

ESTABLISHMENTS
IN THE
PUBLIC WORKS DEPARTMENT.

REPORT OF THE COMMITTEE

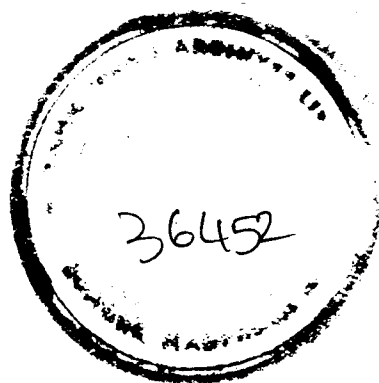
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REPORT OF THE PUBLIC WORKS ESTABLISHMENT COMMITTEE.

INTRODUCTORY.

1. In accordance with the instructions conveyed to us in G.O., No. 699, Financial, dated 5th November 1906, appointing us as a Committee to enquire into the working of the office establishments of the Public Works Department, we have the honour to submit our report to Government.

During the course of our investigations we visited the head-quarters of the six circles into which the Presidency is for Public Works purposes divided and some of the more important Public Works divisions. We examined the six Superintending Engineers in charge of those circles, and a number of selected Executive Engineers, either at the head-quarters of their circles or divisions, or in Madras. We also investigated the detailed working of the offices of the six Superintending Engineers, and of a number of divisional and sub-divisional offices.

In Madras in addition to circle and divisional offices and the Public Works Workshops and Stores, we examined the Secretariat offices, in accordance with the instructions contained in G.O., No. 184, Financial, dated 20th March 1907.

2. We have refrained from examining the establishments sanctioned for special projects or tank restoration work, as these establishments are of a temporary nature and will disappear when the special work for which they were appointed is completed.

We have also considered it unnecessary to examine the office of the Consulting Architect to Government. The Consulting Architect will shortly cease to be an executive officer and will become the technical adviser of the Chief Engineer: his establishment will be split up, part being transferred to his new office, and part constituting the office of the new Presidency division.

3. Since our appointment the scope of our enquiry has been somewhat enlarged by the reference to us of some special subjects for investigation. For convenience we have divided our report into nine parts: Part I is preliminary, Part II deals with the Secretariat offices, Part III with the clerical establishment outside

the Secretariat offices, and Part IV with draftsmen. Temporary establishments are discussed in Part V, sub-divisional and section charges in Part VI, land acquisition in Part VII, and pressure of work at the end of the official year in Part VIII. Part IX sums up the general conclusions at which we have arrived.

PART I.

PRELIMINARY.

4. Before proceeding to discuss the strength of the establishments in different offices, it will be convenient to dispose of the point raised in paragraph 1 of the Government order which defines the scope of our enquiry.

It is therein stated that "it is doubtful if the effect of the radical changes introduced in 1879 by the transfer to local fund agency of the maintenance and construction of the greater portion of the roads in the presidency . . . has ever been gauged correctly".

A short sketch of the circumstances under which the change was carried out will elucidate the question.

5. Prior to 1879 the presidency was divided into twenty-one districts under District Engineers directly under two Chief Engineers. The establishment carried out, in addition to its ordinary departmental work, the work now done by the Engineering establishments of the various district boards, the local bodies contributing on account of establishment 25 per cent. of the actual outlay on works executed for them by the department.

6. In 1878 the District Engineer system was abandoned and an organisation similar to the present one introduced. The presidency was divided into five circles and 39 executive divisions, but scarcely had the new organisation been introduced when it had to be modified. Owing to the financial pressure resulting from famine and the Afghan War, the Government of India in 1879 ordered that the Public Works establishment throughout India should be reduced by one-fourth. Accordingly in Madras the number of circles and divisions was reduced to 3 and 29 respectively, and the services of a number of officers of all grades dispensed with. The Government of India seem to have thought that part of the Public Works establishment was superfluous. This was denied by the Government of Madras, who observed that "the scattered nature of the work done in the presidency owing chiefly to the tank

G.O., No. 699, Financial, dated 5th November 1906.

Vide G.O., No. 2277 W., Confidential, dated 1st October 1880.

system, had placed the department here on quite an exceptional footing, and it had long been the complaint of the professional officers of Government that the strength of the establishment was never capable of fairly coping with the demands made upon it".

7. The result of these reductions was that the establishment was quite inadequate to carry out the local fund work in addition to its other duties. Accordingly it was decided that the whole of this work (the cost of which aggregated some 41 lakhs of rupees) should be handed over to the local bodies concerned to be carried out through their own agency.

8. It is clear from the correspondence of the years 1879-1881 that even after the transfer of the local fund work, the reduced Public Works establishment was insufficient to cope with normal work that fell to it. As against the loss of a contribution of $5\frac{1}{2}$ lakhs, 15 officers of the Engineer establishment and 79 upper subordinates had been retired, corresponding decreases being made in the rest of the establishment. The Madras Government therefore requested that a return to the normal establishment should be carried out as early as possible. After considerable correspondence, a scheme was finally sanctioned in 1881 which forms the basis of the present organisation of the department.

9. It is clear that the effect of the transfer of the local fund work was fully taken into consideration. This transfer had been carried out two years previously, so that the Government were in a position to decide what establishment was necessary for the ordinary work of the department apart from the work done for other bodies.

It is doubtful if the outturn of work by the department was much less than before. Relieved of the encumbrance of local fund work, officers had more time for their legitimate duties, more especially the investigation and execution of irrigation works which had perforce been neglected in the past owing to the inadequacy of the staff.

As far as we can judge the establishment sanctioned by the Government of India in 1881 was not excessive. The scale was fixed only after mature deliberation and it is significant that it was found necessary to supplement the permanent

Vide G.O., No. 609, Financial, dated 22nd March 1880.

Vide G.O., No. 1697 W., dated 9th July 1881.

Vide G.O., No. 337 W., dated 8th February 1881.

staff with a number of temporary hands shortly after the new scale had been brought into force.

10. Incidentally the question of the supposed excessive cost of the establishment as compared with the outlay on works was raised by the Secretary of State. The Madras Government replied at length in their despatches, No. 14, dated 15th March 1881, and No. 50/2017-W, dated 17th August 1881, in which reference is made to the correspondence ending with their letter to the Government of India, No. 337-W., dated 8th February 1881. We may refer also to their letter No. 2267-W., dated 15th September 1881, and Circular No. XX. P.W., dated 29th September 1881, from the Government of India. It was pointed out that it was not possible to arrive at any conclusion as to the real ratio the cost of establishment bore to the total outlay merely by comparing the total outlay with the total cost of establishment and calculating how many annas it cost to spend a rupee. Owing to the peculiar circumstances of the presidency any proportion arrived at by the mere comparison of figures was fallacious and misleading.

11. With these preliminary observations we pass on to a consideration of the clerical establishment as it exists at present.

PART II.

12. The offices of the Chief Engineer and Secretary to Government and the Chief Engineer for Irrigation and Joint Secretary to Government are organised in a different way to the offices of Superintending and Executive Engineers and stand quite apart from them. It will therefore be convenient to treat them in a separate section.

13. The office of the Chief Engineer and Secretary to Government was reorganised as recently as 1905. No distinction is made between clerks employed in Secretariat duties and clerks employed in the work appertaining to the duties of the Chief Engineer; for these purposes the office is treated as one. The office is divided into two branches, the general and the technical; we will deal with each separately.

14. The strength of the general branch is 33 clerks distributed among 5 sections, Current, Budget, Establishment, Record and Drafting. Unlike other offices in the department the establishment is divided into classes on fixed pay as shown in

Vide paragraph 26 of G.O., No. 367 W., dated 8th February 1881.

Appendix A, column I. In fixing the strength of the office at 33, allowance was made for absentees on casual or other leave and for the increased work resulting from a division of the office when the Secretary is at Ootacamund. Usually the Registrar and eight clerks are deputed for this service; in the absence of the Registrar the management of the office in Madras devolves on the Deputy Registrar. The office also does part of the Secretariat work for the Joint Secretary in the Irrigation Branch.

15. We find that the normal office hours are from 11 to 6 and that a few clerks are called upon in turn to work till 7 or 8 and on holidays attending to urgent business. Taking into consideration the fact that a proportion of clerks are always absent on some kind of leave, we consider that the office does a full day's work but is fully adequate to all requirements. We recommend no change in the existing strength of the office unless the Secretariat work now done for the Joint Secretary is transferred to the Irrigation office as suggested in paragraph 25 below.

16. We recommend however the adoption of a new scale of pay. The present scale is full of anomalies. The scale suggested in Appendix A, column II, removes these anomalies and assimilates the pay of the office to the pay of other Secretariat offices. The cost of the two scales is the same. We recommend that the new scale, if accepted by Government, be introduced as vacancies occur.

17. The class of clerk employed in the office appears to be satisfactory: none but graduates have been admitted to service for several years past. Previously men with inferior educational qualifications were admitted and some of these older men have risen to higher pay than the actual duties performed by them seem to warrant—for example a despatcher seems to be overpaid on Rs. 80. When the present incumbents retire, these anomalies will no doubt disappear.

We recommend in paragraph 79 below that in future recruitment to the office should be made from graduates already in service on the circle lists instead of exclusively from graduates in Madras.

18. The technical branch of the office is at present under reorganisation in accordance with the new scheme under which the Consulting Architect ceases to be an executive officer and becomes technical adviser to the Chief Engineer. We therefore refrain from making any recommendations.

19. The office of the Chief Engineer for Irrigation was not recast in 1905 when that of the Chief Engineer and Secretary to Government was reorganised.

In the last ten years there has been steady increase of work. Expenditure on Irrigation works has increased from Rs. 18,13,350 to Rs. 33,51,012, that is, by 80 per cent., and the amount of the estimate checked from Rs. 32,10,941 to Rs. 3,18,69,241. A large expansion of work took place consequent on the report of the Irrigation Commission and the increase seems likely to continue, considering the number of new projects under contemplation.

20. On the other hand the cost of the establishment has not increased proportionately. In 1882-83 its cost was Rs. 16,416 per annum for 11 clerks, the number of letters received and despatched being 3,164 and 2,264, respectively. Ten years ago the cost of establishment had increased to Rs. 23,268 for 14 clerks and to-day it stands at Rs. 24,208 for 17 clerks though the number of letters received and despatched now stands at 8,546 and 6,067, respectively (figures for 1906), more than double the number in 1882-83. Of the 17 clerks, 5 accompany the Joint Secretary to Ootacamund and the remainder work in Madras all the year round.

The clerical establishment is shown in Appendix B, column I. Unlike other Secretariat offices there are no posts of Registrar and Deputy Registrar, but the duties of both are performed by one man, the Manager, whose pay is Rs. 300 per mensem, which is less than the pay of the Deputy Registrar of the Public Works Secretariat office.

21. The course of the clerical business does not run in a satisfactory way. Though the whole office seems to work constantly at high pressure, work is hurried through and slurred over, registers are not written up, and instances of important papers delayed or mislaid are not uncommon. We do not find that this is the fault of the office in general or the Manager in particular, but it must be attributed to the inadequacy of the present establishment. It is customary for the Manager to come to office at 9-30 in the morning and he rarely leaves before 7-30 in the evening. Other clerks are obliged to come before 11 and few are able to leave before dark in the evening. Yet

with all his hard work the Manager has not the time to look fully into all the papers that pass through his hands, much less to superintend the general work of the office. It is significant that in the last 15 years three Managers have broken down or died owing to overwork. In order to relieve the Manager of some work, papers were allowed for a time to come up direct to the Under Secretary from the different branches without passing through his hands. This system was found unsatisfactory and was given up.

22. In our opinion an assistant is necessary, not only to relieve the Manager of part of his routine work but also to manage the office when the Manager himself is at Ootacamund and to leave him some leisure to superintend the general work of the office when it is united at Madras. We recommend that the office be put on the same footing as other Secretariat offices by the creation of the post of Registrar on Rs. 350—20—450 and Deputy Registrar on Rs. 200—10—250 in place of the present post of Manager.

We also recommend that the office should be strengthened by the addition of two extra clerks, the minimum increase necessary in the interests of the efficient conduct of business.

23. In regard to the scale of pay we recommend that the present scale be recast and assimilated to that recommended for the Office of the Chief Engineer and Secretary to Government. We have differentiated between the two offices in so far as to propose somewhat lower rates of pay for the Office of the Chief Engineer for Irrigation. The proposed scale is shown in appendix B, column II.

The increased cost amounts to Rs. 397½ per mensem (including the pay of the posts of Registrar and Deputy Registrar and of the two new clerks) or Rs. 4,770 per annum. The increase is considerable but not, in our opinion, excessive considering the importance of the work now done in the office in comparison with the work in 1882 or even in 1896.

24. Another defect of the present organisation brought to our notice is that the office is to some extent dependent on the Office of the Secretary to Government, Public Works Department, for the issue of Government Orders in the Irrigation Branch (by the Joint Secretary).

The actual drafting of the orders is done in the Irrigation office, but the General Branch does the routine work of getting them printed, of issuing them, and of recording them when issued to the number of 1,300 per annum. We can find no advantage in this system and the disadvantages are numerous. In the first place there is a certain amount of reduplication of work: the drafts have to be prepared in duplicate, one for retention in the Irrigation office and one for transmission to the issuing office. Papers have to be registered when despatched or received in both offices, which in itself is conducive to delay. There is again the danger of mistakes in that the responsibility for the prompt issue of Government orders is divided between the two offices. The Irrigation office, when once the drafts are transmitted to the General Branch for issue, cannot on its own responsibility exert pressure to ensure that there is no delay in copying the orders, if they issue in manuscript, or getting them printed, if they issue in printed form. Instances of delay in this respect have been brought to our notice.

