the original grant or at any subsequent time.

Bridges to be
made over
drains.

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Sec. 2.

VI. The Commanding Officer shall have power to cancel the grant if the ground be not brought into use for the purpose specified within 12 months.

The grant may be cancelled if not taken up within 12 months.

VII. No enclosure walls shall be built, or hedges allowed to grow to a greater height than 6 feet, and the Commanding Officer shall have power to prevent any buildings being erected or excavations made which he shall deem objectionable in a sanitary point of view or otherwise. He shall also have power to order the removal of any dangerous or unsightly ruins.

Fences, buildings, and excavations.

Excavations to be filled up.

VIII. The grantee shall engage to fill up with fresh earth all excavations made in building, within six months of their being dug, or within such time as may be determined by the Commanding Officer.

Houses claimable by Military Officers.

7.—All houses in a Military Cantonment, being the property of persons not belonging to the force on duty at the Station, or of persons whose residence therein may not have been specially authorized by Government, which may be deemed by the Commanding Officer of the Station suitable from their locality for the accommodation of Officers belonging to the force posted at the Station, shall be claimable for purchase, or for hire, at the option of the owner; in the former case at a valuation, and in the latter at a rent to be fixed, in case of the parties disagreeing, by a Committee of Arbitration constituted as follows:—

Committees of Arbitration in case of sale or hire of houses.

8.—The Committee is to be composed of one Civil Officer (the principal one, if practicable, at or near the Station), the Commanding Officer of the Cantonment (unless he is an interested party, when the next senior is to be appointed), and an Officer belonging to the Station, to be named by the proprietor of the premises; and their decision, whether relating to the terms of purchase or rent, is to be conclusive, unless it shall be reversed by Government, for whose orders the

proceedings of the Committee are to be submitted, through H. E. the Commander-in-Chief, whenever the proprietor of the premises which they may have valued is dissatisfied with their award.

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Sec. 2.

Due notice shall, in every instance, be given to proprietors of premises, or to their Agents, by the Commanding Officer of the Cantonments, of the intention to hold a Committee thereupon; and should any such proprietor or his Agent neglect to nominate a Member of such Committee, after having received due notice (which, in all cases when the proprietor or his Agent shall not be resident within the Cantonment or in its vicinity, shall be taken to mean an official notification dated one month before the day on which the Committee is to assemble), it will be the duty of the Commanding Officer to nominate a Member of the Committee to represent such proprietor, and the Committee shall thereupon proceed to arbitration.

9.—When the houses of the Officers of one Corps are to be transferred to the Officers of another, as on the occasion of a relief, if a difference of opinion should arise as to the fair terms of the transfer, the price shall be fixed by a Committee of Arbitration, constituted as in the last paragraph, but with the addition of a fourth Member, to be named by the intending purchaser.

Ditto when
houses are
transferred
from one Corps
to another.

10.—In this case there is to be no appeal, and the decision of the Committee of Arbitration will be final.

In this case
the arbitration
final.

11.—It shall be within the competence of Commanding Officers to direct that numbers shall be affixed to houses or compounds in Cantonments, the expense, however, is to be borne by the owner or by the Cantonment funds, and not by Government, save for buildings actually used for public purposes, or the property of Government.

Numbering
houses

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Sec. 3.

Roads under charge of Executive Engineer. Principal lines will be metall-

under sanction of Government

Committees to report on metalling Roads,

Unmetalled roads will be repaired by Government.

Metalling of roads from the local funds.

Trees on sides of roads.

Section 3.—Roads.

1.—All Station Roads are under charge of the Executive Engineer of the District.

2.—The principal lines of communication in every Cantonment will be metalled and kept in repair at the public expense.

3.—No road, however, can on the first occasion be metalled at the expense of the State without the sanction of Government, to be obtained on the report of a Special Committee, of which the Officer Commanding the Station will be President, and the Executive Engineer a Member.

4.—The Report of the Committee must be accompanied by a sketch map of the Cantonment, on which the roads which require metalling must be distinguished from all other roads. The direction and distance of the nearest large town, of the trunk road, and of any other grand line of communication which may be near the Cantonment, must be noted on the map; and all the circumstances which induce the Committee to recommend the metalling of a certain roads in preference to others, must be clearly stated in the Report.

5.—The unmetalled roads in Cantonments will be maintained in order at Government expense, to the extent of keeping them clear of weeds, preserving an even surface, and draining them.

6.—Where the Local Cantonment funds are sufficient to permit of it, there will be no objection to the laying down of metal on lines not authorized to be metalled at the expense of Government, but the repairs to the metal or earth-work will not be made at the cost of Government.

7.—Government is prepared to sanction on estimate the expense of planting trees along the principal roads in new Stations where they may be required, and, when necessary, to

provide for watering and taking care of them for the first two or three years after they have been planted.

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Sec. 4.

Section 4.—Buildings.

1.—All public buildings in Military Stations will be constructed and repaired by the Executive Engineer, who is responsible for their good condition. But the actual custody of the buildings with their fixtures and furniture is committed to the Barrack Master in concert with the Regimental or Departmental Officers occupying them, as fully described in Chapter XX.

Charge of the buildings.

2.—When new buildings are constructed the Executive Engineer will supply the fixtures, such as arm racks, punkhas, pegs, &c; but all repairs to these articles, as well as to doors, windows, and the re-placing of broken glass, &c., belong to the Barrack Department, except when done as part of a general repair to the buildings.

Fixtures to be supplied to new buildings.

3.—The buildings allowed for Regiments of Cavalry and Infantry are detailed, and their principal dimensions shown in the undermentioned Tables :—

Buildings for Regiments.

Form No. 7, Buildings for a Regiment of European Infantry.

“	“	8	...	...	...	...	“	Cavalry.
“	“	9	...	...	...	...	Native	Infantry.
“	“	10	...	...	...	...	“	Cavalry.
“	“	11	...	...	...	...	Irregular	Cavalry.

4.—The buildings for the Artillery and for Detachments of all branches of the Army shall be calculated to afford the same accommodation for each Non-Commissioned Officer, Soldier, and horse, as is allowed in the case of Regiments of Cavalry and Infantry, with minor buildings on the same scale in proportion to the strength of each Detachment. The additional buildings allowed for the Artillery are detailed in the Table, Form No. 12.

Buildings for Detachments.

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Sec. 4.

5.—Guard-houses and Bells of Arms for temporary Lines of Native Corps shall have kucha walls and tiled roofs.

Temporary
lines.
Officers quar-
ters.

6.—Where Officers' Quarters are to be provided the following scale is applicable, but to Regimental Officers only :—

RANKS.	ROOMS.				Servants Houses.	Stables for one horse.
	24 × 16	16 × 16	16 × 8	Bath.		
Colonel and Lieut. Col.	2	4	2	4	12	4
Major and Senior Sur.	2	3	1	3	9	3
Captain and Surgeon.	1	2	1	2	6	2
Lieut. and Asst. Sur.	1	1	...	1	4	1
Ensign. ...	...	2	...	1	3	1

Regimental Staff Officers are allowed an Ensign's Quarters each, for the accommodation of their Officers.

Warrant Offi-
cers quarters.

7.—Warrant Officers on the staff when supplied with quarters at the public expense, will be allowed the accommodation granted to corresponding ranks attached to Corps, (*vide* Tables, Riding Master and Medical Subordinates' Quarters.)

Non-Com-
missioned Offi-
cers quarters.

8.—Non-Commissioned Officers on the staff will be allowed quarters similar to those of the Serjeant Major or Quarter Master Serjeant of Regiments; but when several Non-Commissioned Officers are attached to one Department at a Station, a Barrack shall be built for them, unless their duties require them to reside in different parts of the Station.

Buildings of
the Commissariat
and other
Departments.

9.—The buildings used by the Commissariat and other Military Departments will be constructed and repaired by the Executive Engineer. The scale by which Cattle Sheds and other Commissariat buildings shall be constructed is

given in the Table, Form. No. 13. No Cattle Sheds or Store-rooms shall have thatched roofs.

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Sec. 4.

10.—In designing Guard-houses, the space to be allowed per man for Native Guards relieved daily or weekly is 20 superficial feet, and for detached permanent Guards 22½ feet, alike for Officers, Non-Commissioned Officers, and Sepoys, and without any deduction on account of Sentries. Guard-rooms should always be of 15 feet wide, with a verandah of 10 feet wide on one side. Cooking sheds will not, as a general rule, be provided for Guard-houses.

Guard-houses for native Soldiers.

11.—The Guards of Commanding Officers, and of Staff Officers drawing office rent, shall not be provided with Guard-houses at the public expense.

No Guard-houses allowed for certain Officers.

12.—Roman Catholic or other Chapels not originally erected by Government but used for the troops, may, with the sanction of Government, be kept in repair by the Executive Engineer at the public expense ; provided that the property in the buildings is first transferred to the Government by the persons in whom it is vested. The fulfilment of this condition is essential to any grant of public money for the repair of such buildings.

Roman Catholic Chapels.

Section 5.—Conservancy.

1.—The Commanding Officer of every station is responsible that general cleanliness and neatness are preserved, and that no effort is spared to obtain an effective drainage, and to remove every local source of injurious influence on the health of the troops and residents.

Commanding Officer responsible for general conservancy arrangements.

2.—In these matters the Commanding Officer will be aided by the professional advice of the Executive Engineer ; and will have the assistance of the Barrack Master and his establishment in removing noxious matter and preserving general cleanliness.

But must be aided by the Executive Engineer and Barrack Master.

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V.

Sec. 5.

Regimental
and Departmental
conservancy.

3.—When there is an Officer in charge of the Sudder Bazar, the conservancy of the Bazar will rest with him ; and Commanding Officers and Quarter Masters of Corps and Detachments, and Heads of Departments, are required to attend to the cleanliness of their own lines or premises.

Barrack Masters
Establishment for
general conservancy.

4.—The Barrack Master's establishment of carts, cattle, bfldars, sweepers, &c., required for general conservancy purposes, will be fixed specially for each Station.

Commissariat
cattle.

5.—The use of Commissariat cattle, if any are available at the Station, will be allowed for any conservancy purposes on which the Executive Commissariat Officer may consider their employment unobjectionable. The expenses of tending and feeding the cattle when thus employed will be chargeable to the Barrack Department.

Excavations
not to be
made except
under certain
restrictions.

6.—No excavations are allowed to be made within the limits of any Military Cantonment for building or other public purposes without the sanction of Government previously obtained through the Commander-in-Chief in the Quarter Master General's Department ; and, whenever it may be necessary to apply for such permission, the Local Military Authorities must certify that the site selected for the purpose is not likely to interfere with the health or comfort of the troops or the cleanliness and appearance of the Station. The measurements of the superficial space to be occupied and the depth of excavation must also be stated.

Excavations
to be filled up,
&c.

7.—The Executive Engineer will take immediate steps to prepare estimates for filling up, converting into tanks or draining any existing hollows reported by the standing Medical Committee likely to be injurious to the health of the troops ; but excepting in case of declared emergency, to be dealt with under chapter IV., the ordinary course of proceeding must not be broken through in dealing with such matters, and sanction must be obtained for the work in regular form.

8.—No expense is to be incurred in filling up excavations, or clearing and levelling parades, when the work can be done by the Quarter Master's Establishments.

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Sec. 5.

9.—Excavations for buildings made by Sepoys or private individuals must be filled up at their expense.

Excavations
made by Se-
poys, &c.

10.—The pounding of stray cattle, the removal of dead bodies, and the payment of Domes for killing dogs, are no parts of the duty of a Barrack Master or Executive Engineer, but will be done under the orders of the Officer in charge of the principal Bazar at the Station.

Certain du-
ties not requir-
ed of the Public
Works Depart-
ment.

11.—The Commanding Officer is responsible that due precautions are taken against danger to the buildings from fire; and the Executive Engineer and Barrack Master are required to co-operate with him. The rules on the subject of these precautions are contained in the Military Regulations, and an abstract of them, with full details of the Barrack Master's duties, is given in chapter XX. of this Code.

Precautions
against fires.

CHAPTER VI.

CIVIL BUILDINGS.

CHAP. VI.

Construction and repair not necessarily by the agency of the Public Works Department.

Local Administration to decide what agency is to be employed.

Fixtures.

1.—THE Civil buildings at Sudder Stations will generally be constructed and repaired by the Executive Engineer ; but these, as well as buildings at Out-stations, may be constructed and repaired by the Civil Officers, whenever the Local Administration may consider it more convenient to direct such a course of proceeding.

2.—When any doubt may arise whether any original work or repair should be done by the Department of Public Works or by the Civil Officers, the question should be referred to the Local Administration.

3.—Every new building constructed by the Executive Engineer will be provided with fixtures, including, when necessary, record racks, shelves, punkhas, &c. But the repair of these fixtures and all petty repairs of doors and windows, including the re-placement of broken glass, will be provided for by the Officers occupying the buildings, except when required as part of a general repair.

The Civil Officer in charge of each building should make some person of his establishment answerable for the glass in each room, who should pay for any panes that may be broken, unless he inform his superior at the time, and either prove the fracture to have been unavoidable, or produce the person by whose fault it was occasioned.

Furniture.

4.—The Executive Engineer will not supply and repair furniture, screens, purdahs or tatties under any circumstances, except when ordered by the Local Administration.

5.—Where Circuit-houses are provided at the public expense they are held as primarily intended for the occupation of Judges and Commissioners on Circuit, but any public Officer, when visiting a Station on duty, is allowed to occupy the Circuit-house when it may not be required by the Judge or Commissioner.

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Circuit-houses.

Circuit-houses are not to be let or used as private dwellings, nor are they to be occupied by Officers who belong to the Station ; and it is the duty of the Executive Engineer to prevent Circuit-houses being improperly occupied.

6.—Executive Engineers will build and repair Staging Bungalows, but the furniture and establishments are entirely under the Post Office Authorities, who will also supply tatties. The periodical repairs will be done on the survey of the Executive Engineer or his Subordinate, and occasional and minor repairs on the requisition of the Post Master.

Staging Bungalows.

7.—The Towers belonging to the Great Trigonometrical Survey are under the charge of Executive Engineers. The door-ways should be blocked up, and such repairs made as may be necessary to ensure the stability of the buildings.

Survey Towers.

8.—The Table, Form No. 14, gives the dimensions of the principal Civil buildings as fixed by Government.

Dimensions of Civil Buildings

CHAPTER VII.

ON PURCHASING, HIRING, SELLING, AND LETTING BUILDINGS.

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VII.

Purchase.

1.—No building may be purchased for public purposes without the sanction of the Local Administration. In case of buildings the cost of which will exceed 500 Rs. sanction can only be obtained on a description and valuation Report by the Executive Engineer of the District. The Civil or Departmental Officers are responsible for every neglect of this rule; and it is the duty of Executive Engineers to bring it to their notice when occasion requires, and to report to the Superintending Engineer every case in which it is not attended to.

Survey and report by Executive Engineers before purchase.

2.—Before reporting on any building proposed to be bought by Government, the Executive Engineer must make a careful survey of it. He must state in his Report what alterations will be required to suit the building to its proposed new purpose, and must give a rough estimate of the probable cost of the alterations that will be necessary in the first instance, as well as of the probable expense of keeping the building in repair.

Provision of quarters by the Executive Engineers.

3.—It will be the duty of the Executive Engineer, under the orders of the Government, or of the Local Authorities, in cases of emergency, to provide quarters for troops and for the families of soldiers on actual service, and accommodation for public establishments for which shelter is allowed and required.

For this purpose the Executive Engineer will arrange, under sanction as above, by allotting public buildings which may be vacant or which can be vacated, or by erecting or hiring buildings, as according to his judgment may be most advantageous in each case ; reporting his proceedings, through the Superintending and Chief Engineer, for the information of Government, and requesting previous sanction when there is time for it.

4.—On no account is any church, chapel, mosque, temple, tomb, or other building devoted to religious uses to be occupied as a dwelling house, or for any other purpose without the full and free consent of the persons interested in it, and the sanction of the principal Civil or Political Authority on the spot.

Occupation of religious buildings.

5.—No public building under charge of the Executive Engineer may be occupied as a residence without his consent, unless under the orders of the superior Engineering Authorities or of the Local Administration ; or, in the case of Military buildings, of the Officer Commanding the Station.

Occupation of public buildings.

6.—It is the duty of the Executive Engineer to endeavour to get tenants for public buildings not immediately required for Government use. They should generally be let from month to month, but a lease may be given with the Chief Engineer's sanction. A clause in the agreement should be added, when it appears proper, to enable the Executive Engineer to terminate the lease at short notice in case of the building being required by Government.

Letting public buildings.

7.—Public buildings let to private individuals shall not be altered or enlarged at Government expense to suit the tenant, and persons occupying public buildings on rent are prohibited from making any alterations even at their own expense, unless with the express concurrence of the Executive Engineer.

Alterations to suit tenants.

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VII.

Rent to be demanded of persons occupying public buildings.

8.—When a public functionary, not entitled to free quarters, occupies a portion of his public office as a dwelling, the Executive Engineer shall be authorized to claim a fair rent, and the fact of the occupant having made additions or alterations at his own expense is not to be considered as giving him any claim to a set-off or diminution of payment.

Rent to be fixed with reference to the value of the buildings.

9.—The practice of allowing public Officers and others to occupy Government buildings rent free on condition of keeping them in repair is prohibited. A rent fixed by the Executive Engineer with reference to the value of the property shall in all cases be demanded, and the repairs shall be made by the agency of the Public Works Department.

Rent to be collected by the Executive Engineer.

10.—The rent of public buildings in charge of the Department of Public Works shall be collected by the Executive Engineer, and credited to Government in his accounts.

Return of public buildings let or to let.

11.—A Return of public buildings let and available for hire (Form No. 15) shall be sent in by Executive Engineers half-yearly with their Accounts Current. The Return must notice every case of a public Officer occupying a portion of his office, or of any other public building, as a residence.

Selling or dismantling public buildings.

12.—No public building may be sold or dismantled without the sanction of Government ; and it is the duty of the Executive Engineer to report when in his opinion any building or other property of Government in his charge ought to be sold or dismantled.

Executive Engineers not to pay rent except for the Public Works Department.

13.—Officers of the Public Works Department shall on no occasion disburse the rents of hired premises occupied by Officers of any other Department than that of Public Works, nor shall rents be debited to the Public Works Department unless the buildings be occupied by that Department.

CHAPTER VIII.

DESIGNS, ESTIMATES, AND CONSTRUCTION.

Section 1.—General Rules.

1.—THE operations of the Public Works Department will be divided primarily into the two classes—"Original Works" and "Repairs."

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Sec. 1.

Classification
of operations.

Original
works.

2.—The class "Original Works" will include all new construction, whether of entirely new works or of additions and alterations to existing works. This class will likewise include the repairs to be done to any newly purchased building, before it can be brought into use ; and also all restorations or repairs of buildings or works which are to be brought into use after having been abandoned, or which are to be adapted to any new purpose ; as well as the repair of any building or work which may have suffered from ordinary decay, or otherwise, so much as to require an outlay of one-fourth of its original cost to restore it to serviceable condition. This latter condition, however, is not applicable to the renewal of metalling or repair of earth-work of roads which have been regularly maintained.

3.—The class "Repairs" will include all operations required to maintain in proper condition buildings and works in ordinary use, excepting those cases specially placed in the class "Original Works." Repairs are sub-divided into "Special," being all those rendered necessary by fire, storm, flood, or

Repairs.

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Sec. 1.

other unforeseen accident, and "Current," being those rendered necessary by ordinary decay, or wear and tear.

Estimates
necessary.

4.—It is to be considered a fundamental rule of the Department that no proposal for the execution of public works can be entertained unless it be accompanied by a properly detailed design and estimate. The only exceptions allowed to this rule will be in case of really emergent works, or of those petty works or contingencies, for dealing with which special directions are laid down.

Reasons why
they are re-
quired.

5.—Though the immediate object of the estimate for a work is to enable the authority, whose sanction to the expenditure is necessary, to judge of the sum that will be required to carry out what is proposed, it is likewise of great importance inasmuch as it of necessity causes the scheme to be put into a definite form, and thus ensures its being carefully considered in all its details before it is actually carried into execution. Strictness in enforcing explanations of the causes of any changes in a design once sanctioned, and in prohibiting alterations except on very sufficient grounds, will expose any want of care in the preparation of the original plan, and will thus conduce to inculcate that attention which is so essential in the preparation of new projects.

Changes in
design.

6.—No Executive Engineer is at liberty to make any change in the design of a sanctioned work, without reporting it to the Superintending Engineer. If the proposed change is important, he should at once submit a revised estimate, but should not proceed with the work without authority from his official superiors, except in cases of emergency, when the circumstance must be immediately reported to the Superintending Engineer.

He must also report immediately when any of the rates of the estimate are found insufficient, or generally when he ascertains that the estimate is likely to be exceeded from any cause whatever.

7.—In the preparation of projects every possible care must be taken that the designs for new works shall be so framed as to be thoroughly suitable in their arrangements to the purpose for which they are intended, well contrived, and scientifically drawn out in the Engineering details of all parts of the structures, and duly considered with reference to their cost and a proper economy; that repairs may be such as are necessary and proper; and that estimates may afford a close approximation to the actual cost of the work.

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Sec. 1.

Care required in the preparation of Estimates.

8.—An order to prepare an Estimate for an object is no authority for taking any further steps, and no work shall be actually commenced till orders to that effect are issued by some duly authorized person. Executive Engineers will be held responsible that applications for authority to commence work are made in proper time, so as to avoid delay which is likely to be injurious to the public service.

Authority for commencing work.

9.—Verbal orders alone, as being liable to misapprehension, will not be received as a sufficient warrant for commencing any work or incurring any expense. This is not to interfere with the prompt and immediate obedience of every Officer in the Department to the lawful orders of his superiors, or the emergent requisitions of Military or Civil Authorities, when given verbally; but the written confirmation of verbal orders directing operations which will lead to expenditure of public money must, in all cases in which it is not at once given, be solicited by the Officer who is to carry them out, and he will be held personally responsible for any expense thus incurred unless he can show that he applied within a reasonable time in writing to the Officer by whom the verbal order was given, stating in detail the work he was about to carry out, giving at least a rough estimate of the expense, and asking for a written confirmation of the original order.

Verbal orders insufficient.

10.—On receiving orders to commence any work the Executive Engineer is generally authorized to entertain, to such extent

Work Estima-

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Sec. 1.

as may be actually required, the necessary Work Establishment, including Sirdars and Mates of gangs of labourers, Foremen (Mistries and mate Mistries) of Carpenters, Smiths or Masons, Chupprassies and Lallas or Accountants employed on the works to take musters of workpeople. Any other additional Establishment required must be applied for through the Superintending Engineer according to the rules laid down in chapter I, paragraphs 18 to 28. At the same time any special instructions issued by the Chief or Superintending Engineer in respect to Work Establishments will be duly attended to by all Executive Engineers.

Sunday.

11.—The execution of work generally by the Department of Public Works shall be suspended on Sunday, except in cases of emergency; but no deduction shall be made on this account from the wages of workmen engaged by the month. This is not to be understood as prohibiting the performance on a Sunday of those usual and necessary duties connected with the maintenance and management of Roads, Canals, Irrigation works, &c., which do not admit of postponement.

Occupation
of land.

12.—Land required for roads, canals, building sites, or for brick fields, lime kilns, quarries, &c., must be obtained as prescribed in the regulations contained in Appendix G.

Religious
edifices to be
respected.

13.—No religious edifice shall be destroyed or injured in the execution of public works without the full and free consent of the persons interested in it, except under the sanction of the Superintending Engineer and with the concurrence of the principal Civil or Political Authority on the spot, or under the orders of Government.

Contractors
to be encourag-
ed.

14.—Executive Engineers should encourage Contractors to come forward and tender for the execution of public works according to the rules prescribed in section 5.

Labour and
materials.

15.—Executive Engineers will make their own arrangements for the supply of labour and materials, without having recourse to the Civil Authorities.

16.—The management of convicts employed on public works must be arranged between the Magistrate and the Executive Engineer, and the latter shall be held responsible for the correct performance of the work, in the same manner as if it had been done by hired labour.

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Sec. 1.

Convicts.

17.—Executive Engineers must be careful and labourers and Artificers are not forcibly brought to work, that they are well treated and punctually paid, and that they suffer no deduction from the full rate of wages due to them. Those brought from a distance may, when it is expedient, be allowed wages for the number of days consumed in the journey to and from the site of the work.

Treatment
of labourers.

18.—All unusual losses in the manufacture of materials, and all important accidents in building, must, on their occurrence, be reported to the Superintending Engineer.

Losses and
accidents.

19.—In the execution of works by the Public Works Department every care shall 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 the agricultural pursuits of the people. When necessary temporary roads and bridges should be provided, and the occupation of land should, when practicable, be so timed as not to lead to the destruction of standing crops. Brick and lime kilns must not be erected so close to the inhabited part of any town or cantonment as to be a nuisance.

Public convenience to be consulted in arranging for carrying on work.

20.—Carriage of any description employed for purposes connected with public works is as liable to be pressed for the use of troops as carriage employed by private individuals.

Carriage
liable to be
pressed.

CHAP.
VIII.*Section 2.—Public Buildings.*Sec. 2.

Applications for new buildings or alterations.

1.—Applications for new buildings, and for additions or alterations to existing buildings required for the use of any Department, shall be made by the Officer of the Department concerned, in communication with the Executive Engineer. Vide Chapter IV., section 1 para. 15, and section 2, para. 7.

Rough Designs may be sent to Superintending Engineers.

2.—In the case of all buildings of importance the Executive Engineer shall submit his rough design, drawn up in communication with the Officer for whose use the building is intended, for the approval of the Superintending Engineer, before proceeding to prepare his detailed drawings and estimates.

Choice of sites.

3.—The choice of a site for any building requires careful consideration on the part of the Engineer; but when the building is designed as a residence, especially when for a large number of human beings, this point becomes one of the utmost importance. In the case of Barracks, Jails, &c., the Executive Engineer must, therefore, carefully investigate the nature of the drainage for a considerable distance round the proposed site, particularly satisfying himself that the spot (and, as far as possible, the neighbourhood) is not liable to flood. He must examine the position of the neighbouring buildings, cultivation, tanks, jheels, jungles, and note the direction of the prevailing winds, and the character of the country over which they blow, and must, if possible, obtain the opinion of Medical Officers as to the salubrity of the site with reference to these, and all other circumstances. The aspect of the buildings must also be determined with reference to the prevailing winds and other considerations.

Foundations.

4.—Before finally determining the site of any building, the Executive Engineer must examine the soil in order to decide on the proper depth and style of foundation to be adopted;

and if the soil be unfavourable, it may be necessary to select some other locality. The height to which the lower floor should be raised must also be fixed with reference to the site, soil, and climate.

The expense attending any examination for foundations may be brought forward in the Executive Engineer's monthly accounts.

5.—The material and character of the structure must be suited to the object for which it is designed. If required for a permanent object, it must be durable, and, as far as possible, fire-proof.

Character of
work.

6.—The lower portion of upper storied buildings must be of such solidity as to be adapted to the superincumbent weight ; and all lofty or long walls must be duly supported and strengthened by connecting cross wales.

Solidity of
lower stories,
&c.

7.—Barracks and Store-rooms of all kinds should be paved with flag-stones where the material can be obtained at a reasonable cost ; but for hospitals a good terraced flooring is considered by Medical Officers preferable to flag-stones.

Floors.

8.—Care must be taken in designing roofs to determine the scantling of the timbers, and the sectional area of the iron-work by close calculation of the weight to be borne, or strain to be resisted, by each part.

Roofs.

9.—Designs for buildings shall include adequate provision for ventilation, in the form best suited to the circumstances of each.

Ventilation.

10.—The ornament and finish of a building must not be more elaborate or costly than is suitable in reference to the locality in which it is to be constructed, and the purpose it is designed to fulfil. This must be particularly considered in estimating for plaster, cornices, doors, and windows, painting, glazing, &c.

Ornament
and finish.

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VIII.
Sec. 2.

Precautions
against fire
and storm.

In designing buildings it is proper to consider how far their situation or character renders them specially liable to danger from fire or storm, and to take such precautions against injury from either cause as the nature of each case may suggest. Amongst the precautions against the former is the removal from the neighbourhood of thatched huts, stacks of straw, and other accumulations of combustible materials.

Lightning
Conductors.

12.—Powder magazines and all buildings which from height or exposed situation are likely to be struck by lightning, should be provided with lightning conductors. The conductors should be made of copper rods one inch in diameter, with platina tips, raised on masts placed three or four feet from the building to be protected, and carried up to a height of not less than half the width of the building above its highest point. The portion of the rod under ground should be carried down till the earth be found permanently moist, or should lead from the building into a pit filled with charcoal, or to a well.

The copper rods and tips may generally be obtained on indent from Magazines, but if they should not be procurable, iron rods of two inches diameter may be used.

Each lightning conductor may be considered as protecting perfectly any object within the distance of twice the height of the conductor above it.

Inscriptions.

13.—In every important building a stone shall be inserted in some conspicuous place, bearing the name of the builder and the date of the year in large letters; and in buildings of great magnitude, an inscription on copper may be enclosed in a hollow in the stone.

In buildings of a minor order the date should be stamped on one or more of the brick keystones of the arches over the doors.

14.—Special repairs to buildings will be executed on the requisitions of the Local Authorities agreeably to the rules laid down in chapter IV.

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Sec. 2.

15.—Current repairs are either periodical or occasional.

Special re-
pairs.

16.—Occasional repairs include all those petty and other repairs which become necessary in the ordinary course of events, and of which the cost for the year may be roughly estimated in advance from a consideration of the usual requirements of buildings, though the actual items of work to be done cannot be specified beforehand.

Current re-
pairs.

Occasional
repairs.

17.—Periodical repairs are those which, in order to the proper preservation of buildings, it is expedient to execute after certain periods, and of which the actual items of work of each kind may be estimated with considerable accuracy from an examination of the buildings some time beforehand, so that they can be sanctioned on a detailed estimate.

Periodical
repairs

18.—General estimates of the cost of all repairs for each year will be submitted for the sanction of Government as part of the Annual Budget (see Appendix A). Besides these, detailed estimates are required of periodical repairs, on receipt of which the Chief Engineer is empowered to sanction the execution of the work within the limits of the sum assigned for that purpose by Government, in passing orders on the Budget. Occasional repairs will be executed on the requisition of the Local Authorities under the Rules laid down in chapter IV.

Estimates for
repairs.

19.—The following are the principal periodical repairs which shall be made after the periods specified in each case, unless from the non-occupation of any building, from its unusually good state of preservation, for the convenience of the occupants, or for any other special reason, the Executive Engineer may consider it advisable to postpone the repair :—

Detail of the
principal items
of periodical
repairs.

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VIII.
Sec. 2.

External white or colour washing or sand rubbing, once in 3 or 4 years, or when reported necessary.

Internal white-washing to Barracks, Hospitals, Conjee Houses, Soldiers' Privies, and Guard-rooms annually; to all other buildings when reported necessary: but the interior must always be cleaned during the periodical repairs.

Repairs to plaster, when reported necessary

Painting, once in 4 years.

Grass coating, once in 3 years.

Re-laying tiles, when reported necessary; generally after 3 or 4 years.

Renewal and repairs of jhamps to such extent as may be necessary annually; those for stables to be completed by the 1st October. Jhamps should not be used when they can be dispensed with.

Removal of bricks affected by saltpetre, when the corrosion appears sufficient to render it necessary.

Repairs to terraced roofs and floors. The latter, if much worn, should not be repaired, but entirely renewed or replaced by flag stones.

Examination
of buildings
for repairs.

20.—All buildings shall be carefully examined by the Engineer or Subordinate in charge as soon as possible after the 15th September of each year, and the exact quantity of work required for the periodical and ordinary repairs shall be measured and noted in a Measurement Book (Form No. 16), containing also an abstract of the total quantity of work to be done at each station for each Department, which shall then be submitted for the countersignature and remarks of the Officer Commanding the Corps or in charge of the Department occupying the building.

Testing the
accuracy of the
measurements
for repairs.

21.—When received back from the countersigning Officer the Measurement Book shall be immediately transmitted by the Subordinate to the Executive Engineer or Sub-divisional

Officer, who, after examining the books and testing such portion of the measurements as he may deem necessary, shall forward them, through the usual channel, to the Central Office of Account. The portions of the entries in the Measurement Books which have been tested by the Executive Engineer, or a duly authorized Sub-divisional Officer in his stead, will be specially noted in the books; and the Superintending Engineer is responsible that this check on the repair estimates is not allowed to become an empty form.

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VIII.
Sec. 2.

22.—In the Central Office the measurements and abstracts in the books shall be examined, and after correction and obtaining such explanations as may be necessary from the Executive Engineer, estimates will be framed and submitted to the Chief Engineer for sanction. A copy of the sanctioned estimate will be forwarded to the Executive Engineer.

Detailed Es-
timates for
periodical re-
pairs.

23.—Periodical repairs to buildings must not be commenced without the permission of Superintending Engineer till the estimates have been sanctioned.

Commence-
ment of re-
pairs.

24.—The execution of periodical repairs shall be timed, so far as circumstances permit, to suit the convenience of public Officers occupying the buildings; and Executive Engineers shall, in all cases, carry on the work with expedition, so that the buildings may be thrown out of use as little as possible.

Execution
of repairs.

25.—The sanction for the execution of annual repairs conveyed by the passing of an estimate, shall be considered in force only till the 15th September next succeeding; and all estimated repairs remaining unexecuted on that date shall, if still required, be again brought forward for sanction in the following year.

Estimates
hold good only
for the year.

CHAP.
VIII.*Section 3.—Roads and Bridges.*Sec. 3.Two classes
of roads.

1.—Roads are divided into two classes, Imperial and District. Imperial Roads are kept up at the expense of the general revenues of the State, and all tolls levied on them are credited to the general revenues. District Roads are kept up at the expense of the Local Funds, and the tolls levied on them are credited to those funds.

Imperial
roads to be
under Ex. En-
gineers.

2.—The following rules have reference solely to the Imperial Roads, which are always to be under charge of Executive Engineers of the Department of Public Works :—

Duty of Ex.
Engineers of
roads.

3.—Executive Engineers in charge of Roads shall maintain them in a fit condition for safe and rapid travelling, and shall propose such measures as may be deemed necessary for their preservation or improvement.

Petty re-
pairs.

4.—For the execution of the petty repairs to Roads, which are to be understood to include filling up holes and ruts, and raising earth-work to make up for wear and tear, the Executive Engineer will, on all important lines, be supplied with an Establishment of Coolies divided into gangs, each under a Sirdar, and to each gang will be assigned a certain number of miles of Road. The strength of the gangs will vary according to the nature of the Road and amount of traffic, and will be fixed in each case by Government.

It shall be the duty of these Establishments to suffer no kind of petty defect on the Road surface, and bring to notice any repairs required to Drains and Bridges.

Where such Establishments are not allowed, the Executive Engineer shall cause inspections to be made, at such periods as the nature and circumstances of the line of Road may require, and shall send out parties to execute the petty repairs reported necessary.

The same practice shall be followed in respect to the petty repairs of bridges.

5.—Annual repairs of earth-work will not generally be requisite on Roads where a permanent Establishment of Coolies is maintained. Where there is no such Establishment, the Executive Engineer, or a competent Subordinate, shall inspect the Road immediately after the close of the rainy season, and shall at once send in a rough estimate, and, without awaiting sanction, put in hand all current repairs required in consequence of the damage caused by the rains.

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VIII.
Sec. 3.

Annual repairs of earth-work.

6.—Periodical repairs of metalling shall consist of the renewal of the coating as it wears out. These repairs shall be made on estimate, after actual measurement of the existing thickness of metal, so as not to allow the metal to fall below the minimum standard thickness laid down for each Road with reference to the traffic, nature of the soil, and material of which the metal is composed.

Periodical repairs of metalling.

7.—In effecting the renewal of metalling, no collections of material shall be placed on the Road side, but on the berm, out of the way of traffic. No more metal shall be spread on the Road during any day than can be consolidated, at least partially before night, or the operation must be confined to one side of the Road, so as to form no interruption to rapid travelling; and the metal must be thoroughly and smoothly consolidated, so that the Road may be made not only lasting, but easy for travelling.

Method of executing them.

8.—All Drains and Bridges on Imperial Roads shall be considered as Government property and be kept in repair at the expense of the State. The Executive Engineer, or some person duly authorized by him, shall inspect the Bridges and Drains after the close of the rainy season, and make the measurements of the work necessary for their annual repairs, as prescribed for buildings in the previous section.

All Bridges on imperial roads will be repaired by Government.

9.—Particular attention must be given to the state of the river bed and banks in the immediate vicinity of the piers and abutments of every Bridge; and measures must be taken

The effect of the current on piers and abutments to be watched.

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VIII.
Sec. 3.

for securing them if any irregular action of the current threatens to undermine or turn them.

Repairs of
Suspension
Bridges.

10.—All Suspension Bridges shall be inspected at least once a year about the 1st January. The bolts, nuts, road-way beams, and the links over the standards, must be carefully examined, and the back chains opened out as far as practicable. A coat of coal tar shall then be laid on hot over all iron work, and over the ends of the road-way beams.

Repairs of
Wooden Bridges.

11.—Wooden Bridges must also be carefully inspected annually by the Executive Engineer or a qualified Assistant, and shall be painted or tarred at least once in two years.

Special repairs.

12.—Special repairs consist of those rendered necessary by floods or other accidents. In such cases the Executive Engineer shall immediately take the steps necessary for restoring the communication when it may have been interrupted, and for obviating any danger which may impend, either to the works or to travellers. But the Executive Engineer will refer to higher authority before undertaking any work of a permanent nature, which he may conceive to be necessary for the prevention of future injuries.

Stores of
kunkur.

13.—Stores of kunkur or broken stone shall be provided at convenient distances along metalled Roads, in order that petty repairs may be made without delay.

Sub-divisions.

14.—Overseers on a finished main Road will have charge of Sub-divisions of about 50 miles each, within which it will be their duty to conduct the repairs and other works, and control the Establishment.

Overseers'
residences.