Still greater inconvenience is caused to the Irrigation office by the fact that all original connected papers are recorded in the General Branch with the Government orders to which they relate. Many of these Government orders refer to correspondence between the Chief Engineer for Irrigation and Superintending Engineers. Whenever these papers are required for reference, as they frequently are, a formal requisition has to be sent to the General Branch to get them back. This takes time, especially as the record-keeper is likely to give precedence to requisitions from his own office, and possibly knows less about papers from the Irrigation office than papers which belong more properly to the General Branch.

25. The duty of circulating papers to His Excellency the Governor and Members of Council was taken over by the Irrigation Branch some time ago. It follows therefore that, as the essential part of the work, the drafting of Government orders is already done by the Irrigation office, the routine work of issuing the Government orders should also be done by the same office. We can find no valid reason against such an arrangement. The change has already been carried out in the case of the Railway Branch and we consider that the Irrigation Branch may with advantage be put on the same footing.

We find that if the office of the Joint Secretary is thus made independent, an extra clerk and attender will be necessary for the work of numbering, abstracting, indexing and despatching Government orders in the Irrigation Branch. The office of the Chief Engineer and Secretary to Government, Public Works Department, relieved of this work, will be able to dispense with one clerk and an attender. The change will therefore involve the transfer of a clerk and an attender from one office to the other without any increased cost to Government. We consider the time has come for carrying out the change considering the increased importance of Irrigation work in the Presidency.

26. In the Technical Branch work has increased even more than in the Correspondence Branch. The work may be classed under three headings—(1) subjects for which a special establishment is sanctioned, (2) ordinary estimates and current correspondence on technical matters, and (3) statistics and records.

In regard to special projects, for example the Tungabhadra project, though a special establishment is sanctioned for the work, yet it works under the supervision of the head draftsman and a certain amount of extra work is thrown on the ordinary establishment. If, for instance, plans when completed are returned for revision or further information, as is frequently the case, the work has to be carried out by the ordinary staff without any additional assistance. Several new projects are under contemplation and it seems unlikely that there will be any diminution of work for many years to come.

Ordinary work has increased considerably. The expenditure on original Irrigation works has in the last five years risen from Rs. 14,89,306 to Rs. 33,51,012. In the same period the amount of estimates received for check has increased from Rs. 32,10,941 to Rs. 3,18,69,241.

The statistical work also has grown very considerably and seems likely to increase in the future. A number of new river and rain gauges have recently been fixed, while the compilation of the older charts and statistics is considerably in arrears. This work is at present carried out by one clerk with the assistance of a draftsman who is, however, liable to be called off to any other special work.

27. The existing establishment in the Technical Branch, shown in column 1 of Appendix C, consists of 9 draftsmen

(including one man sanctioned for Tank Restoration work and one for charge of plans and records), a tracer and a statistical clerk on Rs. 80.

What strikes us is not so much the inadequacy of numbers as the inadequacy of pay. The pay of the Head Draftsman is Rs. 150 as against Rs. 200—10—250 drawn by the Head Draftsman in the General Branch though the work of both is equally responsible. The Head Draftsman in the Irrigation Branch is called upon to check the numerous irrigation estimates sent up for sanction by Superintending Engineers, yet his pay is much the same as that of the Head Draftsman in the Superintending Engineer's office.

Of the other draftsmen, three exclusive of the tracer are on pay of less than Rs. 50. Men of this class are of little use except for mere mapping and tracing work. All the important work is done by the Head Draftsman with the help of his four principal assistants.

28. We recommend that the strength of the office be increased to twelve, including two tracers, as against the present strength of ten, including one tracer. We also recommend the adoption of a new scale of pay, as shown in column II of Appendix C. We consider that the pay of Rs. 200—10—250 and Rs. 125—5—150 suggested for the Head Draftsman and statistical clerk, respectively, is not too large considering the importance of their work. Of the remainder, six should be on pay of Rs. 55 and upwards (including one draftsman for Tank Restoration work), the minimum necessary in our opinion to obtain men capable of doing something more than mere tracers' work. The remaining four men are intended for mapping and tracing work.

The cost of the proposed scale is Rupees 1,005 as against Rs. 666½ per mensem, the cost of the present scale. An attender on Rs. 12 also seems necessary to help in the Record Section.

We do not consider the increase unreasonable, taking into consideration the growth both in the amount and importance of the work done in the Irrigation office and the fact that the cost of the establishment in the Technical Branch has not been increased for five years.

29. At present the office has the assistance of an Assistant Engineer, Provincial Service, M. R. Ry. S. Bhaskar Aiyar Avargal. His employment does not appear to

have been regularly sanctioned though his services seem necessary to prevent a complete breakdown of the office: even with his assistance work is not pushed through with sufficient promptitude.

We recommend that formal sanction be given to the employment of an Upper Subordinate of the grade of Sub-Engineer or of an Assistant Engineer as head of the Technical Branch. Considering its importance, an officer of a status superior to that of draftsman ought to be in charge of the work in the Irrigation office.

PART III.

CLERICAL ESTABLISHMENT.

30. The offices of the Superintending Engineer and Executive Engineer are divided into two branches, the clerical branch comprising the correspondence and accounts sections, and the draftsman branch. Clerks in the correspondence and accounts sections are interchangeable and all alike are liable to be called on to assist in one or other section wherever work is heavy. The draftsmen, on the other hand, are distinct from the other clerks in the office. It will therefore be convenient to treat the correspondence and accounts sections as one, under the general head of "Clerical," reserving the draftsman branch for separate treatment in Part IV.

* By Divisional office is meant the office of the Executive Engineer.

† By Section office is meant the office of any subordinate below the Sub-divisional office.

31. The clerical establishment is organised in six circles, each comprising from three to five divisions. Within the circle the establishment is distributed among (a) office of the Superintending Engineer, (b) Divisional offices,* (c) Sub-divisional offices and (d) Section offices.†

All the clerks within a circle are on one list for purposes of transfer and promotion. Appointments and promotions are in the hands of the Superintending Engineer with the single exception of the appointment of the Accountant in the Divisional office. He stands outside the circle scale altogether and is appointed by Government on the recommendation of the Examiner of Public Works Accounts.

The number of clerical appointments in each of the six circles is noted in appendix D; the normal distribution among the various offices is as follows:—

(a) Superintending Engineer's office	..	.. 7 clerks.
(b) Divisional office	..	.. 7 "
(c) Sub-divisional office	..	.. 2 "
(d) Section office	..	.. 1 clerk.

The number of clerks attached to Divisional and Sub-divisional offices varies according to their importance.

32. Before proceeding to deal with the strength of individual offices, we consider that it will be more convenient to place before Government the general conclusions at which we have arrived on the points suggested for our consideration in paragraphs 2, 3 and 4 of G.O., No. 699, Financial, dated 5th November 1906.

33. From paragraph 2 of the order it would appear that Government consider that the clerical establishment is organised and distributed in so unsatisfactory a way that at certain periods some offices may be left without sufficient work to occupy their time. Speaking generally, we do not find this to be the case. Since the reorganisation of the department in 1882 work has expanded very considerably. Expenditure has increased from Rs. 47,56,986 in 1882-83 to Rs. 85,28,540 in 1905-06 and not only has the volume of clerical work increased proportionately but correspondence and accounts have become more elaborate and complicated.

34. The additions to the clerical establishment have not kept pace with the growth in work resulting from the increased activity of the department. The cost of this establishment has increased from Rs. 1,84,152 in 1882-83 to Rupees 2,92,215 in 1905-06; at no time has it been possible to carry on the ordinary correspondence and accounts work without the assistance of a considerable number of temporary hands.

35. So far from being equal to the maximum amount of work thrown on them, offices generally are insufficient to cope with the normal amount of business. At no period are clerks left without sufficient work to do and not infrequently they are called upon to work at high pressure. To carry on the ordinary course of business almost every office is obliged to exceed the normal office hours and at certain periods of the month and year clerks are compelled to come early and stay late. We find that instances of temporary breakdowns, owing to overwork, are not uncommon, with the result that a high percentage of clerks are always absent on medical certificate. In some offices temporary establishment is sanctioned from year to year without a break, and even then business cannot be carried on without extraneous assistance contrary to rules.

36. We recognise that long hours are not the only criterion of an honest day's work, but after examining the details of office work and taking into consideration the capabilities of the present stamp of clerk employed, we must record our opinion that the clerical establishment of the department as a whole is not sufficient to carry on satisfactorily the duties it is expected to perform.

37. With clerical establishments barely, if at all, capable of coping with the normal amount of business, it follows that any scheme, such as that indicated by Government in paragraph 2, of transfers from office to office to meet pressure of work, is difficult to arrange.

We find that the variations in the amount of work from month to month and year to year are not considerable, and that periods of pressure and comparative slackness come to all offices at the same time. It is never the case that one office is enjoying a comparative holiday while another has more work than it can do, so that no office is able to relieve the pressure in another at the time relief is required.

38. Further, short period transfers do little good to the office they are intended to assist while they entirely disorganise the work of the office from which the transfer is made. A new clerk is of little value except for mere copying work until he has been some time in an office and has had the opportunity of picking up the threads of business. On the other hand the loss of a clerk is a serious matter to the office from which he is transferred. The whole work of the office has to be redistributed and while clerks are getting accustomed to their new duties, the general course of business is retarded.

39. Another difficulty which has been put before us very strongly is the hardship inflicted on clerks by frequent transfers. The expenses of a transfer (except in the case of offices located in the same station) leave the clerks concerned considerably out of pocket. So much is this the case that men even prefer to forego temporary promotion rather than undergo the expense of transfer from one district to another. The pay of clerks was fixed on the supposition that as far as possible they would be stationary in one place, and any scheme by which transfers became more frequent than at present would be regarded as a grievance.

On the whole we consider that any scheme of inter office transfers is impracticable.

40. We have also investigated the subject of the territorial distribution of establishments. The present unit of distribution is the section. Subordinates below the sub-divisional officer who are in charge of a section usually but not invariably, have a clerk attached to them but apart from the preparation of bills clerical work is light. The question is dealt with below in paragraphs 55 and 56. For the present we may say that we recommend that the sub-division should be the unit of distribution, and that greater elasticity in the arrangement of section charges should be permissible.

41. The next points suggested for consideration are the scales of pay and the educational qualifications of the various establishments.

42. We find that the present stamp of clerk is not altogether satisfactory and service in the Public Works department is less popular than service in many other departments.

The reasons assigned for this unpopularity are that promotion to higher grades is slow, owing to the undue proportion of low-paid appointments, that the prizes in the shape of good appointments are fewer and less valuable than in many other departments, and that a liability to transfer from district to district, which is regarded as a hardship, places clerks in a worse position than men in other departments, who are not subject to a similar disadvantage.

The result of this unpopularity of the department is that, except in Tamil districts, it is difficult to get qualified men, especially for temporary employment, that those who enter the department are usually of an inferior stamp, and that the few capable men who join, do so as a temporary expedient with the hope of bettering their prospects by transfer to some other department.

43. We find that the number of appointments under Rs. 30 to those carrying Rs. 30 and upwards is in the proportion of 3 to 1. In consequence, promotion to the higher grades is unduly slow; by the time a man reaches a post of responsibility his intelligence has been dulled by long years of wearying routine in a subordinate position and he has become unfit for anything but the mechanical duties to which

he has been so long accustomed. So vague and distant are the prospects of promotion to posts of Rs. 60 and upwards that clerks do not take the trouble to pass, while they are young, the qualifying test in Précis-writing necessary for promotion to this grade, and when the time comes for promotion they are too old and too incapable to qualify themselves. Almost every office contains one or two men of this class who have no hope of promotion and are content to do the minimum of work sufficient to save them from dismissal.

44. In regard to educational qualifications we find that generally clerks in permanent employ possess the minimum qualifications required for their present posts, but that for temporary vacancies it is difficult to get qualified hands. This applies more especially to the first three circles. In Tamil districts there is no great difficulty in getting men with the minimum educational qualifications and even a certain proportion of graduates. But in other districts qualified men do not come forward readily and the average man is estimated to be one-third inferior to a clerk of similar qualifications in the south.

45. It is noticeable that in the first three circles there are only five graduates all told, three of whom are southerners. In the third circle, which includes the Ceded districts, no less than half the clerks employed are southerners but these men are usually of an inferior stamp, forced to leave their native districts owing to the pressure of competition.

46. We must record our opinion that the present stamp of man employed especially in the Northern Circars and the Ceded districts is not capable of performing satisfactorily the work he is called upon to do, but we are satisfied that officers do all in their power to obtain men possessing at least the minimum qualifications.

47. In regard to temporary establishments and establishments charged to works we find that a careful scrutiny is exercised over the necessity for the employment of this portion of the staff. Officers appear to realise their responsibilities in the matter and no application from an Executive Engineer is passed on by a Superintending Engineer unless a sufficient case, supported by statistics, is made out. Not only are new applications thus carefully scrutinised but each year a new case has to be made out for the continuance of establishment employed in the past year.

No doubt many temporary appointments are continued from year to year but this must be attributed not to want of proper scrutiny but to the inadequacy of the permanent establishment.

48. In regard to the other point raised, we have found instances of clerical and draftsman establishments improperly charged to works, but such instances are few and we have the authority of the late Examiner, Mr. C. R. T. Balston, for saying that this practice is less common in Madras than in any other Presidency. It is unnecessary to point out that we are not in a position to decide the professional question of what establishment is required for any particular work but speaking generally we are of opinion that due care is exercised in limiting the number of this class of establishment to the minimum consistent with the efficient execution of work.

49. To sum up the conclusions at which we have arrived we find firstly that the strength of the permanent clerical establishment is insufficient to deal with the minimum amount of work in the correspondence and accounts sections, and secondly that the present stamp of clerk employed is unsatisfactory.

We will now proceed to discuss certain suggestions that have been put before us and to indicate the lines on which in our opinion improvements can be made.

50. We recommend in the first place that the permanent strength of the clerical establishment be increased. We consider that offices should be organised in such a way that the permanent establishment should be equal to the normal requirements of work judged by a series of years and that any additional assistance required for special purposes should be met by the appointment of temporary hands.

51. In estimating the requirements of individual offices who have adopted as our criterion the average amount of correspondence, the average amount of grants expended, and the average number of vouchers dealt with on the accounts side. See Appendix E. We recognise that statistics of this kind give only an approximate idea of the amount of work actually turned out. We have taken into consideration other points as well but we find by experience after examining a number of offices in detail that the above averages provide a very fair standard of comparison.

We have also taken into consideration the difference in capability between clerks in Tamil and clerks in other districts. As already observed in paragraph 44 above, it is estimated that two southerners can do the work of three clerks from the Circars or Ceded districts. We have therefore allowed something on this score in calculating the requirements of offices in the first three circles.

52. To take the different offices in the circles in their order of importance, we find that the scale of establishment for Superintending Engineers' offices (seven clerks) is satisfactory. The work in the office of the Superintending Engineer, III Circle, is lighter than in other offices but having regard to the inferiority of the clerks employed we are not prepared to recommend any reduction. Appendix E shows the average number of papers received and despatched for five years in each of these offices.

53. In regard to divisional offices we find that the classification of divisions into first, second and third class adopted in 1882 has become obsolete. We recommend that in future divisions should be distinguished as A "Ordinary", B "Special". For A class we recommend the following scale:—

Accounts	..	{ 2 clerks. 1 store clerk.
Correspondence	..	{ 3 clerks. 1 typist.

B class will include all other divisions in which the scale of establishment exceeds or falls short of the above strength. Each individual office is dealt with in Appendix F. In the affixed tables column I gives the sanctioned strength, column II the present strength, permanent and temporary, column III the strength considered necessary by us under normal conditions and column IV the strength recommended if certain proposals contained in paragraphs 53—70 are accepted by Government.

It will be noticed that in column III we recommend a reduction in seven cases and an increase in thirteen cases as compared with column I. The increased cost amounts to Rs. 242½ *per mensem*.

We must explain that the above recommendations do not affect temporary clerks sanctioned for specific purposes.

54. We recommend that in future sub-divisional offices should be distinguished as first class and second class according to

their importance and the strength of their establishments. In Appendix G column 6 gives the present strength, column 7 the strength recommended by the committee under the existing conditions and column 8 the strength proposed if the recommendations contained in paragraphs 58—70 are accepted. It will be noticed that the increase between columns 6 and 7 amounts to 13 clerks at a cost of Rs. 1,015 *per mensem* including the increase of pay to head clerks in sub-divisions recommended in paragraph 64 below.

55. In regard to section offices we have carefully considered the necessity for the employment of this class of clerk. There is a general consensus of opinion that subordinates below the Sub-Divisional officer require the services of a clerk, if the work of their section is heavy, but subordinates in charge of light sections or on investigation do not require a clerk. Some of these clerks are not always employed in the duties for which they are nominally entertained and their services are utilised in assisting the sub-divisional or divisional offices.

We do not find it possible to lay down any hard and fast rules as to which subordinates require a clerk and which do not. In some cases it would be false economy to waste in clerical work the time of a subordinate which would be better employed in inspection or investigation. In other cases subordinates are able to do the little clerical work that falls to them without detriment to their other duties. We recommend that each individual case should be decided on its merits by the Superintending Engineer in consultation with the Executive Engineer, care being taken that clerks are not entertained unnecessarily. At present recommendations for the employment of these clerks are made in a somewhat haphazard way. We believe that if the responsibility for the employment of this class of clerk were brought home to Superintending Engineers, some reduction in their numbers would be possible.

56. We further recommend that these clerks should be temporary, and that their pay should not exceed Rs. 15. This will result in the abolition of 103 permanent appointments, and some increase in the number of temporary appointments but the net result will be a saving to Government. As an exception to the above rule we recommend that section clerks in

Dumagudem (Gódavari district), Palakonda and Narasapatnam (Vizagapatam district) and Russellkonda and Surada (Ganjām district) should be paid Rs. 25, and clerks employed on the ghāt roads in the Vizagapatam hill tracts Rs. 30, in consideration of the unhealthy climate or inaccessibility of these places.

57. Having placed before Government our recommendations as to the changes in clerical establishment desirable under existing conditions, we will proceed to discuss certain proposals referred to in paragraph 53 above. Our recommendations are intended to concentrate accounts work in the divisional office as recommended in paragraph 5 of G.O., No. 699, Financial, dated 5th November 1906.

58. The present system of payments of bills for work is as follows:—Executive Engineers and almost all sub-divisional officers have drawing accounts. Bills are prepared by subordinates from measurement books and sent to the sub-divisional office for check. The arithmetical calculations are checked with the measurement books and payment of intermediate bills is made by the sub-divisional officer on his own responsibility. The bills are then transmitted to the divisional office for incorporation in the accounts. They are there compared with the estimate, the agreement and the contractor's ledger but the arithmetical calculations and quantities are accepted as correct. Final bills only are sent for preaudit in the divisional office before payment, but measurement books do not, as a rule, accompany them when transmitted from the sub-divisional office.

Vide G.O., No. 2350 W., dated 24th August 1892.

59. This system, by which the responsibility for payments is thrown on the sub-divisional officer, was introduced in 1892 as the result of certain recommendations made by an Accounts Committee appointed by the Government of India.

The principles therein laid down were—

(i) "that, in the case of sub-divisions under the charge of a gazetted officer or experienced Upper Subordinate, the responsibility for the arithmetical accuracy of measurement calculations will rest with such sub-divisional officer, and that he will not submit with a bill any record of measurements."

(ii) "that, in the case of sub-divisions under the charge of a subordinate, the measurements taken by him will be checked in the divisional office."

Paragraph 8.

The Examiner in his office-note, dated 13th September 1892, No. 181-A, embodied in G.O., No. 2668 W., dated 26th September 1892, noted that every bill in respect of a contract above Rs. 500 was first sent to the divisional office for check. He was of opinion that this system resulted in delay in payment owing to the time taken in checking the bills in the divisional office and transmitting them to the sub-divisional office.

He further stated that "no essential of control over payments will be sacrificed by allowing sub-divisional officers *who have drawing accounts* to make payments on account without pre-audit in the divisional office." (The italics are ours.)

60. At the time this was written (1892) a large proportion of sub-divisions were usually held by gazetted officers, and only they and experienced subordinates had drawing accounts. Since that date the number of sub-divisions has increased from 76 to 87, of which no less than 65 are held by subordinates, almost all of whom have drawing accounts and make payments on their own responsibility.

61. We cannot think that so wide an extension of the latitude allowed by the Accounts Committee in regard to payments was ever contemplated by the Examiner in making his recommendations in 1892. On the contrary in our opinion the present system contravenes the second principle, preferred to in paragraph 59 above, that subordinates, as a rule, should not make payments on their own responsibility. It is also contrary to the spirit of paragraph 924 of the Public Works Code in which it is laid down that "payments to contractors should, as far as conveniently practicable, be made by cheques from the divisional office."

62. We have examined the question very carefully and we find that the advantage claimed for the present system, the speedy payment of contractors, is not realised in practice. We also disagree entirely with the dictum of the Examiner quoted above that "no essential of control over payments will be sacrificed". In both these opinions we are supported by the late Examiner, Mr. C. R. T. Balston, and by the great majority of Superintending and Executive Engineers.

63. We find from the inspection notes of divisions in recent years that instances of delays between measurement and payment amounting to three months have

Paragraph 5.

been far too common, and we believe that it is no overstatement of the case to say that the result of the change has been to accentuate the very defect it was proposed to remedy.

We would, however, lay more stress on the other point, the loss of control by Executive Engineers. The sub-divisional officer has far too much responsibility thrown on him considering his pay and status. On the other hand, the Executive Engineer is losing touch with the work that is going on in his division and with the contractors who do it.

We consider that this principle is radically wrong and that a return to a modified form of the system prevailing before 1892 is essential in the interests of the proper working of the department.

64. We should make this recommendation on the above two grounds alone but we will briefly indicate some other advantages of the old system.

At present a settlement of final bills is delayed owing to the number of mistakes and irregularities in the intermediate bills, which are only discovered at the time the final bill is submitted for pre-audit. These irregularities may have occurred months before and are difficult to set right after such a length of time. Under the old system mistakes would be found out when the intermediate bills came up for check and would be set right with much less difficulty.

Further, it is desirable that bills should be checked by or under the superintendence of a trained Accountant rather than by the present sub-division clerk who is often incompetent and always overworked. It is significant that though his pay is only Rs. 30 and he is probably harder worked than any other man, yet the post of sub-division clerk is most popular, no doubt owing to the opportunities he enjoys of coming in contact with contractors anxious to obtain speedy settlement of their bills.

If the present system is continued we consider that the Head Clerk in the sub-divisional office should be a IV Class 2nd-grade clerk drawing pay of Rs. 30—2—40. The necessity for an experienced and trustworthy man in the appointment is evident. The increased cost of this proposal, as shown in Appendix G, will be considerable.

We are also of opinion that concentration of accounts work in the divisional office will result in the speedier submission of the monthly accounts to the

Examiner and in a reduction of the number of audit objections, which are far too frequent owing to the present absence of proper supervision over the preliminary check of vouchers.

65. We believe that by the exercise of a little forethought in making their plans it would be possible for Executive Engineers to arrange themselves to pay the majority of contractors at certain fixed periods in the month. We are not however prepared to lay down any hard and fast rules on the subject; the majority of sub-divisional officers may continue to have drawing accounts to minimise the possible inconvenience to contractors of coming long distances to head-quarters to obtain payments.

We recommend that Executive Engineers should, in accordance with paragraph 924 of Public Works Code, themselves make as many payments as they conveniently can. When this is impracticable all intermediate bills in respect of a contract above Rs. 500 and all final bills should be sent to the division office for pre-audit with the measurement books without detailed check in the sub-division.

Sub-divisional officers will pay the bills when pre-audited, but they will make no payments on their own responsibility except in the case of contracts below Rs. 500.

66. If considered desirable, an exception to this rule may be made in the case of gazetted officers and experienced subordinates, but on the whole we consider that sub-divisional offices should be relieved of the check of bills though actual payments may continue to be made by the sub-divisional officer.

67. The only objection we can see to the above proposal is that measurement books will be absent from the works for a time, while they are being checked in the division office. We do not consider this objection very serious: it is probable that measurement books will be detained for less time in the division office than they are now detained in the sub-divisional office. Measurements are not usually made oftener than once a month and with separate measurement books for each work no inconvenience will be caused by the temporary absence of any particular measurement book for even ten days; this should be the limit of time allowed for retransmission from the division office.

68. In accordance with our principle of concentrating accounts work, we also consider it desirable to relieve sub-divisional offices of the preparation of work abstracts and to transfer the work to divisional offices. At present the sub-divisional officer cannot prepare them completely, because he has no information as to past expenditure and has no means of knowing what are the stock and transfer charges. Even now work abstracts are completed and checked in the divisional office. The change will give some relief to the sub-division without much increasing work in the divisional office.

69. Our proposals, if accepted, will mean a redistribution of accounts work between the divisional and sub-divisional office. The latter when relieved of the check of bills and the preparation of work abstracts will be able to dispense with a clerk in some cases, and the pay of the head clerks need not be increased as recommended in paragraph 64 taking into consideration the fact that their responsibilities will be lessened. On the other hand some divisional offices will require strengthening to meet the extra work thrown on them.

Column IV of Appendices F to F-25 gives the scale of establishment for divisional offices and column 8 of Appendices G to G-5 the scale for sub-divisional offices if the above proposals are accepted. The net result will be that 11 clerks will be added to divisional offices and 20 clerks dispensed with in sub-divisional offices as compared with columns III and 7, respectively, and the total cost reduced by Rs. 831½ per mensem.

70. We have now concluded our recommendations in regard to the strength of clerical establishments in individual offices. We will proceed to discuss the other point raised in paragraph 42 above, the unsatisfactory stamp of clerks employed in the department.

71. In this paragraph we suggested that there were three main causes for unpopularity of service in the Public Works Department, the scale of pay, the absence of prizes in the shape of good appointments and the liability to transfer from district to district. In the ensuing paragraph we will place before Government certain recommendations which in our opinion will do much to minimise the present grievances of the clerical establishment.

72. We strongly recommend the substitution of fixed pay for the present incremental system. We believe that the principle that *ceteris paribus* the system of fixed pay is preferable to the incremental system has already been accepted by Government. The great disadvantage of the incremental system in practice is that it sets a premium on incompetence. The steps from increment to increment and from grade to grade are so small that promotion is given almost as a matter of course. On the other hand under the fixed pay system the gaps between class and class are so considerable that even the most kind hearted officer will think twice before promoting an inefficient clerk.

73. Not only do we consider the abolition of the incremental system necessary in the interests of the efficiency of the department, but also we find that on the whole the change will be popular with the clerks concerned. Respectable mediocrity will suffer, but men worth promoting will have a better chance of rising to responsible posts before they become too old and incompetent to fill them.

Incidentally we may mention that constant applications for increments give rise to much correspondence in the accounts section. The fixed pay system will give less trouble from the point of view of the audit office: the change was strongly supported by the late Examiner.