15.—Each Overseer shall reside near the centre of his charge, in a bungalow which will be supplied at the public expense, and which shall contain a room for the use of the Executive Engineer or his Assistant during tours of inspection.

Chowkees.

16.—*Chowkees* will also be allowed at intervals of 10 or 12 miles along all principal lines of Road for the accommodation of the Executive Engineer and Overseer when travelling on duty.

17.—Executive Engineers and their Subordinates shall not occupy the Staging Bungalows on any line of Road on which there are Chowkees.

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VII.
Sec. 8.

Occupation
of Staging
Bungalows.

18.—Post Masters or Superintendents of Mail Carts are required to report to Executive Engineers any complaints which may reach them of the state of the Roads ; and, on receiving any such complaints from these functionaries, or from any trustworthy source, the Executive Engineer shall immediately take measures for ascertaining the state of the case, and for remedying the defect, if the complaint prove to be well founded.

Attention re-
quired to re-
ports of the
state of the
roads.

19.—New works required to be constructed for Roads shall be regularly estimated for as laid down in section 1, paragraph 4.

Estimates re-
quired for new
works.

20.—Estimates for the construction of new Roads must be accompanied by surveys showing the adjacent country and chief towns, as well as by longitudinal sections, showing the height to which inundations rise, and the height or depth to which each portion of the Road is to be raised above, or cut below the natural surface of the soil, and by cross sections from which the quantity of earth-work shall be calculated. Particular attention must be paid to the gradients, which must be adapted to the nature of the traffic.

Estimates for
new roads.

21.—Every estimate for a bridge must be accompanied by a longitudinal section of the river bed and banks extending at least two miles above and below the intended site of the bridge, and by a sufficient number of cross sections of the river or water-course extending beyond the range of the floods, showing the height of the water at flood, the area of the flood section and the velocity of the stream, and the waterway proposed to be allowed through the Bridge ; as also by a ground sketch of the course of the stream for at least a mile above and below the site of the intended Bridge, showing the proposed site, and the reasons for selecting it.

Estimates for
Bridges.

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VIII.
Sec. 3.

The nature of the soil on which the foundations will rest shall also be noted on the section. In submitting an estimate for a bridge of above 20 feet span, the centering shall form a separate item, and must be shown in detail in the drawings.

Rough designs.

22.—The Executive Engineers shall submit the rough design of every important work to the Superintending Engineer for his approval and instructions, before proceeding to prepare the detailed design and estimate.

Construction of Suspension Bridges.

23.—When it is proposed to construct a Suspension Bridge, the Executive Engineer must supply the Superintending Engineer with the information required in paragraph 21, stating also the possibility of obtaining stone for retaining blocks, and showing in the sections the proposed position of the standards. The Superintending Engineer will then obtain from the Iron Bridge Yard at Alipore, or from the Workshops at Roorkee, an estimate of the cost of the iron work, which will be forwarded to the Executive Engineer, to enable him to prepare a complete design and estimate. On the estimate being sanctioned the iron work will be supplied from the Establishment from which the estimate was obtained.

Extent of land to be occupied for new roads.

24.—The ground to be taken up for a new line of Road shall in general be equal to the width of the Road with the embankment (or cutting) slopes, a berm on each side equal to half the width of the Road surface, and land on each side beyond the berm sufficient to construct the embankment (or deposit the deblai of the cutting) without excavating to a greater depth (or raising to a greater height) than three feet. But where land is particularly valuable, or where the height (or depth) of the Road is greater than six feet, the width of land to be taken up may be reduced in communication with the Collector. (See Appendix G.)

The land previously occupied by an old line shall be given up to the Collector when the new line of Road is opened.

25.—When Roads are under construction through unhealthy jungles, the working parties shall not be sent out till a sufficient time has elapsed after the close of the rains.

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Sec. 3.

Working parties in jungles.

26.—When trees are planted along a Road, it is recommended that they be placed 18 feet apart, and about nine feet from the foot of the embankment. The land-owners should be encouraged to plant clumps of trees at intervals along the Road side.

Trees.

29.—Kunkur must not be searched for or dug up without the consent of the landholders, payment being made if required. If the landholders refuse permission or demand exorbitant rates, the Executive Engineer, if he have no other means of obtaining the material, shall apply to the Collector and take up the land under the Rules in Appendix G. After making the search or digging the kunkur required, the land must be carefully levelled and restored to the owner, or, if it have been taken up on account of Government, to the Collector.

Digging for kunkur.

30.—When parties of Sappers and Miners are employed under Superintending or Executive Engineers, the Regimental discipline and internal economy must not be interfered with. Any tools required in excess of the Regimental equipment will be supplied by the Superintending or Executive Engineer under the usual Departmental Rules, and huts will be furnished for the temporary shelter of the European Non-Commissioned Officers when required.

Parties of Sappers.

31.—The Regulations on the subject of the collection of tolls on Imperial Roads are given in Appendix H.

Tolls.

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Duties of
supply and
supervision

Section 4—Contracts.

1.—In ordinary cases the duties of an Executive Engineer and his Subordinates in regard to works ordered to be commenced may be divided into two classes. The first consists of the duties connected with the provision of the means of executing work ; the second, of the duties connected with the application of those means to the object in view. In the first class of duties are comprised the provision and maintenance of Artificers, labourers, tools, plant, and materials, together with the cash transactions and accounts connected with them. In the second are comprised the consideration of the sufficiency in quantity and quality of the supply of men and things in order to the timely completion of the work, and the close supervision of all the operations necessary to its correct performance.

separable. Contractors may advantageously be employed on the first.

2.—If qualified Contractors can be found who will undertake to perform all the duties of the first of the above classes, it is manifestly a gain to Government, because the Government retain all the advantages of the skill of the Engineer and Subordinate Establishment in supervising the construction of the work, while the latter are relieved of much troublesome duty, and enabled to undertake the supervision of more works. Giving contracts for public works also encourages private enterprise, and so assists in developing the resources of the country.

Value of
their services.

3.—It is to be remembered, however, that this advantage has its value ; and that it is not worth while for Government to pay Contractors more than the cost of the work if done by the agency of the Engineer and Subordinate Establishment, together with the value of the services of these Establishments saved for other duties, and a small premium to encourage private enterprise. When there is a sufficient number of Contractors ready to tender, the price of the work will generally be

determined by competition ; but the Executive Engineer must always calculate the cost of executing the work by Departmental agency, and make an allowance for the value of the services of himself and his establishment, which will be saved for employment on the duties of supervision, so that he may be in a position to report to Government on the comparative economy of giving a contract or carrying out the work himself.

4.—It is further necessary for the Executive Engineer to consider every project fully, and to weigh all its difficulties, before he offers it to Contractors (even in cases when the project is not of his own framing), so that he may avoid recommending the acceptance of tenders to execute work for sums which are insufficient for its proper performance, and the acceptance of which would lead Government into unforeseen expense, or into law suits.

The projects must first be fully considered.

5.—It is necessary, moreover, to be very careful in entering into engagements with Contractors, to guard against increased expense to Government by the employment of persons who are ignorant of the work, careless or dishonest ; for it is obvious that, if the Engineer and his Subordinates have to give much of their attention to instructing the Contractor or to guarding against his carelessness or dishonesty, the contract either only partially relieves the Engineer of the duties of providing the means of executing the work, or imposes on him other duties which are frequently more troublesome. To employ Contractors, therefore, who are deficient in proper qualifications, deprives the Government, at least to some extent, of the advantages of the contract system.

And care must be taken to employ proper persons.

6.—Executive Engineers, however, must clearly understand that, entering into a contract for the performance of any work, in no way relieves them from responsibility as to the manner or time in which the work is done. Contracts framed agreeably to the following Rules give the Engineer full powers to act for

The employment of contractors does not relieve the Engineer of responsibility.

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Sec. 4.

himself in cases in which the Contractor delays, or fails to do the work to the satisfaction of the Engineer ; and the Government holds Engineers responsible for the exercise of proper vigilance both in entering into contracts, and superintending the work of contractors.

How the chain of responsibility is to be extended to Subordinates.

7.—Every work under execution by contract should be placed under the superintendence of a Subordinate Officer, who should be held responsible for all the details of construction, and who should keep a regular account of the materials brought to site, and of the work done daily. He should furnish the Executive Engineer, at the beginning of each month, with an accurate statement of the measurements and calculation of the quantities of work done during the previous month, together with a return of all the materials at site on the last day of the month. The Subordinate appointed to supervise the operations of the Contractor should not be relieved of his charge until after a careful inspection of the whole work by the Executive Engineer, and should obtain a receipt for the quantity of work done and materials at site accepted as good by his successor. It is the duty of the Subordinate in charge to bring to the notice of the Executive Engineer any dilatoriness on the part of the Contractor, and, should he neglect this duty, he will be held primarily responsible for any undue delay in the progress of the work.

Classification of contracts according to their nature.

8.—Contracts may be considered as of five classes :—

I.—Contracts for construction or repair under supervision ; in which the Contractor undertakes to provide all the labour, materials, and plant required by the Engineer, and to perform the work under his direction. This is the kind of contract principally referred to in the foregoing paragraphs.

II.—Contracts for construction or repair not under supervision ; in which the Contractor undertakes to provide labour, materials, and plant, and, moreover, engages to execute the work

and make it over complete to the Engineer, without any close supervision, though liable to occasional inspection by the Engineer or his establishment. These contracts are only applicable to minor works at a distance from the head quarters of the Engineer or his Subordinates.

III.—Contracts for maintenance ; in which the Contractor engages to maintain certain works in a specified condition of efficiency. This kind of contract, like the last, is only admissible in exceptional cases.

IV.—Contracts for the performance of the labour necessary to complete certain works or portions of works, materials being supplied to the contractor.

V.—Contracts for the supply of materials.

9.—In each of these cases the contract may be a lump-sum contract, or a schedule contract. In the first case, the Contractor agrees to execute the work with all its contingencies for a lump-sum. In the second case, he undertakes to execute the work at fixed rates, and the sum he is to receive depends on the quantities and kinds of work done, or materials supplied. Generally a contract for a complete work partakes of the nature of both. A lump-sum is proposed for the completion of the work as specified, and a schedule of rates is agreed upon, by which to regulate the price to be paid for additions or alterations. A contract for maintenance is generally a lump-sum contract ; a lump-sum being paid periodically if the work be kept in the state agreed upon. Contracts for labour or materials are almost always schedule contracts.

Classification of contracts according to the manner in which payments are calculated.

Advances and Security.

10.—No money should be considered as due to a Contractor until the completion of his contract. Until then all payments made must be considered as advances. No advance may be made without adequate security being taken from the Contractor. Materials delivered or work done may be taken as security (they being, by the conditions of the contract, pledged to Government) after measurement and approval by

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the Engineer, and deducting a "margin" of 10 per cent. of their value according to the schedule of rates. Monthly payments may be made to Contractors on this principle. But when it is necessary to make advances before any materials are collected or work done, or in excess of their value, the Contractor must give other security, which may be :—

(1.) Government promissory notes endorsed over to the Executive Engineer, on which advances may be made to the extent of 75 per cent. of their value.

(2.) Landed property or buildings ; the title to the property and its value being first certified by the Collector of Revenue, and the advance being not more than half the value. (Form 17.)

(3.) Personal security, the persons being men of known probity and wealth ; on which heads the Magistrate and Collector should be consulted. A formal bond (vide Form 18) must be executed and *registered*, and the advance must not exceed half the sum in which the securities are bound. The amount of the security bond must of course depend upon the number and wealth of the persons bound.

Specifica-
tions.

11.—When a work is to be offered to Contractors the Executive Engineer shall first draw up a complete specification (see Forms of estimates) of the work, accompanied by such drawings as may be necessary to explain fully its nature and extent.

The specification shall describe the proportions of ingredients, the nature and quality of materials to be used, and the manner in which they are to be applied in construction. Intending Contractors may be required to deposit samples of the materials which they engage to use on the proposed work.

The period by which the completion of the work is desired, or absolutely required, as the case may be, shall also be stated, and the conditions of contract shall be stated or referred to.

When tenders are invited for lump-sum contracts, the specification shall state the dimensions of every part of the work in words, or by reference to the drawings ; and the

circumstances, as far as they can be known, likely to affect the contingent expenses.

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A statement of quantities shall be prepared by the Executive Engineer and delivered to intending Contractors, who shall fill up the rate and cost of each item, and the sum of the whole will form the lump-sum of the tender.

It is, however, to be expressly understood that the list of quantities being merely given in order to ensure uniformity in the form of the various tenders, and to ascertain the value of the several parts of the work, the Executive Engineer does not guarantee the correctness of the entries, and will not be responsible for any omissions or other errors of calculation. The parties tendering must, therefore, take any means they think advisable for checking the said quantities, by comparison with the drawings and specifications, and are quite at liberty to alter the amounts, or to insert any new items if they think proper.

12.—An abstract of the probable cost of executing the work, calculated at the Departmental rates of the place, shall be drawn up in the Executive Engineer's Office for guidance in examining tenders.

Abstract of
cost.

13.—Tenders shall be invited in the most public manner open to the Executive Engineer, by advertisement in the local newspapers, by Vernacular Notices posted in public places or sent to the Civil Officers for publication or otherwise. The advertisement or notice shall state the time and place where the specification and drawings may be seen, and where blank forms of tender may be obtained. A date shall be fixed for the reception of tenders, usually not less than one month after that of the advertisement.

Invitation
of tenders.

14.—Tenders must invariably be made on written or printed forms (Form No. 19) to be supplied, on application, by the Executive Engineer. They should include all the work detailed in each separate portion of the buildings, &c., offered

Form of ten-
ders.

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to the public for execution, in exact accordance with the terms of the specification, no additions being made and no parts being left out; they shall state distinctly the period within which the Contractor engages to complete the work, and to each tender shall be attached an unreserved acceptance of the conditions of the specifications, including the general conditions and a schedule of rates at which any additions to, or deductions from, the specified works shall be calculated.

Receiving
tenders.

15.—At a given time and place to be named in the advertisement, all tenders, received for the same contract, shall be opened by the Executive Engineer in person, in the presence of such of the intending Contractors as may choose to attend. No tenders shall be received from parties directly or indirectly connected with the Government service.

Acceptance
of tenders,
how decided.

16.—It is to be understood as a general rule that the lowest tender will be accepted, unless there be some objection to the capability of the Contractor, the security offered by him, or his execution of former work. At the same time the acceptance or rejection of tenders is left entirely to the discretion of the Officer to whom the duty is entrusted, and no explanation can be demanded of the cause of the rejection of his offer by any person making a tender. Such an explanation may of course be called for by superior authority, if it is considered necessary.

Competence
of Ex. Engi-
neers to accept
tenders.

17.—An Executive Engineer is competent to accept tenders for the execution of works or supply of materials by contract within the amount sanctioned by competent authority, provided the sum in each case does not exceed Rs. 2,000; but all contracts exceeding 2,000 Rs. in amount will require confirmation by the Chief Engineer, who is competent to accept finally any tender within the sum sanctioned by proper authority for the execution of a work.

A schedule of all contracts entered into by an Executive

Engineer, either on his own authority, or by that of his official superiors, will be submitted by him monthly through the usual channel. (Form No. 20.)

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Contract
deeds and
bonds.

18.—Where the subject matter of the contract is of small value or frequent occurrence it is not necessary to execute a formal deed; the acceptance without qualification of the conditions of the specification by the Contractor in his tender, and of the tender by the Executive Engineer, being sufficient to constitute a complete contract (see Appendix I.) Likewise if the contract be such that it is necessary to commence the work at once before a formal deed can be drawn up, the deed is not necessary. In ordinary cases not coming under the above two categories, a deed or bond must be prepared, (see Form No. 21.) The bond should be adopted in cases where any difficulty is felt in drawing up a deed, and in which the other contracting party does not require the execution of a formal deed by the E. I. Company, or in cases in which it is thought desirable, though not actually necessary, that the work should be commenced before a formal deed can be prepared. If the work be of great magnitude or importance it will be proper to have a deed prepared by the Government Law Officers, on which subject the orders of the Chief Engineer should be solicited in submitting tenders for sanction.

19.—Contractors are expected to stand by their agreements, and Executive Engineers are required to enforce all penalties for failures, unless there be very peculiar circumstances which may induce them to recommend a remission

Agreements
to be kept to.

20.—Executive Engineers will be held responsible for the exercise of due precautions and proper vigilance in arranging with, and superintending Contractors, but they will not be held liable for losses incurred through failure of contracts, where such precautions have been taken.

Responsibi-
lity of Ex.
Engineers.

21.—The following general conditions, or modifications of them, approved by the Chief Engineer, must be appended to all

General con-
ditions to be
appended to
specifications.

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specifications of works to be done by contract, and subscribed to by intending Contractors before their tenders can be accepted. It is to be understood, however, that, in the case of any petty transactions, the parts of these conditions which are not applicable, or which would cause inconvenience, may be left out :—

A. CONTRACTS FOR WORKS UNDER SUPERVISION.

Conditions :
case of works
to be executed
under constant
supervision.

I.—The Contractor is to find all superintendence, labour, materials, plant, tools, engines, and conveyance necessary for carrying on, and completing the works, to the complete satisfaction of the Executive Engineer, and all materials, plant, &c., once brought to the works are to become the property of Government, and are not to be removed without the Executive Engineer's permission, until the completion of the works is certified. The Executive Engineer has power to refuse and reject any materials or workmanship that may be inferior to that laid down in the specification and to have the same removed, replaced, or done over again, at the expense of the Contractor.

II.—The Contractor shall be bound to remove from the works, on the requisition of the Executive Engineer, any persons or workmen in the Contractor's employment, who may misconduct themselves, be incompetent, or ignorant of their business, or habitually neglect the orders of the Executive Engineer or his Subordinate.

III.—The whole of the works will be under the direction of the Superintending Engineer of the circle for the time being, whose decision, subject to the confirmation of the Chief Engineer, shall be final, conclusive, and binding to all parties to the contract, on all questions relating to the works or to the construction and meaning of plans, working drawings, sections, and specifications of the accepted tenders.

IV.—In event of any question arising not otherwise provided for, and not capable of being disposed of by the

Superintending Engineer or Chief Engineer under the foregoing clause, it shall, if it be considered by the Local Government equitably to require it, be referred to independent arbitration in the usual way.

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V.—The works will be set out by the Executive Engineer or his Subordinate, who will also supply the Contractor, from time to time, with all necessary drawings, lines, and levels, for the execution of the works.

Conditions :
case of work
to be executed
under constant
supervision.

VI.—The Contractor shall find all assistance required by the Executive Engineer in setting out and measuring the works, both labourers and foremen, all stakes, pegs, line, ranging poles, and all other apparatus that may be required, and the Contractor is to execute, without charge, all nicking of the ground for boundaries, and other lines that may be required.

VII.—The Contractor is to prevent all trespass by persons or cattle employed by him on the lands adjoining the works, to respect the rights and customs of the Native population, and any damage done by persons or cattle in the employment of the Contractor, either by trespass beyond the limits of the Government property, or otherwise, shall be immediately made good, and compensation given at the Contractor's expense.

VIII.—The Contractor is to carry on no work under the contract on Sundays, without a written order from the Executive Engineer.

IX.—The Executive Engineer has full power to make alterations in orders, plans, levels, and designs, which may have been given at any time to the Contractor. The Contractor is to execute the work so altered, and any such alterations shall not tend to invalidate the contract.

X.—The Contractor shall repair all damage done to the works from whatever cause, during the term of contract, and shall make good all imperfections and injuries to works, immediately on being called upon by the Executive Engineer to do so, and, on his refusing or neglecting to do the same

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Conditions :
case of work
to be executed
under constant
supervision.

within seven days of notice being given to that effect, the Executive Engineer may execute all such repairs and maintenance as he may consider necessary, the expense of which will be borne by the Contractor.

XI.—If required, the Contractor shall make to the Executive Engineer a correct monthly return of the number of workmen employed by him on a printed form, the pattern of which will be supplied to him by the Executive Engineer.

XII.—The Contractor shall provide, at his own expense, any watchmen, fencing, and lights, that may be required by the Executive Engineer to protect the work from damage during the progress thereof, to prevent trespass thereon, and to protect the public from danger at foundation pits and other places.

XIII.—The Contractor shall commence his operations within a fortnight after he shall have been put in possession of the land, and shall carry out the works with all possible dispatch, and complete all the works described in the specification, and have the whole in a fit state to be certified as complete by the Engineer by the — day of — 18 —.

XIV.—The Contractor is to maintain all the works described in the specification for the term of a year after the date of the Executive Engineer's certificate of their completion.

XV.—The works will be measured monthly by the Executive Engineer or his Subordinate ; and advances will be made on them according to the schedule of prices, deducting 10 per cent. as a *Guarantee Fund* for the due performance of the contract, which shall remain in the hands of the Executive Engineer, and if amounting to 500 Rs., and likely to be a year in hand, shall be invested by him in Government securities, the interest accruing therefrom being paid to the Contractor. One moiety of this fund shall be paid to the Contractor within one month after the works shall have been certified by the

Engineer as executed and finished to his satisfaction. The remaining moiety shall be paid to the Contractor on the expiration of the year's maintenance of the works of the contract.

XVI.—If the Contractor should fail in his engagements, or not fulfil the terms or conditions of the specification and contract, the Guarantee Fund shall be forfeited to Government.

XVII. Monthly advances will be made to the Contractor on account of materials deposited on the work at rates amounting to not more than three-fourths of their value, as estimated by the Executive Engineer. But the Contractor is distinctly to understand that the Government Engineers do not bind themselves to accurate measurements in these quantities.

XVIII.—The advances on works and materials will be made according to the prices in the tender, except in cases where the work is of a description for which there is no price fixed in the schedule; then the price shall be the subject of an agreement to be entered into previous to the commencement of such works; and if the Executive Engineer cannot agree with the Contractor as to the price of it, then he shall have power, under sanction of the Superintending Engineer, to employ other parties to do such work in place of the Contractor, without the Contractor having any claim for loss or damage, which he may consider to result from such a proceeding.

XIX.—If at any time the Contractor should, in the opinion of the Executive Engineer, delay his operations, or should not carry them out with sufficient speed to ensure the completion of the works within the specified time, or should fail to commence and actively prosecute any specific work or portion of a work within fourteen days of the Executive Engineer requiring him in writing to do so, without assigning such reason as shall be completely satisfactory to the Executive Engineer, the Executive Engineer shall have power immediately to commence and prosecute any such specific work, independently of the Contractor, and he is empowered to deduct

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Conditions :
case of work
to be executed
under constant
supervision.

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Conditions :
case of work
to be executed
under constant
supervision.

any excess of the amount actually expended upon it, over the price payable for it to the Contractor under the contract and specification from any sums due to the Contractor, on account of other works done, or from any Security or Guarantee Fund, as the Superintending Engineer may determine. And the Executive Engineer shall have further power in any of the abovementioned cases to take the works out of the hands of the Contractor giving him fourteen days' notice of such intention, and to carry on the works independently of the Contractor, who is to bear any loss or injury that the Government may suffer from such a procedure.

B. CONTRACTS FOR WORKS NOT UNDER SUPERVISION.

Conditions :
case of works
to be executed
under occasion-
al inspection.

I.—The Contractor shall find all superintendence, labour, materials, plant, tools, engines, and conveyance, necessary for carrying on and completing the works, and all material and plant once brought to the works shall become the property of Government and shall not be removed without the Executive Engineer's permission, till the completion of the works is certified ; and the Contractor shall carry on the works diligently and complete them to the satisfaction of the Executive Engineer.

II.—The Executive Engineer, or any person appointed by him, may at any time inspect the works, and at such inspections shall have power to refuse and reject any materials or workmanship that may be inferior to what is laid down in the specification, and may have the same removed, replaced, or done over again at the expense of the Contractor ; and all the persons employed by the Contractor on the works shall be required to obey the orders of the Executive Engineer, or of any person appointed by him, on the occasion of his visiting the works.

The remaining conditions will be the same as under the preceding head with the following exceptions:—

V. and VI. *may be modified if necessary to make it incumbent on the Contractor to lay out the work correctly and give the levels.*

X.—The Contractor shall* repair all damage done to the works from whatever cause, during the term of the contract, and shall make good all imperfections and injuries to the works. (*Omitting the remainder.*)

XII.—*Omit the words "by the Executive Engineer."*

XV.—*Instead of "monthly" insert at least once in two months.*

XVII.—Payments at least once in two months will be made, &c., (*as above.*)

Conditions:
case of works
to be executed
under occa-
sional inspec-
tion.

C. CONTRACTS FOR THE MAINTENANCE OF WORKS.

(*A Road taken as an example.*)

I.—The Contractor is to keep the road from———to
—being———miles in length in good condition as
an unmetalled and partially bridged road, and shall execute, according to the specification, all works required for that purpose, and supply all superintendence, labour, materials, plant, tools, engines, and conveyance necessary for executing all such works for three years, from the 1st day of January next, in consideration of an annual payment of Rs.———to be made by the Executive Engineer within one month after the completion of each year, provided the road shall have been maintained to the satisfaction of the Executive Engineer.

Conditions:
case of a work
to be kept in
order.

II.—The Contractor shall commence the annual repairs of earth-work immediately after the close of each rainy season, and shall complete them within two months.

III.—He shall also, as soon as possible after the floods subside, make and keep in good repair earthen road-ways across the sandy beds of the unbridged rivers, and trestle

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bridges of 24 feet width of road-way over the dry season streams, of sufficient waterway to pass such floods as ordinarily occur during the dry season, and of sufficient strength to bear the passage of heavy laden carts.

Conditions:
case of a work
to be kept in
order.

IV.—The Contractor shall at all seasons repair every petty defect in the road surface, in the descents to the river beds, in the drains and bridges, and in all other works ; and shall keep up an establishment to attend to such matters, consisting of

V.—The Contractor shall, before the 15th May, execute such annual repairs, consisting of brick-work and plastering, to the drains and bridges, as shall be considered necessary by the Executive Engineer.

VI.—If any portion of the road, or any of the drains or bridges other than the temporary passages across the beds of the unbridged rivers, shall be carried away by floods, the Contractor shall immediately proceed to make the necessary repairs and renewals under the directions of the Executive Engineer ; and shall be allowed to charge for such repairs and renewals as extra work, according to the schedule of rates annexed.

VII.—(See II. of the Section B. above.)

VIII.—(See XIX. of the Section A.)

D. CONTRACTS FOR LABOUR.

Conditions:
case of con-
tracts for pro-
vision of
labour only.

The conditions in the case of extensive contracts will be similar to those of section A., omitting the references to materials. In the case of petty contracts, a simple written agreement as to the prices to be paid will suffice (see Form 22). The Regulations on the subject of contracts for service including task work, will be found in chapter XVII.

E. CONTRACTS FOR MATERIALS.

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Sec. 4.

Conditions :
case when ma-
terials only are
to be provided

I.—The Contractor is to deliver materials in certain specified quantities at certain specified places, by certain specified dates ; and the materials shall be equal in shape, dimensions, and quality to certain specified musters ; or shall be of the shape and dimensions specified, and of the best quality ; and the Contractor shall receive for such materials prices according to a schedule of rates.

II.—In the event of the materials not being considered by the Executive Engineer to be of the proper shape, dimensions or quality, he shall be at liberty to reject them and cause them to be removed by the Contractor, or at his expense ; or, if he please, he may receive them at lower prices to be agreed upon between him and the Contractor.

III.—Notwithstanding the materials may have been approved and received by the Executive Engineer, the Contractor will be held answerable that they are fit for the purpose for which they are required, and he will not be held to have completed his contract till the materials shall have been applied to the purpose intended and found suitable, or if they are not intended for early use, until they shall have been a certain specified time in the hands of the Executive Engineer without being found defective.

IV.—In the event of the Contractor delaying the delivery of materials of the required shape, dimensions, and quality, beyond the specified time, he shall forfeit so much per diem, or so much per cent. per diem of the price of the materials ; and the Executive Engineer may procure materials otherwise, and the Contractor shall make good any loss arising from his so doing.

V.—The Contractor shall be bound to give timely notice to the Executive Engineer, or to the person appointed by him to receive the materials, of every intended delivery, failing which he shall be answerable for any damage to, or loss of materials, which may arise from want of proper shelter or protection.

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Conditions :
case when ma-
terials only are
to be provided.

VI.—No delivery of materials shall be made on a Sunday, except on the written request of the Executive Engineer.

VII.—The price of the materials will not be considered as due to the Contractor until the completion of a certain specified period after the last delivery (see Condition III); but monthly advances will be payable on account of approved materials delivered, at rates not exceeding three-fourths of the schedule prices. The Contractor must, however, distinctly understand that the Engineer does not bind himself to accurate measurements of the quantities of materials delivered monthly.

VIII.—The Executive Engineer, in settling with the Contractor, may deduct any sum forfeited by the latter under the foregoing conditions.

IX.—In case of any dispute arising out of the contract, it shall be decided by arbitration.

CHAPTER IX.

CASH.

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1.—SUPPLIES of Cash to the Department of Public Works will be made from Civil Treasuries on Letters of Credit granted by Chief Engineers. (See Form No. 23.)

Cash supplied from Civil Treasuries.

2.—Each Executive Engineer of the Department will, on the 10th day of every month, submit to the Chief Engineer an estimate (Form No. 24) of his probable requirements for the ensuing month. The Chief Engineer, after examination of this, will issue a Letter or Letters of Credit, at his discretion, on the Local Treasury or Treasuries nearest to the place or places where the expenditure is to be incurred.

Estimate of demand required, and letter of credit to be granted.

3.—The Executive Engineer will draw against the credits thus allowed, by means of receipts in duplicate from a counterfoil cheque book, as for drafts, in a regular series of numbers, commencing from the 1st May and ending on the 30th April of each year.

Credit how drawn against.

4.—The Officer in charge of Local Treasury will enter and attest by his signature every issue of Cash, at the time of payment, on the back of the Letter of Credit, which is to be returned immediately after the close of each month to the Chief Engineer, who, after entering the disbursements in the books of his office, will forward the Letters of Credit to the Accountant to the Local Government.

Registration of sums drawn.

5.—After the close of each month, the Officer in charge of each Local Treasury will supply each Executive Engineer who has a credit on his Treasury, with a brief Account Current showing on one side the amount of the Letter of Credit, and on the other the numbers, dates, and amounts of the receipts cashed.

Account Current to be supplied from Civil Treasury.

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Advances in
urgent cases
without letters
of credit.

6.—In cases of unforeseen emergency, where delay must obviously be productive of inconvenience to the Public Service, advances urgently required may be drawn by Executive Engineers from Civil Treasuries, on the order of the Chief Civil or Military Authority at the Station. Such advances must be notified immediately after payment to the Chief Engineer, and to the Government Accountant, to whom the recipients are responsible for the due appropriation thereof.

Supplies of
cash to be li-
mited to ac-
tual wants.

7.—Executive Engineers must be careful never to draw on the Government Treasuries for more Cash than is absolutely necessary to meet current disbursements. Supplies of Cash to Subordinates must be made by Executive Engineers on the same principle.

Surplus to
be returned.

8.—If, owing to an unexpected stoppage of work, or from any other cause, an Executive Engineer finds he has more Cash in hand than he requires to meet the expenditure of the next month (or, if the Treasury be close at hand, 15 days), he should return the surplus into the Treasury whence it was drawn.

Report of
balance of
cash in hand.

9.—On the first day of every month Executive Engineers are required to report to the Chief Engineer the exact balance of Cash in the Treasure Chest at their Head Quarters; and likewise every Assistant or Subordinate must make a similar report to the Executive Engineer, who will combine their reports into one document and submit it for the information of the Chief Engineer. (See Forms 25 and 26.)

Treasure
chests.

10.—Public money in the custody of Executive Engineers and their Subordinates shall be kept in strong Treasure chests, of such size as not to admit of easy removal by thieves.

Guards.

11.—Every Treasure chest shall be placed under an adequate Guard, and where regular troops are not available, the Executive Engineer may entertain the requisite number of Burkundaze, reporting the circumstance to the Superintending Engineer. The Burkundaze should be required

to give security according to the custom prevalent in the District.

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12.—At small Military Stations the Treasure chest may, with the sanction of the Commanding Officer, be placed in the quarter guard, by which the employment of a separate guard will be rendered unnecessary.

Regimental
guards.

13.—No Officer or Subordinate is at liberty to place public money in the hands of a banker (except in the Bank of Bengal) nor in any way to blend public cash or accounts with his own.

Public money not to be entrusted to Bankers.

14.—No Officer or Subordinate shall borrow money on account of Government without due authority, except in cases of emergency, when the Officers in charge of the public Treasuries within reach, certify that they are unable to meet his demands; and in these cases report must at once be made to the Superintending Engineer.

Money not to be borrowed for public purposes—exception.

15.—The custody and disbursement of public money must always be conducted in an open and public manner. No disbursement shall be made without a receipt being taken or a witnessed document being recorded. The Non-Commissioned Officer, or Duffadar Burkundaze of the guard, should always be present when the Treasure chest is opened.

Transactions with public money to be open and public.

16.—Paragraphs 3 and 27 of the following Chapter are applicable to Cash as well as to stores :—

Losses of public money.

CHAPTER X.

STORES.

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X.

Executive
Engineer res-
ponsible that
proper care is
taken of stores.

1.—AN Executive Engineer is responsible that proper arrangements are made throughout his Division for the custody of public property. He must be careful to keep all tools and implements in efficient order, to protect surplus stock from deterioration, and to keep down its amount by bringing it into use as soon as possible, and by disposing, under the orders of the Superintending Engineer, of such articles as are not likely to be required

Precautions
against fire.

2.—Executive Engineers are required to take proper precautions to prevent the loss of public stores by fire. They must be careful that their forges are placed in buildings properly constructed for the purpose, or in temporary sheds at a safe distance from other buildings: that no unnecessary stock of grass is kept up, and that wood-work, and all combustible articles are so placed as to be easily removable in case of danger. Charcoal should be separately stored; and precautions must be taken to prevent spontaneous combustion from the contact of hemp and oil, or otherwise.

Robberies of
public stores.

3.—In case of any robbery, loss, or destruction by fire or otherwise of public stores, the Executive Engineer, or his Subordinate in charge, shall immediately give notice to the Police, and take all proper steps for the recovery of the property. He shall also at once report the circumstance to his official superior. If the value of the property stolen exceed Rs. 20, the Executive Engineer shall obtain, as soon as possible, and forward to the Superintending and Chief Engineer, a copy of the proceedings held by the Police authority, or those of a Court of Inquiry, should the loss have occurred at a Military Station.

4.—The Executive Engineer shall report the circumstance of any stores becoming unserviceable to the Superintending Engineer, giving all proper explanations, and stating the period the articles have been in store or in use, and the cause of deterioration. The Superintending Engineer shall then give orders for the stores being sold or otherwise disposed of, and shall bring to notice every instance of loss arising from want of proper care on the part of the Executive Engineer or his Subordinates.

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Unserviceable
stores.

5.—Surveying and drawing instruments must not be entrusted to Store-keepers, but shall remain with the Executive Engineer or his Assistants, or with the persons for whose use they are required. A Half-Yearly Return of surveying and drawing instruments (Form No. 27), made up to 30th April and 31st October, will be submitted to the Chief Engineer.

Instruments.

All instruments not likely to be required should be returned into store.

Repairs to instruments in the Lower Provinces will be made by the Superintendent of the Mathematical Instrument Department in Calcutta ; and above Allahabad, by the Superintendent of the Roorkee Workshops, on requisitions countersigned by the Chief Engineer.

6.—Metalling Stone, Kunkur, Lime, Soorkee, Sand, &c., shall be received and entered in the returns by the hundred cubic feet. Articles, usually sold by weight, will be received and entered in the returns by Maunds, Seers, and Chittaks, using the Company's standard of 80 tolahs to the seer.

Weights and
Measures.

7.—No Executive Engineer shall, without special sanction, purchase or procure stock beyond his known wants.

Limitation
of supply of
stock.

8.—In the absence of special instructions to the contrary, Executive Engineers are prohibited from resorting to the Ordnance Magazines, or to the Commissariat, for the supply of Bamboos, Linseed Oil, Timber, Carts, or any other articles which can be procured in the local markets, or made up in their own workshops.

Ordnance and
Commissariat
Departments
not to be re-
sorted to—ex-
ception.

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X.
Indents on
Ordnance De-
partment.

9.—Instruments and articles of Magazine supply, which cannot be procured in the bazars, or which Executive Engineers may be directed to procure from Magazines, will be supplied, on indent on the Ordnance Department, under the Rules for indents laid down in chapter XIX.

Indents for instruments from the Roorkee Workshops will be passed by the Superintendent, Canals, N. W. P., on the countersignature of Chief Engineers.

Tools must not be indented for under the general head of "Chests of Tools," but the tools required must be specified.

Coal Tar may be procured from the Iron Bridge Yard at Alipore, or from Magazines whenever there is a sufficient stock in hand.

Indents for earth borers must show their length and diameter and the number of pipes required.

Valuation of
Stores return-
ed to Ordnance
Department.

10.—With a view of preventing differences between Officers of the Ordnance and Public Works Departments, as to the proper classification and valuation of Ordnance Stores returned into Magazine by Officers of the Public Works Department, it is directed that the Ordnance Officer in charge of any Magazine into which Stores may be returned by any Officer of the Department of Public Works, shall determine, in concert with the Executive Engineer of the Station, the condition of all Stores thus returned to the Ordnance by the Public Works Department, and record their value in accordance with the Rules laid down on such subjects. (See Appendix K.) A third Officer, named by the Officer Commanding the Station, will be associated with the Ordnance and Public Works Officers to act as Umpire if they differ; and his decision on all matters in dispute will be final.

Return of
Stores to Ord-
nance Depart-
ment.

11.—All stores in charge of Public Works Officers at Stations where Magazines do not exist, which are ordered on sufficient authority to be returned to the Ordnance Department

shall be consigned by such Officers to the Executive Engineer of the nearest Station where a Magazine is to be found, and he shall proceed to dispose of them as above directed.

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12.—Receipts, in the form supplied by the Ordnance Officer, must be granted for all stores procured from Magazines, and all articles returned to Magazines must be accompanied by invoices, in which the designation of the articles shall be, as far as possible, in conformity with the nomenclature of the Ordnance Department as shown in the Table, Form No. 28.