74. The scales proposed for each circle under the incremental and fixed pay systems respectively are shown in Appendix J. It will be noticed that there is a slight saving under the fixed pay system. If the proposed scale is accepted by Government, it will be necessary to introduce it in such a way that no clerk shall suffer any diminution in his present pay. Personal allowances can be given in cases where it is necessary.

75. As an alternative the new scale may be introduced gradually as vacancies occur; but this will almost certainly lead to confusion. We therefore recommended the immediate introduction of the new scale in its entirety, although this will involve a slight temporary increase of cost. We believe it to be most important that no time should be lost in substituting the fixed pay for the incremental system.

76. We recommend the grant of local allowances of Rs. 15 to permanent clerks employed in the unhealthy tracts of Koraput and Dumagudem. Additional

pay is already given to clerks employed in Koraput in Vizagapatam district and we consider that this concession should be extended to Dumagudem in Górávari district where service appears to be even more unpopular. We also recommend a local allowance of Rs. 10 to clerks employed in Russellkonda on the ground of its inaccessibility and the consequent inconvenience to men serving there.

The present system under which clerks in Koraput are granted higher rates of pay than similar clerks employed elsewhere is wrong and places difficulties in the way of transfers. The substitution of local allowances will obviate this disadvantage.

77. It has also been suggested that special allowances should be given to clerks employed in Ganjam, Bellary Cuddapah and Kurnool, in which districts service is unpopular owing to the prevalence of plague, the dearth of provisions, inaccessibility and similar causes. We understand that a somewhat similar suggestion has been made by officers in other departments. It is thought that some additional increment is necessary to attract more competent men and it has been suggested to us that clerks in these districts might draw the pay of the grade or class above that to which they belong.

We consider that the question should be decided with reference to all departments alike and we refrain from making any specific recommendations in regard to the Public Works department alone, though approving of the general principle.

78. The new scale of pay proposed in paragraph 74 is intended to fit in with the scale proposed for the offices of the Chief Engineer and Secretary to Government and the Chief Engineer for Irrigation in Appendices A and B.

At present these offices are recruited almost exclusively from graduates in Madras and clerks in the circle lists have little or no chance of obtaining an appointment. Further the highest clerical appointments in the circle (those of Manager and second clerk in the Superintending Engineers' offices) are usually filled by clerks from the Secretariat, because, owing to the lack of suitable men, the Superintending Engineer, with whom the appointments rest, is obliged to look outside the circle list for competent clerks.

The result is that the ordinary clerk has little prospect of rising to anything but the post of head clerk in the divisional office on Rs. 60. It is therefore hardly surprising that competent men fight shy of entering the ordinary Public Works office, or take the earliest opportunity of leaving it for some other department.

79. To attract a better stamp of man and keep him in service when he has once joined we consider it essential not only to introduce a revised scale of pay but also to offer the prospect of a better career than is at present open to him.

We recommend that vacancies in the Secretariat offices be filled by the appointment of clerks on the circle lists, if competent graduates are available. In theory no doubt these appointments are already open to mofussil clerks, but in practice recruitment is almost exclusively from graduates in Madras. So much is this the case that we find there is a general impression among clerks in the mofussil that they are entirely debarred from all chance of entering the Secretariat. If the principle was once clearly laid down that *ceteris paribus* clerks on the circle list shall have a prior claim to appointment, we hope that a better stamp of men, including a larger proportion of graduates, will be attracted to service.

80. We attach much importance to this proposal not only because it offers something of a career to clerks in mofussil offices, but also because it will leaven the Secretariat with a proportion of men who have had experience of work in circle and divisional offices. The Superintending Engineer will thus be able to fill the important posts in his office with men possessing experience in both Secretariat and divisional work.

81. We have also considered the question of the recruitment of accountants in the Examiner's office. We find that a reasonable proportion of these appointments are already offered to mofussil clerks and that no change is necessary if the present practice is continued.

82. Our third proposal deals with the present unsatisfactory system of transfers from division to division. We do not recommend the abolition of the circle scale but to minimise the hardship of constant transfers from district to district we propose a slight modification of the rules relating to appointments and promotions.

At present though promotions are according to a circle scale the strength of each individual office has to be maintained according to its own scale both in regard to the number and pay of the appointments. The result of the rule is that even short acting promotions may result in a "general post" of clerks from office to office and a consequent general disorganisation.

We recommend that the present rules should continue to apply to substantive promotions, in order to ensure that the permanent scale of each office remains unaltered, but that discretion should be given to Superintending Engineers to give acting and short sub. *pro tem.* promotions, without making corresponding transfers to maintain each office at its sanctioned scale of appointments, subject to the following proviso :—

(a) that the number of clerks in any office remains unaltered.

(b) that care be taken that no office is filled with low paid men.

83. Thus for example a clerk A on Rs. 40 in X division office goes on privilege leave. B on Rs. 30, in Y division office is next on the list for promotion to Rs. 40 and C on Rs. 20 in Z office next for promotion to Rs. 30. Under existing rules B must move to X office, C to Y office to get their acting allowance, while the vacancy in Z is filled by the appointment of a temporary hand. B and C are probably out of pocket owing to the fact that the cost of their transfer is more than the additional emoluments they get as "acting allowance", while both Y and Z division offices are disorganized owing to the loss of B and C. Nobody benefits while Government have to pay the cost of the transfers and three offices are disorganised. Under the proposed modification of the rules B and C will draw their acting allowances while continuing to work in Y and Z offices respectively while the vacancy in X office resulting from A's absence will be filled by the appointment of a clerk acting in the lowest class.

84. The only objection to the above suggestion is that the man who does A's work gets no compensation for the additional work and responsibility thrown on him. But this apparent unfairness will right itself in the long run; the man who loses to-day will find that he gains to-morrow when his turn for acting promotion comes.

85. We hope that if these suggestions are accepted by Government a better stamp of men will be attracted to service.

Concurrently with the above recommendations we suggest that the departmental test in Code rules and procedure, abandoned in 1892 because it was not prescribed in the Government of India, Public Works Code, should be revised. In our opinion it would be advisable, if prospects of better pay and promotion are offered, to re-enforce this or a similar test as a qualification for substantive promotion to appointments carrying Rs. 30 and upwards, in addition to the present test in précis-writing which is required before promotion to posts of Rs. 60 and upwards.

86. This brings us to certain suggestions we wish to lay before Government in regard to present office procedure.

We find that the present method of correspondence and record-keeping is managed in a somewhat haphazard way. There is no uniformity of practice in the different offices and the system itself is capable of improvement. The present system, which goes by the name of the "modified Tomkins system," was introduced in 1904. As compared with Dr. Macleane's system it has two disadvantages—firstly, letters received and despatched are entered in separate registers necessitating considerable reduplication of entries, and secondly, it is difficult to keep a proper check on the disposal of papers. The receipt and despatch registers are maintained by two separate clerks, whereas this work is combined in the hands of one man under Dr. Macleane's system, and also that there is a tendency in practice to allow undisposed of papers to hang on indefinitely without the issue of reminders.

87. We are of opinion that Dr. Macleane's system is superior in itself and we also recommend its adoption in order that the correspondence methods of the Public Works Department may be assimilated to the methods of other departments. Uniformity of system in all offices will obviate many mistakes and delays and facilitate correspondence generally.

To meet a possible objection we may point out if the work of registering and despatching letters is found too heavy for one clerk, the work can be divided between two, by allotting different sections of correspondence to each.

Chief Engineer, Public Works Department,
Circular No. 2351-C., dated 4th May 1892.

Chief Engineer, Public Works Department,
No. 2060-C., dated 1st March 1904.

88. The change to the new method can be introduced without difficulty because the "Tomkins" record system is capable of adaptation to Dr. Macleane's system without the necessity of re-sorting records, the difference between the two systems being chiefly in nomenclature.

The records in some offices have already been sorted: we recommend that whatever system is accepted by Government, the work of putting records in order should be taken in hand at once in all offices. Confusion in records is a fruitful source of mistakes and delays. We recommend that a temporary clerk be sanctioned at once for putting in order the records of all offices in which the work is not yet completed.

In this connection we would draw attention to the fact that the offices of the Superintending and Executive Engineers have no separate record-rooms. Records are piled in shelves wherever there happens to be room, and space is often wanting to keep bundles properly sorted. This in itself is a cause of confusion and results in papers being lost or mislaid. Considering the importance of the documents in the custody of the record-keeper we suggest the advisability of building separate record-rooms for these offices.

89. Four minor points in which we find that improvements are possible are as follows:—

(1) At present lists of unanswered references relating to departmental matters are submitted quarterly by the various offices but no unanswered reference list is prescribed for references from other departments. In many offices such a list is maintained for convenience, but it is purely optional and it may be, and often is, discontinued by the successor of the officer who has introduced it. We recommend its adoption by all offices and we suggest that a "business" statement, similar to that in use in Revenue offices, showing all unanswered references from all departments and the length of time they have been pending should be submitted quarterly to Superintending Engineers.

(2) We find that much clerical labour is wasted in ruling lines and copying headings of forms, letters and covers which could and should be printed. We recommend that printed and ruled forms should be supplied wherever practicable and a greater use made of printed forms of letters and orders to save unnecessary copying work.

(3) We suggest that an office manual should be compiled on the lines of the Standing Orders of the Board of Revenue containing the more important Government orders and circulars together with rules for the conduct of business in the correspondence and accounts sections. At present there is a lack of uniformity in the procedure of different offices, especially in the correspondence section, and there is no compilation in which Standing Orders of the Madras Government are embodied, so that orders are liable to be forgotten.

An examination in this manual might form part of the departmental test suggested in paragraph 85 above.

(4) We find it is the practice in most offices to insist that all papers should be returned to the record-keeper whether finally disposed of or not, instead of being retained by the clerk concerned until a final disposal is made, as is the practice in the Revenue department. The clerk concerned is thus relieved of the responsibility of seeing that papers are promptly disposed of and of issuing reminders when necessary. Nominally the registering clerk, under the superintendence of the head clerk, is supposed to examine the registers periodically to see that reminders are issued in the case of letters which require an answer, but in practice this duty is neglected and papers are allowed to lie by for indefinite periods without any action being taken on them.

We consider preferable the other system in which all papers, with which a clerk deals, remain with him until they are finally disposed of, because the responsibility of ensuring the prompt disposal of papers by the frequent issue of reminders is definitely fixed on one particular man and consequently there is less danger of papers being lost sight of.

90. It has been suggested to us that a more extensive use might be made of order books, half-margin forms, carbon paper copies and other labour saving appliances. Experiments have recently been made with new forms of order books and of measurement books with carbon paper slips. The experiments have not been altogether a success and we fear that the advantage gained by a slight reduction in clerical work is not commensurate with other disadvantages. We will therefore content ourselves with mentioning that such labour saving appliances have been tried, in some cases with success.

91. On the accounts side we have the following suggestions to make with reference to the concluding sentence of paragraph 5 of the Government order.

A number of Executive Engineers have complained to us of the complexity of the present system of accounts and returns. On a careful examination of the Public Works Account forms we are unable to endorse this complaint in its entirety: the Code forms are on the whole well suited to their purpose, and we can suggest only a few amendments.

92. Mr. Wickham, the Executive Engineer, Guntur division, has complained that the Work Abstract, Form 7-E of the Code, is of no value, and does not enable an Executive Engineer to ascertain details of previous payments, which, as he pointed out, it is very important that an Engineer should be in a position to trace. To meet this difficulty, he has devised a new and elaborate form, a specimen of which, prepared for an actual work now in progress, he has sent us, which we enclose with this report. This form has many admirable points, but we fear that from its very elaboration it may defeat the intentions of its author. We have observed that in many divisions the Code form is not strictly adhered to. It is usual to omit the entries bringing forward previous expenditure so as to save some labour, and to enter only the figures relating to the month for which it is prepared. If it be insisted on that the Code form be strictly followed, as we recommend it should, and the entries of past expenditure invariably brought forward into each new abstract, Mr. Wickham's form will be unnecessary, and an Executive Engineer will be able to find all he is ever likely to require from the works abstract and the works register.

93. The Public Works Code forms provide separate sets of accounts for roads and buildings, irrigation and Railway divisions. In Madras there are no separate irrigation and roads and buildings divisions; each division is concerned with both classes of work. No attempt is therefore made to keep separate accounts in the Division offices; one cash book and one set of posting schedules serve for all purposes. But because the Account Current, Form No. 27, does not contain headings against which to post classified Irrigation receipts and expenditure, a separate Account Current is maintained in Form No. 27—Irrigation into which

certain entries relating to Irrigation are posted. It is obvious that where a clerk has to separate the entries in the cash book and the cash abstract book into "Roads and Buildings" and "Irrigation" and to post them into two separate accounts current, there must be more labour involved than when he posts into one single form, and there must be a certain amount of risk that items are omitted or are entered in both Accounts Current, which must increase the work of the Accountant of the office when he checks the clerk's work. If an attempt were made to separate all Irrigation receipts and expenditure from Roads and Buildings receipts and expenditure so that the exact amount of the transactions under each class were shown, there might be something to say for the present practice. But in fact this is not done in this Presidency. All cheques for example, whether drawn in payment of Irrigation charges or building charges, are entered in lump in the Roads and Buildings Account Current, as are also all payments into the Treasury, and all Exchange Account transactions. The Irrigation Account Current is thus very far from showing the true transactions of the Division under the various Major Heads which fall under Irrigation. Its sole use is as a sort of schedule into which to post items for which no heading is provided in Form No. 27. The totals of this account are posted into Form No. 27 against "Irrigation" in the Exchange Account transactions under "Transfers of the Public Works department" on both receipts and expenditure sides. The one advantage gained from this practice is that the account current is contained on opposite pages of a single foolscap sheet. This advantage is a very small one; there is no real reason why the account current should be restricted to two pages. For example, the Civil accounts current run to many pages without any loss of clearness. We recommend therefore that the practice of preparing a separate Irrigation Account Current and afterwards posting its totals into the Roads and Buildings Account Current, be abandoned in this Presidency, and that additional lines be entered in Form No. 27 to provide for Irrigation receipts and expenditure.