Receipts to be granted for Stores from Ordnance Department.

13.—The stores sent as “package” with articles supplied from Ordnance Magazines, should be at once disposed of by public auction, or retained at a valuation for Departmental use. If, however, the articles are sent by Government carts which are to return, the package may be sent back by them.

“Package.”

14.—All articles of iron work, which cannot conveniently be made up in Executive Engineers’ workshops, may be procured on indent from the Iron Bridge Yard at Alipoor, or from the Roorkee Workshops.

Iron Work.

15.—Executive Engineers need not obtain previous sanction for any work ordered by them from the Iron Bridge Yard, or Roorkee Workshops, of which the cost, as estimated by the Superintendent (including carriage), is less than 500 Rs.; but if the estimated cost be more, application must be made to the Chief Engineer for orders, by the Executive Engineer, or by the Superintendent of the Manufactory. The Officer ordering work from either of the above Manufactories will be held responsible that there is proper authority for the work ordered.

Works ordered from Iron Bridge Yard and Roorkee.

16.—In procuring supplies of materials of any description, Executive Engineers must be very careful to prevent their Subordinates attempting to *compel* native dealers or others to sell or give up their property; and no application shall be made to the Civil Authorities for assistance, until the Executive Engineer has failed to procure the supplies by his own exertions.

No compulsion to be used in procuring supplies.

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Use of land
for kunkur
quarries, &c.

17.—No landholder can be compelled to permit his land to be searched for brick-clay or kunkur, or to be occupied for brick fields or kunkur quarries, or for any other purpose, except under the Regulations given in Appendix G.

Materials
from disman-
tled buildings.

18.—Materials received from buildings dismantled or undergoing repair, must immediately be brought on the returns. Such as are required for Departmental use will be retained, and valuation statements of these must be furnished to the Central Office of Account. The remainder shall be sold by public auction as early as may be convenient.

Buildings not
to be destroyed
to procure ma-
terials.

19.—No Executive Engineer shall, without the sanction of superior authority, destroy or injure, for the sake of procuring materials, any building the preservation of which may be desired by the people, or which may possess any historical or architectural interest.

Materials
from Local
Agents.

20.—Executive Engineers, who may be supplied by the Local Agents with materials from old buildings, the property of Government, must pay for them at the market value.

Sale of stores.

21.—No public stores may be sold otherwise than by public auction, except by permission of the Chief Engineer. Commission not exceeding 5 per cent. may be allowed to the auctioneer, not being a Departmental Subordinate, but no commission can be allowed on private sales. Accounts sale, bearing the auctioneer's receipt for his commission, and the Chashier's receipt for the net proceeds, must be submitted with the Store-keeper's account in which the articles are struck off the books.

Consignments.

22.—An Executive Engineer is responsible that public stores, consigned to him for transmission to another Officer, are properly cared for and promptly dispatched.

Bullock
Train.

23.—An Executive Engineer shall pay the charges for the transport of any public stores sent to his address by Government Bullock Train.

24.—The hire of carriage brought from a distance must be paid from the date of entertainment, and for all discharged carriage, return hire to the places of entertainment must be paid at half the full rate per diem, reckoning 16 miles as a day's journey, or at the prevalent local rate.

CHA^P.

Carriage.

25.—When stores are to be sent under a Military escort Executive Engineers shall, if possible, dispatch them in the cold weather, and the person in charge shall be placed under the orders of the Non-Commissioned Officer in command of the escort, and all the orders necessary for the safety of the stores shall be explained to the latter.

Escorts.

Camels must always be unloaded before crossing rivers in boats, the loads being taken across separately.

26.—When public stores are to be conveyed through a foreign territory, the Executive Engineer shall apply to the Magistrate nearest to the Foreign State, or to the Commanding Officer of his Station, for a Pass, in the following Form, under which the payment of duty on the stores will be dispensed with. This Pass to be written both in English and Oordoo, and attested by the seal and signature of the Commanding, or Civil Officer, by whom it is granted.

Transit
through For-
eign estates.

Signature of the Commanding Officer.

Be it known to all Thanadars, Tuhseeldars, Custom House Officers, and other Agents of Government, British or Foreign.

Since the articles enumerated below, being the property of the British Government, are being conveyed from—— to —— in charge of——, it is requested that they may be allowed to pass without hinderance or demand of duties of any kind, and that such assistance as may be necessary may be rendered to the person in charge of them.

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X.

DETAIL OF ARTICLES

	<i>Specification.</i>	<i>Quantity.</i>	<i>Mode of Conveyance.</i>
Tolls.	27.—Within the British dominions public stores are subject to all tolls leviable on private goods, and the amount of such tolls will be recoverable by the Executive Engineer, together with the other charges for transport.		
Officers bound to take charge of public property.	28.—Every Officer is bound to take charge of public property which, from the death or departure of the person lately in charge, or from any other cause, may be left at or near his Station without adequate protection.		

CHAPTER XI.

ACCOUNTS OF EXECUTIVE ENGINEERS AND THEIR SUBORDINATES.

1.—THE following system of accounts is framed with the view of relieving Executive Engineers, as much as possible, of the duty of keeping up books in detail, and of elaborating their accounts for record in the Office of the Government Accountant ; while at the same time it is intended that the Executive Engineer should be able to keep a full control over the expenditure, and should be held responsible for good management and economy throughout his Division.

2.—The means by which it is sought to affect these ends are : first, by holding the Assistants and Subordinates directly responsible for the submission of complete and full monthly accounts to the Executive Engineer, in such form as shall enable the latter to check in detail the expenditure of cash in the execution of work, and in the purchase or manufacture of materials, and the expenditure of materials upon works ; and secondly, by the establishment of a Central Office of Account, to which, after checking the details, the Executive Engineer may forward his accounts to be condensed and ledgered, and brought into a state to show him the financial result of his operations in every part of his charge.

This system does not prohibit an Executive Engineer from calling upon any of his Subordinates to submit accounts or reports daily or weekly, or every 10 days, or at any period he may consider necessary, for his own satisfaction, or with reference to the carelessness or inexperience of the Subordinate ; but such reports and accounts must be considered as additional, and cannot be accepted in lieu of the accounts ordered to be submitted to the Central Office.

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Objects of
the system.

Means used
for attaining
the objects—
Monthly Ac-
counts of Sub-
ordinates—
Central Office.

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Monthly Divisional Accounts Current of Executive Engineers.

3.—The only monthly account the Executive Engineer, acting solely as such, is required to prepare and submit to the Central Office, is a Divisional Cash Account Current, showing the sum which remained on hand at the close of the previous month, the supplies of cash, from whatever source, since received, the disbursements during the month, and the balance remaining in hand, as well as the progress made in the adjustment of the accounts of the previous month's expenditure. (See Form No. 29.)

In this Account Current every disbursement must be supported by a reference to the accounts of a Subordinate in which the money is accounted for in detail.

Bills for salaries and travelling allowances.

4.—The Executive Engineer will, however, prepare monthly a bill for the Departmental salaries of his establishment, including those employed at Outposts, and a bill for their travelling allowances. (Forms Nos. 30 and 31.)

These bills will be submitted to the Central Office as soon as possible after the close of the month ; and will be audited with the least possible delay. On the return of his audited bills the Executive Engineer will send the several disbursing agents under his orders Acquittance Rolls for the payments to be made on the authority of the audit, with instructions to them to pay the amounts, and send up the signed Acquittance Rolls with their monthly accounts, as vouchers for the charges.

The original audited bills with the Acquittance Rolls, and an explanatory memorandum of any sums remaining unpaid, will be sent by the Executive Engineer to the Central Office as parts of the accounts of the month in which the disbursements were made, and he will be allowed credit accordingly.

Executive Engineers to keep abstracts of their Subordinates Accounts.

5.—Executive Engineers are not required to keep complete copies of the accounts of their Subordinates ; but they are expected to keep brief abstracts, such as shall give them, at all times, the means of knowing the expenditure of cash and stores on each work during every month, without referring to their

Subordinates, who are expected to keep complete copies of all the accounts they submit.

6.—If the Executive Engineer retains in his own hands (as he must sometimes do) the supervision of, and disbursements on any particular work or works, he will forward accounts similar to those required of his Assistants and Subordinates. He will also forward an Account Current, including the transactions with his Subordinates, which, to distinguish it from that described in paragraph 3, will be called the Office Account Current. (Form No. 32.)

7.—In order to ensure the submission of clear and accurate accounts by their Subordinates, Executive Engineers are recommended to organize their Divisions in Sub-divisions, as explained in chapter III., section 3, paras. 20, 21, 22 ; and to make the Assistant or Subordinate in charge of each Sub-division embody in his accounts the transactions of all the Subordinates employed under him.

8.—The monthly accounts of Subordinates are, under ordinary circumstances, considered as due in the Executive Engineer's Office on the 5th of the month following that in which the expenditure took place, if the Subordinate be within a day's post ; if the distance of the Subordinate be greater, a day more will be allowed for each day's post.

9.—In the event of an Executive Engineer not receiving the accounts of a Subordinate within a week after they are due, he should relieve him of his charge, leaving him to complete his accounts, and report the circumstance to the Superintending Engineer. A similar course may be adopted when delays of less duration are of frequent occurrence.

10.—The Accounts required of Subordinates are considered as belonging to three classes—

- I.—Overseer's Accounts.
- II.—Cashier's Accounts.
- III.—Store-keeper's Accounts.

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Executive Engineers to submit detailed accounts of works in their own charge Office Account Current.

Organization of Sub-divisions.

Subordinates' accounts, when due.

Course to be pursued when they are delayed.

Classification of Accounts.

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In the following paragraphs these are detailed as if separate persons were employed on each, but where this is not the case, it is of course not expected that all the vouchers and details specified on the contrary supposition should be supplied.

I.

Figured Abstracts of Expenditure on works.

11.—The accounts of works in progress will be rendered in the shape of figured abstracts (Form No. 33), showing the number of Artificers and labourers employed daily, and the amount of their wages, as well as the quantity of materials expended on the work during the month. The labour employed in the carriage of materials to site must not be included in the accounts of the work, but will fall on the cost of the materials. (See paragraph 19.)

Sub-division of charges.

12.—The accounts of new works and repairs must be kept quite distinct and separate. The abstracts will be sub-divided by headings corresponding to the sub-divisions of work in the estimate, or, if there be no estimate, the sub-division must be such as to enable the General Office to strike rates with facility. For instance, if the wood-work, covering in, and painting beams of a roof, are all included in one figured abstract, it will be impossible to strike a rate till the whole work is finished; whereas if the accounts of each of these operations are given in a separate heading of the abstract, the rate may be struck at once on the progress shown monthly, as so many cubic feet of timber framing, so many superficial feet of covering in, and so many superficial feet of painting, respectively.

Figured Abstracts of manufactures &c.

13.—Accounts of the manufacture or collection of materials will also be rendered in figured abstracts (with the exception of purchases) exactly as are accounts of works. In order to render these accounts intelligible, it will, however, be necessary for Executive Engineers to be very careful to keep the account of each operation in a distinct abstract, or heading of abstract.

14.—To make it clear what kind of sub-division is expected, the following instructions are given on the principal classes of transactions, of which accounts will be rendered as parts of the expenditure in collecting and manufacturing materials, &c.

15.—The transactions may be divided into five classes, viz:—

into classes.

- I. Purchases.
- II. Preparatory operations.
- III. Carrying operations.
- IV. Kiln-yard operations.
- V. Workshop operations.

16.—One list of purchases should be sent in monthly by each Subordinate who has an account with the Executive Engineer (see Form 34). Receipts for payments must be attached.

Purchases.

17.—All materials will be treated as stock; *all* purchases, whether for immediate use or not, will be included in the list of purchases; and all materials, whether issued from store or procured from the bazar, will be entered alike *unpriced* in the figured abstracts of expenditure on works or manufactures.

How materials are shown in accounts.

18.—The class “Preparatory Operations” will comprise felling timber and cutting it up for carriage; cutting firewood in jungles; digging kunkur and stacking it at the pits; quarrying rough blocks of stone, or rubble stone, quarrying and breaking stone for road metal; and all other operations by which raw material is brought into a state of fitness to be carried to the kiln-yard, workshop, or site. The accounts of each of these operations will require a separate heading of figured abstract for each article of raw material collected. The payments (if any) to zemindars for permission to collect, will be included in the figured abstract, as also any other incidental expense. When trees are purchased *in situ*, and cut up for carriage, the purchases will be entered as other purchases in the list; but the trees cut up will appear as unpriced material in the figured abstracts for collecting wood.

Preparatory Operations

19.—Accounts of “Carrying Operations” will be rendered in figured abstracts. The heading of the abstract must state

Carriage.

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clearly the object of moving the goods and the places from and to which they are conveyed, and the report of progress must show the distance, quantity, and approximate weight of the goods carried. It is not necessary to have a separate heading of abstract for each kind of goods carried, if these particulars are distinctly recorded; for the Central Office can divide off the charges in proportion to the weight moved and distance of carriage. But separate headings in the figured abstracts are necessary for each kind of conveyance, viz., by carts, by coolies, by boat, &c. When cattle, the property of Government, are used, the figured abstract must be made to show the cost of feeding and attending them. An example is given in Form 33. The accounts will be exactly similar, whether the goods are carried to kiln-yard, workshop, or site. It will occasionally happen that, owing to losses on the way, the quantity of goods delivered will not be equal to the quantity taken away; or, in other words, the stock expended in the figured abstract will not exactly correspond with the stock delivered, as shown in the progress report attached. The discrepancies should always be explained. Petty payments for the carriage of stores purchased may be included in the list of purchases.

Kiln-yard
Operations.

20.—“Kiln-yard Operations” will be sub-divided into—

- a. Building kilns and sheds, and other incidental charges.
- b. Moulding bricks or tiles.
- c. Stacking material near kilns.
- d. Loading kilns.
- e. Unloading kilns and stacking produce.
- f. Pounding soorkee, and other operations after unloading.

Each of the above sub-divisions requires a separate heading of abstract for each kind of goods; that is to say, in moulding the account must be separate for each sort of bricks or tiles moulded; in stacking for each class of materials stacked; in loading and unloading for each kind of manufacture (not for each sort of goods put in the same kiln). The only point

which it is necessary particularly to notice, is that the progress made must be clearly stated ; in moulding and stacking this will be simply the number or quantity of articles moulded or stacked. In loading kilns, the progress will be reported, exclusive of the fuel, in terms of the number of bricks or tiles or quantity of lime, &c., which is loaded ; and the fuel will merely be inserted as material used in the operation. In unloading, the progress will be reported in terms of the number or quantity of the produce of each kind. In the case of a brick-kiln, for instance, so many well burnt bricks, so many imperfectly burnt bricks, and so much vitrified matter or brick-bats for use as *khoak*. Each kiln should have a number, and it will be proper to state in the remarks in the figured abstract what kilns are operated on, in order to give distinctness to the report of operations.

21.—Workshop operations will consist of sawyers, carpenters, and blacksmiths' work, and of stone cutting, &c., &c. To render the figured abstracts of these clear, it is desirable, as far as it can be managed without inconvenience, not only that a separate account should be rendered of the labour of each class of workmen, but that a distinct set of Artificers should be assigned to each job, and a separate heading of abstract furnished for each set. But there will generally be some small jobs and miscellaneous work which it is not worth while to keep separate either in the workshop or in the accounts. In these cases the distinctness of the account will depend upon the clearness with which the progress is reported.

Workshop
operations

22.—The progress made in sawyers and stone-masons' work may, in ordinary cases, be very easily reported by calculating the work done in such a manner as to show not only the number and nature of the finished articles delivered, but the number of square feet cut through in the one case, and rough or fine dressed in the other. All reports of work in metals should show the *weight* of the articles made as well

Progress in
workshop operations
how
to be shown.

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as their number and nature. Carpenters' work should be reported as so many cubic feet of timber framing, and so many superficial feet of planking, grating, or of doors and windows. But carpenters' work will often be in an unfinished state at the time the work reports close, and it is desirable that in such cases the progress made should be generally but clearly reported.

General Ab-
stracts.

23.—Having prepared, as above directed, a figured abstract of the daily expenditure on each work or manufacture under his charge, the Overseer will prepare two General Abstracts, one of the expenditure of labour, and the other of the expenditure of materials, (Forms Nos. 35 and 36). In the former the Overseer will fill up the cash columns, and in the latter he will leave them blank for the Office of Account.

Advances
and Contracts.

24.—The accounts of advances and of transactions with Contractors will be rendered in Form No. 37, which is an Abstract Account Current. The Overseer should keep a similar account, or a detailed Account Current with each Contractor, in his books, and should require the Contractors to sign their accounts periodically in acknowledgment of their accuracy. The Overseer should also sign the Contractor's books, if required by the latter.

Contingent
charges and
salaries.

25.—Contingent charges may be included in one bill or list by each Subordinate, distinguishing those appertaining to the Public Works Department from those incurred on account of the troops or for any other Department. (Form No. 38). A Pay List of Permanent, Extra, and temporary Establishments is also required to be sent from each Sub-division, immediately after the close of the month, to the Executive Engineer, in order to enable him to prepare the Divisional Establishment bill. The work Establishments, namely, those whose salaries are charged on the works, will not be included in this list, but in a separate list to be sent with the figured abstracts. (See Forms 39 and 40).

26.—If there be no Cashier, the Overseer will also be required to keep a Cash Book (Form No. 41) ; and to submit a Cash Account Current, as well as a copy of his Cash Book, monthly, to the Executive Engineer.

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Cash book
and Cash Ac-
count Current.

The debtor side of the Cash Account Current (Form No. 42) will show the sums received from the Executive Engineer, and the portion of the sums charged on the creditor side, which is not yet disbursed. The creditor side will show the arrears of the previous months account paid off, the total amount of the general abstract of labour, the total amount of the list of purchases, and the total of the column "paid during the month" from the Contractor's account, as well as the total amount of the contingent charges and of the salaries of the Establishment, permanent as well as temporary, and their travelling allowances. The arrears due on these accounts will be debited as above stated ; and when the disbursement of the arrears is made, the Overseer will take credit accordingly.

27.—If he has charge of stores, the Overseer will be required to submit a General Abstract of Receipts of Stores in a form similar to his General Abstract of Expenditure (Form No. 43), as well as a Balance Return of Stores (Form No. 44).

Store Ac-
counts.

28.—If there be a Cashier to relieve the Overseer of the charge of the cash, the latter will not be required to keep a Cash Book, or to submit an Account Current. But he must keep a Cheque Book and a Pay List Book in counterfoil (Forms Nos. 45 and 46) in which he will enter his orders on the Cashier, keeping one copy, and giving the other to the Cashier.

When there
is a Cashier.

29.—If there be a Store-keeper, the Overseer will not be required to submit a Balance Return of Stores, but must keep an Indent Book, Form No. 47.

When there
is a Store-
keeper.

30.—When any work is finished, the Overseer, under the instructions of the Executive Engineer, will prepare a Completion Report, showing the exact dimensions of the work, and the quantity of each description of workmanship contained in it, as

Completion
Reports.

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XI.

well as the manner in which it has been executed. The Completion Report is to be submitted to the Regimental or Departmental Officer concerned, for countersignature and remark.

The Completion Reports must be sent, through the Superintending Engineer of the circle, to the Central Office of Account, immediately on their being countersigned (Form No. 48). The Completion Report on every new work shall be accompanied by drawings showing the works *as constructed*.

Completion certificates.

31.—In the case of works of which the cost is under 50 Rs., all appertaining to the same Department, may be included in one certificate (Form No. 49), and the signature of the Officer concerned may be obtained at the end of the month—or the Form No. 3 may be adopted, including requisition, account, and completion report in one ; in this case the figured abstract is not required.

List of works in hand

32.—Each Overseer will forward to the Executive Engineer monthly a list of works in progress, including those completed, but of which Completion Reports have not been furnished ; showing the number by which he has distinguished each work in his Cheques, Pay Lists, Indents, and Figured Abstracts, as well as the authority under which each was commenced. The original authority, if emanating from the Local Officers, should previously have been forwarded to the Executive Engineer. Explanation must be given of any delay in furnishing Completion Reports, and of any suspension of works.

II.

Cashier's accounts.

33.—The Cashier's account shall consist solely of a Cash Book (Form No. 41) which he shall keep in duplicate, one copy in his book, and one for transmission to the Executive Engineer. This last copy shall be accompanied by the original orders on which each payment was made, and shall bear at foot a memorandum deducting from the total of the disbursements the sums, if any, paid to other Cashiers.

34.—A Cashier shall make no payment without a written order from the Executive Engineer, or the Assistant Engineer, or from the Overseers who may be authorized to draw on him.

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Vouchers.

35.—No order will be held to be a good voucher for payment for articles purchased, unless there be endorsed on it the receipt of the Store-keeper or Overseer for the articles delivered, as well as the receipt of the vendor for the sum paid.

Vouchers for
purchases.

36.—Disbursements for the daily pay of Artificers and labourers must be vouched by Pay Lists witnessed by the Overseer, or other superior authority under whose superintendence the payment was made.

Vouchers for
payment of la-
bourers.

37.—Salaries can only be paid on the order of the Executive Engineer. After receiving the sanctioned Acquittance Roll, the Cashier is authorized to pay each individual to whom salary has been passed, on his signing his name in the Roll.

Vouchers for
salaries.

38.—The Executive Engineer or his Assistant shall count the cash in the hands of each Cashier at least once a month, and shall record a note on the Cash Book, showing the date of examination, and the amount found.

Cash to be
counted by
Executive En-
gineer.

III.

39.—The Store-keeper's accounts will embrace all stores, materials, and tools, and must show separately what is at each store-house, work-yard, brick ground, building site, or other depôt of stores, so that it may be seen from the heading of the account where the stores detailed in it are to be found.

Store-keeper's
accounts.

40.—The accounts will consist of—

Ditto.

(1.) Daily Issue Account (Form No. 50), which is to be borne out by the Overseer's indents.

(2.) Abstract of Daily Issue (Form No. 51), which will be compiled from the above.

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(3.) Return of Receipts, which will be in the same form as the Daily Issue Account, but will show the receipts for the whole month.

(4.) Balance Return, (Form No. 44).

Nos 2, 3, and 4, must be kept in duplicate, one copy in the books for record, and one accompanied by the original receipted indents, to be transmitted to the Executive Engineer.

Account of
Tools.

41.—Tools in use will be borne on the Store-keeper's books under the head of "Tools in use with A. B.," or as the case may be. When no longer required, they will be received back by the Store-keeper, and transferred to the heading for articles in store. If received back as unserviceable or requiring repair, the fact must be certified by the Overseer stating the work or works on which the tools had been used, or that they were used for general purposes. The certificate should be accompanied by an order to the Store-keeper how to dispose of them.

Sales of stores.

42.—If articles are sold by auction, the voucher for the issue from store will be the Account Sale receipted by the Cashier.

Taking stock.

43.—Each Store-keeper must be required to take stock in presence of the Executive Engineer, or his Assistant, or an Overseer specially deputed, at least once in the year, not at any fixed period, but whenever the Executive Engineer may think proper. Articles found to be unserviceable on these or other occasions will be reported on as prescribed in chapter X., paragraph 4. If any discrepancy be discovered between the books and the stock actually on hand, the Executive Engineer will immediately cause the books to be corrected by making a regular entry of "found surplus in store," if "found deficient" or "transferred to the head unserviceable," as the case may be, and will report the circumstance to the Superintending Engineer. After this, the Executive Engineer will take any steps that may be necessary to trace the cause of the discrepancy, and to punish any neglect that may appear on the part of the Store-keeper.

The circumstance of stock having been taken is invariably to be noted on the first Balance Return sent in after the operation is completed.

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44.—Similarly when articles are lost, stolen, or destroyed, they must immediately be written off the accounts, in the same way as if they had been issued ; and a report will at once be made, the requisite inquiry being at the same time set on foot as required in chapter X., para. 3.

Accounts of
losses.

45.—Valuation invoices must be attached to all accounts of receipts of stores for which cash is not paid, and when stores are received without a valuation invoice, an application shall be made for one to the party from whom the stores were received. When the value cannot be ascertained otherwise, as in the case of materials received from buildings undergoing repair, &c., the Executive Engineer shall assign a value to each article to the best of his judgment, and note that he has done so in the invoice or return.

Valuation of
stores received.

46.—On the receipt of the accounts of his Subordinates, the Executive Engineer shall carefully examine the whole, not testing in detail their arithmetical accuracy, but principally directing his attention to the reasonableness of the quantities of labour and materials used, compared with the work done, and to the prices paid for articles purchased, and particularly taking care that the transactions are clearly stated, and giving explanations, where he deems it necessary, for the guidance of the Central Office of Account. If he finds himself unable to understand any of the transactions, the accounts connected with them should be at once returned to the Subordinate to be made clear. The Executive Engineer must also be careful to see that all necessary vouchers are attached to the accounts.

Examination
of Subordi-
nates Ac-
counts.

47.—Although, under the system of accounts above laid down, an Executive Engineer is not required to keep the

Scrutiny of
rates.

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detailed accounts of the prices of materials to be charged to the works, he is not considered to be thereby relieved from the duty of watching the progress of expenditure in comparison with the rates and charges of the estimates. To enable him to do this, he has the list supplied by the Central Office of the prices at which materials will be charged to the works pending changes in the rates of manufacture or market supply; he has a knowledge of the variations of the rates of the market and their probable effect on his works and manufactures; he has the abstracts drawn out in the Central Office showing the exact cost of each work up to the date to which the accounts of his Division have been completed; and for the period (which should be short) for which his accounts have not been adjusted in the Central Office, he can, by a short rough calculation, in any cases in which it seems necessary, ascertain, with sufficient accuracy, when it is likely his estimates will be exceeded; and he is thus enabled to make the reports required in the 6th paragraph of section 1, chapter VIII.

It is, however, the duty of the Central Office to render the Executive Engineers every possible assistance in this important matter, and to warn them, at the earliest possible period, when it becomes known in the process of elaborating the accounts that there is a probability of any estimate being exceeded.

Transmission to Central Office. 48.—Having examined all the accounts as above, and given all needful explanations for the Central Office, the Executive Engineer will countersign them, and pass them on, with his Monthly Account Current (see para. 3), to the Central Office of Account.

Vernacular Accounts. 49.—When the accounts of a Subordinate are rendered in the vernacular, the Executive Engineer must forward translations in English, along with the originals.

List of works 50.—The lists of works in progress shall also be sent to the Central Office, the Executive Engineer correcting, if necessary, the quotations of authority, and noting in red ink

the despatch in which the original authorities were sent to the Chief Engineer's Office. In every case in which an order on which work has been done was not received from the Chief Engineer, copy of it must be sent bearing the signature of the authority by whom the order was issued, or that of his Staff Officer.

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No verbal order will be taken as authority for any charge.

51.—Immediately after being informed of the audit of his monthly accounts for October and April, each Executive Engineer will prepare a Half-Yearly Account Current with the Local Government (Form No. 52), in which he shall debit himself with the balance of his former account, with the amount drawn on Letters of Credit granted by the Chief Engineer, with retrenchments made against him, and with any sums of money received on account of Government; and he will take credit *per contra* for the amounts of the monthly Divisional Abstracts passed by the Chief Engineer, and for Bills passed by the Superintendent of Stationery, and for any sums paid into a Government Treasury, or for which he may otherwise be entitled to take credit. The original Half-Yearly Account Current will be transmitted by the Executive Engineer direct to the Accountant to the Local Government, a duplicate being at the same time sent to the Superintending Engineer for submission to the Chief Engineer, and a triplicate will remain on record in the Executive Engineer's Office.

Half-yearly
Account Current.

52.—Every Officer, succeeding to an appointment permanently or temporarily, shall at once look into the unadjusted accounts of his predecessor, and see to their early settlement.

Accounts of
predecessors.

53.—All Account Books and Records connected with the expenditure in the Public Works Departments are Government property, and must be given up by every person to his successor in cases of transfer, and to his Departmental superior whenever demanded.

Account Books
are public property.

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XI.

Fraction of
pies.

Supplies to
Troops.

Convict labour

to be charged
at $\frac{2}{3}$ ordinary
labour.

No money
payments for
convict labour.

Payment for
materials from
Jails.

Military Pay
of Subordi-
nates.

Advances to
Subordinates.

54.—Fractions of pies will be omitted in all accounts.

55.—Charges for the supply of articles to troops must be supported by receipted indents, each containing an abstract of the strength of the corps.

56.—Whenever convict labour is employed in the execution of public works, the value of such labour shall be duly charged for in the accounts of the work, and a corresponding credit allowed in account to the Civil Departments by which the convicts were supplied.

57.—The charge for convict labour will be fixed at two-thirds of the usual rate paid for free labour of a like description.

58.—No actual money payments will be made by Executive Engineers on account of the charge for convict labour, but a memorandum in duplicate will be prepared, countersigned both by the Engineer and the Civil Officer, one copy to be rendered by the former with his accounts, the other by the latter, in order that the necessary adjustments may be made in accounts.

59.—Where materials prepared by convicts, the value of which would be credited to a Jail Fund placed at the disposal of a Magistrate, or on which a commission is allowed to the Jailor, are supplied to an Officer of the Public Works Department, they shall be paid for in cash, and dealt with in his accounts as though they had been purchased from any other source.

60.—The Military pay of Assistants and Subordinates drawn by the Executive Engineer from the Pay Office will not enter his accounts as a Departmental transaction; but the necessary transfers between his account and those of his Subordinates may be made in order to facilitate payments.

61.—Advances made to Subordinates and others, on proper authority, need only be entered in the Account Current, supported by their receipts.

CHAPTER XII.

ACCOUNTS OF THE CHIEF ENGINEER'S OFFICES.

1.—A CENTRAL Office of Account will be maintained under the control of the Chief Engineer of each branch of the Public Works Department. The objects for which these offices are kept up are, 1st, to audit Departmental expenditure ; 2nd, to save the Executive Engineers the labour of compiling the accounts of their Subordinates, and so to leave them more free to attend to the more immediate duties of their profession ; and 3rd, to enable the Executive Engineers to obtain credit monthly for their cash expenditure, by auditing the detailed accounts, while the monthly accounts of the Divisions are not allowed to enter into general accounts of the State, till they have been classified and condensed into a suitable form in the Central Office.

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Objects of the
Central Offices.

2.—The duty of the Central Office, therefore, requires, first, that it should preserve a careful watch over the expenditure, so as to protect the State from the effects of extravagance, carelessness, and speculation ; and secondly, that it should endeavour to save the Executive Engineers, as much as possible, from the labour of details of accounts, by taking upon itself every species of compilation, abstraction, and comparison, and all other laborious duty connected with accounts.

Duties to be
performed by
them.

3.—When obliged to refer to an Executive Engineer for information or explanation, it is the duty of the Central Office to do so in such a manner as to give him as little trouble as possible ; and while careful to prevent unnecessary expense, the Central Office must not be too precise in trifling matters which are of no importance to the finances of the State, but which may be made very troublesome to those who have to account for them.

Not to harass
Executive En-
gineers by calls
for explanation
on trifles.

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Accounts
twice audited.

4.—Under the system laid down for the accounts of the Public Works Department, the expenditure is twice audited ; first, in order to pass it from the debit of the Executive Engineer (or general heading Engineer Department) into the Suspense Account kept in the Central Office and called the Public Works Account ; and secondly, to pass it from the debit of the Public Works Account into the general accounts of the State kept by the Accountant to the Local Government, under the headings for the Departments for which the works were done or expenditure incurred.

Branches into
which the Central
Offices are
divided.

5.—The duties of the Central Offices are divided into three branches:—

A. The audit of the expenditure of Executive Engineers, including the reduction of the accounts received from those Officers, to a form suitable for comparison of the expenditure with the work done, and for ledgering it under appropriate heads.

B. The ledgering of the audited expenditure under the proper heads in the Public Works Account, and the preparation, from time to time, of the bills for completed original works, and of the annual bills for repairs, establishments, contingencies, &c., to be charged to the various Departments, for whose use the expenditure was incurred ; also the preparation of a General Account Current of the Public Works Suspense Account, after the close of the official year.

C. The issue of Letters of Credit to the Executive Engineers, the audit of bills prepared as above, and the preparation of Statistical Returns and Reports.

A.

Audit of
Establishment
and Travelling
Allowance
bills.

6.—The audit of Establishment and Travelling Allowance bills will be made on Registers of the Establishments sanctioned by Government, under the Rules laid down in chapter XV. All cases not specially provided for in those Rules will be settled by reference to the Military Pay and Audit Code in

the case of Military men, and by the Rules applicable to Uncovenanted Officers in the case of Civilians.

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7.—The audit must be made as rapidly as possible; and, when passed, the bills, corrected for errors of calculation, will be returned to the Officers by whom they were drawn, with the words “audited for — rupees — annas — pie; payable on the — instant” written across the face in red ink, dated and signed by the Chief Engineer, or by the Head Accountant under his orders. The date of payment to be inserted is that fixed by Government for the disbursement of Civil salaries.

Audit of
Establishment
and Travelling
Allowance
bills.

8.—A separate statement of retrenchments (Form No. 53), not including mere corrections, should be sent with the bill, but no letter. All replies to retrenchments will be made on the back of, or attached to this statement, which will be returned to the Central Office, and will be again transmitted to the drawer of the bill with the Chief Engineer's decision; which, if favourable, will be considered as authority for the disbursement of the sums in question.

Retrench-
ments of per-
sonal allow-
ances.

9.—Copies of Establishment and Travelling Allowance bills, and of the statements of retrenchments, will be made and kept in the Central Office, the original bills, when received back, being sent to the Government Accountant as vouchers for the annual Establishment bill.

Copies of
bills, &c.

10.—When the accounts of a Division come in, the Office of Account must—

Examination
of Executive
Engineer's ac-
counts.

(1.)—See that they are complete and accompanied by all necessary vouchers, and call for such as are wanting.

(2.)—See that they are clearly made out and intelligible, and call for explanation when this is not the case.

(3.)—See that there is proper authority for all the expenditure, and call for explanation when it is not furnished.

(4.)—Check the arithmetical operations, and see that the accounts correspond with one another, when connected.

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Completion of
the Abstracts.

11.—The Central Office will then complete the cash accounts of the figured abstracts as shown in (Forms Nos. 54 and 55) entering the prices of stock from the Office list of rates which is tested and altered from time to time in the Book-keeper's Department. The price of materials received from repairs, or from dismantled buildings, will be determined on the report of the Executive Engineer, or on the precedent of former similar transactions. Care must be taken to price the materials on the General Abstract of Receipts of Stores, as well as in the issues to the works on which they are expended.

Establish-
ments charge-
able to works.

12.—The amount of the lists of Extra and Work Establishments chargeable to the Works, after having been duly examined and compared with the authorities for their employment, will be divided off by an Abstract on the back of each list, and the sums charged to each work will be entered in the cash account on the figured abstract of that work. (Forms Nos. 56 and 57.)

Contract pay-
ments.

13.—The credits to Contractors and others, shown in the account of contract payments and advances, will be charged off to the works, manufactures, and other heads of account to which they belong.

Statements of
Accounts and
Abstracts of
rates.

14.—The office will next draw out a statement of each Officer's and each Subordinate's accounts (Form No. 58), and from these will be prepared the Sub-division Abstracts (Form No. 59), the items of which will be compared with the Rate Book,* and to each abstract will be attached a memorandum of any thing remarkable in the charges, and of any defect in the authorities for the expenditure. The items in these abstracts will be arranged according to the primary divisions of paragraph 44.

Superintend-
ing Engineers.

15.—The accounts will then be laid before the Superintending Engineer for remarks and orders, and if approved by him

* A table of the quantities of labour and material required for each description of work, with the current rates filled in for each Division.

will be submitted to the Chief Engineer, who will deal with them under the Rules, chapter III, section 1, paragraphs 22 to 26.

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16.—Retrenchments will always be made *from the abstracts*. That is to say, the Central Office must include in the abstract every charge made in the Accounts of the Executive Engineer and his Subordinates (pointing out, of course, any thing which may appear objectionable). Those charges objected to by the Chief Engineer will be deducted at foot of the Abstract; and a corresponding alteration will be made in the Statement of Accounts. Retrenchments made finally will be ordered to be brought to credit of Government at once: those made pending explanation may be allowed to remain a reasonable time in inefficient balance.

Retrenchment of charges for work, &c.

17.—The Accounts Current of Executive Engineers and Subordinates, as well as all the other accounts submitted by them, will be corrected throughout for clerical errors and errors of calculation. The difference between their Accounts Current and the Statements of Accounts prepared in the Central Office will then consist solely in items retrenched, or for which credit is withheld pending receipt of some voucher or explanation. Of this difference the Central Office will prepare lists (Form No. 60), termed the Lists of Retrenchments.

Accounts Current. Retrenchments how shown.

18.—The Lists of Retrenchments will be made out monthly. Each month's lists being a transcript of the former month's, in which are scored out in red ink the items since passed or credited to Government, and to which are added in red ink the retrenchments made in the accounts for the month under audit. The total of the Divisional list will thus represent the total difference between the accounts of the Division as passed and as (after correction) submitted, and the sub-totals, or Sub-divisional lists, will show the outstanding retrenchments against each individual. In this way the Abstractor's Department of the Central Office will keep a running account of the retrenchments, and will see to their adjustment.

List of Retrenchments from Abstracts.

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Transmission
of Accounts to
Executive En-
gineers.

19.—On the Sub-divisional Abstracts being passed, copies will be prepared for the Executive Engineer, together with copies of the Statements of Accounts prepared in the Central Office, and lists of the corrections and retrenchments made in each Subordinate's accounts; and a Divisional Abstract will be prepared, embracing all the expenditure included in the Sub-divisional abstracts, classified under the primary heads (see para. 44). The Divisional Abstract will be passed and sent to the Accountant to the Local Government, with instructions to credit its amount to the Executive Engineer, and make a corresponding debit to the Public Works Account. It is to be understood, however, that these papers are not to leave the Office till they have passed through the hands of the Book-keeper's Department, their accuracy not being considered certain till tested by the process of ledgering.

And to the
Government
Accountant.

B.

Double entry.

20.—The accounts of the Public Works Department shall be kept by double entry.

Monthly
Ledgers.

21.—The first operation in the Book-keeper's Department is to post the monthly Ledgers (Form No. 61). These are posted directly from the Sub-division Abstracts. The Ledger Heads are these :—

1. Original Works.
2. Repairs.
3. Contingent Expenses.
4. Stocks.
5. Contracts and Advances.
6. Profit and Loss.
7. Establishments, &c.
8. Travelling Allowance.
9. Public Works Contingencies.
10. Office Cash.

11. Sub-Engineer A.
12. Supervisor B.
13. Overseer C.
- „ &c., &c., (including each Sub-division Officer.)
14. Demands payable.
15. Government.

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22.—A Balance Sheet is prepared monthly of these ; and it will be observed that the two last heads alone will ordinarily have a creditor balance ; and that the balances on the debtor side will divide themselves into two groups ; the first nine heads representing expenditure booked, and the remainder balance in hand ; the latter being partly cash and partly retrenchments as per list.

Monthly Balance Sheet.

23.—This Balance Sheet is to be compared with the Statements of Accounts drawn up in the Abstractor's Department (paras. 14 and 16), and should agree. If not, the error in the accounts must be sought out and corrected.

Test of accuracy

24.—This is all the Book-keeper has to do with the Sub-division Abstracts. The monthly Ledgers and corrected Balance Sheet are useful checks on the Divisional accounts.

Use of the Monthly Ledgers.

25.—In preparing the Abstracts of the expenditure of Executive Engineers and their Subordinates, no attempt is made to carry out the classification of charges beyond the primary Divisions of the Public Works Books (para. 44). To attempt to carry out a classification to the Departmental and Sub-divisional heads (paras. 46—54) would be so embarrassing to the Abstractors, that it is more convenient to leave the Book-keeper's Department to do it by means of Journal (para. 27).

Classification of charges in Abstracts not complete: completion of it by a Journal.

26.—It is obviously unnecessary in the Journal to enter the items of work. The object is to classify the works. The Book-keeper, therefore, though requiring a more elaborate

Journal less detailed than the Abstracts.

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classification, requires a less elaborate detail of expenditure than the Abstractor; and the Journal thus becomes a useful condensed record of the contents of the Abstracts of expenditure.

Journal how
posted.

27.—The Journal (Form No. 62) is posted from the Divisional Abstracts as regards the sums to go to credit of the Executive Engineer, and from the monthly Ledgers, and Statement of Accounts, as regards sums to be credited to Government; transactions not included in the Executive Engineer's accounts are entered from a Waste Book (para. 33). The Journal contains four cash columns: the first is filled in with the total expenditure on each work from the Abstract, or with each item to be booked; the second sums up the total on all the works of one Sub-divisional head of account (paras. 46—52); the third, on all the Sub-divisions of each Department; and the last sums up the expenditure in each primary Division (para. 44). The entries in the last column should therefore agree with the monthly Ledger entries as to the expenditure on works; and a similar agreement should appear between the monthly Ledger and Journal, as to stock and other heads of charge.

Divisional
Ledgers posted
from Journal.

28.—In posting the Ledgers from this Journal it will be apparent that there can, in ordinary cases, be no more than 12 entries under each ledger head for the year, and thus the books are kept in a clear and compact shape.

General Journal
and Ledgers.

29.—After posting the Divisional Ledgers the accounts must be brought into the General Books. This is done by a series of Journals in a simple tabular form (Form No. 63), the Divisions being inserted at the side, and the months and total for the year at the top. These Journals are posted directly from the Divisional Ledgers, and the monthly totals are entered at once in the General Ledgers, which thus, like those of the Divisions, will generally have only 12 entries in the year.

30.—Besides the ordinary accounts of disbursements received from Executive Engineers, the Central Office will have to adjust the transfers of Stores to and from the Ordnance Department, and the allowances of Military Officers charged to Public Works under paragraph 4, chapter I.

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Transactions not included in Executive Engineers' accounts.

31.—For the first of these, it will be only necessary to journalize in the Divisional Books the valuation invoices and receipts received from the Ordnance Department, exactly in the same manner as the Abstracts of Executive Engineer's expenditure are journalized.

Ordnance stores.

32.—The Military allowances will be credited to Government and debited in the Public Works Account under the head Establishment ; the necessary entries being of course made in the Journals, as well as in the Ledgers.

Military Allowances.

33.—These transactions, and others not included in the Executive Engineer's monthly accounts, will be best journalized from a Waste Book (Form No. 64), in which all the transactions will be noted as they occur ; and when the accounts from the Division are brought up to the Book-keeper's Department, the proper entries will at the same time be made in the Journal of such transactions as have been recorded in the Waste Book. Thus the entries will be made only once a month, and the entries in the Ledgers will not be increased beyond twelve per annum. This completes the whole process of booking the accounts.

Waste Book.

34.—The Public Works Account, with few exceptions, can only obtain credit by means of the submission of bills prepared in the Central Office of Account.

Credits to Public Works Account by bills.

35.—The bills for original works, except petty works under Rs. 50 each, are made up in the Central Office as soon as the Completion Reports come in (see Form No. 65). All the particulars required in the bill are readily extracted from the Divisional Monthly Abstract, but the Statements of the quantities of work done must be corrected by reference to the Completion Report. The bill, when passed by the Chief

Bills for original works.

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Engineer or Government, is credited under the proper head of account in the Ledgers.

Bills for repairs, establishments, contingencies, and petty works.

36.—For Repairs, Contingent Expenses, and for the Establishment and Contingencies of the Public Works Department annual bills are framed which clear off entirely the balances on the books under those heads (see Forms Nos. 66 to 71). Bills for petty works are also prepared which relieve the heading Original Works of all the debits of finished works of which the cost is under Rs. 50 each work. These bills are compiled without difficulty from the Journals, and tested by comparison with the Ledgers.

Testing by the Ledgers.

37.—The balances remaining at the debit of the headings “Original Work” will be tested by taking out of the Abstracts the total amount expended on the incomplete works, the total of which in each head should agree with the balances in the Ledgers. (See Form No. 72).

Examination of balances of stock.

38.—The balances of the Stock Account will be examined by assigning the assumed values to the articles borne on the several Returns, and comparing the amounts of the values under each head with the balance in the Ledger. It will then appear whether the values assumed have been too much or too little, and alterations will be made accordingly, after going over the accounts in detail to detect the items in which the difference occurred. (See Form No. 73).

Processes and Books.

39.—This concludes the processes under the class B. of paragraph 5. The following paragraphs describe the Books :—

General Books

40.—The general books of Account in the Central Offices are three :—

I.—Engineer Department Account.

II.—Public Works Account.

III.—Local Government Account.

Their mutual dependance.

41.—The manner in which these accounts depend on each other will be apparent from the following sketch :—

Engineer Department.

To Balance,	0 0	By Public Works Department,	
To Government, amount of cash		Abstracts passed,	0 0
drawn from Treasuries,	0 0	By Balance.	
To Public Works Department,		1. Expenditure of which ac-	
money realized by sales,		counts are rendered and not	
rents, &c., &c.,	0 0	passed,	0 0
To Government, Demands pay-		2. Expenditure of which	
able,	0 0	accounts are not yet rendered,	0 0
		3. Cash in hand,	0 0

Public Works.

To Balance,	0	By Government, amount of	
To Engineer Department, amount		Bills,	0 0
of Abstracts passed,	0	By Engineer Department, cash	
To Government, amount value		realized and paid,	0 0
of stores from Ordnance De-		By Balance, viz.:	
partment, value of materials		1. Works in progress,	0 0
from dismantled buildings,		2. Miscellaneous charges,	0 0
&c.,	0 0	3. Stock in hand,	0 0

Government.

To Public Works Department,		By Balance,	0 0
amount of Bills,	0 0	By Engineer Department,	
To Balance, viz.:		amount of cash from Treasu-	
1. Works in progress,	0 0	ries,	0 0
2. Stock,	0 0	By Public Works Department,	
3. Miscellaneous,	0 0	value of stores supplied to it	0 0
4. Unadjusted expenditure,	0 0	By Engineer Department, De-	
5. Cash,	0 0	mands payable,	0 0

42.—The Central Office will keep all these accounts in Provincial and Divisional Books for the whole Chief Engineership, and in detailed books for each Division. (Forms Nos. 74 and 75).

Provincial
and Divisional
Books.

43. In the Divisional books the Engineer Department Account will be the account of the Executive Engineer with Government on the one hand, and with the Central Office (or Public Works Account) on the other. The Subordinate heads, inserted in the Monthly Ledgers only (para. 21), will give the accounts of all the Assistants and Subordinates employed under the Executive Engineer.

Engineer's
Accounts.

44.—The Public Works Account will be primarily divided into these heads:—

Primary Di-
visions of the
Public Works
Account.

1. Original Works.
2. Repairs.
3. Contingent Expenses.
4. Stock.

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- 5. Profit and Loss.
- 6. Establishment and Contingencies of the Public Works Department.

No Ledgers of individual works.

45.—The Ledgers of works, whether original works or repairs, will only be sub-divided to show the outlay on the works for each of the Departments and Sub-divisions into which the expenditure of the State is divided (see para. 46). No Ledgers of individual works will be kept up. The expenditure on each is sufficiently registered in the Monthly Abstracts, which contain a running account of the cost of each work; and these being compared from time to time with the Departmental Ledger balances, will be checked as to accuracy, and may therefore be relied on.

Departments and Sub-divisions of the Public Works Account.

46.—The first two of the primary Divisions (paragraph 44) will be sub-divided agreeably to the following classification of works and expenditure according to the objects :—

CLASS.	DEPARTMENT.	SUB-DIVISION.
STATE. (Directly connected with the Administration.)	1. Military	1. Fortifications. 2. Cantonments. 3. Accommodation for Troops. 4. Ordnance. 5. Commissariat. 6. Stud. 7. Staff Offices.
	2. Naval	
	3. Judicial	1. Police. 2. Court Houses. 3. Jails.
	4. Revenue	1. Land and Miscellaneous. 2. Customs. 3. Opium. 4. Salt.
	5. Ecclesiastical ...	1. Churches and Buildings. 2. Burial Grounds.
	6. Educational	
	7. General	1. Government. 2. Public Works. 3. Post Office. 4. Mint. 5. Charitable Institutions. 6. Scientific ditto. 7. Monuments and Antiquities. 8. Miscellaneous.

CLASS.	DEPARTMENT.	SUB-DIVISION.
INTERNAL IMPROVEMENT. (Works of Public convenience or of improvement.)	1. Municipal	1. Town Buildings. 2. Markets. 3. Paving, &c., of Streets. 4. Lighting. 5. Water Supply. 6. Sewerage.
	2. Marine	1. Harbours and Navigation. 2. Light Houses.
	3. Industrial	1. Mines. 2. Manufactures.
	4. Agricultural	1. Irrigation Canals. 2. Tanks. 3. Dykes. 4. Drainage. 5. Forests.
	5. Communications ...	1. Metalled Roads. 2. Unmetalled Roads. 3. Bridges. 4. Boat Bridges and Ferries. 5. Navigable Canals. 6. River Improvements. 7. Accommodation for Travellers.
	6. Railways	
	7. Electric Telegraph.	

47.—The third Division, or Contingent Expenses, includes those charges not of an Architectural or Engineering character, which are incurred directly for any of the Departments. These do not properly belong to the Public Works Department, and probably will eventually disappear from its accounts ; but they are at present heavy in the Military Department, and considerable, in some Divisions, in other Departments. They will be classified by Departments as above but will have only two Sub-divisions, namely, “ Conservancy and Service” and “ Furniture.”

Contingent
Expenses.

48.—In the Stock Accounts no attempt will be made to show the precise cost of each article borne on the Returns of the Executive Engineers and their Subordinates. The divi-

Stock.

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sion of the accounts will only be carried so far as to show the total cost of certain classes of stores (see para. 52). The accounts will open with the balances at debit of the heads of account corresponding with these classes ; and the prices of the articles belonging to each class will be assigned so as to make the total value of stock on the Returns so priced (as nearly as possible in even money) nearly agree with the balance at debit of each ledger head of the Stock Account. The prices will of course be regulated so as to correspond, within reasonable limits, with the market value or cost price of the articles, *as delivered at site* ; but in the case of tools and plant, of which portions must be considered as partially worn out, a sum in even money being about three-fourths of the cost price will be taken as the approximate value. The prices so fixed will be retained for the year, subject to alteration, if necessary, in consequence of fluctuations in the state of the accounts, and will be communicated to the Executive Engineer to enable him to scrutinize rates of work and to charge for stores sold, lost, or destroyed, for which payment is to be made to him. The Executive Engineer's opinion should always be invited on the subject of the price of stock ; though it may not always be possible to act on it.

Carriage

49.—The Stock Accounts will have columns to show the cost of stock in store and at site ; that is to say, to “ prime cost ” will be added “ carriage,” in order to represent the cost at site (vide Ledger Forms No. 74).

Wear and
Tear.

50.—The Wear and Tear Account will be an appendage to the Stock Accounts under the classified heads. To it will be charged all repairs and renewals of tools and plant, and all losses of stock from ordinary wear and tear, the conveyance of tools and plant to various building sites, and all charges which fall generally on stock, such as chokedars, &c., not chargeable on the cost of particular articles of stock ; also petty transactions, such as the purchase of earthen pots,

baskets, and other articles which it is not worth while to include in the Stock Returns. These charges, and those made under the rule in the next paragraph, will be met by a percentage on the cost of all works, charged specifically in the bills, at a rate fixed for the year, so as approximately to cover the sum at debit of this account.

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51.—The Wear and Tear Account ought, if kept with theoretical accuracy, to relieve the Stock Accounts of the depreciation of value of all the articles on the books. If a Phoura, for instance, is bought for Rupee, 1-2 on the 30th April 1857, and is more or less used during the year 1857-8, it will not be worth Rupee 1-2 on the 30th April 1858, and the Stock Accounts of that date will not represent the true value of the Government property, if this and other articles continue to be borne on the books at cost price. In order approximately to meet this difficulty, it is provided in paragraph 48 that tools and plant shall be valued on the Stock Accounts at three-fourths only of their cost price; and the Wear and Tear Account must, therefore, be debited annually with one-fourth of the amount debited during the year to Stock under the head Tools and Plant, and a corresponding credit will be afforded under the latter head.

Use of the
Wear and Tear
Account.

52.—The Stock Account will be sub-divided as follows :—

- A. Departmental Stores.
- B. Ordnance Stores.
- C. Instruments.
- D. Furniture and Camp Equipage.
- E. Wear and Tear.

Sub-Divisions
of the Stock
Account.

The head A will be divided into—

1. Live Stock.
2. Tools and Plant.
3. Small Stores (Nails, Screws, Chalk, Glue, Bolts, &c.)

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4. Building Materials*—Bricks.
 Tiles.
 Lime.
 Soorkee.
 Building Stone, &c.
5. Timber.
6. Metals.
7. Fuel.
8. Thatcher's Materials.
9. Painter's Stores.
10. House Fittings.
11. Cordage.
12. Road Metal.
13. Miscellaneous.

The head B will be sufficiently sub-divided as follows :—

1. Tools.
2. Stores.

Profit & Loss.

53.—The Profit and Loss Account will include all losses arising from robbery, fire, storm, flood, and other extraordinary occurrence ; whether the losses be of cash or stock, or works in progress at debit of the Public Works Account.

54.—The 6th head, Establishments, &c., will be sub-divided as follows :—

- a. Direction (Salaries of Chief and Superintending Engineers and their Offices).
- b. Construction (Salaries of Executive Engineers and their Establishments).
- c. Collection and Police.

Each of these will again be divided into Establishment, Travelling Allowances, and Contingent charges.

* This sub-head requires further division, as shown, whenever there are heavy transactions in Bricks, Lime, &c., as is usually the case

The whole of the debits under the 6th head will be charged off on the first four heads annually. (See Form 76.)

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55.—The entries in Government Account in each Executive Division will be passed through the following Subordinate heads :—

Government
Account and
its Subdivi-
sions.

1. Cash Remittances.
2. Public Works Income.
- *3. Ordnance Department.
- *4. Military Allowances.
5. Tuccavy Advances.
- *6. Other Provinces and Departments.
7. Foreign States.
8. Bills submitted and passed.

These sub-divisions are made in the Government Account rather than in the Public Works or Engineer Department Accounts, in order to avoid further complication of the two last. The object of making these sub-divisions is to facilitate the preparation of returns. These books are closed annually, the balances charged off to Local Government, and the Sub-divisional books re-opened generally without a balance, so as merely to form a record of the year's transactions.

In No. 1 are credited the sums paid from Government Treasuries to Executive Engineers, and the sums paid into Treasuries are debited.

In No. 2 will be credited all the income derived from the Public Works Department.

Public Works Income is classified as follows: separate heads of account will be kept accordingly, if the transactions are numerous and complicated.

Ordinary.—1. *Tolls, Dues, and Fees*.—Money received for the temporary use of roads, bridges, ferries, wharfs, canals, &c.

* Money or Stores from other Departments fall under the General head "Supplies" in the Government Accountant's Books.

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 Subdivisions
of the Govern-
ment Account.

2. *Rents*.—Money obtained by the hire of buildings and land, and the sale of produce of land.
3. *Rates*.—Income derived from a cess on the extent or value of property improved by Public Works, as in the case of works of Irrigation, Embankment, or Drainage.
4. *Profits*.—Income derived from the working of Mills, Workshops, Mines, &c.

Extraordinary.—1. *Sales*.—Whether of materials, buildings, or land.

2. *Refunds*.—Charges not disbursed and unclaimed.
3. *Contributions*.—Sums contributed by private individuals for the construction of public works.

Profit and Loss.—Fines, interest, and miscellaneous receipts not elsewhere classified.

In No. 3 will be debited and credited all the transactions with the Ordnance Department connected with the supply and return of stores

In No. 4 will in like manner be recorded all the transactions connected with the Military Allowances of Officers in the Public Works Department.

In No. 5 will be recorded all the transactions connected with advances granted by Government for the execution of works which do not form a charge against the revenues of the State, and their repayment. In it will fall the adjustment of charges which merely pass through the Public Works Books, as for Zemindary Embankments.

In No. 6 will be entered all the transactions not finally adjusted in the Chief Engineership, to which the accounts belong, except those belonging to the next head.

In No. 7 will fall all the transactions connected with Foreign States.

No. 8 records the adjustment of Public Works outlay by means of bills. At the close of the year the difference between the debits to this head and the total outlay in the Public Works Account will show the unadjusted expenditure for the year.

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C.

56.—An important part of the duty of the Central Office of Account is the supply to Executive Engineers and their Subordinates of printed or lithographed blank forms of all the accounts required of them. A sufficient stock of blank forms must always be kept on hand, and great care must be taken to comply promptly and fully with all reasonable indents for them; for if an Officer or Subordinate falls short of forms, the labour of preparing accounts is very greatly increased.

Blank Forms
of account for
Executive En-
gineers.

57.—A Return of the progress made in adjusting the accounts of Executive Engineers and their Subordinates will be prepared monthly in the Central Office; and will be printed and published to the Department, one copy being supplied to each Executive Engineer and to each Subdivision Officer. The Return will be dated on the 1st of each month, and it will be printed and issued as soon as possible after. It will embrace all the accounts not finally adjusted, showing the date of receipt and cause of delay in adjusting the accounts of each Officer and Subordinate. (Form No. 77.)

Returns of
progress in ad-
justing ac-
counts.

58.—A Register of all sanctions for expenditure, of whatever nature, should be kept in the Central Office. Each sanction should be entered as received, and a classified table of contents and an alphabetical index should be added.

Register of
sanctions of
expenditure.

In addition to this General Register, a Special Register of sanctioned establishments must be kept up for use in auditing the monthly bills, showing separately the charges authorized to be drawn in each separate bill. (Form No. 78.)

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XII.Register of
letters of cre-
dit.

59.—The manner in which Executive Engineers are supplied with cash by means of letters of credit is laid down in Chapter IX. The Central Office must register these letters at the time of issue, and register the amounts realized by Executive Engineers on them at the time of receiving the letters back endorsed by the Officers in charge of the Treasuries on which the credits were given. (See Form No. 79.)

The Office is expected to test the accuracy of the data on which the Cash demands are based, and to bring to the Chief Engineer's notice any thing requiring his attention. It will be understood that Cash demands are to undergo scrutiny, and are not to be complied with as a matter of course.

Register of
sanctioned
outlay.

60.—In order to enable the Central Office to keep a proper check on the Cash demands of the Executive Engineers, a Statement of sanctioned expenditure, showing the total amount sanctioned for each object, the total sanctioned for expenditure during the year, and the estimated total outlay for each month in each Division (Form No. 80), will be prepared in the Central Office annually, along with the Budget for the year. It will be based partly on the estimates for the execution of works, and partly on the experience of former years. With these Statements will be kept Accounts Current of sanctioned outlay, Letters of Credit, cash drawn, and audited expenditure (Form No. 81), which will enable the Central Office at once to advise the Chief and Superintending Engineers of any probable excess over sanctioned outlay.

Audit of bills
for works.

61.—The audit of bills for works prepared in the Central Office, requires that the quantities and descriptions of work charged for should be ascertained to agree with what is shown to have been done in the Completion Report ; that the amount charged should agree with the Executive Engineer's Accounts ; and that the authority for the work should be correctly quoted, and sufficient to cover the expenditure. When there are any discrepancies in these respects, clear explanations must

be laid before the Chief Engineer to enable him to dispose of the bill himself, or report on it to Government. (See chap. III., sec. 1, para. 24).

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In addition to the accounts of expenditure by Departmental Officers, the Chief Engineer is required to audit all Bills for public works executed by Officers not belonging to the Public Works Department, exceeding Rs. 500 on each work. Such Bills need not be presented in the regular Departmental forms, nor need they be accompanied by detailed drawings and Completion Reports as required of Departmental Officers; but the Chief Engineer is directed to require such information as shall enable him to form an opinion whether there is sufficient authority for the expenditure, and whether the work done may be considered a fair result for the expense incurred. It will be the duty of the Central Offices to make the calculations and prepare the comparative statements of rates required to enable the Chief Engineer to form an opinion on these points.

62.—A Register of audits will be kept in two parts in the Central Office. Part I. will contain the charges passed from the Engineer Department Account into the Public Works Account. Part II. will show the charges passed from the Public Works Account in the General Accounts of the State. This Register will be framed agreeably to (Form No. 82), showing the total amount audited, as well as the amount audited by each authority.

Register of
Audits.

63.—Registers will also be kept up to show the following statistical details:—

Statistical
details.

a. Classified Return of Establishments with salaries and travelling allowances. (Form No. 83.)

b. Average daily number of Artificers and labourers employed, and their wages. (Form No. 84.)

c. Quantities of the principal kinds of materials purchased, and the total cost of purchases. (Form No. 85.)

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d. Quantities of the principal kinds of materials manufactured, and their total cost. (Form No. 86.)

e. Quantities of the principal kinds of materials expended. (Form No. 87.)

f. Quantities of the principal kinds of work done. (Form No. 88.)

g. Register of the periods in which works have been completed compared with the expected periods; with an Annual Abstract of the results. (Form No. 130).

These Registers will show the prescribed particulars for each Division and for the whole of the Chief Engineer's charge, monthly and annually.

There will besides be similar Returns of the same particulars for the principal works in progress, for the whole period during which they were under construction.

Valuation of
Public build-
ings and works.

64.—The Central Office will also keep descriptive Valuation Returns of Public Buildings. (Form No. 89). Copies of these will be sent to Executive Engineers on the 1st November of each year, and these Officers will cause them to be compared with the buildings, and will return them, with such corrections and remarks as may be necessary, by the 1st April. From these corrected Returns an Annual Account of Dead Stock of the several Departments will be prepared (Form No. 90) for submission to the Government Accountant, with the Annual Bills and Account Current.

Returns to
be sent to other
Offices.

65.—The following Returns are required to be furnished from the Central Office of Account to other Public Offices:—

RETURNS.	Due Date.	To whom to be sent.
Statement of names and salaries of Military Officers employed in the Public Works Department. (Form No. 91).	1st April, ..	Military Auditor General.
Annual Account Current with the Ordnance Dept. (Form No. 92).	1st May, ...	Ditto in the Ordnance Department.
Annual Return of Ordnance Stores. (Form No. 93).	Ditto, ...	Ditto.
Statements of Salaries and Establishments. (Form No. 94).	Ditto, ...	Civil Auditor.
Return of Leave to Uncovenanted Servants. (Form No. 95).	Ditto, ...	Ditto.
Half-Yearly Statement of probable cash requirements of Executive Engineers. (Form No. 96).	1st May and 1st Nov., ...	Accountant to Local Government.
Statement of Expenditure on Ecclesiastical Buildings. (Form No. 97).	1st May, ...	Ditto.
Quarterly Statement of Receipts and Disbursements. (Form No. 98).	1st May, ...	Ditto.
	1st Aug., ..	
	1st Nov., ...	
	1st Feb., ...	
Quarterly Statement of Abstracts passed. (Form No. 99).	Ditto, ..	Ditto.
Annual Return of the entire Establishment of the Public Works Department. (Form No. 127).	1st May, ...	Secy. to Local Govt. for the Financial and P. W. Depts.
Annual Return of the Superior Grades of Uncovenanted Servants. (Form No. 128).	Ditto, ...	Ditto.
Bi-monthly Return of decreases in Establishments. (Form No. 129).	1st Jan., 1st March, &c.,	Ditto

66.—Besides these, all the Annual Returns and Accounts must be rendered as prescribed in Appendix A. Reference to Appendix A.

67.—The Central Office of Accounts will further keep all such other Registers, Books, and Memoranda as may be necessary for working the Office, so as readily to supply the requirements of Government as laid down in the foregoing Subsidiary Registers, &c.

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pages, though such Registers, &c., may not have been especially prescribed. The regulation of these and other matters of detail is left to the Head Accountant under the direction of the Chief Engineer.

Control of the
Government
Accountant.

68.—The audit and account operations of the Central Offices are subject to the general check of the Government Accountants ; and all accounts rendered to the Government Offices must be prepared in such a manner as to facilitate this general check.

Charges not
belonging to
the Local Ad-
ministration.

69.—The above rules are framed on the supposition that the Chief Engineer has to do only with works chargeable to the Local Administration under whose orders he acts. But this is not generally the case. For instance, all the charges on account of the regular army are debitable to the Government of India, while certain Local Corps are chargeable to the Local Administration ; also certain public buildings in Calcutta are chargeable to the Government of India, while most of the Civil buildings are chargeable to the Local Administration. Moreover, a Chief Engineer may have works belonging to two or more Local Administrations. The charges in these cases must be kept separate ; and this will necessitate some further sub-divisions of the heads of account. Vide Appendix A.

CHAPTER XIII.

TRANSFERS.

1.—On the occasion of the transfer of the Executive charge of a Division from one Officer to another, the records, cash, stores, and works in hand, shall be made over under the following rules :—

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Transfer of
a Division

2.—In the accounts the relieving Officer shall take up the expenditure of cash and stores from and for the first day of the month during which the relief took place, signing receipts in duplicate in the following form, to be prepared by the relieved Officer :—

Accounts how
transferred.

FORM (A.)

Received in transfer from Captain A. B., late Executive Engineer, _____

Division _____

Amount of cash at credit of Government as per			
Divisional Account Current dated,	...	000	0 0
Receipts of cash from Government since that			
date,	... ..	... ..	... 000 0 0
Total Company's Rupees,	...	000	0 0

for which I agree to afford credit to Government in my next Half-Yearly Account Current, Captain A. B. remaining responsible for the expenditure incurred during his incumbency.

(Sd.) C. D., *Captain,*
Executive Engineer,— *Dn.*

FORM (B.)

Received in transfer from Captain A. B., late Executive Engineer, _____ Division, the following stores, as per Balance Returns, dated 1st instant.

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Stores at _____ under charge
of _____

[Enter Stores with columns for remarks
by relieved and relieving Officers.]

Stores at _____ under charge
of _____

[Enter Stores, &c.,]
&c., &c., &c.

(Sd.) C. D., *Captain,*
[Station and date.] *Executive Engineer, — Dn.*

N. B.—These receipts may be combined in one document, or made out separately, as may be most convenient.

The relieving Officer will submit the next Monthly Accounts in the same manner as if he had been in charge of the Division during the whole month. But the relieved Officer remains responsible that proper explanation is forthcoming for the expenditure during his incumbency.

Transfer of records, cash, and stores, under the Executive Engineer's charge.

3.—Such records, cash, stores (including Surveying and Mathematical Instruments, Drawing Materials, Stationery, and Office Furniture), and works as may be under the immediate charge of the Executive Engineer, shall first be examined, counted, measured, and weighed (as each case may require), and shall be made over personally to the relieved Officer, who will note on the receipts any inaccuracies.

Records, cash, and stores under Subordinates at Head Quarters.

4.—The relieving Officer shall then proceed with the relieved Officer to inspect the records, cash, stores, and work under charge of the Subordinates at the Head Quarter Station. He shall examine the accounts, count the cash, inspect the stores, and count, weigh, and measure certain selected articles, in order to test the accuracy of the returns, and shall minutely examine the work as to its quality, and as to its correctness according to the sanctioned plans and estimates.

Memorandum of works in hand.

5.—The relieved Officer shall give the relieving Officer a list and memorandum showing all the works in hand, and the orders remaining to be complied with, and of such matters

as most require his attention, with full explanation of any peculiarity of circumstances, or apprehended difficulties.

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6.—The relieving Officer shall then report to the Superintending Engineer, that he has taken charge, and shall describe the state of the records, cash, stores, and works, mentioning what Out-stations he has yet to inspect, and when he proposes to visit each. He may take this opportunity of bringing to notice anything irregular or objectionable in the conduct of business in the Division that may have come officially under his notice.

Reports by
relieving Offi-
cer.

An Executive Engineer who fails to bring to notice, within a reasonable period, any defects in work taken over from his predecessor, will be held responsible for the work, both as to quantity and quality, so far as it may have been practicable for him to satisfy himself regarding it.

7.—The relieving Officer shall also report the relief to the Accountant to the Local Government, stating the cash balance he has received, and the amount of unadjusted balances, if any.

Reports by
relieving Offi-
cer of cash ba-
lance.

8.—The relieved Officer shall also report, through the Superintending Engineer, his having made over charge of the Division, and shall forward one copy of the receipts obtained from the relieving Officer (retaining the other in his own possession.) He shall then immediately proceed to his destination, if the case be one which requires expedition.

Reports by
relieved Offi-
cer, and his
movements.

9.—But if there be time, the relieved Officer shall accompany the relieving Officer, who shall, as soon as possible, proceed to inspect the out-stations in the manner prescribed in paragraph 4, reporting, if necessary, from each as required in paragraph 6.

Transfer of
out-post sta-
tions.

10.—In case of any disagreement between the relieved and relieving Officers, a reference shall be made to the Superintending Engineer; or in case of any matter requiring the decision of a person on the spot, application shall be made to the principal Civil or Military Officer to appoint a qualified person to act as Umpire.

Cases of dis-
agreement.

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Accounts to
be brought up.

11.—Every Executive Officer shall have his accounts brought up and ready to make over at the shortest notice ; and all contracts and other engagements shall be so arranged as not to be disturbed by a transfer.

No delay or
undue haste
allowed in
transfers.

12.—No Officer shall delay to make over charge of a Division after the arrival of the relieving Officer ; nor, on the other hand, shall he, without urgent necessity, leave the Station before the arrival of his permanent successor.

Taking charge
in cases of sud-
den emergen-
cy.

13.—In case of any sudden casualty occurring, or any emergent necessity arising for an Officer to quit his Station or Division, the next senior Officer of the Department shall take charge. When the person who takes charge is not of the Engineer or Upper Subordinate Establishment, he must at once report the circumstance to the nearest Civil Officer and obtain his orders as to the cash in hand, if any.

Case of the
decease of an
Executive En-
gineer.

14.—In case of the death of an Executive Engineer while in charge of his Division, the succeeding Officer shall proceed as above prescribed for a relief, forwarding, however, to the Superintending Engineer the receipts, which would otherwise be given to the relieved Officer.

Liquidation
of balances
due.

15.—No Officer shall, without special authority, liquidate any alleged balance due by Government to the Officer he relieves ; but an Officer succeeding to the charge of a Division shall take all steps necessary for the adjustment of his predecessor's accounts in regular course.

Relief of
Subordinates.

16.—The relief of Subordinate Officers shall be conducted on the principles above laid down for the case of Executive Engineers, the receipts and reports of the parties being sent to the Executive Engineer, and by him forwarded to the Central Office of Account, if not requiring the special notice of the Superintending Engineer.

Superintend-
ing Engineers
to see that
transfers are
properly made.

17.—It shall be a special duty of the Superintending Engineer to see that the transfers within his circle are regularly conducted.

CHAPTER XIV.

COURTS OF INQUIRY AND COMMITTEES.

1.—The following paragraphs of the Military Regulations require all Officers Commanding Stations and Posts to convene Courts of Inquiry, whenever any public property under charge of persons under their orders is lost or destroyed :—

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Military Regulations relative to loss or destruction of public property

SECTION XXII, PARA. 12.—“ On all occasions of the loss
“ of public property, whether by robbery, fire, or other cause,
“ Commanding Officers of Stations and Posts are to assemble
“ a Court of Inquiry, composed of three Officers of standing
“ and experience, in view to the fullest investigation being
“ made into the causes that may have led thereto, and the
“ circumstances attending the same ; the Court recording its
“ opinion, whether the Public Officer under whose charge the
“ property may have been, appears in every respect free from
“ the imputation of neglect of duty.”

Para. 16.—“ A duplicate copy of the proceedings of every
“ Court of Inquiry hereafter to be assembled to report on the
“ loss, injury, or destruction of public property, shall be made
“ over to the Commanding Officer, Commissary of Ordnance,
“ or other Officer in charge of the property, for transmission,
“ through the prescribed channel, to the Head of the Depart-
“ ment in which the property is to be accounted for.

Para. 17.—“ The Officer in charge of the property lost, in-
“ jured, or destroyed, or his subordinate on the spot, will attend
“ such Court of Inquiry, and the proceedings will, as usual,
“ be countersigned by the Officer Commanding the Station.”

Para. 18.—“ The assembly of Courts of Inquiry is dis-
“ pensed with in cases in which the damage or loss of public

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“ property is not more than can be repaired or replaced at a cost of Twenty Rupees ; such cases may be disposed of by the Head of the Department to which the property belongs.”

These orders not applicable to the results of Engineering operations.

2.—The above orders are applicable to the case of Military Buildings, and to any property under charge of Military Guards, but not to the stock of the Public Works Department (except in reference to a Military Guard), or to any accidents in building, or failures in process of manufacture of materials; which, if requiring unusual notice, will be reported on by the Superintending Engineer, and, if the magnitude of the occasion require it, by a special Committee of competent Officers under the orders of Government.

Application for, and assembly of, Courts of Inquiry.

3.—When any circumstance requiring the assembly of a Court of Inquiry in connection with the Public Works Department, occurs in a Military Station, the Executive Engineer, or, in his absence, the senior Subordinate at the Station, shall at once apply to the Commanding Officer for the assembly of the Court, and shall provide chairs, table, and writing materials on the spot for the use of the Members.

Committees on buildings sites.

4.—Committees, of which at least one, and in all practicable cases two, experienced Medical Officers must be Members, shall be assembled in all cases in which it may be necessary to select sites for barracks, hospitals, and other buildings intended for occupation by the troops, or when it may be required to report on their condition in a sanitary point of view.

Precedence of Officers on Committees.

5.—The following Rules concerning the precedence of Civil, Military, and Medical Officers on Committees are extracted from the Military Code of Regulations :—

SECTION XVIII., PARA. 5.—“ Whenever Committees composed of Military and Medical Officers are convened by the Commander-in-Chief, the President is invariably to be a Military Officer, and the Members are to take precedence according to their relative rank.”

Para. 6.—“ When Committees are convened by Govern-
“ ment composed of Military and Medical Officers, or of
“ these and Civilians also, the relative precedence of the
“ Members is to be that in which they are named in the order
“ convening the Committee. In such cases the President may
“ belong to any branch of the service.”

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CHAPTER XV.

RULES AFFECTING THE PERSONAL CONDUCT AND INTERESTS OF PERSONS EMPLOYED IN THE PUBLIC WORKS DEPARTMENT.

Section 1.—General and Miscellaneous.

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Sec 1.

No one in the Department to have a personal pecuniary interest in building operations.
Reports of movements.

1.—No person employed in the Public Works Department shall have a personal pecuniary interest, directly or indirectly, in the construction of any building or performance of any engineering work, or in the manufacture, supply, or sale of building materials.

2.—Every Officer of the Engineer or of the Upper Subordinate Establishment, transferred from one Station to another, must report his movements to the Officer under whose immediate orders he may be proceeding to serve. Officers of the Engineer Establishment must also report to the Chief Engineer under whom they may be serving, or proceeding to serve. These reports must be made, first, on being relieved; secondly, on starting; and afterwards once a week while in progress to join.

Privilege leave.

3.—Persons in the Public Works Department may be allowed one month's leave of absence in the calendar year, without loss of salary, provided it can be granted without inconvenience to the Public Service. The Executive Engineer may grant this leave to any person employed under him, except those belonging to the Engineer Establishment, whose applications must be sent to the Chief Engineer. The Chief Engineer may grant a month's leave in the year to any Officer of the Engineer Establishment. The Chief Engineer himself requiring leave must apply to the Local Administration.

4.—Leave for longer periods will be granted under the rules applicable to Commissioned, Warrant, Non-Commissioned Officers and Soldiers, or Unconvenanted Servants, respectively ; as explained in the following chapters.

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Sec. 1.

Long leave.

5.—All applications for leave must be made to, or through the Departmental superiors of the applicant.

Channel of application.

6.—Serious cases of misconduct or neglect of duty on the part of Officers of the Engineer Establishment, must be reported to Government for orders. Less important cases may be disposed of by the Executive Engineer, Superintending Engineer, or Chief Engineer.