94. The figures of expenditure in Form No. 32-O are summed up in an abstract, which in its turn is further abstracted into the Account Current. This involves a

certain amount of labour, and seems intended only to reduce the number of figures appearing in the account-current. It would be an improvement if, instead of preparing the abstract of Form No. 32-O as a separate document and re-abstracting its figures, the entries of the present abstract were made direct from 32-O into the account-current. The latter would be somewhat larger, but would be no less clear, and the work involved in making the second abstract would be saved.

95. We think that it would be an advantage, not only in reducing labour, but also in securing a greater uniformity in the forms in use in India, if for certain of the Public Works Code forms the corresponding Civil Account forms were substituted.

Forms No. 21-A and 21-C represent the single Civil Account form of Establishment pay bill. They are much more cumbersome than the Civil Account Code form. They might very well be replaced by the latter form. In this connection we note that the Salary bill, Form No. 21-A, is only a statement of claim and is not regarded as a voucher, the only thing which the Examiner treats as a true voucher being the Acquittance roll, Form No. 23. In offices to which the Civil Account Code applies, the bill when signed by the head of the office is a voucher, and is accepted as such by the Audit officer. Audit requirements are satisfied by a certificate printed on the bill and signed by the head of the office that he has obtained the acquittances of the individual members of the establishment for the previous month in an acquittance roll maintained in his office. There is no apparent reason why this diversity of practice should be maintained. The late Examiner assigned as an objection to any alteration that nothing but the acquittance roll could be a true voucher, as the cashing of a cheque by an Executive Engineer was no proof that the money so received was actually paid to the members of his staff. But if Civil Account offices, which have to deal with far larger and more numerous claims for salary are satisfied with what their own Code prescribes, there is no very apparent reason why the Public Works Audit office should not be similarly satisfied, and Mr. Balston's objection is hypercritical. If the practice be modified to the Civil Account Code system there will be a great gain, for it will no longer be necessary to send

the acquittance roll, Form No. 23, to the Examiner. And if the acquittance roll be retained, as it is in Civil offices, in the Executive Engineer's office, it will be no longer necessary for the Executive Engineer's clerks to write out at very great length the names of individual payees of salary and travelling allowances in their cash book. Mr. I. S. Sherlock-Hubbard, when Examiner, pointed out the waste of labour involved in this practice (see his office-note embodied in G.O., No. 2330 W., dated 22nd August 1892). But it has been found necessary to revert to it, because in the absence of an acquittance roll maintained in the office—Executive Engineers are not permitted to keep one in duplicate—it is extremely difficult at a later date to say without reference to the Examiner whether a given sum was paid to a given servant unless the fact is recorded in detail in the cash book. The sending of the acquittance roll to the Examiner ought certainly to be discontinued.

96. The contingent bill, Form No. 24, is unnecessarily elaborate. Every transaction has to be set down separately, whereas for audit purposes only such an abstract as is shown on the back of the form is sufficient, the abstract being supported by vouchers for sums in excess of Rs. 10, and all vouchers for service stamps, telegrams, office rent and taxes. The Civil Account Code procedure and forms are much simpler and involve less labour. If the Government are prepared to allow a Deputy Tahsildar on Rs. 100 to draw a contingent bill without details, and the Civil Accountant-General accept such bills, surely an Executive Engineer on not less than Rs. 475 might be similarly trusted, and the Examiner might similarly accept his bills.

97. For some unexplained reasons, the old Madras Public Works Code form is retained in preference to the Government of India Form No. 33-C (state of audit). The latter is a simpler form, and the reason for preferring the former, which must take longer to fill up, is not clear.

98. The figures of income-tax in the account current are taken from Form No. 33-C. It does not appear why they are not taken direct from the total of the pay bill form. If our suggestion in paragraph 95 above be accepted, the figures could be taken without difficulty from the new pay bill form, and part III of Form No. 33-C (India) abolished.

99. In every division a good deal of work is involved in adjustment by transfer credits and debits to other divisions of leave allowances, salaries and travelling allowances paid on account of officers attached to those other divisions. This practice gives rise to work that could be avoided if the Civil Account rules on the subject (article 63) were adopted. It is not obvious why the non-gazetted subordinates of the Public Works Department should be given privileges which are not accorded to corresponding officers elsewhere.

100. In order that the district treasury accounts may be made up by an early date each month, it is the practice in this Presidency to close the accounts of taluk treasuries, except in the month of March, a few days before the close of the month, all transactions after the date of closing being treated as transactions of the following month. It would to some extent ease the pressure on the Accounts section of Division offices and enable the Executive Engineer to despatch his accounts to the Examiner a few days earlier if a similar rule were instituted in the Public Works Department, and the accounts of Sub-Divisional officers were closed by say the 27th or the 28th of each month except March. We would recommend this proposal to the consideration of the Government.

101. In practice few peons are able to provide their own railway fare when travelling by rail, and it is a universal custom in all departments to advance them the amount of their fare. In other departments this is done out of the office permanent advance, which corresponds to the Public Works office imprest, and the peon gives an acknowledgment which is held by the head of the office as part of the permanent advance. The full travelling allowance due to the peon is drawn for the peon in the travelling allowance bill as though he had paid his own fare, and at the time of payment the amounts advanced are recovered from him and his acknowledgment is either returned to him or is torn up. The trouble involved in dealing with these advances is thus reduced to a minimum. In the Public Works Department, however, under G.O., No. 211 W., dated 21st January 1902, these advances are treated as final charges under travelling allowance. This gives rise to much trouble in some offices, for in preparing the travelling allowance bill great care has to be taken to see that the sum

advanced to a peon is not claimed a second time, and this involves a careful examination of the cash-book and the advance ledger. We would recommend that the practice followed in other departments be adopted: we are satisfied that it would give appreciable relief to all offices, and great relief to some, such as the Chingleput division office. When we discussed this matter with the late Examiner, Mr. Balston, he objected that if our proposal were adopted a peon would be required to acknowledge in the acquittance roll the receipt of a greater sum than was at the time disbursed to him, and that the acquittance roll would therefore contain fictitious entries. This objection does not appear to us a sound one. In any case, moreover, there would be no fiction, for the peon would merely be giving one single acknowledgment for the aggregate of the advances made him and the net balance finally paid.

102. We recommend that a paragraph be inserted either in the Public Works Code or in the Manual suggested in paragraph 89 above, containing instructions similar to those embodied in articles 161 and 162 of the Civil Account Code on the subject of inevitable payments, and the disadvantage of deferring payments of sums unquestionably due.

103. Several Executive Engineers have complained to us of the trouble given them in passing through their accounts the accounts of other officers acting as "Public Works Disbursers", that is to say, officers of departments other than the Public Works Department who temporarily assume public works functions. They have pointed out that these officers, being unaccustomed to the Public Works Code, its forms, accounts and procedure, very frequently send up their accounts wrongly prepared and their vouchers imperfect, and this gives rise to a great deal of trouble in the division offices and much correspondence with the Examiner, whose objections they can themselves do nothing to remove, and they are thus led into correspondence with the Public Works Disbursers. The procedure of which they complain is by no means compulsory. It is open to these Public Works Disbursers to render accounts direct to the Examiner, and we understand that the Examiner would very much prefer to deal direct with them instead of using the Executive Engineer as a "Post office" and passing

their accounts through the divisional accounts. Indeed, even now Collectors of districts, in their capacity as Members of the Public Works Department, do deal direct with the Examiner, receive credits direct from him and render accounts direct to him. We have alluded to this, for it is clear that the majority of Executive Engineers are not aware that the remedy for the evil is in their own hands and that they may, if they wish, rid themselves of the trouble of which they complain. We therefore suggest that a circular be issued by the Chief Engineer drawing their attention to the fact that they need not incorporate the accounts of these Public Works Disbursers unless by special arrangement.

104. We do not consider that our recommendations, if accepted, reduce work to such an extent that the services of one clerk can be dispensed with in any office: but we feel assured that they will result in a reduction of work such that the offices concerned will have the leisure to deal promptly and satisfactorily with temporary increases of work at special times in the year, and that there will be a margin to cover that increase in the work of the department which may normally be expected from year to year.

PART IV.

DRAFTSMAN SECTION.

105. Having dealt with the accounts and correspondence sections of the different offices we come to the last and most important part of the establishment—the draftsmen.

Though the preparation of plans and estimates is the essential part of the office work of an Engineer, yet the draftsman section has been treated in the past as subordinate to the other sections. Not only is the pay of a head draftsman in a divisional office less than the pay of the accountant and manager, but it is even less than the pay of the head clerk—a state of affairs which we cannot but think most unsatisfactory.

106. In English offices the head draftsman is usually the manager and certainly the most important personage in the office, and private engineering firms in India pay their head draftsman, Rs. 1,000 a month, and junior draftsman Rs. 300 to Rs. 400. In contrast we find the highest pay of any draftsman under the Secretariat

offices to be Rs. 130 a month. It is therefore hardly surprising that the men at present employed are little better than tracers.

107. The normal distribution of the draftsmen is as follows:—

(1) *Office of the Superintending Engineer.*

	RS.	RS.
1 draftsman	100—130.	
1 do.	55—70.	
1 do.	30—50.	

(2) *Divisional Office.*

1 draftsman	55—70.
1 do.	30—50.

Though this establishment is supplemented in many offices by additional permanent and temporary draftsmen or tracers, yet work is almost always in arrears. Current requirements are met with great difficulty and periods of comparative slackness in which draftsmen are able to get ahead of their ordinary work and prepare for future requirements, as suggested in paragraph 2 of the Government Order, are unknown.

108. As pointed out in paragraph 5 of the Government Order “works for which funds are available are delayed in consequence of the absence of sanctioned plans and estimates.”

The reasons for this unsatisfactory state of affairs we find to be two, the inadequacy of the establishment and the incompetence of the present class of draftsman employed. But before discussing these two points in detail and suggesting improvements, we will first deal with the other suggestion contained in paragraph 5, that changes tending to the greater centralisation of work might be introduced with advantage.

109. The present system in regard to the preparation and sanction of plans and estimates is as follows:—Plans and estimates for petty works are prepared by subordinates or the Sub-Divisional officer and checked by the Divisional office. All Executive Engineers have power to sanction estimates up to Rs. 200 and some have additional powers of sanction up to Rs. 500. For important works sketches are submitted by Sub-Divisional officers or subordinates, but the actual plans and estimates are prepared in the Divisional office. They are submitted to the Superintending Engineer for sanction if they exceed the Rs. 200 or Rs. 500 limit. The Superintending Engineer has powers

of sanction up to Rs. 2,500 for original works and unlimited powers of sanction for repairs. Original drawings are not prepared in the first instance in the Circle office: plans may be recast or revised but practically no original work is done. Estimates beyond the powers of sanction of the Superintending Engineer are submitted to the Chief Engineer and Chief Engineer for Irrigation after being scrutinised and checked arithmetically.

110. It is evident that the important work of estimating and designing falls on the Divisional office. Even the designs for an important scheme like the new Agricultural College at Coimbatore are prepared in the office of the Executive Engineer, though they are liable to be recast in the offices which check and sanction them. The necessity for competent draftsmen in the Division office is therefore apparent.

111. In this connection we notice that there is a tendency when work is heavy in any office to thrust work on the offices subordinate to it. Thus plans and estimates instead of being recast in the Superintending Engineer's office are returned to the Executive Engineer for revision and similarly far too many original drawings are made by Sub-Divisional officers or subordinates, which should be prepared in the Divisional office.

112. We also note that the designs for important works seem to pass through too many hands. They are drawn out in the first instance by the Executive Engineer but by the time they come back to him for execution after passing through the hands of the Superintending Engineer and Chief Engineer, the original plans may have been so altered and improved as to leave little of the original design. The time and labour of the Executive Engineer have thus been spent to no purpose.

113. We find that far too many original plans are sent out on to works, because the establishment have no time to prepare the requisite tracings. Plans may be lost and in any case when they are sent back it is probable that they return in a more or less mutilated form through constant handling and exposure to sun, wind and rain. Original drawings should form a permanent record in the office in which they are prepared and in no case should anything but a copy be sent out on to works.

114. Lastly we notice that recently a considerable amount of work has been thrown on certain Superintending Engineers since the check of Minor Irrigation estimates has been transferred from the office of the Chief Engineer for Irrigation to the Circle offices. Estimates to the extent of Rs. 11 lakhs were checked in 1906-1907 and no additional establishment has been allowed for the increase in work, which will be considerable in the IV, V and VI Circles.

115. We have studied the question as to whether any centralisation of work is possible and after discussing various schemes with Superintending and Executive Engineers we make the following recommendations :--

We find that it is impossible to centralise the preparation of plans and estimates for Irrigation works. These, from their nature, must necessarily be prepared by officers on the spot, that is, in the Divisional offices. At present there is a tendency to encourage Sub-Divisional officers and subordinates to send up finished plans and estimates even for important works because the draftsmen in the Divisional office are too hardworked to find time for all their legitimate work. This is undesirable not only because it throws too much office work on subordinates, who are better employed in investigation or inspection, but also because in the nature of things Executive Engineers are reluctant to alter and cut up finished drawings, on which much time and labour have been spent. The result is that there is a danger that unsuitable plans may be passed which would have been altered if rough sketches had been sent up in the first instance. It is advisable that, except for petty works, nothing but pencil sketches should be submitted to Divisional offices.

116. In regard to buildings there are two classes of work, the preparation of estimates for buildings for which standard designs already exist, and the preparation of original designs and estimates.

The former do not give much trouble: the only difficulty is the selection of a suitable site and the adoption of foundations to suit the nature of the soil. These points must be settled by the local officers, but once settled the completion of the estimate should be a comparatively simple matter. The transfer of this class of work to a central office will not give much relief to the drawing branch of an Executive

Engineer's office and there is general agreement among Superintending and Executive Engineers that the preparation of such estimates is best carried out in the local office concerned. It would however save much labour if more printed copies of the estimates were supplied, blank spaces being left for the rates and quantities, to be filled in by the Divisional office. At present the supply of these printed forms is insufficient and the forms themselves are not altogether suitable. Much time is therefore wasted in copying work.

We recommend that a sufficient number of these forms, printed wider than at present in such a way that rates and quantities may be easily filled in and any alterations that are necessary interpolated, be kept ready in a central office. Whenever a building is sanctioned for which a standard design already exists, printed copies of the plans and estimate forms should be sent to the office to which the preparation of the estimate is allotted.

117. We also consider that the number of standard designs might be increased with advantage, and that in every case alternative designs for brick work and stone work should be prepared. Existing designs are prepared only for brick, and in those parts of the Presidency, in which work is done in stone, considerable time is spent in recasting dimensions and preparing what is practically a fresh estimate.

We may mention that once the Consulting Architect is relieved of executive work, he will have ample time for the preparation of such designs.

118. In regard to buildings for which no standard designs exist, as already stated in paragraph 112 above, much time and labour are wasted because designs pass through too many hands. We recommend that designs for important and complicated works be prepared by the Superintending Engineer or the Consulting Architect, preferably the latter, instead of by the Executive Engineer, as at present. Necessary information as to the site, foundations, and local conditions will be supplied by the Executive Engineer but the rest of the work will be done in the central office. This will afford some relief to Divisional offices, which are at present overworked, and to the Executive Engineer who may happen to have no experience in this kind of designing and who, after devoting much

time to evolving a design, may find that all his time and labour have been wasted. Not only will the time of the Executive Engineer be saved, but the final sanction of the estimate will be correspondingly expedited.

119. Relieved of this class of work the Divisional office will have more time for the preparation of ordinary plans and estimates, and there will be no excuse for relegating them to subordinates who are better employed in their executive duties.

We desire also to draw attention to the fact that there is a tendency in Superintending Engineer's offices to send back plans for revision to Executive Engineers, instead of recasting designs themselves. It may happen that plans have to be sent to and fro several times before they are altered to the satisfaction of the Superintending Engineer. If the office of the Superintending Engineer were adequate to requirements, the necessary alterations could be effected at once without troubling the Executive Engineer, and the time spent in the transmission of plans between the two offices saved.

120. With reference to the other point raised in paragraph 113 we find that experiments in different processes for the mechanical reduplication of plans have recently been made in the offices of Superintending and Executive Engineers under the orders of the Chief Engineer. The two processes tried are the ferro-gallic and the ferro-prussiate. The experiments have not been altogether satisfactory. The quantity of work turned out by different offices varies considerably and in some cases is indifferent. The processes are not difficult for a man specially trained for the purpose but when the work has to be carried out under conditions which are not always suitable by a man who can devote only a portion of his time to it, the result is the production of inferior work. We recommend that for each circle this work should be done in the office of the Superintending Engineer, a special staff being provided for the purpose.

What this staff should be, we are not in a position to say definitely because it has not yet been decided which process shall be adopted, but we think that an extra draftsman with one or more peons will be required for the office of the Superintending Engineer, III Circle, and an extra draftsman and a tracer with one

Chief Engineer's memorandum No. 5166-C., dated 8th September.

or more peons for the other circle offices. The provision of a dark room will be desirable, if not absolutely necessary, in all these offices.

121. We do not consider there will be any difficulty in centralising this work. All plans and estimates for works exceeding Rs. 500 have to pass through the office of the Superintending Engineer. Before returning the sanctioned plan to the Executive Engineer, the necessary number of prints can be taken and sent with the originals. It will then no longer be necessary to send original plans out on to works, and each office will have a copy of the plan as a permanent record, thus obviating the present waste of time involved in sending plans to and fro between the Superintending and Executive Engineer whenever a reference is made by either of them.

122. This completes our recommendations in regard to the centralisation of work. We will now return to the question of the strength of individual offices and the steps necessary to secure the services of a better class of draftsmen than that now in service.

123. Appendix I shows the sanctioned strength of each office, and the additions considered necessary. It will be noticed in column II that the permanent establishment is in most cases supplemented by one or more temporary hands, some of whom have been employed continuously for many years. Even with these additions, as pointed out in paragraph 107 above, the drawing branch is always in arrears and the execution of work is retarded owing to the delay in the preparation of plans and estimates. Allotments are made in the budget against unsanctioned estimates: later in the year they are surrendered or modified according as the estimates remain unsanctioned or are sanctioned too late for the expenditure of the full allotment. The result in the majority of cases is a lapse of the grant.

124. As pointed out by Government in paragraph 5 of their order the "preparation of a satisfactory budget is impossible if plans and estimates are in arrears". In the budget for the past year it was found necessary to insert no less than 150 works for which plans and estimates had not been sanctioned. It is unnecessary to labour the point further: an adequate drawing establishment is essential to the prompt and satisfactory execution of work.

125. The class of temporary man now employed on Rs. 30 is usually capable of doing nothing but tracer's work. What is required is a larger number of men capable of designing and estimating, and this stamp of man will not, as a rule, take a temporary post.

For example, in the case of the new Agricultural College at Coimbatore good temporary draftsmen could not be obtained by the offer of pay of Rs. 100 a month. The designs were prepared only by depleting other offices of their best hands, leaving these offices to do their work as best they could.

The only way out of the difficulty is, in our opinion, to increase the number of permanent appointments.

126. We also consider it necessary to attach a tracer to each office. Much of the draftsmen's time is wasted in making tracings and copying estimates, work which can be done as well by a low-paid tracer. Part of the copying work is also done by the correspondence branches of the offices which, without the addition of any extraneous clerical labour, are overworked already.

We therefore recommend that in addition to the permanent and temporary establishment recommended in column III a permanent tracer on Rs. 20—1—30 be attached to each office, to make the draftsman branch independent of the other branches and to leave the draftsmen more time for the preparation of plans and estimates. If this proposal is accepted, it will be possible to dispense with some of the temporary draftsmen and tracers proposed in column II.

127. We must also draw attention to the fact that a considerable amount of extra work has been thrown on Superintending Engineers by the recent transfer to them of the duty of checking minor irrigation estimates from the office of the Chief Engineer for Irrigation, Tank Restoration Scheme. The number and amount of the estimates received for check in the last four years are shown in appendix J. It will be noticed that in 1905-1906 there was a considerable increase in the amount, the total for that year exceeding eleven lakhs.

Work will be heaviest in the offices of the Superintending Engineers, IV, V and VI Circles, as tank irrigation is more extensive in these circles. It is probable

that to cope with this extra work some increase of establishment will be found necessary but the change is so recent that we are not in a position to come to any definite decision. We therefore refrain from making any specific recommendations but we suggest that Superintending Engineers should be consulted, after the new system has been tried sufficiently long to enable an estimate of the requirements of each circle to be made.

128. The net increase in the cost of establishment including a tracer for each office and allowing for a reduction in the number of temporary draftsmen on Rs. 30 works out at Rs. 1,216 $\frac{2}{3}$ per mensem as shown in appendix I.

A more liberal expenditure on this branch of the establishment to ensure the efficient preparation and prompt submission of plans and estimates will ultimately prove an economy.

129. As regards the qualifications of the present stamp of draftsman we find a large proportion of the men in employment are incompetent. Many of them are incapable of doing anything but tracer's work and it is the exception to find a really good draftsman able to produce a reasonable design. The head draftsman should be an Engineer's right-hand man in all technical matters but at present he is rather an encumbrance than a help.

130. Especial complaint is made of their general educational qualifications apart from their technical skill. Scarcely one of them is capable of putting up an office-note or draft on a technical subject in intelligible English, a fact we can substantiate from our own experience in interpreting notes submitted for our perusal.

131. The Committee appointed in 1906 to examine the working of the Engineering College brought this point to notice and Government have accepted their recommendation that the present draftsman class should be abolished and that in future there should be one class for all men entering the department whether as sub-overseers or draftsmen. The educational qualifications necessary for admission to the College have also been raised and the College course extended to three years. The future draftsmen will be matriculates and will have enjoyed the advantage of a better training than at present.

Vide G.O., No. 655, Educational, dated 3rd October 1905.

132. The Sub-overseers and the draftsmen who pass out of the College under the new arrangement will possess the same qualifications. It appears to us therefore that the logical conclusion of the recommendations already accepted is that their pay and prospects should be assimilated; otherwise we fear that there will be a difficulty in inducing men to accept appointments as draftsmen.

Under the new conditions the prospects before sub-overseers will be superior to those before draftsmen though their training and qualifications will be the same. The former in addition to their pay receive horse and travelling allowance. Further, they have the opportunity of rising out of the sub-overseer grade and becoming upper subordinates and, apart from this, a sub-overseer can reach a maximum pay of Rs. 90 inclusive of increments for long service. On the other hand draftmen receive no additional allowances, and very few of them have any prospect of rising above the second grade, the maximum pay of which is Rs. 70.

133. We therefore recommend that in future the men who do draftsmen's work should belong to the executive branch, that is to say the distinction between draftsmen and overseers or sub-overseers should be abolished and all alike should be classed as subordinates on the same list. The number of appointments in each grade of draftsmen as recommended in column II of appendix I is as follows:—

7 draftsmen, 1st grade.
35 " 2nd "
51 " 3rd "

In place of this we recommend that the number of sub-overseers in each grade be increased as follows:—

—	First grade.	Second grade.	Third grade	Total.
Present scale ..	54	50	86	190
Future do. ..	90	91	87	268

134. Most of the present draftsmen appointments will be filled by men of the sub-overseer class but the appointments on Rs. 100—3—130 in the Superintending Engineer's office will be filled by upper subordinates, and perhaps some other appointments as recommended in paragraph 137 below.

We therefore recommend that the cadre of upper subordinates be increased by 15.

The total increase in the number of sub-overseers and of upper subordinates combined is thus equal to the proposed number of draftsmen as shown in Appendix K.

The increased cost of the change including the extra allowances recommended in paragraph 136 below will amount to Rs. 12,56½ *per mensem* as compared with column III of Appendix I.

135. We do not recommend this important change in the constitution of the department on the sole ground of the convenience of assimilating the scales of pay. We consider the change not only desirable but absolutely necessary for other reasons.

There is general agreement among Superintending and Executive Engineers that practical experience is of great value to a draftsman. In cases in which men of the overseer or surveyor class have been employed for drawing work, it has been found that they are more capable and intelligent than the ordinary type of draftsman and, after a little practice, not inferior in technical skill. It is of great importance that draftsmen should have some practical training in executive work, so that they may be able to follow intelligently the designs on which they are engaged, with an eye to the practical difficulties of execution. We therefore recommend that the men who have passed through the new college course should not only be on the same list as other subordinates, but also be interchangeable with them.

All alike should begin with work in the executive branch: after acquiring some practical experience men with a taste for drawing—this will be indicated by their "passing out" certificate—should be eligible for transfer into an office for draftsman's work; but they should remain part of the executive branch, liable to revert at any time to executive work at the discretion of the Superintending Engineer.

A man with aptitude for drawing would probably remain in the office for a considerable length of time, but it is desirable that Superintending Engineers should have the power to relegate men to work in the field in cases of slackness or incompetence

136. It has been pointed out to us that service in the office will be less popular than service in the field because men on executive work draw in addition to their pay horse allowance of Rs. 15 or Rs. 30 and travelling allowance for distances exceeding twenty miles. We believe this to be true to some extent, though there will always be men who prefer a sedentary life even at the loss of part of their emoluments. But to obviate the possible difficulty we suggest that men working in the office as draftsmen should draw in lieu of horse allowance a personal allowance of Rs. 15 or Rs. 30 *per mensem* according to their class (Rs. 15 for sub-overseers and Rs. 30 for overseers). Service in the office should be regarded as in no way inferior to service in the field, and therefore men employed as draftsmen should not be at a disadvantage as regards emoluments to men doing executive work.

137. As mentioned in paragraph 133 above men employed in the draftsman branch of the Divisional office will usually be of the sub-overseer class, but in the office of the Superintending Engineer it will be necessary under the proposed scheme to appoint an upper subordinate to fill the post of head draftsman. This will necessitate a modification of section 353, Public Works Code.

It has been suggested that the head draftsman of the Divisional office should also be an upper subordinate. We do not consider this necessary in all cases, but we recommend that a certain latitude should be allowed to Superintending Engineers to appoint upper subordinates when necessary, if, for example, any specially important work were going on in the Divisional office.

138. If our proposals are accepted by Government we suggest that the new system should be introduced gradually as vacancies occur. It is only fair that men who have recently or who are now passing out of the college with draftsman certificates under the old system should not be debarred from the appointments for which they have qualified themselves and which they believed open to them when they began their course. On the other hand the speedy introduction of the proposed scheme is in our opinion essential in the interests of the department.