Misconduct of Officers of the Engineer Establishment.

7.—Serious cases of misconduct, or neglect of duty, on the part of individuals of the Upper Subordinate Establishment, and on the part of Sub-Overseers or Sub-Surveyors, must be dealt with as prescribed in the next two chapters. Assistant Supervisors and others of higher grades may be reprimanded for less important cases of misconduct.

Misconduct of Officers of the Upper Subordinate Establishment.

8.—Overseers, Assistant Overseers, Sub-Assistant Overseers, and Sub-Surveyors, shall be liable to punishment by removal within the Division, at the discretion of Executive Engineers ; by fine, to the extent of one month's Departmental salary in the year, at the discretion of Chief Engineers ; by stoppage of promotion, or reduction to an inferior grade, at the discretion of the Government by which the appointment was made.

Punishment of Overseers and others.

9.—Defaulters' Books (Form No. 100) shall be regularly kept by Executive Engineers for the purpose of registering the offences of all Overseers, Assistant Overseers, Sub-Overseers, and Sub-Surveyors. No entry shall be made in these books except by the Executive Engineer, or an Assistant Engineer deputed by him ; and every entry must be made in the presence of the offender, and after a careful investigation of the charge.

Defaulters' Books.

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Sec. 1.

Inspection of
these books.

10.—These books must be carefully inspected by Superintending Engineers on their tours, and any complaint made by subordinates of the entries against them, or concerning the punishment awarded, must be carefully enquired into by the Superintending Engineer, and reported for the orders the Chief Engineer.

Dismissals by
Executive En-
gineer.

11.—Executive Engineers have power to dismiss Office Clerks or other persons employed under them, not including Sub-Overseers or Sub-Surveyors, or persons in the Upper Subordinate Establishment.

Dismissals in
general.

12.—As a general rule (where no special rule is laid down) the authority by which a person was appointed, and no inferior authority, is competent to dismiss him, or to remove him from the Department.

Resignations
while conduct
is under inves-
tigation.

13.—Except with the sanction of Government no person shall be allowed to resign his situation while his conduct is under investigation.

In forwarding to superior authority any application to resign Departmental employment, it should be stated whether any thing has occurred to affect the character of the applicant.

Suits against
individuals on
accounts of
Government.

14.—When any Officer or Subordinate in the Department is personally sued in a Court of Requests, or any Civil Court, by parties claiming from him wages or monies, arising out of transactions in which the Officer or Subordinate has no personal interest, and in which he is concerned only in his official capacity, and *bonâ fide* on behalf of Government, it will be necessary that he defend the suit by pleading that Government should be made the defendant, as the party really interested. Failing attendance to defend the suit, the Officer or Subordinate will become personally responsible.

Law Forms.

15.—Forms of deeds or other documents ordinarily required by persons in the Department will be settled by the Law Officers of the East India Company, and furnished to persons requiring them through the Chief Engineer's Office.

But in case of any document being required, under sanction of the Chief Engineer, to be drawn up by the Law Officers of the Company, no charge will be made on that account.

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Sec. 1.

16.—No person shall be deprived of the advantages of his standing in the Department in consequence of the Military rank of his juniors. But a Commissioned Officer cannot be compelled to serve under a Warrant or Non-Commissioned Officer, nor a Warrant Officer under a Non-Commissioned Officer; and in any case where a Warrant or Non-Commissioned Officer takes charge by virtue of departmental seniority, any Commissioned Officer of the Division may consider himself relieved from Departmental duty. Likewise a Warrant Officer may consider himself relieved when a Non-Commissioned Officer takes charge. But no Commissioned Officer can refuse to serve under his Departmental senior, being his junior in the Army and also a Commissioned Officer; no Warrant Officer, under his junior in the Army being also a Warrant Officer; and no Non-Commissioned Officer under his junior in Army rank being a Non-Commissioned Officer or soldier. No Commissioned, Warrant, or Non-Commissioned Officer can refuse to serve under his senior in the Department being a Civilian; nor can any Civilian refuse to serve under his senior in the Department of whatever Military rank.

Military
Rank.

It will be the duty of Chief Engineers to arrange so as, to the best of their ability, to prevent the possibility of any Commissioned or Warrant Officer being thrown temporarily out of Departmental employ under the above Rules.

17.—When no Civil Surgeon is at the Station, Officers and Subordinates of the Public Works Department employed in cantonments, or on Military duties in the immediate vicinity of cantonments, are entitled to the gratuitous professional attendance of the Staff Surgeon for themselves, and Warrant and Non-Commissioned Officers for their families.

Medical aid
in or near Can-
tonments.

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- Medical aid
in general.
- Medical aid at
out Stations.
- Journeys of
Medical Offi-
cers.
- Attendance
in quarters.
- Charge for
Medical atten-
dance.
- Native Doc-
tors.
- 18.—In all other cases, Officers and Subordinates of the Public Works Department for whom no special Medical attendant is provided, are entitled to the gratuitous attendance of the Civil Surgeon of the District for themselves, and Warrant and Non-Commissioned Officers for their families.
- 19.—In case of the severe sickness of any individual of the Engineer or Upper Subordinate Establishment at a distance from any Station, the Executive Engineer or an Assistant Engineer is authorized to send to the nearest Station for the Civil Surgeon; but the sick person shall, as soon as possible be removed to the Civil Station, as the Medical Officer must not be kept long away from his post.
- 20.—Medical Officers called away from their Stations under the above circumstances are allowed 8 annas a mile travelling allowance, and Rs. 5 for each day they are detained at the Out-station. This allowance is payable by the Executive Engineer on the receipted bill of the Medical Officer, and is to be charged as a contingent expense, subject to audit as usual.
- 21.—No person not holding departmental rank above that of Supervisor, or Military rank above that of Conductor, is entitled to claim Medical attendance at his own quarters, if proper hospital accommodation be available; but must go to hospital, *if required by the Medical Officer*.
- 22.—Civil and Staff Surgeons are entitled to charge 3 annas per diem for every person of the Public Works Establishment actually receiving Medical attendance from them. This charge will be paid and audited under the Rule laid down in paragraph 20. No such charge is admissible to a Medical Officer who receives salary specially for the charge of Public Works Establishments.
- 23.—Native Doctors, furnished with medicines, will be allowed as part of the Public Works Establishment wherever any large body of workmen is collected together. Sanction to their appointment must be obtained under the usual Rules;

and application for the services of individuals to fill sanctioned appointments will be made to Superintending Surgeons.

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Sec. 1.

24.—Casualties of any persons holding appointments in the Department must be reported immediately, through the regular channels, to the authority by which the appointment was made.

Casualties.

25.—Chief Engineers are authorized, at their discretion, to grant advances of money to any Subordinates who can show sufficient reason for requiring it, to the extent of one month's salary. The advance must be recovered by instalments within six months.

Advance to Subordinates.

Section 2.—Audit of Salaries.

1.—The Staff or Departmental salary of any person joining the Department, or appointed to a new situation, will commence on the day he joins.

Salaries from what dates claimable.

2.—When one person relieves another in any Office, the salary for the day of relief belongs to the relieved Officer ; and the increased allowances, if any, to the relieving Officer will not commence till the day after.

Claim for salary in case of relief.

3.—When an Officer is promoted from one grade in the Department to another, the promotion involving no change of duties, the increased allowance will be admitted from the date specified in the *Government Gazette*, or from the date of the vacancy, or failing these, from the date of the Notification.

Claim to increased rate of salary.

4.—An Assistant or Subordinate officiating as Executive Engineer is allowed Rs. 100 a month in addition to his allowances as an Assistant or Subordinate, whether he be a Military man or a Civilian ; but he must not draw more than he would do if permanently appointed an Executive Engineer of the 4th class.

Allowance for acting as Executive Engineer.

5.—In like manner a Subordinate acting for an Assistant is allowed an addition of Rs. 50 a month to his salary. This

Acting Assistant Engineer.

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Sec. 2.

allowance is not admissible on the mere circumstance of the Subordinate holding a charge formerly held by an Assistant ; but only when the charge involves duties and responsibilities which, in character or extent, are such as are not usually imposed on Subordinate Officers.

Sanction of
Supreme Go-
vernment to
the above.

6.—The extra allowances under the two last paragraphs cannot be passed until the Supreme Government has approved of the acting appointments.

Other cases
of acting ap-
pointments.
Military men.

7.—Excepting in the two foregoing cases, any Military Officer permanently attached to the Department and officiating in a higher grade will be allowed half the Staff salary of his own grade and half that of the grade in which he is officiating ; but no increased allowance will be granted to an Executive or Assistant Engineer of a lower class acting in room of one of a higher class of the same grade.

Civilians.

8.—The same rule is applicable to the Civil Officers of the Department, Civil salary being substituted for Staff salary.

Military and
Civil.

9.—If a Military Officer officiates for a Civilian, or a Civilian for a Military Officer, the rule is applied so as to affect each in the same manner as if he were officiating in room of an Officer of his own branch of the service ; the Military Officer receiving half the Staff salary of the grade in which he is officiating, and the Civilian, half the Civil or consolidated salary.

Allowances
of Officers not
belonging to
the Depart-
ment.

10.—When a Military Officer not permanently attached to the Department officiates in any grade, he is allowed, in accordance with the general rules of the service, the half Staff salary of the appointment.

Subordinates
succeeding to
Subordinates.

11.—No increased allowances are payable to any Officer of the Upper Subordinate Establishment, or to any Sub-Overseer, for performing duties previously entrusted to one of a higher grade of the Subordinate Establishment.

Military men
on Field Ser-
vice.

12.—Commissioned, Warrant, and Non-Commissioned Officers and Soldiers, permanently attached to the Department,

who are temporarily withdrawn for Military service in the Field, are allowed half the Staff salaries of their grades, chargeable to the Division from which they were withdrawn.

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But should the Officer withdrawn hold a Staff situation with the Field Army, with emoluments equal or superior to his permanent appointment, he will not be entitled to any portion of the salary of the latter ; but if the emoluments be inferior, he is to continue to draw a moiety of his Staff salary, or so much of the moiety as will make the Staff salary of his Staff situation with the Army equal to that of his permanent appointment ; the acting Staff Officer drawing the remainder.

Officers withdrawn for Field service must certify the amount of Staff salary they are drawing in the Field, before their Departmental allowances can be passed.

13.—When individuals of the Upper Subordinate Establishment occupy public buildings as quarters, monthly deductions from their allowances will be made as follows :—

House-rent.

Supervisor	15
Assistant Supervisor	10
Overseer	7
Assistant Overseer	6

Other Officers of the Department occupying public buildings will pay rent according to the value of the building occupied.

14.—The following Rules are laid down regarding the salaries of Officers and Subordinates of the Department of Public Works transferred from one charge to another, and are applicable to all grades or appointments :—

Transfers
from one Division
to another.

I. Officers of the Department of Public Works transferred from one charge to another, but without, at the same time, receiving promotion to a higher grade or appointment, will be entitled to receive the full salary of their grade for the whole

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Transfers from
one Division to
another.

interval that may elapse between their being relieved from their original appointment and their taking charge of their new one, on the following conditions :—

(1.) That their transfer has not been ordered on account of any misconduct of their own.

(2.) That the Chief Engineer, Executive Engineer, or other principal Officer, under whom their new Office is placed, certifies that they have used all reasonable and practicable dispatch in proceeding from their old to their new Station.

II. When the Officer transferred is, at the same time, promoted to a higher grade or appointment, the increased allowance will be drawn from the date of his taking charge of the new Office ; claims to the salary attached to his former grade or appointment, for the interval occupied in transit, being decided under the foregoing rule.

III. If both of these conditions are not complied with, no claim for salary will be admitted for any portion of the interval of time that elapses between giving over charge of the old, and assuming charge of the new appointment.

IV. To enable the Chief Engineer to form a proper judgment of the dispatch with which a transferred Officer has joined his new appointment, a Memorandum shall be attached to the Bill in which the salary for the period of transit is drawn, mentioning the dates of giving over and receiving charge, and of leaving the old and arriving at the new Station ; also the nature of the conveyance adopted, and of any unavoidable delays that may have occurred.

V. The salaries passed under these rules will be considered as an additional charge against the Division of Works or the appointment to which an Officer is transferred ; and no deduction will be made on their account from the allowances drawn in the ordinary course, either by the person who relieves the transferred Officer, or by the person who in turn is relieved by him.

Section 3.—Travelling Allowances.

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Sec 3.

Engineer Es-
tablishment.

1.—Travelling Allowances will be granted to the Officers of the Engineer Establishment under the following Rules. These allowances will in all cases be in addition to the regular Departmental salaries :—

I. No Travelling Allowance shall be granted in any case where an Officer does not proceed to a greater distance than 5 miles beyond the boundary of his Station, or from his ordinary residence, permanent or temporary, or standing camp, except as provided in Rule III.

II. For travelling on public duty any distance not exceeding 20 miles (whether, as in an excursion, 10 miles out and 10 back, or the whole in one direction) in one day, Officers shall (subject to the limitation in Rule I.) be allowed as follows:—

Chief Engineer	} Rs. 6 per diem.
Supdg. Ditto	
Executive Engineers, Superintendents of Works	“ 5 “
Assistant Ditto, including Special Assistants	“ 4 “

This allowance is to cover all expenses, including the provision of tents or boats, and other travelling equipage.

III. The same allowance shall be passed to an Officer halting, and obliged to maintain carriage for his tents complete, or to continue to pay the hire or crew of a boat, provided that when within 10 miles of his ordinary residence, permanent or temporary, he does not halt for more than three days.

IV. For travelling on public duty any distance greater than 20 miles (whether, as in an excursion, 10 miles out and 10 miles back, or the whole in one direction) in one day, Officers shall (subject to the limitation in Rule I.) be allowed 8 annas per mile for the whole distance travelled, in lieu of the daily allowance under Rule II.

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V. When an Officer makes a dawk journey, leaving his camp standing, he may draw allowances under both Rules III. and IV.

VI. An Officer transferred from one situation to another will be allowed 8 annas a mile as travelling allowance to join his new appointment, payable from the new Office after joining, subject to the same conditions as the claim for salary in similar cases.

VII. In the case of Chief Engineers, Superintending Engineers, and Assistants to Chief Engineers, the Travelling Allowance shall be passed on Bills supported by statements of the places visited, with the dates of arrival at, and departure from each, and of the distances travelled, with a certificate by the traveller that the journeys were performed in the discharge of public duty.

VIII. In the case of Executive Engineers and Assistant Engineers, the charges shall be passed on the submission of Journals showing, in addition to the particulars required in Rule VII., the object of each journey, and the duties performed, and the results of the inspections made on each day; the Journal bearing the countersignature of the Superintending Engineer in token of his belief that the journeys were properly undertaken (and carriage for tents, or boat establishment necessarily kept up) in the performance of public duty.

Upper Subor-
dinate Estab-
lishment.

2.—Travelling Allowances will be granted to the Officers of the Upper Subordinate Establishment under the following Rules. These allowances will in all cases be in addition to the regular Departmental salaries :—

I. A Subordinate Officer who is required to move daily or frequently to a greater distance than he can easily travel on foot, shall be allowed Horse Allowance at the rate of Rs. 15 per mensem, to be drawn on the certificate of the Executive Engineer that he is entitled to Horse Allowance under this Rule, and that a horse or other means of travelling is kept.

II. Double Horse Allowance shall, on a similar certificate, be allowed to any Subordinate Officer who is in charge of a sub-division of a Road, Canal, or Embankment.

III. Double Horse Allowance may also be granted, under sanction of the Chief Engineer, to a Subordinate Officer, in any case in which ordinary Horse Allowance is insufficient to cover the necessary expenses of travelling.

IV. Treble Horse Allowance may, under sanction of the Chief Engineer, be allowed to a Subordinate Officer employed on Embankments during the rainy season, in any case in which double Horse Allowance is insufficient to cover the necessary expenses of travelling.

V. The foregoing Rules are applicable to cases where buildings for shelter are provided, or where the Subordinate Officer is not required to proceed so far from his Head Quarters as to render the provision of shelter necessary.

VI. A Subordinate Officer performing duty which renders it necessary for him to keep up a tent and carriage for it, or to continue to pay the hire of a boat or its crew, shall, during the continuance of such duty, be allowed as follows, on the Executive Engineer's certificate that carriage for a tent was actually and necessarily kept up, or a boat actually and necessarily hired :—

Overseer and Assistant Overseer	Rs. 1½	per diem.
Supervisor and Assistant Supervisor	“ 2	“
Sub-Engineer	“ 3	“

Horse Allowance is not admissible in addition to the above tentage.

VII. This Allowance is to cover all expenses of travelling, but an Overseer or Assistant Overseer may, on the first occasion, be allowed a reasonable sum as an advance for the purchase of a tent, to be recovered by equal monthly deductions from his salary for 12 months, commencing three months after the payment of the advance.

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Sec. 3.

VIII. A Subordinate Officer above the rank of Overseer shall be allowed 5 annas per mile (reckoning the whole distance) for all journeys exceeding 20 miles in one day, made under the special sanction of the Executive Engineer, or under the orders of a superior Officer to the Executive Engineer.

IX. Under the same circumstances an Overseer or Assistant Overseer shall be allowed 2 annas per mile. But if ordered by the Chief Engineer to proceed by Palki or Carriage Dawk, the Dawk shall be laid by the Executive Engineer, and the cost charged in his accounts as a contingent expense.

X. Mileage cannot be drawn in addition to Horse Allowance or tentage, but must be considered to cover the whole expense of the journeys exceeding 20 miles in one day.

XI. Subordinate Officers in progress to join appointments (except when returning from leave) will be allowed travelling expenses under Rules I., III., VI., or VIII. and IX., according to the mode in which they may be directed to proceed. This will be payable from the new Office after joining, subject to the same condition as the claim for salary in similar cases (see para. 14, Section 2).

Lower Subor-
dinate Estab-
lishment.

3.—Sub-Overseers and Sub-Surveyors when employed on duties which render it necessary that they should travel often to the distance of 10 miles or more in one day, but having a fixed Head Quarters, and being provided with shelter when at a distance from their Head Quarters, shall receive a Travelling Allowance of Rs. 7½ per mensem; but when employed on duty which requires them to march unprovided by Government with shelter, or on field duty, they shall receive a Travelling Allowance of Rs. 15 per mensem. For journeys of upwards of 20 miles per diem, performed under sanction of the Executive Engineer or his Assistant, they shall be allowed one anna per mile. In every case these allowances will be admitted on the certificate of the Executive Engineer.

4.—The Travelling Allowances granted in the last three paragraphs are to cover all expenses of travelling, including the cost of conveying and protecting personal baggage, as well as such public records, stationery, books, and instruments as an Officer or Subordinate usually carries with him without requiring any separate means of conveyance or extra protection. But when any extra conveyance is necessary for public property, the *bond fide* expenses may be passed as a contingent charge at the Chief Engineer's discretion.

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What expenses these Allowances are to cover.

5.—It will be the duty of Superintending Engineers, on their tours of inspection, to make inquiries as to the Travelling Allowances drawn by the Officers of the Upper Subordinate Establishment and by Sub-Overseers, and to ascertain whether the allowance in each case is adequate to meet the necessary expenses of travelling on duty, and not higher than is fairly admissible under the foregoing Rules.

Superintending Engineers to enquire into Travelling Allowances.

6.—An Officer officiating in any appointment, will be entitled to Travelling Allowances under the Rules applicable to that appointment.

Officiating Officers.

7.—An Officer travelling on public duty is not entitled to occupy Government Staging Bungalows free of expense, nor to charge the expense to Government when he is in receipt of Travelling Allowances.

Staging Bungalows.

8.—An Officer is exempted from payment of all ferry and turnpike tolls when travelling on public duty within his own Division. When travelling on public duty beyond his own Division he must pay the tolls, but may charge the amount in a contingent bill when not in receipt of Travelling Allowances.

Ferry and Turnpike tolls.

9.—The Travelling Allowances of an Officer making a journey at the request of a Road and Ferry Fund Committee, will be charged to the Road and Ferry Funds.

Travelling on the business of Local Funds.

10.—All Departmental public servants, not expressly engaged for Field duty, for whom no special Travelling Allowance is authorized, will be allowed an addition of 30 per cent. to

Travelling Allowance to Clerks and others.

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Sec. 8.

their salaries when travelling under the orders of the Superintending Engineer or higher authority.

When such public servants are required to travel by any particular conveyance, for which the above allowance is not sufficient, the expenses will be paid by the Executive Engineer, and charged as a contingent expense.

Passages in
Government
vessels.

11.—The rules and rates of charge for persons provided with a passage in Government vessels are given in Appendix L. No Travelling Allowance is admitted in such cases.

Passage in
private vessels.

12.—When Subordinates are sent by private steamers or vessels, the passage of themselves and families will be defrayed by Government. No Travelling Allowance will be granted in addition.

CHAPTER XVI.

RULES RELATING TO PERSONS IN THE MILITARY SERVICE, EMPLOYED IN THE PUBLIC WORKS DEPARTMENT.

Section 1.—Commissioned Officers.

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Sec. 1.

1.—OFFICERS while employed in the Public Works Department cannot claim or exercise the right of command of troops or Stations, as senior Officers, by virtue of their commissions. Their orders on matters of Departmental duty are not military commands ; so that disobedience of those orders on the part of their Assistants or Subordinates is not punishable under the Articles of War. But disrespect to a superior or senior Officer employed in the Department is a Military Offence.

Military command.

2.—Officers employed in the Public Works Department are liable to be tried by Court Martial for conduct affecting their character as Officers of the Army, and for the Civil Offences specified in the 131st Article of War.

CourtsMartial.

3.—Situations on the personal staff of the Officer Commanding at a Station, or any staff situations which involve the control or conduct of the details and routine of Station duty, cannot be held by any Officer in charge of Public Works.

Military Staff.

4.—Officers on staff employ are not allowed to volunteer to join their Regiments ordered on Field service.

Volunteering,

5.—Officers employed in the Public Works Department at Military Stations are exempted from attendance at ordinary parades ; but are expected to attend the Commanding Officer on any public occasion on which he requires their presence.

Parades.

6.—Officers in the Public Works Department are not exempted from the Regulations established by H. E. the

Militaryrules.
Uniform. Re-
ports

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Commander-in-Chief regarding their uniform, and the reports required from Officers when on leave, or in progress to join their appointments.

Vacation of
appointments
on Military
promotion.

7.—Appointments in the Public Works Department held by Military Officers are to be vacated on their completing service, or attaining rank, as follows :—

Chief Engineer, after 5 years : does not cease to be eligible on promotion to the rank of Major General ; but his continuance in the appointment after attaining that rank must be reported for the sanction of the Court of Directors.

Superintending Engineer, on promotion to the rank of Regimental Colonel, in receipt of Colonel's allowance.

Executive charges and other inferior appointments (if held by other than Engineer Officers), on promotion to a Regimental Majority.

Military Pay,
&c.

8.—The Military pay and allowances of Commissioned Officers will be drawn in bills on the Military Pay Office of the circle in which the Officer resides under the usual regulations.

Military regu-
lations as to
leave, &c.

9.—The Officers in the Public Works Department are subject to the General Rules regarding time allowed for joining appointments, furlough, and leave of absence, Staff salary while on leave, no-demand certificates, audit of Military pay and allowances, drafts and pay bills, and occupation of quarters (with the exception para. 13, section 2., chap. XV.) as are applicable generally to Staff Officers.

Temporary
leave.

10.—Temporary leave to Commissioned Officers in the Public Works Department, in excess to that allowed in para. 3, section 1., chapter XV., may be granted by Local Administrations ; but general leave can only be granted by the Government of India.

Leave beyond
Sea.

11.—Applications for leave beyond the sea will, after receipt from the Local Government, be sent by the Government of India to the Adjutant General of the Army (or to the Officer in charge of his office at the Presidency) for re-submission

with a report of the views of His Excellency the Commander-in-Chief.

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Sec. 1.

In the case of Officers of the Royal Army, permission to apply for leave beyond sea will be granted by the Government of India ; on which the Officer will make his application through the Officer Commanding his Regiment.

12.—Casualties of Officers shall be reported immediately by the Senior Departmental Officer present to the Officer Commanding the nearest Military Station, to the Superintending Engineer, or Chief Engineer, to the Military Secretary to the Commander-in-Chief, to the Adjutant General of the Army, and the Officer in charge of the Adjutant General's Office in Calcutta, mentioning the time, place, and cause of decease.

Casualties.

Section 2.—Warrant Officers.

1.—Warrant Officers employed in the Public Works Department are amenable to the Articles of War in the same manner as Commissioned Officers, and must appear in uniform when required to do so by their official superiors, whether Military Officers or not.

Application of
the Articles of
war-uniform.

2.—Warrant Officers in the Department will be allowed the pay proper, batta, and tentage of their rank, which will be drawn by the Executive Engineer of the Division in which they may be serving from the Military Pay Office of the circle in which the Executive Engineer resides.

Military Pay,
&c.

3.—In respect to pensions, invaliding, and furlough to Europe, the Warrant Officers of the Public Works Department are under the same rules as those of the Ordnance Department. See Military Regulations.

Invaliding and
furlough.

4.—Leave in India may be granted to Warrant Officers by the Local Governments in communication with Army Head Quarters.

Leave.

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Sec. 2.
- 5.—The allowances of Warrant Officers absent on leave are regulated by the rules applicable to Commissioned Officers.
-
- Allowances while on leave. 6.—Casualties of Warrant Officers must be reported to the same authorities as casualties of Commissioned Officers.
- Casualties. Estates. 7.—Executive Engineers will be guided by the Military Regulations in dealing with the estates of deceased Warrant Officers.
- Misconduct. 8.—All serious cases of misconduct or neglect of duty on the part of Warrant Officers, must be investigated by a Court of Inquiry, of which the proceedings shall be submitted to Government for orders.

Section 3.—Non-Commissioned Officers and Soldiers.

- Application of the Articles of War. 1.—Non-Commissioned Officers and Soldiers transferred to the Public Works Department are amenable to the Articles of War in all matters affecting their character as Soldiers (Articles of War 80 to 87 and 108), including respectful bearing towards their Military superiors in the Department. They are also liable to trial by Court Martial for the civil offences specified in the 131st Article of War; but they cannot be tried for drunkenness on duty, if the duty be merely Departmental duty.
- Uniform. 2.—Soldiers must appear in uniform when required to do so by their official superiors, whether Military Officers or not.
- Pay, &c. 3.—Non-Commissioned Officers and Soldiers employed in the Public Works Department will be allowed their full pay and batta as Infantry Non-Commissioned Officers* or Soldiers. But they will not be allowed good-conduct pay nor subsistence money for their wives and families, nor clothing, bedding, nor fuel in hill stations, nor any other regimental allowance; their staff salaries being computed so as to afford compensa-

* Bombardiers of Artillery as Corporals of Infantry.

tion for these several advantages in addition to remuneration for the duty required of them.

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Sec. 8.

Records to be brought with Soldiers joining the Department.

4.—Non-Commissioned Officers and Soldiers appointed to the Department from Corps, or from the Government Colleges, should be furnished with descriptive rolls, records of service, and last pay certificates, which they must deliver to the Executive Engineer of their Division on joining. Duplicates of these documents should be sent by post to the Executive Engineer, together with an extract from the regimental defaulters' book for three years. Executive Engineers are required to call for these papers if not received in due time.

Promotion to Sergeant.

5.—Soldiers in the Department who have conducted themselves well, and have served 7 years from date of attestation, may be recommended for promotion to the rank of Serjeant. The recommendation must be forwarded by the Executive Engineer to the Superintending Engineer, accompanied by a descriptive roll, and extracts of the regimental and departmental defaulters' books. The application, with the Superintending Engineer's opinion recorded on it, will be passed on by the Chief Engineer direct to the Adjutant General of the Army, for the orders of His Excellency the Commander-in-Chief.

Family Remittances.

6.—Non-Commissioned Officers and Soldiers may make remittances to their relatives in England, through the Honorable Court of Directors, from *bona fide* savings from their Military pay, of not more than one year's accumulation. For this purpose they must apply to the Executive Engineer, who, having obtained the requisite form of roll from the Military Pay Office, will fill it up from information derived from the remitter, and send it in with the Pay Abstract, in which the remitter's pay is drawn, when the amount will be deducted from the abstract. If the sum be greater than what is drawn for the remitter, he must place the difference in the hands of the Executive Engineer before the roll can be sent in.

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Sec. 3.

Long Rolls
and other mat-
ters of Military
regulation.

7.—Annual descriptive long rolls of all Non-Commissioned Officers and Soldiers serving in the Department shall be sent by Executive Engineers, direct to the Town Major of Fort Willam; and the regulations on the following heads contained in the Military and Pay and Audit Codes are to be carefully attended to :—

Renewals of Enlistment.

Bounties.

Marriage and Birth of Children.

Discharges.

Invaliding.

Pensioning.

Estates.

Pensions to Widows.

Casualties. 8.—Casualties will be reported direct to the Town Major's Office, using the form of casualty roll prescribed in the Military Regulations.

Discharges. 9.—Any Non-Commissioned Officer or Soldier obtaining his discharge, or otherwise leaving the Military service, will not necessarily cease to belong to the Public Works Establishment; but will be allowed to remain as a civilian, unless specially ordered to be removed.

Leave. 10.—Non-Commissioned Officers and Soldiers employed in the Public Works Department, may be allowed leave of absence by the Local Government, for any period not exceeding two years, on medical certificate, provided that no such leave be granted within two years after return from a previous leave. The Local Government may also grant leave on private affairs for any period not exceeding six months, after six years' service, provided the exigencies of the public service admit of it. Men obtaining leave as above will be

allowed half their staff salaries, together with their Military pay and batta, but no travelling allowances. Their allowances will be drawn by the Executive Engineer of the Division to which they are attached.

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Sec. 3.

11.—Whenever an Executive Engineer may think that a Non-Commissioned Officer or Soldier should be remanded to his Corps for misconduct, he shall apply to the Officer Commanding the nearest station, for a Court of Inquiry to investigate the matter; or, if there be no Military Station in the neighbourhood, the Executive Engineer shall submit a detailed statement of evidence, with the defence of the accused, to the Chief Engineer. In the latter case, the Chief Engineer will, at his discretion, either submit the statement to Government, direct the assembly of a Departmental Court of Inquiry (composed of any three Officers of the Engineer Establishment), or order the accused, with the witnesses, to be sent to a Military Station, for investigation of the case by a Military Court of Inquiry.

Remand to
Corps.

12.—Every recommendation for the remand of a Non-Commissioned Officer or Soldier to his Corps shall be accompanied by a detailed statement of evidence, with the defence of the accused, or the full proceedings of a Court of Inquiry, including the Court's opinion of the case.

Defence re-
quired.

13.—When a Non-Commissioned Officer or Soldier is remanded to his Corps copies of the reports and proceedings connected with his removal must be sent to the local Commanding Officer of the Corps, by the Executive Engineer; as also documents similar to those which should be received from the Corps with the Soldier (see paragraph 4).

Paper to be
sent to the
Corps to which
a Soldier is
remanded.

14.—Children of Non-Commissioned Officers and Soldiers serving in the Public Works Department are allowed to attend regimental schools, paying as Staff Sergeant's children.

Children's
Schooling.

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Sec. 8.

Employment
of Soldiers by
Executive En-
gineers.

15.—There is no objection to Executive Engineers obtaining, through the Local Military Authorities, the services of smart and intelligent Soldiers for such duties as they may be competent to perform. On the departure from the Station of the regiment to which such soldiers may belong, they must, of course, return to regimental duty. They may be allowed salaries not exceeding Rs. 20 a month, subject to sanction under the rules for temporary establishments. See chapter I.

CHAPTER XVII.

RULES APPLICABLE TO PERSONS NOT IN THE MILITARY SERVICE EMPLOYED IN THE PUBLIC WORKS DEPARTMENT.

1.—EVERY person not in the Military Service, nor under covenant to the Government of India or Court of Directors, must, before he can be permanently appointed to the Engineer Establishment or Upper Subordinate Establishment, furnish security to the amount of Rs. 2,000 in the former, and of Rs. 400 in the latter, to be forfeited in the event of his quitting the Department without leave, or without giving six months' notice, or without adjusting his accounts to the satisfaction of the Chief Engineer.

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Security re-
quired.

2.—The security must be either the bond (Form No. 101) of a Joint Stock Company, a mercantile firm, or of two individuals, in each case to be approved by Government; or the deposit of cash, or of Government Promissory Notes, duly endorsed to the Officer in whose custody they are to remain. The cash or notes must be lodged under an agreement (Form No. 102) with the Sub-Treasurer of Fort William, or with the Officer in charge of the Civil Treasury at Agra or Lahore, or any Treasury appointed by the Local Administration. Any individual lodging a Government Promissory Note will be allowed the interest thereon, on his making application through his Departmental superior, to the Officer in whose hands the note is lodged, who is authorized to grant drafts on the Government Treasuries for the amount. The security can only be returned on the order of the Local Administration.

Nature of
security.

3.—The Chief Engineer may, at his discretion, permit the security to be furnished by instalments from salary, so that the whole be lodged within 12 months. The instalments will

May be lod-
ged by instal-
ments from sa-
lary.

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XVII.

be deducted from salary bills by the Executive Engineer, and will be transferred, through the Central Office of Accounts, to Government, in a deposit account.

Security from
Cashiers, &c.

4.—Cashiers and Store-keepers must also furnish security, which will be regulated according to circumstances and to local custom in each case, under the sanction of the Chief Engineer.

Officers under
special cove-
nant.

5.—Engineers and others under special covenant to the Court of Directors, will, on all points not specially provided for in their covenants, be considered as Uncovenanted Servants.

Misconduct of
Uncovenanted
Officers.

6.—Serious misconduct or neglect of duty on the part of Uncovenanted Servants, in the Upper Subordinate Establishment, and of Sub-Assistant Overseers, will be dealt with as prescribed in the case of Military Subordinates, except that the Courts of Inquiry will be Departmental.

Leave.

7.—Leave in excess of one month in the year to Uncovenanted Officers and Subordinates will be granted under the Rules applicable to the Uncovenanted Service generally, which are given in Appendix M.

Pensions.

8.—The Rules connected with superannuation pensions to Uncovenanted Servants, are given in Appendix M.

Family pen-
sions and gra-
tuities.

9.—Pensions are not allowed, under any circumstances, to the families of persons eligible to subscribe to the Uncovenanted Service Family Pension Fund, to which the Government contributes. Pensions or gratuities are allowed to the widows and families of workmen and others killed in the performance of duty, and also to workmen severely injured for life in the performance of duty. The Rules on this subject are given in Appendix M.

Transfers from
one Depart-
ment to an-
other.

10.—Persons employed in one Department are not eligible for employment in another, without the full consent of the Head of the Department in which they are employed; and no person dismissed from a Department for misconduct, may be re-employed in that Department, or in any other, without the sanction of Government.

11.—In order to check the arbitrary dismissal, from insufficient causes, of Uncovenanted Servants, an Half-Yearly Return of all dismissals of persons in receipt of Rs. 10 a month or more is required to be made through the regular channels to the Local Administration, dated 1st May and 1st November. (Form No. 103.)

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Dismissals.

12.—The following Regulation, by which neglect to perform work is made a criminal offence, is applicable to workmen and others, not being Europeans, employed in the Public Works Department, provided they are engaged for a stipulated term of service, or are under contract for the performance of a specific work.

Obligation on
workmen and
others to com-
plete work or
service.

Regulation VII. of 1819, Sections V., VI., and VII.

“V.—All persons who may voluntarily engage to serve as
“workmen of any description for a stipulated term, or who
“may voluntarily contract for the performance of any specific
“work, and who, without good and sufficient cause, shall
“wilfully quit the service so engaged for, before the expira-
“tion of the term agreed upon, or shall wilfully neglect to
“perform the work so contracted for, shall be deemed guilty
“of a misdemeanor ; and on conviction before a Magistrate or
“Joint Magistrate, shall be liable to a sentence of imprison-
“ment not exceeding one month. The Magistrate or Joint
“Magistrate may likewise require the persons so convicted to
“complete their stipulated term of service, or to perform the
“work contracted for, if it appear just and proper to require
“the same ; and any subsequent conviction of wilful neglect
“to comply with such requisition shall be punishable by
“a further sentence of imprisonment not exceeding two
“months.”

“VI. CLAUSE FIRST.—The provisions of the foregoing
“section are also declared applicable to domestic servants,
“who may engage to serve for any fixed term, or during the

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Obligation on
workmen, &c.
to complete
work or ser-
vice.

“performance of any specific service, or, though no such
“engagements have been entered into, may be employed from
“month to month, and without good and sufficient cause, shall
“wilfully quit the service of their employer before the expi-
“ration of the fixed term, or before the completion of the
“stipulated service, or with respect to monthly servants, with-
“out giving previous notice for a period not less than 15 days.

“SECOND.—In like manner, no master, or other person,
“employing a servant for a fixed term, or for a specific service,
“or from month to month, shall be at liberty, without good
“and sufficient cause, to discharge such servant against his will
“before the expiration of the fixed term, or the completion of
“the specific service ; or with respect to servants employed
“from month to month, without giving previous warning of
“the intended discharge for a period of at least fifteen days, or
“paying his wages for that period.

“THIRD.—It shall be the duty of the Magistrate or Joint
“Magistrate, on application made to him on the stamp paper
“prescribed in section 18, Regulation I. of 1814 (viz., bearing
“a stamp of 8 annas), to enforce the provisions of the above
“clause, by causing payment to any servant who may be
“discharged in opposition thereto, of a sum equal to half a
“month’s wages, in addition to any arrear of wages which
“may be due to him at the term of his discharge, or if the
“servant have been engaged for a fixed term, or for a specific
“service, by causing payment to be made to him of such sum
“as may appear fully adequate to any loss sustained by him
“from being discharged before the time agreed upon.