139. We therefore suggest that half the new permanent appointments proposed in appendix I, column II, and all the

vacancies that occur in the ordinary course in the next three years should be filled by the appointment of men qualified under the old system, but the remaining appointments should be filled by temporary hands, until men qualified under the new system are eligible for appointment.

The new system comes in force in July 1907, so that men will not be available for another three years, by which time the first batch will have completed their three years' course. From 1910 onwards we suggest that all vacancies should be filled by the appointment of men qualified under the new rules. We may mention that permanent appointments as tracers (as suggested in paragraph 126) will still be open to men qualified under the old system.

140. In making the above suggestions we have taken into consideration a memorial from the present draftsmen to His Excellency the Governor (hereto annexed) upon which we have been instructed to offer our remarks.

141. In conclusion we must add that we attach very great importance to our proposal that the draftsman and executive branches of the department should be one and interchangeable. It will ensure, not only that the future draftsmen will have a practical knowledge of their work, but also that the drawing branch of Superintending and Executive Engineers will be maintained at the maximum of efficiency.

PART V.

TEMPORARY ESTABLISHMENT AND ESTABLISHMENT CHARGE TO WORKS.

142. Reference has been made to the temporary establishment employed in the department in paragraphs 10 and 33 above and incidentally in several other paragraphs.

The present permanent establishment of the department is quite unable to cope with even the minimum amount of work that has to be done. In most offices the permanent strength is supplemented by one or more temporary hands, some of whom have been in service for a number of years continuously. But the class of men obtainable for temporary employ is far from satisfactory. We have therefore recommended that all temporary appointments, which by the fact of their long

existence are quasi-permanent, should be converted into permanent appointments. If our recommendations are accepted, the proportion of unqualified and incompetent clerks and draftsmen, who are often the only men obtainable for temporary employ, will be decreased and the general standard of efficiency sensibly raised.

143. At the same time we recognise that some part of the establishment must continue to be temporary. Work is bound to fluctuate according to the amount of grants allotted, though these fluctuations are not so large as might be expected. It is therefore necessary that a proportion of the establishment should be temporary in order that reductions may be carried out wherever work has decreased. In making our recommendations we have as far as possible kept in view two principles, that all responsible appointments which must continue for an indefinite time should be made permanent and that unimportant appointments should be temporary. In pursuance of these principles in paragraph 57 above we have recommended the abolition of a number of low-paid appointments, the work of which can be done as well by temporary hands.

144. It will thus be still possible to make considerable reductions in establishment if the necessity arises owing to financial pressure. In the past instances have occurred when, owing to famine or other causes, it has been found necessary to close down works and reduce establishment. But such occurrences are likely to be less common in the future under the new arrangements by which local Governments are enabled to insure against famine expenditure.

145. We consider, however, that some modification is necessary in the present rules regulating the appointment of temporary establishment. As things are now, applications for the entertainment or continuance of temporary hands are submitted by Executive Engineers with full explanations for the necessity supported by statistics. The applications are checked by Superintending Engineers and if approved submitted to the Chief Engineer. The applications are received and noted on by the Chief Engineer and finally submitted for the orders of Government.

146. The procedure is lengthy, cumbersome and in our opinion unnecessary. It is anomalous that the Superintending Engineer who has very large powers of

sanction and allotment in the case of works should be powerless to make any temporary provision for the office establishments in his circle. He is empowered to sanction unlimited sums for repairs, but he cannot appoint a temporary scavenger on Rs. 2 a month for his own office without the previous sanction of Government. Again both Superintending and Executive Engineers have power to appoint establishment chargeable to works within the limit of 5 per cent. allowed for in the sanctioned estimate. It does not, therefore, seem altogether reasonable that no discretion should be left to them to appoint temporary clerical establishment.

147. It is not always possible to foresee what temporary establishment will be required in time to get the necessary sanction. It is obvious that the present procedure unavoidably involves delay. It may and does happen on occasions that by the time sanction for the entertainment is received the necessity for its employment has disappeared. Often the temporary hand may be required for only a short period, perhaps a month or less: by the time sanction is received, the temporary pressure of work, which necessitated additional assistance, may be past.

148. For example, in delta divisions, especially in the Gódávári district, there is, on the draftsman side of the Workshops office, great pressure of work in the preparation of estimates for the repair of boats, punts, etc., during the time the canals are closed. The canals are closed for one or two months and before they reopen the work should be completed. In Gódávári the difficulty was met by charging, contrary to rules, a temporary draftsman to works. The present Executive Engineer has refused to countenance this irregularity with the result that repairs have to be made before estimates are ready and the work has to be hurried through as best it can.

149. Another disadvantage of the present system is the danger that temporary establishment may be kept on unnecessarily, because of the difficulty in obtaining sanction for its re-entertainment when once dispensed with. It may happen that an Executive Engineer finds that his temporary establishment can be reduced for a short period, but he foresees that it will be wanted again before the expiry of the official year. He does not dispense with the temporary hands as he should

because of the time and trouble involved in obtaining fresh sanction when once the temporary hands have gone.

150. We believe that it would ultimately prove an economy and would certainly facilitate work to grant wider powers of sanction to Superintending Engineers in this respect. It is unreasonable to assume that a man who has risen to the responsible position of Superintending Engineer will sanction the entertainment of temporary hands in a haphazard way. On the contrary we believe that if the responsibility were placed on him directly, even more care will be exercised in accepting applications from Executive Engineers than is now shown in forwarding these applications. After all it is the man on the spot who is the only man really competent to decide on the necessity for additional assistance and in practice the recommendations of Superintending Engineers are usually accepted by Government.

151. We, therefore, recommend that a lump sum provision for each circle, based on the average of the past few years, be made in the budget for temporary clerical and drawing establishment, as is now done in the case of detached officer's clerks, and that power be given to Superintending Engineers to sanction the entertainment of temporary establishment, whether clerical or draftsman, within their circles up to the limit of the budget allotment. It will of course always be competent for the Chief Engineer to review appointments and if necessary to call for explanations so that the ultimate control of Government over these appointments will not be sacrificed.

152. We cannot but feel that if a Superintending Engineer is not fit to be entrusted with these powers, he is not fit to be a Superintending Engineer at all. If our proposal is accepted, we are confident that there will be no unnecessary increase in the temporary establishment appointed; and on the other hand it will be possible to appoint temporary hands at the time they are required and dispense with them promptly when no longer necessary, two advantages which are not obtained under the present system.

Our proposal is in no way revolutionary. Powers such as we propose are already vested in the Deputy Director of Revenue Survey and other officers—see pages 20—23 of the Madras Treasury Manual, Vol. II.

153. In regard to establishment chargeable to work, it is not possible for us to make recommendations in individual cases.

We find that it is the general opinion that the present class of maistries employed is not altogether satisfactory: complaint is made that they are untrained and irresponsible. We are, however, unable to suggest any remedy short of the reorganization of the subordinate staff, a matter which is beyond the scope of our enquiry.

154. We notice that in the Kistna delta a class of men called delta gumastas is employed to assist sub-overseers in their water regulation duties. In the Góđavari delta no such men are entertained though the work is in some respects heavier. Mr. A. C. Langston who has experience in both deltas considers that these gumastas are unnecessary in the Kistna delta.

We hesitate to make any definite pronouncement on the subject on the information before us, but we recommend that the experiment should be tried of dispensing with the services of these men in a portion of the Kistna delta. If it is found that they are unnecessary, gumastas in the remainder of the delta can also be dispensed with. The saving to Government will be considerable.

PART VI.

SUB-DIVISIONAL AND SECTION CHARGES.

155. Until recently it was sometimes the case that the head-quarters sub-division was under the direct charge of the Executive Engineer of the division in addition to his other duties. At present no head-quarters sub-division is so officered, but we have been asked to give our opinion on the general principle.

156. We find that Superintending and Executive Engineers are unanimous in considering that the arrangement is never possible except in the case of a very light division, and we agree that it is always undesirable. In practice one of two results must ensue: either the Executive Engineer will give a disproportionate amount of his time to the head-quarters sub-division to the neglect of his other duties or he will place one of his subordinates in charge making him, in all but name, his Sub-Divisional officer. In either case the division suffers.

We consider therefore that the arrangement is inadvisable under ordinary conditions.

157. Another question referred to us for consideration concerns Sub-Divisional officers and their pay.

For executive purposes each division is divided into two or more sub-divisions and the sub-divisions contain one or more sections. Assistant Engineers, when available, are posted to sub-divisions, but 65 out of 87 sub-divisions, as well as all section charges, are officered by subordinates.

As far as possible senior subordinates, Sub-Engineers and first-grade Supervisors are placed in charge of sub-divisions, and junior subordinates in charge of sections. Those in charge of sub-divisions receive a sub-divisional allowance of Rs. 30 in consideration of their increased responsibilities, but there is no distinct class of Sub-Divisional officer, that is, a class of men whose primary duty it is to hold charge of sub-divisions.

158. We find as a matter of fact that under the present system there are a number of Supervisors, first and second grade, who have been promoted to their present grades without any consideration of their fitness for sub-divisional charge. They are probably good subordinates in the strict sense of the term, but for that very reason most indifferent Sub-Divisional officers. Yet it is difficult to avoid giving these men charge of a sub-division because the only alternative is to promote a junior subordinate (sometimes an overseer) over their heads. In some cases this is done with the result that Supervisors, second grade, and overseers may be found in charge of sub-divisions side by side with Supervisors, first grade, in charge of sections.

159. The sub-divisional allowance of Rs. 30 is granted only to subordinates actually in charge of sub-divisions. If a man is placed on special duty, he loses his sub-divisional allowance *ipso facto*. An officer selected for special duty is so selected, presumably because he is specially competent or specially fitted for the special work to which it is proposed to depute him. In other departments such an officer receives some additional emolument in the form of deputation allowance. In the Public Works Department, under existing arrangements, a subordinate in charge of a sub-division deputed for special duty instead of receiving any additional emolument is penalised to the amount of Rs. 30 *per mensem* which he loses on vacating charge of his sub-division. In face of this severe penalty Executive and Superintending Engineers hesitate to recommend for special duty the man most fitted for the work.

Vide G.O., No. 1780 W., dated 24th August 1906.

160. The difficulty can sometimes be got over by obtaining the special sanction of Government to declare the investigation or other work to which the subordinate is deputed, a special sub-division, so as to allow of his drawing a sub-divisional allowance of Rs. 30. But it is often difficult to make out a strong enough case as, for example, in the instance of the two subordinates now working in the technical branch of the Chief Engineer's office. As the sanction of Government is invariably necessary, officers rather than take the risk of penalising efficiency in their best subordinates to the extent of Rs. 30 a month, feel themselves compelled to recommend some one less fitted for the work.

161. The responsibilities of a sub-divisional officer are considerable. Not only is he responsible for the proper execution of work but also he has the duty of making large disbursements: he is in fact an Executive Engineer in miniature.

The qualities necessary in a sub-divisional officer differ widely from the qualities which go to make up a good subordinate. What is demanded of the latter is skill and quickness in the execution of work and prompt obedience to orders, but the responsibilities of the former require all this and something more. The sub-divisional officer is set in authority over other subordinates and is responsible for the general good management of his sub-division. He must therefore possess a certain amount of tact and administrative ability in order to enable him to work with his assistants without friction and to administer his charge satisfactorily. So essentially do the duties of a Sub-divisional officer and the duties of a subordinate differ that we consider it necessary that officers in permanent charge of sub-divisions should form a class by themselves apart from other subordinates.

162. In support of this principle we may point to the fact that Tahsildars when promoted to the charge of divisions cease to be ranked as Tahsildars and are classed as Deputy Collectors. In the Public Works Department Sub-divisional officers who are recruited from among section officers should, on the analogy of the Revenue Department, form a class distinct from subordinates in less responsible positions.

163. We have considered more than one scheme and the following appears to us open to the fewest objections:—

It would no doubt be preferable to have all sub-divisions officered by Assistant Engineers but financial considerations make this proposal impracticable.

We propose therefore that Sub-Engineers should cease to be ranked as Upper Subordinates and that the grade of Sub-Engineer be re-constituted as an entirely distinct class, to officer sub-divisions, retaining however the name of Sub-Engineer. In other words Sub-Engineers will cease to be subordinates and will belong to a new class, the class of sub-divisional officer.

164. Allowing 22 Assistant Engineers as available for sub-divisional charge, 65 sub-divisions will ordinarily be held by the new class of sub-divisional officer. At present there are 34 Sub-Engineers in three grades, the proportion being fixed in accordance with the principles laid down in paragraph 66 of the Public Works Code.

If our proposal is accepted, the number of Sub-Engineers will not be determined by the total number of Upper Subordinates because they will cease to be Upper Subordinates altogether.

We recommend that instead of 34 Sub-Engineers in 3 grades, there should be 65 in four grades, thus :—

Present.			Proposed.		
Number.	Grade.	Pay.	Number.	Grade.	Pay.
<i>Sub-Engineers.</i>					
9	I	Rs. 400	10	I	Rs. 400
8	II	300	15	II	325
17	III	250	20	III	275
..	..	..	20	IV	225
34	..	..	65	..	..
<i>Supervisors.</i>					
21	I	200	25	..	150
35	II	150	..	..	..
56	..	..	..	..	..
90	..	..	20	..	..

165. If this proposal is accepted by Government, it will no longer be necessary to officer sub-divisions permanently with Supervisors, first and second grade. We have therefore reduced the number of Supervisors from 56 in two grades on pay of Rs. 200 and Rs. 150 to 25 in one grade on Rs. 150. The total number of Sub-Engineers and Supervisors remains the same, 90, but the former will be in a

larger proportion to the latter than at present. This will involve a modification of paragraph 66 of the Public Works Code.