“FOURTH.—Provided, however, that no servant shall be
“entitled to recover more than his arrear of wages when he
“may be discharged for misconduct, proved to the satisfaction
“of the Magistrate or Joint Magistrate, appearing sufficient
“to warrant his discharge ; nor shall any workman or servant
“be liable to punishment under the provisions of this Regula-

“ tion, when it may be proved to the satisfaction of the Magistrate or Joint Magistrate, that his quitting the service of his employer, without previous notice or before the expiration of a stipulated term, or without having completed the performance of any work contracted for, was occasioned by gross mal-treatment, or by non-payment of wages due, or by any other cause which may appear to the Magistrate or Joint Magistrate, sufficient to justify or excuse the act complained of.”

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Obligation on workmen, &c. to complete work or service.

“ VII.—The whole of the sentences which may be passed by a Magistrate or Joint Magistrate under any part of this Regulation will, of course, be open to the regular control of the Court of Circuit of the Division, according to the general Rules in force on the subject.”

N. B.—The Sudder Court have decided that cases under the above Regulation may be prosecuted either in the District in which the agreement was executed, or in that in which the defendant resides.

13.—The term “ contract,” as used above, does not necessarily imply a written contract ; but it may be convenient to have simple forms of written contract drawn up for use in entering into engagements with workmen and others. Such forms are given in Form No. 104.

Contract not necessarily a written one.

14.—For minor neglects and offences Executive Engineers may fine Artificers and workmen and other persons employed in the Department, not specified in the Rules in chapter XV., section 1, paragraphs 6 to 10 ; the offender having the option of standing a prosecution under the foregoing act, or of being dismissed, in preference to submitting to the fine.

Fines.

CHAPTER XVIII.

OFFICE ARRANGEMENTS.

Section 1.—Establishments and Miscellaneous.

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Sec. 1.
-
- Hours of attendance.
- How fixed.
- Absence.
- Sickness.
- Absence beyond a month.
- Holidays.
- 1.—THE ordinary attendance required of Office Establishments is six hours daily, Sundays and holidays excepted ; but if the urgency of business requires extra attendance, it must be given without any claim for extra remuneration.
- 2.—The ordinary hours of attendance will generally be from 10 or 11 A. M. till 4 or 5 P. M. at the discretion of the head of the Office, who is at liberty, however, in peculiar circumstances, to fix the hours otherwise.
- 3.—Every clerk or other person employed in a Public Office, who may be absent from his duty without leave from the Head of the Office, except in case of sickness, shall forfeit his salary for the period of such absence, or may, at the discretion of the head of the Office, be permitted to make up for his non-attendance by working beyond the ordinary hours.
- 4.—Persons absent on the plea of sickness must produce a Medical Certificate of their inability to attend, if called upon to do so. In every such case a Medical Certificate shall be required when the absence extends over more than three days.
- 5.—In case the absence extends over one month the person shall be considered on leave on Medical Certificate, and his salary will be subject to reduction under the rules referred to in chapter XVII.
- 6.—Holidays are allowed on Christmas Day, New Year's Day, Good Friday, and the Queen's Birth Day. Besides these the following Native Holidays are allowed in the

Public Work Offices in Calcutta. At other places the Heads of the Offices may modify the leave allowed on Native Holidays, according to local custom, but not so as to exceed on the whole the number of Native Holidays allowed in Calcutta :—

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Sree Punchomy,	Two Days.
Seeboo Ratre,	One ditto.
Dole Jatra,	Two ditto.
Churruck Poojah,	One ditto.
Ruth Jatra,	One ditto.
Jummo Ostomee,	Two ditto.
Dooorga Poojah,	Six Working days.
Kalee Poojah,	Two Days.
Jugguthdhatree Poojah... ..	One Ditto.

7.—The scale of salaries allowed by Government for Office Establishments is intended to procure men in every respect fit for their Offices. When a new Office is formed, or when it is necessary to appoint new men to old Offices, the appointments must be considered probationary, and the full salary should not be allowed till the Officer in charge of the Office reports the newly-appointed person efficient. Officers are not competent to appoint persons to their Offices on higher salaries than have been formerly allowed, or sanctioned by Government ; but they are at liberty to appoint persons on lower salaries, and to raise their salaries gradually, or at once, up to the fixed standard, as the persons become more efficient.

Scales of salaries how applied.

8.—When the full amount allowed for the Establishment of any Office is not expended, a note to that effect should be made in the Annual Returns of Establishments prepared in the Chief Engineer's Office.

Note in Annual Returns when the full charge is not made.

9.—The ordinary contingent charges connected with Office Establishments for supplying and working punkahs and tatties ; the employment of Bheestees and Sweepers, furnishing lights

Contingent charges.

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for treasure guards, petty repairs of Office furniture, &c., may be disbursed by Executive Engineers and brought forward in the monthly contingent bill subject to the check of the Chief Engineer. Extra Peons or Dufteries required for any particular reason for not more than 3 months, may be charged for in the contingent bill, and passed at the discretion of the Chief Engineer.

Furniture. 10.—Expenditure on new Office furniture must be sanctioned by the Chief Engineer before being incurred.

Office rent. 11.—When Executive Engineers, and Superintendents of Works provide accommodation for their Offices, they are allowed to draw Office rent at the rate of Rs. 30 a month.

Conveyance charges. 12.—Bonâ fide charges for conveying Office records, furniture, and tents will be admitted where their removal has been sanctioned by the Superintending or Chief Engineer.

Tents. 13.—Tents actually required for the use of the Public Office Establishments will be provided at the public expense, on the specific sanction in each case of the Chief Engineer. Such tents should be of the description usually supplied to European Soldiers. They will be obtained from the Public stores or purchased; and their number and size must be made proportional to the number of clerks to be provided for.

Guards. 14.—When marching or in camp on public duty, officers are allowed guards, on the following scale, for the protection of public property.

Chief Engineer,	}	1 Duffadar & 8 Burkundazes.
Superintending Ditto,		
Superintendent of Works,	}	1 Ditto and 6 Ditto.
Executive Engineers,		
Assistant Ditto,	}	1 Ditto and 4 Ditto.
Subordinate Officers, in special cases under sanction of the Chief Engineer, ...		

Section 2.—Stationery.

1.—Stationery is supplied to Public Offices by the Superintendent of Stationery at Calcutta, who acts under the orders of the Board of Revenue, Lower Provinces.

2.—The Superintendent is authorized to issue Circulars, regulating minor points connected with the supply of Stationery, subject to the revision of the Board of Revenue. •

3.—The following Officers of the Department of Public Works (and any others who may be added by the Board of Revenue) are authorized to indent on the Superintendent of Stationery for supplies :—

Barrack Masters.

Civil Architect.

Director of Canals.

Engineers, Chief.

„ Garrison.

„ Executive.

„ Superintending.

Superintendents of Engineering Works.

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Stationery
Department.

The Superin-
tendent.

Officers enti-
tled to indent
on him.

4.—Indents for Stationery shall be submitted annually on printed forms supplied by the Superintendent, and these forms must be carefully filled up. The number and quantity of articles should be as small as possible, and must not exceed the scale of supply prescribed in the printed form. (Form No. 105.)

Indents.

The Indents must include the Stationery required for all Subordinates (except those who use country paper); and indenting Officers must intimate probable changes in their Offices which may affect the demand.

Stationery for Main Guards will be included in the Barrack Masters' Indent, but Executive Engineers and Barrack

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Masters have nothing to do with the supply of Stationery for Military Schools, or to Brigade or other Staff Offices.

Instruments
and drawing
materials.

5.—Instruments will be supplied by the Superintendent, Mathematical Instrument Department; but the Superintendent of Stationery will supply drawing pencils, colours, and drawing paper, but not cloth for mounting drawings, which Executive Engineers must purchase.

Forwarding
Indents.

6.—The Indents must not be accompanied by any letter, except when explanations required are too long to be given in the Indent. Indents from Offices above Allahabad must be forwarded so as to reach the Superintendent of Stationery before the 1st May of the year previous to that for which the supply is required, and from Offices below Allahabad before the 1st October.

Emergent
Indents.

7.—Emergent Indents are not admitted except in cases of necessity, and the Superintendent of Stationery is authorized to disallow all which he considers not to be supported by satisfactory reasons. Columns 3, 5, and 6 of the form only need be filled up when the Indent is emergent.

Address.

8.—If the label of address in the Indent be not properly filled up by the Indenting Officer, the Superintendent is released from all responsibility for non-receipt or delay.

Indents to go
through Super-
intending En-
gineer.

9.—Indents from Executive Engineers must be sent to the Superintendent of Stationery through the Superintending Engineer.

Blank Forms.

10.—Lithographed or printed forms will be supplied at Government expense by the Superintendent of Stationery, a corresponding deduction being made in the paper supplied. The forms must have been approved of by the Chief Engineer, and should be indented for annually in the general Indent for Stationery. Forms may also be obtained by Officers at a distance from the Presidency from Local Presses, under sanction of the Chief Engineer, and may be supplied from the Central Office of Account.

11.—The following extract from Bengal Government Notification dated 23rd February 1851, contains the Rules for the receipt and custody of Stationery, and for the purchase of such articles as are not supplied by the Superintendent. They must be carefully attended to :—

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“XIX. The Superintendent of Stationery will advise the Indenting Officer when and how his supply of Stationery is despatched, noting particularly the address (which will be copied from the label on the Indent) to which it is consigned. Should there be any error in the address so notified, or should the despatch not reach its destination in due course, the Indenting Officer must take such steps as may be necessary for the correction of the error in the address and for securing the receipt of the supply despatched, communicating at the same time with the Superintendent of Stationery, if he considers it necessary.

Despatch of
supply of Sta-
tionery.

“XX. On the arrival of the supply, the Indenting Officer should have the packages placed in a dry and properly protected place, prior to their being opened and counted out as soon as can conveniently be done.

Arrival of
supply of Sta-
tionery.

“XXI. The packages must be carefully opened and their contents counted out in the presence of the head of the Indenting Office, who is required to watch the process, certifying the same at the foot of the receipt. The receipt must then be signed, and immediately transmitted to the Superintendent, with a detail of such articles as ought to be in the case, according to the list received from the Superintendent, but which are not found in it. The transmission of the receipt must not be delayed pending the reference to the Stationery Office regarding such short receipts, which will form the subject of a separate correspondence.

Opening pack-
ages and sign-
ing receipts.

“XXII. Officers who have Covenanted Assistants may employ those Assistants to supervise the unpacking and counting of the supply ; and in the Government Secretariats,

By whom to
be supervised.

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“Boards, and Sudder Courts, this duty may be performed by
“the Registrars. In all other Offices, in case of the absence
“on duty of the Head of the Office, or other sufficient cause,
“the packages may be opened by the Head Clerk or prin-
“cipal Uncovenanted Assistant. In all these cases the certi-
“ficate must be signed by the person who opens the packages,
“and countersigned by the Head of the Office.

Liabilities for
short receipts.

“XXIII. The liabilities for short receipts will be adjusted
“as follow :—

“The Superintendent of Stationery will submit to the
“Board periodically a statement of short receipts classed
“under three heads, A, B, and C.

“The value of trifling deficiencies contingent upon excu-
“sable accident, will be included in A, and passed by the
“Board to be written off to profit and loss in the accounts of
“the Superintendent.

“The liability for short receipts, where the supplies are
“certified to have been opened and duly examined, in the
“presence of the Head of the Office, will come under head B,
“and rest with the Superintendent of Stationery and his
“employés.

“For the value of short receipts, where the provisions of
“these rules shall not have been strictly observed, which will
“be shown under head C, the Receiving Officer will be held
“responsible.

Adjustment of
the above.

“XXIV. The above statements, with the Board’s orders
“on them, will then be sent to the Accountant’s Office for
“adjustment.

“In cases where the Stationery Office is held responsible,
“the amount will stand at the personal debit of the Super-
“intendent, until recovered by him from the party respon-
“sible to him.

“When the indenting Officer is held liable, as under
“head C, an extract from the statement will be sent to the

“ Civil Auditor’s, Military Auditor General’s, or Accountant’s
 “ Office, as the case may be, with a view to the necessary
 “ steps being taken for the recovery of the amount, under
 “ the general rules in force in those Offices, for the recovery of
 “ other dues to Government.

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“ XXV. Whenever the Receiving Officer may have rea-
 “ son to consider that the packing, or transport of the cases
 “ has been improperly or carelessly performed, he is required
 “ to intimate the same, whether actual injury has resulted or
 “ not, to the Superintendent of Stationery, mentioning the
 “ reasons for his opinion, with suggestions for future preven-
 “ tion. The Superintendent will take steps to obviate a
 “ recurrence of the neglect pointed out.

State of the
 packages to be
 noticed.

“ XXVI. On receiving an Indent from an Office at the
 “ Presidency, the Superintendent will fix a time for the
 “ delivery of the Stationery. At the time fixed, an Assistant
 “ from the Indenting Office will attend at the Stationery
 “ Office to take charge of the supplies, and see them put into
 “ the Stationery cart. The keys of the cart will then be put
 “ in a sealed envelope and sent to the address of the Indent-
 “ ing Officer. Objections must be made before the supplies
 “ leave the Office, and bottles, baskets, &c., belonging to the
 “ Stationery Office, must be returned.

Delivery of
 Stationery at
 the Presidency.

“ XXVII. Complaints as to the quality of supplies receiv-
 “ ed should be accompanied by an average sample of the
 “ article complained of, duly attested by the complaining
 “ Officer as being part of the supply furnished by the Sta-
 “ tionery Office, on such a date, and the marks on the articles
 “ or covering of the packages should be carefully ascertained
 “ and reported. To prevent fraudulent substitution of other
 “ than the Government supplies, these complaints can only be
 “ admitted when preferred within seven days of the opening
 “ of the cases. Complaints of good articles being damaged in
 “ transit should be accompanied by the Officer’s opinion, and

Complaints.

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“ the grounds of it, as to whether the damage was caused by
“ bad soldering, careless packing, or from maltreatment of the
“ package in the Post Office, Steamer, or other mode of
“ conveyance.

Purchasing
prohibited-ex-
ceptions.

“ XXVIII. In consequence of the arrangements now
“ made for the timely Indent for, and supply of, Stationery,
“ from the Government Office to Public Offices in all parts
“ of the country, the necessity for purchasing supplies on the
“ spot will rarely occur. Such purchases may occasionally
“ be indispensable, but will only be admitted where the case is
“ shown to be one of great emergency, and the declaration
“ upon honor at the foot of the bill is signed. Public Officers
“ are desired to borrow from other Offices pending the arrival
“ of their own supplies, rather than resort to local purchase,
“ giving early advice to the Superintendent.

Contingent
bills for articles
of local supply.

“ XXIX. The fixed sum hitherto allowed for Country
“ Paper and other articles of Stationery will cease in all Offices
“ from the 1st of May next. The actual expenditure on

“ account of such articles as
“ are not supplied on Indent*
“ by the Superintendent of

* Serampore Paper can always be supplied, and should be indented for in the Annual Indent.

“ Stationery will be included monthly in a Contingent Bill (form
“ of which will be supplied) and forwarded in duplicate to the
“ Superintendent of Stationery, whose countersignature will
“ be sufficient authority for the expenditure being charged in
“ the Cash Account of the Office transmitting it. The Accoun-
“ tants to the Governments of Bengal and the North-Western
“ Provinces, being furnished by the Superintendent with a
“ Statement, passed by the Board of Revenue Lower Provinces,
“ of such Bills in aggregate, will be enabled to check and pass
“ the several charges as they come before them, in the Cash
“ Accounts of the Treasuries from which they are paid. The
“ Contingent Stationery Bill of any Office, which has no
“ Treasury of its own, will be payable when countersigned by

“ the Superintendent, at the Treasury from which the salaries
 “ of the Office are disbursed. The above Rule is intended
 “ to apply only to Officers located at Sudder Stations,
 “ and not to Moonsiffs, Dar-
 * It applies to all Joint Magis- “ rogahs of Police, of Salt Cho-
 trates as well as to Sub-Deputy “ kies, and similar Mofussil
 Opium Agents. “ Officers.*

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 XVIII.
 Sec. 2.

“ XXX. In cases where the Superintendent of Stationery
 “ finds that he can supply any
 The Superintendent can supply “ article of Stationery at a
 Country Paper, of good quality, at 2 “ lower rate than that charged
 Rupees 8 annas per ream. “ in the Contingent Bill of any
 “ Office, he will intimate the same to the Head of that Office,
 “ who will then abstain from making local purchases, and
 “ indent upon the Stationery Office for the articles indicated
 “ by the Superintendent.

Comparison
 of local with
 Calcutta prices.

“ XXXI. In the Stationery Bill above described, will be
 “ included all charges for Vinegar, Glue, Cloth, Oil, Paste,
 “ Country Ink, Country Pens, Needles, Twine, Binding Re-
 “ cords, all charges, in short, coming under the designation
 “ of Stationery Contingencies.

Charges to be
 included in the
 Contingent
 bill.

“ XXXII. Care must be taken the head of every Office
 “ to prevent the use of the Government Stationery in any
 “ other than the Public Service. The stores of Stationery
 “ should be placed in charge (under lock and key) of a
 “ responsible Writer or Assistant in the Office, whose name
 “ should be communicated to the Superintendent of Station-
 “ ery and be attached, in addition to that of the indenting
 “ Officer, to all Indents. A book (which is to be sent, when
 “ required for inspection, to the Superintendent) is to be
 “ kept by him of all issues of Stationery, and such issues
 “ are to be acknowledged in it by the signature (in initials)
 “ of the Officer or Assistant who takes the articles. Any
 “ abuse apparent to the Assistant in charge of the Stationery

Custody of
 Stationery.

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XVIII.

Sec. 2.

Fraud and
waste.

“ is to be brought to the immediate notice of the Head of the
“ Office.

“ XXXIII. All cases of fraud, or wilful waste, are to be
“ reported to the Superintendent, who, with the sanction of
“ the Board, will direct a criminal prosecution of the offender,
“ or such other measures as may be deemed proper. Paper
“ supplied from the Government Office, being now stamped
“ with distinguishing marks, the detection of such fraud or
“ waste is much facilitated, and all public Officers are invited
“ to co-operate in checking abuses, which entail in the aggre-
“ gate a serious loss upon Government.

Packing
cases how dis-
posed of.

“ XXXIV. Packing cases received from the Stationery
“ Office are to be sold, and the proceeds credited to the Su-
“ perintendent of Stationery in the Cash Accounts of the Office.
“ The amount so credited being communicated to the Super-
“ intendent at the close of the year of account.”

CHAPTER XIX.

OFFICIAL DOCUMENTS.

Section 1.—General and Miscellaneous Rules. •

1.—ALL official books and records are the property of the State and must be carefully preserved, unless permitted to be destroyed under sanction of superior authority. This Rule includes the records of Subordinates, which must be given up to the Executive Engineer when demanded by him.

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Sec. 1.

Official books
and records are
public prop-
erty.

Destruction
of records.

2.—Superintending Engineers are competent to sanction the destruction of such records in Executive Engineer's Offices, or belonging to their Subordinates, as may be considered useless.

3.—All Officers are required to conduct their Office work in such a manner that, while preserving a sufficient record of every transaction which requires it, the bulk of documents may be kept as small as possible.

Bulk of rec-
ords to be kept
small.

4.—No Officer, Civil or Military, shall publish, without the previous sanction of superior authority, any documents, papers, or information of which he may have become possessed in his official capacity.

Publication of
Official papers.

5.—Superintending Engineers may sanction the publication by Executive Engineers in the Journal of the Asiatic Society, or other scientific periodical, of any papers, or portions of papers, connected with their official duties, which may contain professional or scientific matter of general interest.

Superintend-
ing Engineers
may sanction it.

6.—An Officer receiving a Subpœna to produce official documents in a Court of Law should, provided the documents be specified, produce them to the Court, and, should he think there is any public objection to their being put in as evidence, he should state it, leaving it to the Court to decide.

Production of
records in Law
Courts.

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XIX.

Sec. 1.

 Stamped paper.

7.—Contract deeds, security bonds, and other law papers connected with the Government Service in the Public Works Department need not be drawn up on stamped paper, all such papers connected with the Government Service being exempted from Regulation X. of 1829 requiring the use of stamps.

Clear writing
and good paper.

8.—All official documents must be clearly written, and, unless otherwise ordered, all those intended for record must be drawn up on foolscap paper.

Erasures.

9.—Erasures are not, as a general rule, allowed in documents which are vouchers for any payment or statement of account. If it be unavoidable to give in any such paper containing an erasure, the place should be signed with the initials of the Officer whose signature is attached to the document.

Numbers and
dates.

10.—All official documents must be numbered and dated ; the numbers must commence from the beginning of the official year (1st May) ; and must be carried on in a separate series for each class of documents.

Label of con-
tents.

11.—On every official document, except letters, a brief label must be written, so that the nature of the document may be seen from the outside when it is folded up. The label of Estimates and Bills must show the amount.

Margin.

12.—A margin of half an inch for binding should be left on the inside of the sheet in every document for which no larger margin is prescribed.

Receipt of
papers to be
recorded.

13.—When documents are sent for countersignature, the date of transmission should be recorded on them, as well as the date of receiving them back. The date of receipt of every document must also be recorded on it.

List of books
to be kept by
Executive En-
gineers.

14.—The following books must be kept up in Executive Engineer's Offices, and produced at Superintending Engineer's inspections :—

Cash Book, for such disbursements as the Executive Engineer makes himself.

Ledger, for the record of transactions, whether by cash or drafts, with Subordinates and Contractors.

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Sec. 1.

Books for the entry of the Abstracts of Subordinates' Accounts, containing Cash Accounts, Stock Accounts, and Work Accounts; with a record of the dates of receipt.

Book, or Books, for copies of salary Bills.

Travelling Allowance ditto.

Acquittance Rolls.

Contingent Bills.

Cash Demands.

Indents.

Lists of Purchases by the Executive Engineer.

Book for copies of personal Journals.

Book for Monthly and Half-Yearly Accounts Current.

Book or Books for copies of Returns.

Estimate Book.

Progress Report Book.

Book for copies of Completion Reports.

Register of Buildings.

Letter Book, or Books.

Ditto File, or Files.

Circular Order File.

N. B.—If the Executive Engineer keeps any works, or any branch of the disbursements under his own direct supervision, he must keep copies of his accounts as prescribed for Subordinates.

15.—In the rainy season small packets for transmission by post should be packed in strong cartridge paper, and large ones in wax cloth. Drawings of importance should be carefully packed in tin.

Package of
papers for post.

16.—The necessary clauses of the Post Office Act and Rules are inserted in Appendix N. for convenience of reference

Post Office
Rules.

Section 2.—Correspondence.

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XIX.
Sec. 2.

Letters on
what paper to
be written.
Number, date,
and address.

1.—All letters intended for record should be written on foolscap paper, with a quarter margin on the inside of the page. A whole sheet should be used when the writing extends beyond the first half of the second page.

2.—At the top of the first page of every letter must be written the number, the name and official designation of the writer, the name, official designation, and address of the Officer for whom the letter is intended, and the place at, and date on which it is written.

Paragraphs,
foreign words

3.—Every letter, when not very short, should be divided into paragraphs regularly numbered, should be confined to one subject, and should contain no Hindustani or other foreign word which has an equivalent in English.

Letters to be
concise and
complete.

4.—Every letter should be made as concise as possible, and should be, as far as possible, complete and intelligible in itself without reference to other documents.

Note of sub-
ject of para-
graphs.

5.—Every report of considerable length should have a marginal note of the subject of each paragraph.

Abstracts pre-
ferred to copies.

6.—Abstracts of correspondence must, as a general rule, be inserted in a letter in preference to attaching a mass of copies. Copies of enclosures must not be in the same sheet as the letter.

Lists of let-
ters received
and dispatched.

7.—Every Executive Engineer shall send to the Superintending Engineer, as soon as possible after the close of each month, a list of letters received from, and dispatched to, the Superintending Engineer or Chief Engineer during the month. A similar separate list shall be sent of letters to and from the Chief Engineer's Office of Account. (Form No. 106.)

Reports of
movement.

8.—Every report of the movements of an Officer must mention the place at which it was written, and, if necessary, should show how letters to the reporting Officer should be directed.

9.—When Superintending Engineers, on their tours, correspond direct with Government, they shall report the circumstance to the Chief Engineer. And in like manner any Officer who corresponds direct with an Officer superior to him under whom he is immediately serving, must send copies to his immediate superior.

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Sec. 2.

Reports of correspondence with higher authorities.

10.—Covering letters shall not be sent with periodical papers or documents which require no explanation. If there be only one paper, it will be sufficient to endorse the address on it, the transmitting Officer signing the endorsement; but if there be more than one document, a list of enclosures must be sent, to enable the receiving Officer to know whether the dispatch arrives complete or not.

Covering letters prohibited.

11.—When a letter, either in original or transcript, is passed on by the receiver to a third party, and no explanation is required, it is not necessary for the Officer so passing it on to send a covering letter. A simple endorsement, intimating the date of receipt and re-transmission, is sufficient; and even when an explanation has to be given, if it be of such a nature as to admit of being sufficiently communicated in an endorsed memorandum, this is to be preferred to an unnecessary letter.

Dockets of transmission.

12.—Matters connected with different Departments must not be mixed up in one letter, even though addressed to the same individual.

Departments not to mixed up in one letter.

13.—Letters and applications will not be received otherwise than through the regular channel, except in cases of emergency, or when the transmission through the regular channel has been refused.

Regular channels of correspondence.

14.—Executive Engineers shall be encouraged to express, in the fullest manner, their opinions on subjects of a professional character, and shall be allowed the utmost latitude of explanation as to points of executive management; but they must convey their opinions and explanations to superior Officers in a respectful manner, and Superintending Engineers

Expression of professional views. Respectful language to superiors.

- CHAP. XIX.
are required to notice any improprieties in this respect, and to return for correction all letters in which this rule is not attended to.
- Sketches. 15.—Letters regarding local details should be accompanied by illustrative sketches.
- Opinions of local authorities. 16.—When any proposal is made concerning Civil or Military buildings, the opinion of the Officer occupying the building, and of the Head of the Department on the spot, shall be transmitted with the proposal.
- Necessity for estimates. 17.—Every proposal involving expense must be accompanied by an estimate. When an accurate estimate cannot easily be sent, it will be sufficient to send a rough one, explaining in what respects it is imperfect. If the amount be under Rs. 50, a simple mention of the probable cost is sufficient.
- Anonymous letters. 18.—No anonymous communication shall be acted on without the permission of Government.
- Complaints. 19.—With the above exception every complaint against any person in the Department must be received and enquired into by his superior Officer, unless the person making the complaint shall have been previously found guilty of making groundless and vexatious charges.
- “Urgent” letters. 20.—The word “urgent” must be written outside the cover of any letter requiring immediate attention, *but not unless* it be really important.
- Packets of letters. 21.—Documents sent to the same Department, from the same Office, on the same day, should be put in one cover, up to 12 tolas weight.

Section 3.—Drawings.

- Instruments. 1.—Common sets of Drawing instruments shall be allowed to each Executive Engineer’s Office, and to each Subordinate under the rank of Sub-Engineer, at the discretion of Chief

Engineer. Superior sets of instruments, or extra instruments, can only be supplied on the orders of the Local Administration.

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Sec. 3.

2.—Drawings of all standard designs shall be recorded in Executive Engineers' Offices, and shall be strictly adhered to in designing buildings.

Standard designs.

3.—Every Drawing should have a title to show what it represents, and the occasion of its preparation. On the left hand upper corner should be a reference to the estimate or letter which it accompanies. The title and reference should be repeated in an abbreviated form on the back, on two opposite corners, so as to show outside whichever way the paper be rolled up.

Titles and references.

4.—A scale must be laid down on every map or drawing, besides which the principal dimensions must be marked in figures. The figures showing dimensions must be placed between arrow heads, thus $\leftarrow 20 \rightarrow$.

Scales and dimensions.

5.—The following scales are prescribed for use in the Public Works Department :—

Prescribed scales.

For Surveys.

440 feet to the inch, or one mile to 12 inches.	
660 " " " " 8 "	
1,320 " " " " 4 "	
2,640 " " " " 2 "	

For Index Maps.

1 Mile to the inch.	8 Miles to the inch.
2 Ditto ditto.	16 Ditto ditto.
4 Ditto ditto.	32 Ditto ditto.

For Drawings of Designs.

10 Feet to the inch.	30 Feet to the inch.
15 Ditto ditto.	40 Ditto ditto.
20 Ditto ditto.	60 Ditto ditto.

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For enlarged Drawings of Details.

. 10 Inches to the inch.
20 Ditto ditto.
40 Ditto ditto.

For Sections.

The horizontal scale to be that of the corresponding survey or plan. The vertical scale will vary according to circumstances. For longitudinal Sections of Canals and Roads, it should be from 20 to 100 times the vertical scale.

Meridian and
arrows of di-
rection.

6.—A Meridian line must be drawn on every plan and Map; and where streams are represented, there must be arrows to show the direction of the current.

Timbers of
roofs.

7.—A system of lines (single, continuous, and in burnt sienna) must be drawn on every plan of a building having a pent roof, to show the distribution of the principal timbers.

Drawings of
roofs.

8.—In every case in which a standard truss is not used for pent roofing, a section of the framing must accompany the drawings of the buildings, on a scale of $\frac{1}{40}$ or $\frac{1}{60}$ actual size, with enlarged drawings of the joints on a scale of $\frac{1}{6}$ actual size.

Drawings of
designs for
bridges.

9.—Sections and elevations of drains and bridges must show the highest flood mark, and the natural level of the ground on either side. There must also be a note showing the actual water-way, the velocity of the stream, and what it is proper to allow through the bridge or drain; the nature of the soil of the banks and bed must also be shown to a sufficient depth.

Regulation
of the size of
drawings, and
rules regard-
ing sets of
drawings.

10.—The preparation of large unweildy Drawings must be avoided as much as possible. The submission of rolls of Sections more than 4 feet long is prohibited. When a project for a Road or Canal is prepared, the Drawings should be

made up in an Atlas form. First, there should be a general Index Map, which should, for extensive projects, be one of the Revenue Survey Maps (4 inches to the inch), or a part of it, or parts of two or more joined ; with indications of the project entered thereon. Uncoloured Maps may be procured from the Surveyor General's Office, and are the most convenient for this purpose. Corresponding to this Map should be an Index Sheet of Sections, on the same horizontal scale. It may be necessary to have partial Index Maps, on which to indicate further details, on a scale of one mile to the inch, with Index Sections to correspond. The detailed Survey and Sections should follow, in separate consecutive sheets, on the scale of one mile to 4 or 8 inches, Survey above and Section below, and transverse sections in place, above or below the longitudinal Section. After this should follow the Drawings of the masonry, iron, and timber works in the order in which they occur in the line. In this way the whole of the Drawings of a large project may be made up into a volume of Foolscap, Demy, or Royal size. In the case of buildings, some similar method should be adopted to secure the same convenience.

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Sec. 3.

11.—The drawings of every proposed building must be countersigned by the Military, Civil, or Departmental Officer for whose use it is intended, before being sent to the Superintending Engineer.

Countersig-
natures.

12.—Superintending Engineers will countersign, as examined and approved, all plans which they pass on to Chief Engineers, recording any remarks they may have to offer in a separate memorandum ; and will return for revision all that they disapprove. The countersignature of the Superintending Engineer does not relieve the Executive Engineer from responsibility.

Superintend-
ing Engineers.

13.—Executive Engineers need not retain any but rough copies of drawings sent up with estimates for sanction. The originals will be returned to them (copies being taken in the

Retaining
copies.

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Sec. 3.

Chief Engineer's Office), and must be re-transmitted after the building is finished, with indications of any change that may have been made in the design during execution.

Binding, and
mounting on
cloth.

14.—All drawings must be bound up as Books, or drawn or mounted on cloth, to preserve them from being torn.

Section 4.—Estimates.

Form.

1.—Estimates shall be made out agreeably to Form No. 107.

Heading.

2.—The heading of every Estimate shall specify clearly, but in general terms, the nature of the work to be done, and the locality. When not at one of the principal stations, the Pergunnah and Zillah, as well as the town or village, must be mentioned.

References.

3.—The heading will be followed by a list of references, embracing the authority on which the Estimate is framed, and all the correspondence on the subject.

Report.

4.—After the list of references will be inserted the Report, stating in brief terms the object to be gained by the execution of the work estimated for; discussing the reasons for the adoption of the estimated project or design in preference to others; and explaining any peculiarities which require elucidation. The time within which the work may be expected to be completed must also be mentioned.

Specification.

5.—After this will follow the Specification, which must show fully and clearly, but as briefly as possible, the details of the work, how each portion is to be done, and what materials are to be used.

Drawings.

6.—Every Estimate, not being for ordinary repairs, must be accompanied by drawings of the work to be done, showing the dimensions of each part.

Detail of
measurements
and quantities.

7.—Every Estimate shall contain, distinct from the specification, a statement of the detailed measurements of the works, agreeably to the drawings, with calculations of the entire

quantity of each kind of work to be done, in cubic, superficial, or running feet, or otherwise, according to the nature of the work.

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8.—All Estimates must have Abstracts, showing the cost in Company's Rupees of each kind of work, at so much per foot, or per hundred cubic, superficial, or running feet, which Abstracts must be so drawn out as to show distinctly the cost of each building or work included in the Estimates, as well as the total quantity, rate, and cost of each kind of work to be done.

Abstracts.

9.—A charge of 5 per cent. for unforeseen contingencies must be added to the Abstract of every Estimate.

Contingencies.

10.—Every Estimate must be in all respects complete and intelligible, without reference to any document but the drawings.

Estimates to be complete and clear.

11.—Officers are required to be very careful in framing Estimates, so that each may include all the work necessary for carrying out the project, and that the cost may be calculated at such rates as to afford a close approximation to the actual expense of executing the work.

Carerequired in framing Estimates.

12.—No Estimate shall be submitted for any work or repair of which the cost is less than Rupees 50 ; nor should any Estimate be sent when a work has been completed.

Cases when Estimates are not required.

13.—In estimating the cost of any connected series of works, such as those on one line of road, or one system of canals, which will come before Government as substantially one work, the whole cost must be included in one Estimate ; or, if it be more convenient for the Executive Engineer to prepare separate Estimates, they must be accompanied by an Abstract showing the aggregate of all the connected Estimates.

Estimates for a series of works.

14.—Every Estimate for a bridge must be accompanied by a calculation of the natural water-way of the river, comparing it with the water-way allowed through the bridge. Estimates for the iron work of suspension bridges may be

Bridges.

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Sec. 4.

obtained from the Iron Bridge Yard in Calcutta, or from the Roorkee Work Shops on application, the Executive Engineer supplying the necessary drawings and information as to the site.

Roads.

15.—Estimates for roads must show the height to which each portion is to be raised ; and the earthwork must be calculated in detail, from longitudinal and transverse sections.

Revised Es-
timates.

16.—When a revised Estimate is submitted, it must be accompanied by a comparison with the original Estimate, in which the difference in quantity and cost of each kind of work shall be detailed and explained clearly (see Form No. 108).

Standard de-
signs.

17.—For every description of building for which a standard design has been laid down, Estimates must be in accordance therewith ; or, if it be deemed advisable to deviate from the standard design, the previous sanction of the Chief Engineer must be obtained.

Rates

18.—When it becomes necessary to assume higher rates than usual in an Estimate, a full explanation must be submitted, accompanied by details of the cost of labour and materials ; but such details need not be submitted in other cases, unless called for.

to cover cer-
tain expenses.

19.—The rates of Estimates must be calculated to cover the expense of the Work Establishment, as well as the cost of sheds for materials and workmen. Extra Establishments must be applied for separately. See Chapter I. paras. 24, 25.

20.—In framing Estimates the following points must be attended to:—

Quantities of
works.

I.—Every kind of work must be estimated by the cubic, superficial, or running foot, or 100 cubic, superficial, or running feet, or by the maund, except in the case of miscellaneous petty works, which should be entered as petty works in Carpenter's, Blacksmith's, or Mason's (or other Artificer's) work, as per List (Vide Form No. 109), and each kept separate as far as practicable. Repairs of unmetalled Roads may be

estimated by the running mile, and some kinds of work by the number, as piling at so much per pile driven.

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II.—In estimating the brick-work for buildings, the cost of excavation for foundations will fall upon the rate of brick-work, which will be all included in one item embracing foundation, plinth, and superstructure. Two-thirds of the contents of openings must be deducted in calculating the quantity of brick work in the walls, in all cases where the opening is to be covered by a single flat arch; but when a second or discharging arch is to be turned, one-third only of the openings will be deducted; if the opening be covered by an elliptic or circular arch only, the opening will be deducted to the springing, leaving the contents of the head to cover the expense of arching. All splays will be calculated square.

Brick-work.

III.—In the brick-work or masonry of bridges it will frequently be necessary to estimate the foundation separately from the superstructure. The arching will always form a separate item, except in the case of small drains, in which a rate for all the brick-work may be struck at an average. If the span of a stone or brick bridge exceed 20 feet, the centering must form a separate item in the estimate. A note of the cost of the bridge per running foot of length must be added to the estimate.

Brick-works
of bridges.

IV.—Plastering, painting, and white or colour-washing must never be mixed up with masonry, but will be separate items. Inside and outside work of these descriptions may be included in one item at an average rate.

Plastering,
&c.

V.—Timber-framing is to be estimated by the cubic foot, and the calculation must be shown in the detail of measurements, in the same way as the calculation of brick-work. This mode is applicable to all wood-work, such as beams, burgahs, trusses, rafters, and other parts of roofs, wall plates, architraves, door-frames, &c., &c., &c., and the rate will include the cost of raising and fixing, but not painting.

Wood work.

CHAP. VI.—The scantling and distance apart of the timbers, and
 XIX. the thickness of the covering of roofs must be stated, and the
 Sec. 4. authority or calculation on which the scantling of the timber
 roofs. has been fixed.

Covering in VII.—Covering-in roofs must never be included in the same
 roofs. item with the timbering ; each separate kind of covering will
 form a distinct item.

Doors and VIII.—Doors, windows, weather-boarding and planking, and
 windows, &c. gratings of all kinds, will be estimated by the superficial foot.
 Glazed, panel, and venetian doors and windows may be all
 placed in one item at an average rate, and batten-doors and
 other kinds of planking will be placed in one or more other
 items, as may be convenient.

Painting. IX.—Painting will always be a separate item from wood-
 work. Each kind of painting will be a distinct item. Paint-
 ing Venetians may be estimated by calculating the superficial
 area at 50 per cent. in excess of a plain surface of the same
 size ; and the glazed part of windows and doors may be
 allowed for by deducting one-third of the gross area calcu-
 lated as a plain surface.

Cornices. X.—Cornices and mouldings must in ordinary cases be
 estimated by the superficial area ; the calculation to be made
 by adding the projection to the depth, multiplying the sum by
 the length, and doubling the product to cover the extra
 expense of moulding. The projections made in the brick-
 work should be taken as rectangular, calculated in cubic feet,
 and included in the brick-work.

Iron-work. XI.—For iron work, the weight must be calculated from the
 dimensions in the “ detail of measurements,” and the cost esti-
 mated by the maund ; coarse and fine wrought-iron may be
 separate items, as also cast-iron. A cubic inch of wrought
 iron weighs about 0·136 of a seer, or 0·0034 of a maund ; a
 cubic inch of cast-iron weighs about 0·128 of a seer or 0·0032
 of a maund.

XII.—The earth-work and metalling of roads must be calculated by the 100 cubic feet, and the cost per mile of road must also be noted.

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Sec. 4.

XIII.—When any work is to be done which is not specified above, the Executive Engineer should endeavour to divide the charge into items, according to the order in which the work is done, so that the Daily Abstracts may be furnished separately for each separate item, and thus the rates of work will be readily compared with the rates of the Estimate.

Earth-work
and metalling.
Other items.

XIV.—No fractions of the cubic, superficial, or running foot are allowed in the calculated quantities where the work is estimated by the 100 feet, and only fractions to the extent of two places of decimals where the work is estimated by the foot.

Fractions of
quantities.

XV.—No fractions of a Rupee (*i. e.* no annas or pies) are to be allowed in any Estimate, except when necessary to accuracy in the rates, and then the fraction must be as simple as possible; decimals of the Rupee may be used in rates.

Fractions of
Rupees.

XVI.—When any fraction of a Rupee or of a foot occurs in calculation and is omitted, the sum will be increased by a unit if the fraction is more than half, and the fraction will be simply omitted if it is less than half.

Omission of
fractions.

Section 5.—Indents.

1.—Indents must be prepared agreeably to Form No. 110, and must be addressed to the Officer who is to supply the articles. The heading must show in what Department the stores are required, and, if for aiding in the execution of any work, the sanction for that work must be quoted in the column headed "purpose for which required."

Form, &c.

2.—Indents by Executive Engineers on other Departments must be submitted through the usual channel to the Chief Engineer; and if approved, will be passed on by him for the sanction of the Head of the Department concerned, a copy

Submission.

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XIX.
Sec. 5.

being taken in the Central Office. The Head of the Department from which the stores are required will, on sanctioning the Indent, send it to the Local Officer of his own Department for compliance, giving notice to the Indenting Officer.

Emergent indents.

3.—Every Emergent Indent must be prepared in duplicate, one copy for the Head of the Department, and other for the Local Authority, who, in emergent cases, has power to pass it. The Officer to whom the Indent is addressed is required to point out to the Local Authority any irregularity, failing which he will be responsible for the articles he issues on the Indent.

only to be resorted to in case of necessity.

4.—Emergent Indents must not be resorted to except in cases of actual necessity, and then the circumstance must be reported to the Superintending Engineer, for the information of the Chief Engineer, or to the latter Officer direct in the absence of the former.

Survey reports.

5.—Indents for stores to replace others reported unserviceable, must be accompanied by Survey Reports.

Compliance with Indents.

6.—Indents on Executive Engineers, except those for articles of ordinary supply, must not be complied with without the sanction of the Chief Engineer, except under the authority of a station order, under the rules laid down in Chapter IV.

Estimates.

7.—When Indents involving the execution of any work are submitted to the Chief Engineer, they must be accompanied by an Estimate by the Executive Engineer.

Delay of Indents.

8.—Indents passed on Magazines must be submitted for compliance with as little delay as possible. Those of 12 months' date are cancelled.

Section 6.—Survey Reports.

When required.

1.—Survey Reports are required when any articles are to be replaced on Indent from Magazines, occasionally when repairs are to be made, and always when a work is completed; also on occasions on which an Umpire may be ordered to settle

any point in dispute between the Executive Engineer or Barrack Master, and any Officer to whom any article may have been supplied, or for whom any work may have been done.

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Sec. 6.

2.—Survey Reports on stores which have been found unserviceable, or which require repair, must be drawn up agreeably to Form No. 111. The date of receipt of each article must be stated, and the cause of its being no longer fit for use; and such explanations shall be afforded as may enable the Chief Engineer to judge whether each article has had fair usage.

Unserviceable
stores.

3.—Survey Reports preliminary to repairs (Form No. 112) must show the authority on which the work is to be done, and the state of each building; and must include a specification of the repairs necessary, giving, in the proper columns, the quantities of each sort of work ascertained by actual measurement in running, superficial, or cubic feet, as the case may be. The petty repairs required must also be briefly noted. These Survey Reports will accompany the Estimates for the repairs, or additions and alterations, as the case may be. Survey Reports must show in what manner each building is occupied, also when the repairs were last done, and why any are required before the regular period, if such be the case.

Repairs.

4.—Completion Survey Reports must be prepared in Form No. 113, and must show the authority on which the work was executed. In the columns for remarks by the Executive Engineer, will be stated briefly the manner in which the work has been done, and the nature of the materials used.

Completion
Reports.

5.—When the Survey Reports mentioned in the last two paragraphs have been filled up and signed by the Executive Engineer, they will be forwarded to the Civil, Military, or Departmental Officer concerned, for countersignature and remark. The date of their being sent to, and returned by such Officer will be noted on the back of the Reports.

Countersig-
nature.

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Sec. 6.

Committees.

6.—When a Committee is convened to report on any matter connected with the Public Works Department, the Executive Engineer or Barrack Master concerned must cause a Form of Report suitable to the occasion to be drawn out and filled up with all the information necessary to assist the Committee in forming their opinion. The Report, so far prepared, will be laid before the Committee by the Executive Engineer or Barrack Master in person, or by his senior Assistant or Subordinate on the spot.

Reports not to be sent without countersignature.

7.—Executive Engineers and Barrack Masters must not forward to the Superintending or Chief Engineer any Survey Reports until they have been properly filled up by the countersigning Officer, unless in case of neglect or refusal to sign, which must be reported in transmitting the document.

Remarks and replies.

8.—If the remarks made by the countersigning Officer on the Report, be such as require any explanation or reply from the Executive Engineer, he shall again forward the report with his explanations or reply to the countersigning Officer, and request him to record on it the fact of his having seen the explanation, and to add any further remarks he may wish to make.

Section 7.—Periodical Returns.

Proper Form and punctual submission of Returns.

1.—Care must be taken to make Returns on the prescribed paper and in the proper Form, and to submit them punctually. If delay is unavoidable, a report of the circumstance should be made to the Officer to whom the Return is to be sent, explaining the cause, and stating when the Return may be expected.

List.

2.—The following is a list of the Returns and Accounts required periodically of Executive Engineers :—

PERIODICAL RETURNS.

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To Chief Engineer's Executive Office or Central Office Acct.	Names of Papers.	Page.	Form.	To be sent as soon as possible after.
ANNUALLY.				
E	Report on the conduct and qualifications of Subordinates	25	2	1st May.
A	Annual Return of Uncovenanted Servants	114	16	"
A	Returns of Measurements for Annual repairs	86		1st October.
HALF-YEARLY.				
A	Divisional Account Current in Duplicate ..		52	[May. 1st Nov. and 1st
A	Return of Buildings let and available for hire	135	15	"
A	Return of Mathematical and Surveying Instruments	76 115	27	"
QUARTERLY.				
E	Return of Warrant and N. C. Officers and Soldiers ... ..	.....	115	1st January, &c.
E	Ditto Uncovenanted Servants ... ..	.....	116	1st February, &c.
E	Roll of Candidates for admission into the Dept.	13	120	1st May, &c.
MONTHLY.				
<i>To be prepared by the Executive Engineer.</i>				
E	General Progress Report ... ..	.....	117	[month. 15th of following
E & A	List of letters received and despatched ... ..	.....	118	} As soon as possible after the 1st of each month. { 10th of the preceding month. { 1st of following month.
A	Establishment bill	122	30	
A	Travelling allowance bill	"	31	
A	Cash Demand	111	24	
A	Cash Balance Statement, Head Quarters ...	112	25	} 15th Ditto.
A	Ditto ditto, Sub-Divisions	"	26	
A	Account Current, Divisional	122	29	
A	Ditto ditto Office	123	32	
A	Schedule of tenders accepted	101	20	
<p>N. B.—If the Executive Engineer keeps any works or branch of disbursements in his own hands, he must also submit the necessary papers as prescribed for Subordinates.</p> <p><i>To be prepared by Subordinates and passed on by the Ex. Engr. after examination & signature.</i></p>				
<p>Cash balance Statement</p> <p>List of works in progress, (one for each Sub-Division)</p> <p>Figured Abstracts, (one for each work,)</p> <p>List of purchases, (one for each Sub-Division,)</p> <p>General Abstract of labour, (ditto,)</p> <p>Ditto ditto materials expended, (ditto,)</p> <p>Ditto ditto ditto received, (ditto,)</p> <p>Account of Advances and Contract operations, (ditto,)</p> <p>Contingent Expense List, (ditto,)</p> <p>Pay List with Acquittance Roll of Regular Establishment (ditto,)</p> <p>Ditto ditto work ditto, (ditto)</p> <p>Account Current, (ditto)</p> <p>Balance Return of Stores, (ditto)</p> <p>Abstract daily issues of Stores, (Store-keeper only.)</p>				
<p>..... 25 1st of following [month.]</p> <p>..... 119</p> <p>121 33</p> <p>125 34</p> <p>128 35</p> <p>" 36</p> <p>129 43</p> <p>128 37</p> <p>" 38</p> <p>" 39</p> <p>" 40</p> <p>129 42</p> <p>" 44</p> <p>101 ..</p>				
<p>By Subordinates as soon as possible after the 1st of the month, over due after the 8th.</p> <p>By Executive Engineers, due on the 15th of each month.</p>				

CHAPTER XX.

BARRACK MASTER'S DUTIES.

Section 1.—General Outline of Duties.

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XX.
Sec 1.

Barrack Mas-
ter.

1.—In this Chapter the term Barrack Master shall include the Senior Subordinate in charge of the Barrack Department at the Station, or, where there is no Barrack Master, the Executive Engineer, or the Senior Assistant or Subordinate of the Department of Public Works at the Station.

Quarter Mas-
ter.

2.—The term Quarter Master shall include the Commanding Officer when there is no Quarter Master, or when the services of the Quarter Master are not available ; and the Officer, or (in the case of small Detachments) Non-Commissioned Officer, deputed by the Commanding Officer to perform the Quarter Master's duties.

Duties assign-
ed to Barrack
Masters.

3.—The duties at present devolving on Barrack Masters, are the following:—

✕ The Distribution of Barracks and Quarters under the orders of the Local Commanding Officer, and the settlement of Barrack Damages.

The construction, supply, repair, and custody (in conjunction with the Regimental Authorities) of all Barrack and Hospital Stores and furniture ; also the custody and repair of Fire Engines, with the supply of the implements attached to them.

The construction, supply, and repair of punkahs, thermandidotes, and tatties ; also of jhamps and purdahs.

✕ The custody of Vacant Military Buildings, and their furniture, &c.

The conservancy of Stations, not including road-making, or drainage operations of an Engineering character.

Petty repairs to doors and windows, including supply of glass, &c. in Barracks.

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Sec. 1.

The payment through the Regimental Authorities of establishments for Barrack conservancy, and for working tatties, punkahs, and thermantidotes.

The supply and lighting of Barrack and other Regimental lamps, and the supply of wicks and oil.

The supply of earthen pots, water jars, lime for privies; also articles required in connexion will Military punishments.

4.—The rules for the conservancy of Stations, are given in Chapter V., Section 5. The regulations for the other parts of a Barrack Master's duty are given in the following Sections.

Conservancy
of Stations.

5.—Barrack Masters and their Subordinates, when belonging to the Public Works Department, will conduct their duties under the same control and rules as Executive Engineer.

Rules for con-
ducting duties.

Section 2.—Officers' Quarters.

1.—No Officer may take possession of any vacant Quarters without permission from the Barrack Master.

Control of va-
cant Quarters.

2.—Officers shall be put in possession of Quarters by the Barrack Master personally, who will furnish a detailed statement of the Quarters and offices, showing the number and condition of the doors, windows, locks, bolts, bars, and every article of furniture and fitting belonging to them. This statement is to be compared, and when correct, signed by the Officer as his receipt.

Occupation of
Quarters.

3.—Officers are allowed Quarters agreeably to the scale laid down in Chapter V., Section 4, para. 6.

Scale of Quar-
ters.

4.—No. Officer shall be compelled to occupy Quarters inferior to those laid down for his rank, except when the Commanding Officer may deem it necessary for the safety of the force.

Inferior Quar-
ters.

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Sec. 2.

Brevet rank.
Rates of rent.

5.—Brevet rank does not entitle an Officer to any additional accommodation of Quarters.

6.—An Officer occupying Quarters inferior to those allowed to an Ensign, on the scale Chapter V., Section 4, para. 6, shall forfeit Rupees sixteen per mensem of his house rent; an Officer occupying Quarters equal or superior to those allowed an Ensign, but inferior to those of a Lieutenant, shall forfeit Ensign's house rent; an Officer occupying Quarters equal or superior to those of a Lieutenant, but inferior to those of a Captain, shall forfeit Lieutenant's house rent, and so forth.

Valuation for
rent.

7.—It shall be the duty of the Executive Engineer to value Quarters according to the foregoing scale, and his decision on this point shall be subject to no other appeal than a reference to the Superintending Engineer, to be made by the Officer Commanding the Corps if he thinks proper.

House rent
certificate.

8.—When Officers or others are permitted to draw house rent in consequence of quarters not being available for them, the countersignature of the Barrack Master will be given to a certificate of the following Form to be furnished to him by the person concerned, or his Commanding Officers.

“ I do hereby certify that from the——— to the———
“ of 185 , both days inclusive——— was not supplied with
“ Camp Equipage, or with Quarters in any Government build-
“ ing, and that no Quarters in any Government building at
“ my disposal, or occupied by the Department under my charge,
“ were vacant or improperly occupied during the above
“ period; and that application having been made to the Com-
“ manding Officer of the Station for Quarters in any other
“ Public building conveniently situated for the performance
“ of——— duties, no such Quarters were placed at my disposal

(Signed) A. B.,

Commissary of Ordnance [or head of Department.]

"Certified that no accommodation in the public buildings
"under my charge was available for the above during the
"period specified."

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Sec. 2.

(Signed) C. D.,
Barrack Master.

The Barrack Master is expected to keep himself informed of the means possessed by the Executive Engineer to assist him in furnishing Quarters.

9.—Officers are not permitted to make any additions to, or alterations in, their Quarters, even at their own expense, without the permission of the Executive Engineer and sanction of the Commanding Officer.

Additions and alterations to quarters.

10.—Any Officer may be allowed, with the permission of his Commanding Officer and concurrence of the Barrack Master, to occupy Quarters superior to those allotted to his rank without paying more than his regimental house rent, so long as the Quarters may not be required for any other purpose, and provided there be no other Officer unfurnished with Quarters who could occupy them.

Occupation of superior quarters.

11.—The Barrack Master, in communication with the Executive Engineer, is responsible that the circumstance of public Quarters being available is brought to the notice of Commanding Officers, and that no Officers entitled to occupy Quarters are kept without them so long as any are available.

Vacant quarters to be brought into use.

12.—When an Officer quits his Quarters he shall deliver them over to the Barrack Master agreeably to the above receipt (para. 2), and shall receive from the Barrack Master an acknowledgment that he has done so.

Giving up quarters.

13.—Every Officer occupying Quarters shall be answerable for the doors, windows, glass, locks, bolts, hooks, hinges, and every part of the Quarters, and if they shall have sustained any damage, reasonable wear and tear excepted, the Barrack

Responsibility of occupant.

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Sec. 2.

Master shall present a bill for the cost of repairing the damage, which the Officer shall either pay or accept.

Bill for da-
mages.

14.—If the bill be accepted, the Pay Master shall pay it on presentation, and recover the amount from the Officer.

Disputes.

15.—In case of any dispute between an Officer leaving his Quarters and the Barrack Master, the case shall be referred to the Commanding Officer of the Garrison or Cantonment, whose decision shall be final. The Commanding Officer may order Umpires or Committees to report on such matters if he thinks proper.

Section 3.—General Rules concerning Barracks and Furniture.

General charge
of the Barrack
Master.

1.—All Barracks, Guard Rooms, Hospitals, and other buildings, intended for the occupation of troops, with the furniture and other appurtenances belonging to them, are under the charge of the Barrack Master, who is responsible for their good condition.

Transfers to
Regimental
authorities.

2.—Every Corps (European or Native) about to enter a Cantonment to which it is posted, shall be preceded by its Quarter Master, to whom the Barrack Master shall in person deliver over all the public buildings of every description about to be occupied by the Corps, with all their appurtenances of doors, windows, panes of glass, bolts, locks, hinges, jhamps, pegs, racks, punkahs, and furniture.

Inventories
and receipts.

3.—An inventory in duplicate of the buildings, with appurtenances as above, showing the condition of each building, and the condition and cost of each article, signed with the name and office of the Barrack Master, shall be delivered to the Quarter Master, who, after investigation, having signed the same, will return the original and retain the duplicate for his own use. The Quarter Master's signature to this inventory shall be his receipt as to the number and condition of the buildings and appurtenances, and shall be considered also as the receipt of the Officer Commanding the Corps.

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Inspections
and repairs.

4.—All regimental buildings, with their appurtenances and furniture, must be inspected frequently by the Quarter Master, and at least once every month by the Barrack Master accompanied by the Quarter Master. It will be the Quarter Master's duty, under the orders of his Commanding Officer, to take proper measures for obtaining such repairs or renewals as may, from time to time, become necessary, and it is the duty of the Barrack Master to see that the buildings and articles are kept in proper order, and that the necessary applications for renewals and repairs are made by the regimental authorities; to effect such repairs and renewals as may be within his own province, and to bring to notice such as require the agency of the Executive Engineer.

5.—The Barrack Master will depute a subordinate to inspect weekly the windows of public buildings occupied by troops, and having received a report of the glass broken, he will ascertain the cause of breakage, with a view to adjusting the charge of repairs, on the principle laid down in the next paragraph.

Windows.

6.—If it should appear to the Barrack Master or Executive Engineer that any portion of the repairs or renewals required has been rendered necessary by the careless or perverse conduct of the Soldiers or others attached to the Corps, he will notice the circumstance in the Survey Report, submitted for counter-signature to the Quarter Master and Commanding Officer of the Regiment or Detachment, and if the fact be admitted by them, he will, on completion of the work, send a bill for the portion of it rendered necessary by the ill-conduct of the men, to the Quarter Master for recovery from the parties concerned.

Damages.

7.—If the liability to pay be disputed, the Barrack Master will lay the case before the Commanding Officer of the Station for his decision, and for realization of the amount of his award through the pay Master of the Division.

Disputes. *

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Sec. 3.

Relief of Quar-
ter Master.

8.—When a Quarter Master is relieved during the continuance of his Corps in a Cantonment, the relieving Officer shall examine the state and condition of every thing committed to the charge of his predecessor, and shall take an Inventory of the whole at the time of receiving charge, failing which, the Inventory and receipt of his predecessor shall hold good.

New inven-
tory.

9.—But if the Quarter Master shall present a new Inventory differing from the former one, the Barrack Master shall demand immediate payment of the estimated cost of the damages which may have been done, and shall then deliver up the former Quarter Master's Inventory, and receive the new one in exchange.

Payment of
damages; co-
nected inven-
tory.

10.—Having received payment of the damages done in the manner above directed, the Barrack Master shall re-place the articles lost, and repair the injuries. He shall then demand a new Inventory and receipt from the Quarter Master, and by it the account of damage afterwards done shall be adjusted.

Troops leaving
Barracks.

11.—All Troops on quitting their Lines shall leave the public buildings occupied by them in a state of cleanliness, and every article they have received in perfect order (fair wear and tear excepted); and when a Corps quits a Cantonment or changes its Lines, the Quarter Master shall deliver personally to the Barrack Master, the public buildings with their appurtenances, agreeably to his Inventory and receipt, and the Barrack Master shall give a receipt in duplicate for the same.

Adjustment of
damages.

12.—Portion of the pay of all Corps or Detachments about to change Quarters, shall be left in charge of the Quarter Master who will remain after the men have marched out, for the purpose of settling with the Barrack Master for any damage, other than fair wear and tear, which the buildings or

furniture may have sustained. The adjustment will be made on the principles laid down in paragraphs 6 and 7; and the Quarter Master is not to leave the Cantonment till he has obtained the receipt of the Barrack Master for the cost of the damage done, or his certificate that there is none to pay for.

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Sec. 3.

13.—In the case of Invalids or time-expired men about to embark for Europe, the Barrack Master is required to inspect there Quarters a few hours before the embarkation, and to present his bill at once to the Town Major, or Brigade Major of Queen's Troops.

Invalids, &c.
for Europe

14.—The foregoing Regulations in this section shall be written on boards to be hung up in the Barracks of European Troops, and shall be explained periodically to Native Troops, in order that the men may not plead ignorance.

Boards of orders.

15.—Superintending Engineers on their tours of inspection shall see that the system of inventories and receipts for the transfer of buildings and furniture between Barrack Masters and Quarter Masters is properly carried out.

Superintending Engineer.

16.—In issuing articles of furniture to Corps, a Barrack Master must show in his inventories and receipts the rates at which each article will be received back by himself, or by any other Barrack Master.

Valuation of furniture.

Section 4.—Barrack and Hospital Furniture.

1.—The following articles of furniture are allowed to European Soldiers in Barrack :—

Scale of Barrack furniture.

For every Sergeant (married or single),	}	1 Small Table. 2 Strong Chairs. 1 Cot if single, 2 if married. 1 Box if single, 2 if married.
---	---	--

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Sec. 4.

For each single man, ...	{	1 Cot.
		1 Box.
		1 Running foot of mess table.
		2 Ditto feet of mess form.
For each married man (to the extent of 12 per cent. of the whole), ...	{	1 Small Table.
		2 Strong Chairs.
		2 Cots.
		2 Boxes.
For each Barrack Room, ...	{	1 Arm Rack to be fixed in the centre of the room, to hold all the Arms and Accoutrements of the men.
For each Soldier's Mess, ...		1 Cupboard.
For each Company, ...		10 Bug-traps.
For each Reading Room, ...	{	3 Tables 10' + 4'.
		12 Forms with backs.
For each Wash House, ...	{	20 Metal Basons.
		2 Towel Racks.

The School Mistress and the Medical Subordinates are allowed Cots, Tables, and Chairs, as for Sergeants.

Extra cots, tables, and forms, in the proportion for single men, are allowed for Guard Rooms, to save the wear and tear of daily carrying the furniture to and fro.

N. B., For lamps—*vide* Section 8.

Scale of Hospital Furniture for Europeans.

2.—For the Hospitals of European Corps, cots, with bedside tables, as well as tables and forms for the use of patients at meal times, must be provided to the extent of the requirements of the sick.

The following articles may be supplied on the indents of the Medical Officers of the Corps, to the extent allowed by The Superintending Surgeon :—

Almirahs.

Bathing tubs.

Boarded Cots for fractures.

Chicks.
 Close stools with pans.
 Easy Chairs.
 Forms with backs.
 Purdahs.
 Slipper Baths.
 Tables, prescribing.
 “ dispensary.
 “ dissecting.
 “ for the use of the patients.
 Thermantidotes.
 Ticket Boards.

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 Sec. 4.

3.—For the Hospitals of Native Corps, cots shall be provided to the extent of 8 per cent. of the strength of the Corps. In case the sick exceed this number, the men shall be allowed to bring their own charpoys. Cots are not allowed for Gun-Lascars, Syces, Drivers, and Grass-cutters.

Scale of Hos-
 pital furniture
 for Natives.

One large bathing tub is allowed to the Hospital of each Native Corps.

Two boarded cots for fractures are allowed to the Hospital of each Native Infantry, and four to each Native Cavalry Corps.

Other articles of Hospital furniture (see para. 2) may be furnished on the sanction of Superintending Surgeon.

4.—The furniture to the Officer's room in a station main guard is limited to one table, six chairs, and two wall shades. Stationery and candles for the use of the Officer on guard will be supplied by Barrack Masters.

Main Guards.

Furniture for the Schools of European Corps shall be supplied at the expense of Government by Barrack Masters on the reports of Committees as to the number and nature of the articles required.

Schools.

Book-shelves are allowed to Regimental Libraries ; as also two tables 10' × 4', and 12 forms with backs, for a full Regiment.

Libraries.

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Sec. 4.
Wooden horses and stands shall be supplied by Barrack Masters to Regimental Store-rooms, as also tables—6 tables 10' x 4' for a full Regiment.
- Regimental Stores.**
Canteens.
No furniture may be supplied to Canteens at the expense of Government.
- Orderly-rooms**
The orderly-room of a complete Regiment is allowed 3 tables 10' x 4', and 5 forms with backs, of a suitable length.
- Workshops**
The Tailors' and Shoe-makers' shops are allowed each two tables 10' x 3', and four forms without backs. Two very strong tables 10' x 4', and one large form with back, are allowed to the Carpenters' and Blacksmiths' shops, each.
- Stock of furniture to be kept up.**
5.—The stock of furniture to be kept up at each Station shall be the proportion allowed to the Troops actually or ordinarily quartered there, with 20 per cent. in excess, to enable the Barrack Master to re-place such articles as may from time to time be withdrawn for repairs.
- Marks.**
6.—All articles of furniture shall be marked with the two last figures of the year of construction.
- Unauthorized articles.**
7.—No unauthorized articles of furniture shall be constructed or issued to Troops.
- Patterns.**
8.—Articles of Barrack and Hospital furniture must generally be made up of the prescribed or usual patterns, and in the event of any change of pattern being considered desirable, and not involving expense, the Chief Engineer may cause it to be carried out after having obtained the permission of His Excellency the Commander-in-Chief, through the Quarter Master General of the Army, in the case of Barrack furniture, or of the Director General of the Medical Department in the case of Hospital furniture. But if any expense be involved in the proposed change, the Chief Engineer, after having obtained the permission of the authorities above-named, must apply to the Local Government to authorize the expenditure before carrying out the alteration.

9.—Extensive repairs and renewals of Barrack and Hospital furniture should be foreseen and estimated for like other kinds of work. Repairs and renewals under Rupees 50 each job shall be made under the following Rules :—

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Repairs and
renewals on
estimate.
Survey reports

10.—A Barrack Master receiving from a Regimental Quarter Master a report of furniture requiring repair, will immediately replace the damaged articles by others from store. He will then prepare a Survey Report (Form No. 121), stating the extent and nature of the repairs required, and his own opinion whether the damage has been fairly or unfairly incurred. When articles are deemed irreparable, the date of their construction will be recorded. The Survey Report will be signed by the Barrack Master, who will point out the state of the articles to the Quarter Master, and require his remarks and signature to the report, as well as those of the Commanding Officer.

11.—On the Survey Report being signed, the Barrack Master will at once proceed to make the necessary repairs and renewals, and on their completion will bring the articles on his Return of Barrack Furniture (See Form No. 122) as serviceable, after which he will be responsible for their being in a fit state for re-issue. The entry in the Accounts of the work done that the articles have been brought on the Return as serviceable, will (together with the preliminary Survey Report) form a sufficient voucher for the charge.

Ordinary Re-
pairs.

12.—All the articles of furniture allowed to the Troops in Barracks, will be issued by the Barrack Master, without any indent or other requisition, on the receipt of the Quarter Master; and the applications of Commanding Officers for any articles that may have been omitted, must be promptly attended to.

Requisitions.

13.—The furniture of Churches in Military Stations is to be regularly issued, repaired, and renewed, under the Rules

Churches.

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Sec. 4.

applicable to Barrack furniture, the Chaplain performing the duties assigned to the Quarter Master and Commanding Officer of the Corps. Barrack Masters are invariably to inspect the Church furniture on any relief of Chaplains.

Inspection of
Church Furni-
ture.

14.—Barrack Masters will also make such inspections, as may be necessary to assure them that the Church furniture is in good order and complete, but the immediate charge of each Church and its furniture, as also of each Burial Ground, rests with the Chaplain, who has the power to sanction the erection of Mural Tablets and Monuments, but not to make any alteration in buildings or furniture, nor to partition off the Burial Ground for different denominations.

Furniture of
Churches in
Civil Stations.

15.—In Civil Stations the Executive Engineer will have a similar charge of the Church furniture as well as of the Church.

Church ser-
vants.

16.—The Executive Engineer and Barrack Master have nothing to do with the Chowkedars or other servants attached to Churches and Burial Grounds.

In the absence of the Chaplain, the Barrack Master or Executive Engineer will take charge of the furniture of the Church, but the servants will be under the orders of, and will receive their pay from, one of the Staff, or Civil Officers at the Station.

New Church
furniture.

17.—Applications for new furniture for Churches, must be made by the Chaplain, through the Archdeacon, to Government.

Section 5.—Punkahs and Tatties.

Buildings for
which punkahs
are allowed.

1.—Punkahs will be supplied to the following buildings in the Lines only of European Corps, including the Europeans of the Sappers and Miners :—

Barracks.

Canteens.

Canteen Guards.	CHAP.
Conjee House Guards.	XX.
Hospitals.	Sec 5.
Hospital Guards.	
Libraries.	
Main Guards.	
Quarters of Non-Commissioned Staff.	
School Rooms.	
Sergeants' Messes.	
Workshops.	

2.—Punkahs will be supplied at Government expense for the use of the Troops at Church, even though the Church be not Government property. Punkahs for troops at Church.

3.—Fringes are authorized to be supplied to all punkahs. Fringes.

4.—Punkahs in Barracks may be suspended by light iron rods. They need not be removed in the cold season, but shall then be hauled up out of the way, and so as to interfere as little as possible with ventilation. Suspension of punkahs.

5.—Punkahs shall be suspended by at least three ropes or rods, and due care shall be taken to prevent friction causing the supports to wear through. Care enjoined.

6.—The sum of Company's Rupees 300 per annum is allowed for each Company towards the expense of pulling punkahs. Any additional cost is to be defrayed by the men themselves, or from the Canteen Fund. Govt. allowance for pulling.

7.—Early in each hot season the Barrack Master will pay the sums allowed by Government towards pulling the punkahs for the year to the Commanding Officers of Corps and Detachments, whose receipts will be sufficient vouchers for the charge. Payment thereof.

8.—Barrack Masters are responsible that the punkah ropes and rods are strong and in good order. They must supply new ones when necessary on the requisition of the Regimental authorities, as in the case of Barrack furniture. Renewal of punkah ropes.

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XX.

Sec. 5.

Working of
punkahs.

9.—Commanding Officers will take measures to prevent clothes or other articles being hung on the punkahs and punkah ropes, and will use precautions to extract a proper proportion of labour from the punkah pullers, who should be placed under the orders of Non-Commissioned Officers, as well to see that they perform their duty, as to protect them from ill-usage.

Tatties to
whom allowed.

10.—Tatties will be supplied and watered at the expense of Government to the buildings occupied by the Non-Commissioned Officers and Soldiers of European Corps, and to other European Non-Commissioned Officers and Soldiers not in receipt of staff salary. But tatties are not allowed to Warrant Officers, to the European Non-Commissioned Officers of Native Corps (except the Sappers and Miners), or to any European Non-Commissioned Officers or Soldiers who receive staff salary, except those doing duty with European Corps.

Tatties are allowed to the Hospitals, Guards, and Workshops of European Corps; also to the Canteen Guards and Canteen Sergeant's Quarters, but not to the Canteen, unless it be required to be open during the heat of the day.

Tatties are allowed to the families of European Soldiers left in cantonments when the Troops are on service—that is, to such portion of the Barracks as is necessary for their accommodation.

Tatties are also allowed to Troops quartered in tents during the hot season.

Number to be
supplied.

11.—The number of tatties to be furnished to any building is restricted to half the number of apertures (doors and windows), but to each Sergeant's bungalow only one tattie is allowed.

Bheesties and
Coolies.

12.—One Bheestie is allowed to every three tatties, and one Coolie for every two. Also the necessary number of

Mate Bheesties and Mate Coolies according to local custom, and bullocks with leather bags for filling the reservoirs. One *nand* and one *dolchie* are allowed to every two tatties when they are near together, and one to each when they are distant.

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XX.
Sec. 5.

13.—Estimates for the preparation and watering of tatties will be furnished annually by Barrack Masters, who will supply the tatties, and make any repairs and renewals that may be necessary in the course of hot season.

Estimates and repairs.

14.—From the date on which the tatties are brought into use the establishment of Bheesties and Coolies will be entertained by the Barrack Masters for watering them, and placed under the control of Officers Commanding Corps and Detachments, who will take measures for ensuring a plentiful and regular supply of water for the tatties.

Supply of water.

15.—Commanding Officers will receive from Barrack Masters monthly the sums required for the payment of the establishment, and will be responsible for its proper disbursement. Receipts in duplicate will be furnished by Commanding Officers to Barrack Masters, who will attach one copy as a voucher to their bills.

Payment of Establishment

16.—If the period for the employment of the establishment, calculated for in the estimate, should be likely to be exceeded, in consequence of an unusually long continuance of the hot winds, the Barrack Master should apply for the issue of a Station order to continue it as long as may be necessary.

Unusually long hot seasons.

17.—Estimates for making up and watering tatties for the ensuing season, must be sent in by the 20th December of each year (in Form No. 123), accompanied by statements showing the buildings they are to be applied to (Form No. 124), and by explanations of any difference between the number of tatties estimated and that supplied in the previous season.

Date of submission of Estimates.

18.—Khus must be purchased fresh; and the use of any portion of old khus in new tatties is prohibited. Khus is to

Khus.

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Sec. 5.

be estimated, charged for, and entered in returns, cleaned and free from knots or lumps.

Old materials.

19.—The bamboos of old tatties must be carefully preserved for use during the ensuing season, as well as the nands and dolchies. The old khus should be kept till the tatties for the ensuing season have been made up, and should then be sold or burnt.

Section 6.—Conservancy.

Commanding Officers.

1.—Commanding Officers of Stations are responsible for the cleanliness of the Lines and Barracks.

Barrack Masters.

2.—It is the duty of the Barrack Master, under the authority of the Commanding Officer, exercised according to the provisions of chapter IV., to carry into effect all measures intended to promote the cleanliness of Lines, and of the Barracks, Hospitals, and other buildings; to cause Barracks and Hospitals to be white-washed, when ordered as a sanitary precaution, and not in part of ordinary repairs, and to furnish extra establishments when required for the cleanliness of Hospital compounds.

Regimental Establishments.

3.—The following are the establishments allowed, and Rules in force for the maintenance of cleanliness in the Barracks and Lines of European Troops, as published in General Order No. 577 of 13th July 1853:—

“Fixed Quarter Master’s Establishment for the personal wants of European Troops in all situations.

I. Two Puckallies per Troop or Company, for the purpose of supplying the Soldiers and their families with water for drinking, washing, and other purposes.

Quarter Master’s Establishments.

II. Two sweepers per Troop or Company, for the purposes of cleaning the Barracks, Out-offices, and vicinity of the men’s quarters.

“ Temporary Establishment for Detachments, Depôts, &c.

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Sec. 6.

“ III. The same scale of Establishment is allowed for Detachments or Depôts of Recruits, Volunteers, and of European Soldiers in general, or their families, when not present with the Head Quarters of their Troops and Companies In such cases one hundred adults, male or female (two children being calculated as one grown-up person), are to be considered as equivalent to one Troop or Company.

“ IV. For smaller numbers the following will be allowed :

“ When consisting of less than 25 adults as above, 1 Bheesty.

“ Of 25 to 50 ditto ditto, 1 Puckally.

“ Of 50 to 75 ditto ditto, 1 ditto, and Bheesty.

“ Of 75 to 100 ditto ditto, 2 Puckallies.

“ Of less than 50 ditto ditto, 1 Sweeper.

“ Of 50 to 100 ditto ditto, 2 Sweepers.

“ Of less than 100 ditto ditto, but only on the march and in camp, 1 Bildar.

But any Detachment of more than half a Troop or Company, when separated from its Head Quarters, is to be furnished with a proportion of the Establishment from the Troop or Company to which it belongs.

“ V. In the event of the Puckallies above sanctioned not being procurable, Bheesties may be entertained in the proportion of two for each Puckally.

“ Additional and Temporary Establishments when marching, or in the field.

“ VI. Two Bheesties and 1 Bildar per Troop or Company

Additional in
the field.

“ N. B.—Troops of European Horse Artillery are allowed two, instead of one Bildar.

“ VII. The pay of the above men will be drawn in the Abstracts of Quarter Masters of Regiments or by Commanding

CHAP. Officers of Detachments or Depôts when there may be no
 XX. Quarter Master.
 Sec. 6.

“ CONSERVANCY ESTABLISHMENT.

“Temporary additional Establishments allowed to European Troops when in quarters, provided that no separate Conservancy Establishment is kept up under the Local Authorities for the duties of the quarters occupied by Corps.

Conservancy
 Establish-
 ments for Bar-
 racks and
 Lines.

“I. One Bheesty and 1 Sweeper per Troop or Company, for the purpose of scouring the drains, privies, &c., and of assisting the fixed Establishment generally in keeping the grounds in the vicinity of the Barracks and lines in a cleanly state.

“II. For each Corps in quarters, two filth carts with bullocks and drivers, for the purpose of removing the filth, and for general purpose of conservancy, to be furnished by the Department of Public Works.

“III. For Detachments of three and more Troops and Companies, one filth cart as above.

“IV. For Detachments of less than three Troops and Companies, two additional Sweepers per Troop or Company, for the above purpose in lieu of the filth cart.

“V. Detachments and Depôts of Recruits, Volunteers, and of European Soldiers in general, or their families, when not present with their Troops and Companies, will be provided with Conservancy Establishments according to the above scale: one hundred men, women, and children, as in Rule III., temporary Establishments, for Detachments and Depôts, being considered equivalent to a Troop or Company.

“VI. The Conservancy Establishment, for small Detachments of under 50 men, women, and children, will consist of one Bheesty and one Sweeper, both for scouring the drains, &c., and for removing the filth.

“VII. Detachments of from 50 to 100 men, women, and children, will be allowed one Bheesty and two Sweepers for the same purpose.

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Sec. 6.

“VIII. The pay of the whole of the Conservancy Establishment will be drawn by Quarter Masters of Regiments, or Commanding Officers of Detachments, as the case may be, in Bills on the Department of Public Works (Barrack Master).

Pay of Conservancy Establishments.

“The superintendence and working of the whole of the Establishments, permanent and additional, or temporary, and for Conservancy purposes, sanctioned in this Order, will, under the supervision of Commanding Officers, be confided to Quarter Masters of Corps, whose immediate duty it is to see that the best water procurable is supplied to the Soldiers and their families, and that the utmost cleanliness is observed at all times in the Barracks, Out-offices, and throughout the lines of the Corps. In small Detachments, where there may be no Quarter Master, those duties will devolve on the Commanding Officer.”

Working of do.

Section 7.—Precautions against Fire.

1.—Commanding Officers of Stations are held responsible that due attention is paid to the orders on the subject of precautions against fire.

Commanding Officers.

2.—No fires, except in regularly constructed fire-places, are to be permitted either during the day or night in any Quarters. This prohibition must be strictly attended to in Quarters occupied by married soldiers.

Proper fire-places.

3.—All lights, whether candles or lamps, must be protected by lanterns (which, for public purposes, will be supplied by the Barrack Master); and no fire is to be carried about on windy days unless properly covered.

Lanterns.

4.—The discharge of fire-arms in the lines is prohibited, except on the regular parades.

Fire-arms.

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Sec. 7.

Stacks of combustible matter

5.—No stacks of dry grass or straw, no thatched huts or tents, no mat or jhamp enclosures, no cooking places or choolahs, are to be allowed within 100 yards of any Barrack, Stable, or other large public building having a thatched roof.

Smoking.

6.—No hookah smoking is to be allowed in Cavalry Stables during certain hours of the night to be fixed by the Local Military Authorities.

Ventilators.

7.—Barrack Masters in charge of Barracks provided with ventilators will cause them to be inspected weekly, and will prevent the accumulation of any inflammable materials therein; chimneys will in like manner be inspected at the beginning of the cold season, and cleared when necessary. Notice of these inspections having been made must be entered at the foot of the Barrack Master's monthly Establishment Bills.

Water pots.

8.—Earthen pots for holding water, for use in case of fire, should be supplied to all public buildings having thatched roofs. The number will be determined by the Barrack Master in communication with the Local Authorities.

The water pots for the Regimental buildings of European Corps must be supplied by the Barrack Master, but will be kept full by the Establishment under the orders of the Quarter Master.

One hundred water pots per Troop or Company will be supplied by Quarter Masters for the lines of Native Corps, and will be kept full by the Regimental Establishments.

For other public buildings, the water pots will be supplied in the first instance by the Barrack Master, and will be kept complete and filled with water by the Establishment under the Officer occupying the building.

When Regimental lines and public buildings are vacated, the Barrack Master will take charge of the water pots, keep the number complete, and employ the necessary Establishment for keeping them full. He will grant receipts for the number of water pots made over to him, and will demand receipts in

return when he delivers charge of the lines or buildings to new occupants.

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Sec. 7.

Fire Engines.

9.—A Fire Engine is allowed to every European Corps, and to every Native Cavalry Corps, and every Troop of Horse Artillery or Horse Field Battery having thatched Stables. Every European Cavalry Corps having thatched Stables will be allowed a second Fire Engine. Fire Engines are to be kept under charge of the Barrack Master, in sheds near the Quarter Guards of Corps, or near the Stables. Soldiers are to be trained to use the Engines.

A spare Engine will be allowed at large Stations to be ready for use, in case it may be necessary to send one of the regular complement of Engines into the Magazine for repairs.

Fire tools.

10.—It is the duty of the Barrack Master to keep attached

6 Buckets to be made of rattan and leather, tarred inside and out.

Spare Buckets, as many as necessary with reference to difficulty of getting water.

4 Hatchets.

4 Large hand saws.

6 Fire hooks with back spikes, on poles not less than 20 feet long.

20 Fire Ladders.

to every Fire Engine the implements detailed in the margin, and to maintain them, as well as the Engine, in good and efficient order.

Every Engine with its hose must be worked weekly, to

ensure its efficiency; and certificates to this effect will be appended by the Barrack Master to his monthly Establishment bills.

The pistons of Fire Engines should be kept greased. Fat or tallow boiled down with sweet oil (*Meetha tel* or *til* oil) makes a good unguent, both for the pistons and centres of motion. Vegetable oils unmixed with animal grease should not be used.

The Executive Engineer and Barrack Master are responsible that proper provision is made for securing at all times an ample supply of water for the Engines, in tanks capable of being filled from wells, or otherwise.

11.—Fire Engines, tools, ladders, &c., will be borne on the Returns of Barrack Furniture.

Returns.

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Sec. 7.

Fire ladders.

12.—Fire ladders are to be allowed for thatched roofs of important buildings; one of rope to each 30 running feet of roof, to reach from the ridge to the eaves on both sides, and one or two of bamboo or wood for each building (in addition to those attached to the Fire Engines) to reach from the ground to the eaves.

Breaches of rules.

13.—Executive Engineers and Barrack Masters are required to draw the attention of Commanding Officers of Stations to any instance in which the foregoing Rules have been neglected.

Vacant buildings.

14.—When buildings which require protection are left vacant, Barrack Masters will apply to Commanding Officers for Guards of Native Infantry. Should no guard be available, the Commanding Officer should be requested to authorize, by Station Order, the entertainment of the requisite number of Chokedars, who will be paid by the Barrack Master, and be under his orders. Where there is no Commanding Officer, the Barrack Master will report the entertainment of Chokedars for the confirmation of the Chief Engineer.

Section 8.—Lamps, Oil, and Miscellaneous Stores.

Barrack lamps.

1.—For every 100 European Soldiers in Barracks, are allowed six glazed lamps with tumblers. This scale is considered sufficient whether the Barrack be for full, or half Companies: two lamps in each Barrack are allowed to burn all night, the others only till tattoo beating.

Lamps for other buildings.

2.—The following additional lamps are allowed to a complete Regiment:—

Main Guard, two lamps,

Barrack “ one “

Sick room, “

Privies, one lamp each, burn all night.

Serjeant Major, one lamp,

Qr. Mr. Serjeant, “

Defaulters' room, “

For other occupied buildings, lamps are also allowed on the same principles and proportions; and for Detachments, in proportion to strength.

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Sec. 8.

2.—One chittack of oil is allowed for each lamp to burn till tattoo beating, and for lamps to burn all night $2\frac{1}{2}$ chittacks, from March 22nd to September 22nd, and 3 chittacks from September 22nd to March 22nd, each lamp having two wicks. Oil is not allowed to Non-Commissioned Officers attached to Native Corps or in Staff situations.

Scale of supply
of oil.

3.—One Coolie is allowed for cleaning, trimming, and lighting 25 lamps, which are to be cleaned in the morning, lighted in the evening, and trimmed once during the night.

Coolies.

One Sirdar Coolie, on a salary one half higher than that of a Coolie, is allowed to each lighting establishment consisting of more than two Coolies. His duties are to be those of a lighting Coolie, with the additional responsibility of measuring out oil to the Coolies under him. The Sirdar must be responsible for the good conduct and working of the men under his charge, and will supply on contract wicks, cotton, oil-pots, &c., according to the number of lamps to be kept up.

In cases where the number of lamps is less than 25, one Coolie must still be entertained.

4.—Candles and stationery of main guards are supplied by Barrack Masters; but except to Station Main Guards, no Candles are allowed to Guards, Picquets, or Lines.

Candles and
Stationery.

5.—Charges for lighting Barracks will be drawn by the Barrack Masters in their monthly contingent bills, supported by certificates of the Form No. 125. The establishment of Coolies is to be drawn for under the head "Temporary Establishment."

Expense of
lighting.

6.—Barrack Masters will supply European Troops in Barracks with large earthen jars for holding drinking water, calculated at the rate of 2 gallons per man.

Water jars.

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XX.

Sec. 8.

Plunge baths

7.—Barrack Masters are authorized to supply ropes, pulleys, leather bags, and other gear necessary for the filling of the baths of European Corps, and to repair them under the Rules applicable to Barrack furniture. The Coolies and cattle necessary for drawing the water will be obtained from the Commissariat.

Time, &c. for purification.

8.—Barrack Masters are authorized to supply, on indent by Regimental Quarter Masters, quicklime and charcoal dust to be used by the Conservancy Establishment, for sprinkling in drains and privies.

Earthen pans.

9.—Barrack Masters are also authorized to supply earthen pans with covers for the use of prisoners in the solitary cells.

Hearses.

10.—Hearse carts for the funerals of European Soldiers shall be kept up and supplied by Barrack Masters. One for a Station will generally be allowed, but a second may be provided when the Lines of European Corps are far apart, or where many European Troops are quartered. Doolies, with black covers, may be substituted for hearses when preferred by Commanding Officers of Corps. Two Doolies will be allowed instead of one hearse.

Flags.

11.—A flag staff and flag are allowed at the Head Quarters of each division of the Army, and of each Brigadier Commanding a District or Station, and for every Fort. The flags (union 18 × 12 feet) will be procured on indent from the nearest Magazine by the Barrack Master or Executive Engineer, under whose charge they will remain, and will be included in the Return of Barrack furniture.

ADDITIONS AND ALTERATIONS MADE WHILE PRINTING.

CHAPTER. I.

1. *Para. 3.*—In the Table of Salaries the Chief Engineers of the 2nd Class and other Officers noted as receiving Rs. 1,200 a month Staff, or Rs. 1,600 Civil Salary, are now allowed Rs. 1,000 Staff, or Rs. 1,400 Civil Salary ; and the Chief Engineers of the 3rd Class, and other Officers set down as receiving Rs. 1,000 a month Staff, or Rs. 1,400 Civil Salary, are now allowed Rs. 800 Staff, or Rs. 1,200 Civil Salary.

ADDNS.
Alteration of
Salaries.

2. *Para. 11.*—On the recommendation of Chief Engineers or of Officers exercising their powers, the Local Administrations have authority to direct an account in the Government Books to be opened with any Officer whatever his grade in the Engineer Establishment, or with any Sub-Engineer or Supervisor, who may be in charge of an independent Survey or of an isolated work, or who may have any separate charge. A Special Report is to be made to the Government of India, when a new account is thus directed to be opened, in which the nature of the case is to be explained. No claim to advancement or extra remuneration will be admitted on the ground of an Officer being thus directed to open a separate account with Government.

Separate ac-
counts with
Government.

CHAPTER. II.

3. *Para. 18, &c.*—The Government Colleges referred to are Government *Civil Engineering* Colleges, and not Colleges of General Education.

Colleges.

4.—*Para. 19.*—The Quarterly Rolls are to be dated 1st May, 1st August, 1st November, and 1st January. If there

Rolls of Can-
didates.

- ADDS. are no Candidates, blank forms should be sent to the Chief Engineer's Office.
- Examiners.** 5. *Para. 34.*—The Examiners may be selected by the Chief Engineer.
- Hindustani.** 6. *Para. 37.*—After the words “The Candidates must, in addition to the examination there prescribed,” add, have a *fair colloquial knowledge of the Hindustani language, and must.*
- Qualification in N. Languages dispensed with** 7. *Para. 41.*—Omit the words “and must have passed the examination in the Hindustani language contemplated in G. O. G. G. 9th January 1837 (see Appendix D.), or a similar examination in the language of the District in which he is to be employed.”
8. *Para. 44.*—For “in para. 4” read “in the next paragraph.”
- Qualification in N. Languages required.** 9. *Para. 45.*—Add at the end. “No Assistant Engineer shall be promoted to the grade of Special Assistant or Executive Engineer of the 4th Class until he shall have passed the examination in the Hindustani language contemplated in G. O. G. G. 9th January 1837 (see Appendix D.), or similar examination in the language of the District in which he is employed.”

CHAPTER. III.

Section 1.

- Chief Engineer's power to pass charges.** 10. *Para. 24.*—Add at the end.
- If the amount be not specified in the sanction, the Chief Engineer cannot pass the charge finally, if it exceed Rs. 500 but he may pass all reasonable charges for the sanctioned object in the monthly accounts of the Executive Engineer, reporting to Government if the occasion seems to require it.

CHAPTER IV.

ADDNS.

Section 1.

11. *Para. 3.*—FOR a mere repair, a requisition is not necessary; but the Regimental Commanding Officer's signature to the completion certificate (which may embrace several petty works) will be considered as sufficient authority. •

Authority for repairs.

12. *Para. 7.*—The requisitions of Local Officers should specify the date by which the work is expected to be finished. The date should be fixed in communication with the Local Officers of the Public Works Department.

Period by which works are to be completed.

Section 2.

13. *Para. 2.*—The same addition as the last.

Completion of works

14. *Para. 2.*—Add to the list of Officers empowered to sanction works up to Rs. 500 the Superintendent of Marine.

Superintending and Executive Engineer's powers to sanction works.

Also that in the case of Roads, Canals, and Embankments, and generally in works intended for public convenience and not attached to any Department of the Government, the Executive Engineer has power, under similar restrictions, to sanction small improvements to the extent of Rs. 200 each work; and the Superintending Engineer, to the extent of Rs. 500 each work.

15. *Para. 3.*—The same addition as to section 1, para. 3.

Authority for repairs.

16. *After para. 5, add as an extra paragraph.*—In the case of Superintending and Executive Engineers the Rules of paragraph 4 will be modified as follows :—

Rules for the exercise of powers of sanction.

I.—A definite design and estimate must be first prepared by the Executive Engineer.

II.—The design, estimate, and a report explaining the object of the new work, and mentioning the intention of commencing it, must be submitted to the Chief Engineer before the work is begun.

ADDNS.

 Rules for the
 exercise of
 powers of sanc-
 tion.

III.—A monthly report will be submitted by the Chief Engineer to the Local Government, of all sanctions given under these Rules.

IV.—This authority is not to be construed into a permission to carry out in portions any system of works or alterations of which the cost in the aggregate would exceed what is now laid down as the limit for such works. Nor is any important alteration of design or arrangement to be made in any existing work, nor is any new work to be undertaken, at variance with the authorized or fixed standards when they exist, without the assent of the Departmental Officer under whose immediate orders the Executive Engineer acts. Further, these powers are to be understood as strictly confined to the sanction of additions or improvements to works or systems of works already executed or approved for execution, and are not to be held applicable to altogether new projects.

V.—The Chief Engineer may, if he thinks fit, order any such work to be stopped, or its commencement to be suspended.

VI.—If the work cost less than Rs. 50 No. IV. only of these Rules will be considered applicable.

N. B.—The Government of India have not conferred any similar power on Chief Engineers, because in the first place, the Superintending Engineer is an Officer of nearly equal experience and possesses better means of satisfying himself by local inspection of the necessity of a work; and in the second place, because the Chief Engineer has the audit of the accounts and is the authority on whom the Government principally depend to check the improper exercise of these powers in all the Officers entrusted with them.

Where the Chief Engineer performs the duty of Superintending Engineer also (as in the case of the smaller charges), he will exercise the above powers in his capacity of Superintending Engineer.

CHAPTER V.

ADDNS.

Section. 4

17. *Para. 3.*—N. B. The minimum space to be allowed in Barracks for European Troops is 1,000 cubic feet per man, the area of floor not being less than 64 square feet per man.

Space for Soldiers in Barracks.

CHAPTER VIII.

Section. 1.

18. *At the beginning.*—It is a standing rule that all Public Works must be carried on as rapidly as possible without endangering their stability. Every requisition for a work should specify the date by which it is expected to be completed, and the same information should be given by Executive Engineers in their estimates.

Rapid progress required in public works.

19. *Para. 10.*—Before work is begun, the Executive Engineer must see that the Assistant or Subordinate placed in charge has fully detailed instructions and proper working drawings (prepared by himself or supplied to him by the Executive Engineer); and that he quite understands them. This being done, the Assistant or Subordinate will be held responsible for the style of workmanship, the accuracy of all details, and the observance of all proper precautions. The Executive Engineer will, however, inspect the work as often as may be desirable or practicable, with reference to his other duties.

Instructions to, and responsibility of, Subordinates.

Section 2.

20. *Para. 3, add.*—The quality and sufficiency of the supply of water must also be carefully investigated. If the occasion requires it, a project for water supply should be added to the estimates; and also, if necessary, a project for drainage.

Water Supply and drainage.

ADDNS.
Precautions against fire. 21. *Para 11, add.*—It is necessary also to see that care is taken to prevent the danger of wood-work igniting from being placed in contact with fire-places or chimneys.

Periodical repairs. 22. *Paras 17 and 19.*—The periodical repairs included in these paragraphs are of two classes ; one consisting of the repairs (such as painting) which are, as a matter of regulation, required to be done periodically, and which are in ordinary circumstances of exactly the same quantity for each building from period to period ; and the other of repairs (such as renewals of plaster) which vary in extent according to circumstances, and which are not, as a matter of regulation, done along with the other class of repairs, though it is convenient to execute them at the same time

The list in paragraph 19 includes both kinds ; and is not intended to prevent work of the latter kind being done as an occasional repair when necessary or convenient.

CHAPTER IX.

Supply of Cash. 23. *Paras. 2, 3, and 5.*—Apply to any Officer in the Department who has a separate account with Government—see addition to chap. I., para. 11.

Cash Balance Statements. 24. *Para 9.*—The Executive Engineer is not required to prepare the statement Form No. 26. The Subordinates will send their Cash Balance Statements direct to the Central Office.

Guards. 25. *Para. 11.*—When a Military or Police Guard is applied for, the Executive Engineer should report the average and largest amount of treasure likely to be kept in the chest, and the Guard supposed to be necessary, and leave it to the Commanding Officer to fix the strength of the Guard. No sum of money in excess to the reported largest amount

should be placed under the Guard without first reporting to the Commanding Officer.

If no Military or Police Guard be available, the Executive Engineer may entertain a Guard of one Duffadar and 4 Burkundazes, which in ordinary circumstances is considered sufficient for treasure not exceeding Rs. 5,000. The pay of the Guard will be charged as a Contingent Expense. •

No larger Guard can be entertained without the sanction of Government; the treasure of course being kept within the limit above defined, until the sanction be obtained.

ADDNS.

CHAPTER X.

26. *Para. 3.*—The two last lines are to be interpreted according to chapter XIV., para 2.

Courts of Inquiry.

27. *Para. 8.*—When one Department seeks the aid of another in supplying stores, or otherwise, the transaction will be conducted so as not to interfere with the Rules of the Department of which the aid is sought.

Customs of different departments.

CHAPTER XI.

28. *Para. 4.*—Attached to the Establishment bills must be a statement (Form No. 126) of the persons who were on leave of absence during the month. Casual leave for a few days in cases of sickness need not be inserted, unless it be in excess of 15 days during the current official year.

Leave to be recorded in Establishment bills.

29. *Para. 5.*—This does not prohibit Executive Engineers from taking copies of the accounts of their Subordinates. It will be convenient to keep copies of all except the Figured Daily Abstracts, which will give a sufficient record for the Executive Engineer's Office. A pattern of an Abstract of Subordinates' accounts, which may be preferred by some Officers, is given in Form No. 131.

Copies or abstracts of Subordinates' accounts.

ADDNS.

Accounts of
works by con-
tract.

30. *Para. 11.*—When any Work is done entirely by one Contractor, no Figured Abstract is required, the entry of the Work done in the Account of Advances and Contracts being sufficient. But when a Work is done by two or more Contractors, or partly by contract and partly by Departmental Agency, it is necessary to have a Figured Abstract in addition to the Account of Advances and Contracts. This Figured Abstract is not required for any other purpose, as regards the Contractor's Work, than to bring the credits to the Contractors together in one document with the other charges for the Work, in order to enable the Central Office to debit the charges to the proper Work. No daily or other detail of the Contractor's labourers and Contractor's materials is to be inserted. But in the portion of the Figured Abstract set apart for the "Cash Abstract," the Work credited to the Contractor during the month is to be copied in from the account of Advances and Contracts. Advances to labourers shown in the account of Advances will be deducted at the foot of the daily Figured Abstract, a corresponding memorandum or note being given in the Advance Account.

Stacking.

31. *Paras. 15 and 20.*—It is to be observed that when there is no kiln-yard operation to be performed, it is still necessary to render the account of stacking after carriage as a separate operation, as laid down in paragraph 19; for instance, after carrying road metal to the road side, it is to be stacked, or materials carted to site are to be stacked.

Road metal
returns.

32. *Para. 27.*—The road metal Stock in each mile of road will be entered separately in the Stock Returns, or will be shown in an Appendix thereto. (Form No. 132.)

Prices of ma-
terials.

33. *Paras. 16, 17, and 47.*—Chief Engineers are authorized to allow the Executive Engineers and their Subordinates to enter the prices of materials expended on works in the Daily Abstracts and General Abstracts provided it is done according to the Central Office list of prices, or (in case any article

should not be in the list of prices) according to assumed rates in even money, and not as the result of any Debtor and Creditor Account of Stock kept by the Executive Engineer, or his Subordinates. This practice may be convenient to enable Executive Engineers to strike rates for their own information, and for the guidance of the Central Office. Rates so struck should (after correction) be adopted in the Central Office as far as possible, but must not be considered as finally fixed.

ADDNS.

The prices of materials thus entered in the Daily or General Abstracts must be kept quite distinct from the charges for labour (by being entered in red ink or otherwise); and the disbursing Officer is to remember that it is only for the charges for labour that he receives credit in his accounts of expenditure for any work.

34. Such stores as earthen pots, line doories, brooms, baskets, and all perishable articles of small value, will not be entered in the Stock Returns, nor will they be charged directly to works in the daily Abstracts. When brought, they will be entered as petty purchases in the List of Purchases, and will be charged off by the Central Office to the Wear and Tear Account. See para. 50, chapter XII. A list of these articles should be kept by the Subordinates, and proper care should be taken that they are not lost or destroyed.

Petty Stores.

35. *Para.* 51.—The Half Yearly Account Current is to be sent in duplicate to the Central Office (both copies) within a month of the period at which it closes, without waiting for the audit of accounts. Unaudited expenditure will be shown in inefficient balance.

Accounts current.

36. Omit the words “and for bills passed by the Superintendent of Stationery.” The audit of the Stationery bills will be made in the first instance by the Central Office, and will be by that Office referred for final audit to the Superintendent of Stationery.

Stationery.

ADDNS.

Last Salary
certificate.

37. *Add the following additional paragraphs :—*

62.—Every Officer or Subordinate transferred from one Division to another shall, on leaving the old Division, be furnished with a certificate of the date up to which he has received salary and travelling allowance. A duplicate shall be sent by post to the Executive Engineer of the new Division.

Adjustment
of salary drawn
in cases of
transfer.

63.—If an Officer or Subordinate so transferred leaves the old Division when his salary and travelling allowance has been drawn but not passed, the circumstance shall be noted on his certificate. When the audited bills are returned, the Executive Engineer of the old Division shall pass an order for the payment of the cash on the Executive Engineer of the new ; the former taking credit for the amount, and the latter debiting himself with it, and again taking credit when the money is paid to the person in whose favour it was passed.

Receipts for
advances.

64.—An Officer making an advance to a Subordinate under chapter XV., section 1, para. 25, shall require him to sign a receipt in duplicate, and shall also require him to produce his last salary certificate, and shall note the advance thereon.

Adjustment
of advances :
old Division.

65.—One copy of the receipt shall be sent immediately to the Executive Engineer of the Division the Subordinate is to join ; the other will be retained by the Officer who made the advance as a voucher to be attached to his accounts. On this receipt credit will be allowed by the Central Office.

Adjustment
of advances
new Division.

66.—On the Subordinate joining his new Division, the Executive Engineer shall draw his arrears of salary according to the last salary certificate, exactly as if no advance had been received by the Subordinate ; and on receiving the passed bill including the arrears of salary, the Executive Engineer shall deduct the advance, or the proper instalment in liquidation thereof, and shall pay the balance to the Subordinate.

Credit to Go-
vernment of
advances.

67.—The sum deducted shall be credited to Government in the Executive Engineer's Account Current, both monthly

and half-yearly, as " Liquidation (or part liquidation) of an advance (of Rs.——) received by —— from the Executive Engineer of the —— Division."

ADDS.

68.—As a general rule when payments are to be made in one Division on account of another, the adjustment will be managed, as above, in the Account Current, and no drafts or cash payments will pass.

Transfers in account between Divisions.

69.—Executive Engineers are not required to render any accounts or bills besides those above laid down, or such as may be required by the Chief Engineer to be submitted to Central Office of Account. No other authority, except the Government, can demand accounts of Executive Engineers.

Executive Engineer's accounts to go to Central Office.

38. The whole of this chapter is equally applicable to Officers of any grade holding separate charges under the addition to chapter I., para. 11.

Officers other than Executive Engineers.

CHAPTER XII.

39. *Para. 6, add these Rules.*

I.—In the event of an Officer of the regular Public Works Establishment being temporarily employed on a work which is to be paid for by local or private Funds, and of his salary being ordered to be provided, during the time of his employment, from those Funds, his salary shall nevertheless continue to be drawn, audited, and charged in the Public Works Accounts as usual, a set-off being made per contra of the amount which will be passed to the credit of Public Works from the local or private Fund, either on a cash payment or book transfer, as the case may require.

On salaries chargeable to Special Funds.

II.—The Chief Engineer, on auditing the Bill of an Officer thus employed, will endorse upon it the nature of the Fund from which the amount is to be recovered, and issue the necessary orders for the realization of the sum in cash, or its adjustment otherwise.

ADDNS.

III.—A similar course will be followed in cases where Officers of the regular Public Works Establishments are employed on works chargeable to Native States, the adjustment being made in communication with the Resident or Political Agent in those States.

IV.—The above Rules are only applicable to cases where this mode of charging the salary of the Public Works Officer shall have been ordered by Government.

Signature of
audit record.

40. *Paras. 19 and 34.*—The record of audit on Abstracts and Bills passed by the Chief Engineer or by Government, and forwarded for deposit in the Office of the Government Accountant, must be signed by the Chief Engineer himself, and not by his Head Accountant only.

First process
in the Book
Keeper's De-
partment.

41. *Para. 21 at the beginning.*—The elementary details having been checked and passed as before described, the next process is again to group all of them together, but in such an order as shall parcel out the expenditure under the several heads required for the subsequent processes of adjustment, &c., while at the same time it is ascertained that the whole of the admitted charges brought forward by all the disbursing Officers of each Division are duly carried out into the accounts, and nothing more or less. This is effected by the first process in the Book Keeper's Department, which is, &c.

Head Re-
trenchments.

42. *Para. 21, in the list.*—Number 15 of the headings to be "Retrenchments;" No. 16, "Government."

Sundries, &c.

43. *In paragraphs 21, 44, and 47.*—For "Contingent Expenses," substitute "Sundries of other Departments."

Explanation
of the monthly
Ledgers.

44. *For paragraph 22 substitute the following:*—A check balance sheet is prepared monthly of these. It will be observed that the heads from 1 to 9 are the accounts for various sorts of expenditure for work done, &c.; heads from 10 to 13 are the personal accounts of the disbursing Officers; 14 is the account of work done and audited as such, for which payment has not been made; 15 is for charges not admitted;

and 16 is the general account of Departmental liabilities in respect to the expenditure under consideration. Hence it will happen that heads 14 and 16 alone will ordinarily have creditor balances, and that the balances on the debtor side will be for the first 9 heads expenditure booked, and for heads 10 to 13 balance in hand, partly cash, and partly retrenchments, or disallowed expenditure; 15 is supplementary to these, and collects the retrenchments into one account.

45. *Para. 32.*—The statement of Military Allowances debitable to the Public Works Department will be obtained from the Military Auditor General through the Government Accountant,

Military Allowances.

46. *Para. 39, substitute the following:*—This concludes the processes under class B. of paragraph 5. What remains to be done is to exhibit, in a condensed form, and in a manner suitable to the adjustment of the whole, the results of the classification effected in the more detailed ledgers. The general sequence of events in the Public Works expenditure is as follows:—I. The Executive Engineer receives money; he spends it, and submits his accounts; those accounts are checked and passed. Here his responsibility ends. II. The Central Office takes up the outlay passed to the Executive Engineer, and it gives credit to other Departments for stores, &c., transferred for the use of Public Works. This outlay it arranges in Bills, which then have to be submitted to some final authority to be passed. III. The outlay arranged in Bills is submitted to Government and passed, and written off as a final charge in the Public Accounts. The Bills thus passed should of course in the end exactly tally with the cash, &c., appropriated to the use of the Department. The following paragraphs describe the books in which these processes are exhibited:—

Processes on which the arrangement of the Books depends.

47. *In para. 40 add.*—The Engineer Department Account is the aggregate of the accounts of all the Executive Engineers with Government. This account is debited with all the

Explanation of the Primary Books.

ADDNS.

sums received by Executive Engineers from the Government Treasuries, or from any source, on account of Government, and is credited with the expenditure audited by the Chief Engineer.

The Public Works Account is a suspense account, in which the charges passed to the credit of Executive Engineers are debited, and retained till they have been brought into the shape of Bills, when they are transferred for final adjustment into the Government Account.

The Government Account shows the final adjustment of the charges on account of Public Works. In it are debited the sums passed by competent authority, while the creditor side shows the general liabilities of the Public Works Department, consisting of cash supplied, stores transferred, and so forth.

Transfers
in ledgers.

48. *Para. 44.—Note.* It will be convenient also to have a head "Transfer" in the Divisional Ledgers in which to enter all transactions which pass out of one Division into another. The head Transfer in the General Ledger will of course close without a balance, and so prove the accuracy of the transfer operations in the book.

CHAPTER XV.

Section 2.

Salaries of
officiating offi-
cers.

49. *Para. 10, add.*—Except when officiating as an Executive Engineer or Assistant Engineer. In the former case he is allowed Rs. 200 a month staff salary, and in the latter 112.

Subsistence
of persons sus-
pended.

50. *Add at the end.*—When any person in the Department is suspended from the performance of duty pending an investigation of his conduct, his Departmental salary is considered as in abeyance, subject to the orders of Government on the matter under inquiry. (But Uncovenanted

Servants will in such cases be allowed one-fourth of their salaries as subsistence money; and Non-Commissioned Officers and Soldiers, such sum as shall make up their total receipts, including Military Pay, to one-fourth of what they would have been allowed had they continued to do duty. The calculation will include Horse Allowance, but not Daily Travelling Allowance, or Mileage.

ADDNS.

For Commissioned and Warrant Officers, in such cases, no subsistence allowance is admissible, their Military Allowances being deemed sufficient.

Section 3.

51. *Para. 1.—Add to Rule III.*—The halting allowance is not admissible when inspection bungalows are provided by Government, unless specially sanctioned by the Superintending Engineer.

Inspection bungalows.

52. *Add to Rule IV.*—But if any part of the distance be travelled by Railway, the allowance will only be at the rate of 3 annas a mile. Officers drawing at the rate of 8 annas a mile, will certify that no part of the distance charged at that rate was travelled by Railway.

Railway travelling.

53. *Add to Rule VI.*—If any Officer is transferred while on leave, he is allowed travelling allowance to join his new appointment, either from his old station or from the place where he receives the order, whichever may be the least expense to Government.

Travelling allowance of persons transferred while on leave.

54. *Para. 2.—Add to Rule IV.*—Treble Horse Allowance is also authorized in Calcutta, in cases in which the Chief Engineer may think proper to sanction it.

Calcutta.

55. *Add to Rule XI.*—A clause similar to that added to Rule VI. of para. 1.

Transfer while on leave.

56. *Para. 8.*—No Officer is now exempt from payment of tolls, unless he has received a personal exemption from the Local Administration, or from some Officer vested with the power of granting such exemption.

Tolls.

ADDNS.

CHAPTER XVI.

Section 3.

Soldier's discharge, & quitting the Department.

57. *Add after paragraph 7.*—An Officer cannot refuse to forward a Soldier's application for discharge ; but the Government may refuse to grant it.

A Soldier cannot be compelled, against his will, to remain in the Public Works Department.

Soldiers discharged.

58. *Para. 9.*—This rule confers no right to remain in the same Departmental Grade or Class as a Civilian. The Grade will be re-adjusted after a Soldier obtains his discharge or pension, so that, as a general rule, he will not receive higher salary as a Civilian than he did as a Military man.

Temporary employment of soldiers.

59. *Para. 15.*—The salaries allowed to Soldiers are in addition to Military Pay.

N. B.—For working pay to Soldiers, see G. O. No. 1166 of 16th November 1855, page 630.

CHAPTER XVII.

Securities.

60. *Para. 2.*—If cash be deposited as security, it should be placed in the Government Savings' Bank, in the name of the Chief Engineer, the interest being made payable to the depositor.

The Security Bond or agreement must be executed and deposited with the Chief Engineer within six months of appointment to the Department, failing which, the Chief Engineer cannot pass salary to the Officer.

Pensions.

61. *Add as paragraph 15.*—In case of any Officer or Subordinate being in receipt of a pension from Government, the amount must be deducted from his salary, or he must cease to draw the pension while in the Government employ.

CHAPTER XVIII.

Holidays.

62. *Para. 6.*—The following holidays may be allowed to Mussulmans in Public Works Offices :—

Shubirat,	...	...	...	...	1 Day.
Eed,	...	...	...	.....	1 "
Bukr Eed,	...	...	...	..	1 "
Mohurrum, 7th and 10th days,	.....				2 "

ADDNS.

Christians have no right to Hindoo and Mahomedan holidays, nor Hindoos to Mahomedan holidays, nor *vice versa*.

But it is left to the discretion of the Head of an Office to close it altogether, when the holidays of one section so far interrupt business as to make it not worth while to keep it open.

CHAPTER XIX.

Section 1.

63. *Para. 7.*—The documents here referred to are those to which Government is a party, including, of course, any Officer acting on behalf of Government. Law papers.

Section. 2.

64. *Para. 6.*—When enclosures are sent with a letter, a list must accompany. Enclosures with letters.

65. *Para. 10.*—The misconduct here spoken of is misconduct at the time declared by competent authority to be such as incapacitates the person discharged from re-employment in the service of Government. Discharge for misconduct.

66. *Para. 18.*—This refers to communications regarding the conduct of Government Officers. There is no objection to an Officer acting on anonymous communications so far as to endeavour to remove well-grounded causes of complaint, which do not affect the personal character or conduct of individuals. Anonymous communications.

ADDNS.*Section. 4.*Estimates.

67. *Paras. 1 to 8.*—The Report, Specification, and Estimate proper (*i. e.*, the Statement of measurements and quantities, with the Abstract), may be prepared as separate documents ; and this is preferable when the project is extensive.

The Report should contain a narrative of the circumstances which led to the preparation of the Estimate, and should enter fully into all the Engineering parts of the Project.

The Specification should show whence the materials are to be procured, and their probable cost ; and should contain a full explanation of the rates assumed in the estimate, and the data on which they are determined, in all cases when there are no well ascertained ordinary rates, or when these become inapplicable.

Percentage for contingencies.

68. *Para. 9.*—In some cases it may be necessary to assume a larger percentage for contingencies ; if so, a full explanation must be given

*Section. 5.*Indents.

69. A Chief Engineer cannot pass indents involving expenditure, or charges to the Public Works Department, for which there is no authority. An Indent for tools, &c., to re-place others worn out may be passed, as the tools in such cases are chargeable to the Wear and Tear Account, for which there is a general sanction. But an indent for additional tools, or for materials, cannot be passed without the sanction of Government, unless it be rendered necessary by the actual sanction, by competent authority, of works to which the stores will be ultimately chargeable, whether directly, or through the Wear and Tear Account.

*Section 6.*Survey reports.

70. Since the abolition of Committees in the Public Works Department the Survey Reports here described have ceased to

be a distinct class of documents. This section will therefore be omitted in future editions of the Code ; and the required forms will be referred to in chapter X., para. 4, for unserviceable stores ; chapter VIII., section 2, para. 18 for occasional repairs ; chapter XI, para. 30 for Completion Reports ; and chapters IV. and XIV. for general rules.

ADDNS.

Section 7.

71. In the Table strike out the Sub-divisional Cash Balance Statement (Form No. 26). Sub-division Officers will send their Cash Balance Statements direct to the Central Office.

Cash Balance Statement.

CHAPTER XX.

Section 1.

72. *Para. 3.*—The Barrack Master's Establishment is supposed to be able to superintend Carpenter's work, but not Bricklayer's work. Petty repairs to wood-work are therefore left to be done by the Barrack Master, but all other repairs are to be done by the Executive Engineer.

Petty repairs by Barrack Masters.

Section 2.

73. *Para. 9.*—If alterations or additions are made in contravention of this rule, the Officer occupying the building is liable to have to pay for restoring it to its original state.

Alterations of Quarters.

Section 3.

74. *Para. 4.*—The Executive Engineer is required occasionally to inspect the buildings under charge of the Barrack Master, to see that they do not suffer from want of timely repairs.

Inspection of Buildings by Executive Engineer.

Section 5.

75. The Government now pays the whole expense of pulling punkhas for European Troops. The Commanding Officer

Punkhas.

ADDNS.

and Executive Engineer settle between them the sum to be allowed monthly for pulling all the punkhas required for the health and proper comfort of the men and their families, and the Barrack Master disburses the amount actually due to the coolies, monthly, on the Regimental Quarter Master's Bill.

Section 8.

Lamps, Oil,
& other stores.

76. The Commissariat Department are to take over the duties described in paragraphs 1 to 9.

Doolies.

77. Doolies for the sick are to be supplied and repaired under the orders of the Ordnance Department.

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