166. In regard to the pay of the new classes we propose to abolish the present sub-divisional allowance of Rs. 30 in order to obviate the difficulty referred to in paragraph 159 above, and to increase the pay of the three lowest grades of Sub-Engineers by Rs. 25. We consider that there is no necessity to increase the pay of the first grade, in consideration of the fact that men in this grade can rise by quinquennial increments to Rs. 450 and Rs. 500 and that our proposals give much better general prospects. The net increase amounts to Rs. 975 per mensem or Rupees 11,700 per annum.

167. To fill furlough and privilege leave vacancies it will be necessary to give a certain number of Supervisors temporary and officiating promotion. The abolition of the sub-divisional allowance will not affect such men injuriously; they will in the ordinary course draw the full pay of the rank to which they are temporarily promoted on an acting allowance of Rs. 45.

168. Before substantive promotion to the grade of Sub-Engineer we consider it desirable that all Upper Subordinates should undergo a period of probation.

It is not always possible to judge whether men will make good Sub-divisional officers until they have actually been tried in the position. The exercise of authority brings out the good and bad qualities of men and it may happen that the officer who *primâ facie* appears the most suitable, may turn out to be a complete failure. If a man has not the qualities of a Sub-divisional officer, he will never gain them however long he serves. If he proves unfit to be a Sub-divisional officer, he should be reverted to his former position of Overseer in which capacity he may still do good work.

169. We do not find it possible to propose any hard and fast rules as to the period of probation which should be required before promoting Supervisors permanently to the grade of Sub-Engineer or deciding finally that they are unfit for sub-divisional charges. In some cases a few months' experience will prove that an officer is unsuitable; in other cases a longer period of probation might be insufficient but two years should be the extreme limit.

It has been suggested that men on probation ought not to be given heavy sub-divisions and that they should be tried under two Executive Engineers, so that they may not be made or marred on the dictum of one man alone. These are points which may be left to the discretion of the Chief Engineer and Superintending Engineers.

170. It is undesirable that the Supervisor class should be filled with men who have proved failures as Sub-divisional officers. We therefore propose that an Overseer, first grade, considered fit for trial as Sub-divisional officer should be promoted to this rank during his period of probation, but if after a sufficient trial, he is found unsuitable, he should be reduced to his former class as first-grade Overseer.

171. Our intention is not that all men in the Overseer grade should be tried as Sub-divisional officers. Only men specially selected should be given the chance; but it is only fair to men, who have done long and meritorious service as subordinates but who are unfit for sub-divisional charge, that they should have the prospect of rising above the grade of Overseer.

We therefore propose that ten appointments in the Supervisor grade should be reserved for men of this class, the remaining fifteen appointments being filled by men on probation for the Sub-Engineer class.

172. We hope that if our proposals are accepted by Government, there will be less danger that unsatisfactory subordinates will be promoted to sub-divisional charges. Considering the responsibilities of the position, the pay of the Sub-divisional officer should be adequate and great care should be exercised in his selection. We can find no means of reorganising the Upper Subordinate establishment in such a way as to provide suitable candidates for sub-divisional charges except by increasing the cost of establishment and though the increase may seem considerable, yet schemes, which may cost somewhat less, do not appear to fulfil so satisfactorily the two conditions we have mentioned.

173. The question of section charges has not been referred to us for enquiry and is beyond the ordinary scope of our investigations; but incidentally one or two points have been brought to our notice.

We consider the fixed territorial unit of the division should be the sub-division. For convenience sub-divisions may be split

up into section charges but complete discretion should be left to Superintending Engineers to alter the number and limits of sections according to the requirements of work. Superintending Engineers in consultation with Executive Engineers are in the best position to judge what these requirements are, and there is no necessity to fetter their discretion.

174. We have not attempted to investigate the question of the appointment and pay of the Upper and Lower Subordinates, permanent and temporary, by whom sections are officered. From the information which has come before us incidentally we may say that improvements and economies are not impossible in this branch of the establishment.

PART VII.

LAND ACQUISITION.

175. Delay in obtaining possession of sites required for building or irrigation works frequently results in pressure of work at the end of the official year and the lapse of grants. We have therefore studied very closely the procedure prescribed in Standing Order No. 90 of the Board of Revenue for the acquisition of land and consulted a number of Collectors, with a view to discover at what stages of the procedure delays occur and whether any modification of the present rules is necessary.

176. We will first briefly describe the procedure actually adopted in practice and then make such recommendations as appear to us necessary.

177. In making their original application to the District Collector, officers of the Public Works Department are required to prepare a land plan and schedule showing the possession of land to be acquired and giving particulars as to survey numbers and ownership. Complaint is made that subordinates deputed for this purpose find considerable difficulty in obtaining the necessary information. They have no power to compel the attendance of the village officers whom it is necessary to consult. The latter are often lazy and indifferent, so that in some cases unnecessary delay occurs before the original application is forwarded to the Collector at all. In many cases the measurements in the plan and the entries in the schedule are found to be inaccurate and corrections have to be made subsequently.

178. Usually the application is sent to the Collector direct, though in cases of urgency it is permissible to send it to the Revenue Divisional officer, who is ordinarily the acquisition officer.

179. The application filters down through the Tahsildar to the Revenue Inspector, who is usually the officer deputed to inspect the locality in company with a subordinate of the Public Works department.

This is the stage at which the longest and most frequent delays occur. The subordinates of the two departments are often jealous of one another and neither will give way to the other in arranging the date of their meeting. Both are itinerating officers and in any case it is difficult enough for them to find a suitable date but when, as is frequently the case, they seem to exercise their ingenuity in avoiding one another, it is obvious that a considerable amount of time may be wasted before they meet on the land.

180. Usually the plot to be acquired has been stated out by the Public Works subordinate at the time he prepared the land plan and schedule, but in the interval the lines cut or the pegs fixed may have been obliterated or removed accidentally or on purpose, and the work has to be done over again.

181. There is also delay in filling in the joint statement, chiefly because it is difficult to make a correct estimate of the value of the land and the buildings, wells, trees, etc., on it.

In some cases no joint inspection is made at all owing to the difficulty of arranging meetings between the two subordinates. The so-called joint statement is prepared by the Revenue Inspector alone, the signature of the Public Works subordinate being obtained subsequently or dispensed with altogether.

182. The statement is submitted by the Revenue Inspector through the Tahsildar to the Revenue Divisional-officer. Delay frequently occurs in verifying the estimated cost of the land. Usually the sales registers of the Registration Department are consulted to see what price has been paid for neighbouring lands, and this of course takes time.

183. When the joint statement is finally passed on through the Collector to the Executive Engineer, delay is not uncommon in obtaining the necessary departmental and Government sanction. The

Collector until he has ascertained that the cost of acquisition has been sanctioned by competent authority and the requisite funds have been allotted, cannot forward the draft notification to Government.

184. This draft notification is usually prepared at the same time as the joint statement. Paragraph 8 of the standing order provides that a statement of the owners' objections, if any, should be sent at the same time. In many cases the owners are absentees and it is difficult to obtain statements from them without considerable delay.

185. After the notification has been approved by Government and published in the *Fort St. George Gazette*, there is frequently delay on the part of the acquisition officer in issuing the necessary notices to the parties concerned, fixing the date of his enquiry. An interval of 15 days between the receipt of the notice by the parties and the date of the enquiry is prescribed by the Act. Unless the notices are sent out promptly, considerable delay will result.

186. In many cases acquisition officers before passing their awards waste time in investigating conflicting claims as to the ownership of the land to be acquired, although they are required to refer such disputes to the District Court for settlement. Until the award is passed, the land cannot be taken possession of. Delay in passing the award could often be avoided if officers paid more attention to the provisions of Act.

187. Before the award is passed, it is generally necessary to subdivide the land: this again involves delay.

188. Finally there is sometimes delay in taking possession of and handing over the land required to the Public Works department owing again to the difficulty of arranging meetings between subordinates of the two departments.

189. It is evident, that if the prescribed procedure is followed strictly, the acquisition of land takes a considerable time, granting that officers of both departments use their best endeavours to expedite the work. As a matter of fact, the stages, at which delays may and do occur, are so numerous that it is exceedingly probable that there will be unnecessary delay in one or other of them.

We find for example in the Northern Circars that the length of time occupied between the first requisition and the handing over of the land varies from five months to three years and two months.

190. Until recently, in accordance with paragraph 5 entry on the land was frequently made in anticipation of the application of the act, with the owners' consent. This practice has been condemned by Government in G.O., No. 1395 L., Local and Municipal, dated 9th November 1906. In future it will therefore be still more difficult for officers of the Public Works department to obtain possession of sites early enough to enable them to make timely preparations for beginning work.

191. It is true that section 17 of the Act provides a more expeditious form of procedure in urgent cases, but though in a sense all applications for the acquisition of land are urgent, in practice it is difficult to obtain the sanction of the Government to employ the urgency section. We consider that a more frequent use of this section should be allowed, taking into consideration the fact that officers are now prohibited from entering on land even with the owners' consent until the acquisition is complete. The proceedings take at least three months and while executive officers are impatiently waiting the handing over of the land, the best working months of the year may slip away.

192. In regard to the ordinary acquisition procedure we have the following recommendations to make :—

The land plan and schedule which the Executive Engineer must send with his first requisition appear to us unnecessary. They are not required to be submitted by any other department, there is often difficulty and delay in preparing them, and they serve no useful purpose whatever.

Sometimes the measurements are given in feet and yards instead of in links and chains, so the plan is difficult for a Revenue Inspector to apply, and frequently corrections have to be made subsequently.

As a permanent record the plan is of no value, in cases of dispute reference must be made to the sub-division sketches prepared by the Revenue Inspector, which constitute authoritative record of the acquisition.

193. All that is required by the Acquisition officer in the first instance is a rough sketch taken from the village plans showing the locality of the land and giving the survey numbers. A detailed plan will be prepared by subordinates of

the Revenue and Public Works Departments at their subsequent meeting. It is unnecessary that the work should be done twice over.

We therefore recommend that the words "or in the case of the Public Works Department, a land plan and schedule" should be struck out of paragraph 7 of Standing Order No. 90.

194. If a permanent record of the land acquisition is necessary in the office of the Executive Engineer, a copy of the plan prepared by the subordinates at the time of their joint meeting or a tracing taken subsequently from the sub-division sketches will serve all necessary purposes.

195. In all cases the first application for land should be sent direct to the Revenue Divisional officer by the Executive Engineer, a copy being forwarded to the Collector. This will enable the Divisional officer to take action at once, instead of waiting till the application is transmitted to him.

196. On receipt of the application the Divisional officer will ordinarily instruct the Tahsildar to depute a Revenue Inspector to visit the land in company with an officer of the Public Works Department.

As pointed out in paragraph 179 above, a frequent cause of delay is the difficulty in arranging a date of meeting. We suggest that the Tahsildar be made responsible for these arrangements. On receipt of the application he will inform the Public Works Sub-Divisional officer that he has deputed a Revenue Inspector to visit the land on such and such a day, fixing a date sufficiently far ahead for the Sub-Divisional officer to issue instructions to his subordinate and, if necessary, to suggest some other date.

If these arrangements are made between the responsible officers like the Tahsildar and the Sub-Divisional officer, their subordinates will be less likely to make unnecessary difficulties as they do now, when it is left to them to fix the date of their meeting. The failure of either subordinate to appear at the time and place fixed should be reported and severe notice taken of all wilful instances of neglect.

197. At the same time the Tahsildar should take steps to ascertain the market value of the land, consulting, if necessary, the sales records of the Registration Department. He should also issue notices to the owners of the land to be acquired

and post notices on the village chavadi, that it is proposed to acquire such and such land and that all persons who wish to object to the acquisition should do so within ten days.

In the case of absentee landholders, notices should be sent by registered post, if their whereabouts are known; in no case however, should the submission of the draft declaration be delayed for want of the statement of owners' objection, as this formality is not prescribed by the Act.

198. The two subordinates at their meeting should measure the land to be acquired, draw out a detailed plan, and prepare the joint statement prescribed in Appendix I of the Standing Order. The land should at the same time be subdivided and the necessary sub-division sketches prepared, to save delay at a subsequent stage and to ensure that no mistakes are made. Two men working together will complete the measurements more expeditiously and accurately than one man working alone.

199. The joint statement when completed will be submitted to the Tahsildar who will forward it direct to the Executive Engineer, a copy only being sent to the Divisional officer. It is important that the joint statement should be placed in the hands of the Executive Engineer as early as possible to enable him to obtain the necessary departmental and Government sanction to the cost of the land.

200. It is unnecessary that the statement should pass through the hands of the Collector, as the information therein contained will appear also in the draft notification. This should be prepared by the Tahsildar and forwarded to the Collector through the Divisional officer without delay.

201. In the remarks column of the joint statement particulars of the data on which an estimate of the value of the land has been made, should be entered for the information of the Executive Engineer. He will thus be in a position to decide whether it will be necessary to produce any additional evidence at the time the enquiry is held by the acquisition officer.

202. No alterations seem necessary in the rest of the procedure prescribed in the Standing Order. Delays occur chiefly in the preliminary stages. After the draft

notification has been submitted, the completion of the acquisition proceedings must necessarily take a considerable time.

203. It would, however, be advisable to emphasise the importance of the prompt issue of notices by acquisition officers after the notification has appeared in the *Fort St. George Gazette*.

The Standing Order should further warn acquisition officers that they must not delay their awards merely because the ownership of the land is in dispute. The award should be passed promptly and disputes reserved for the decision of the civil courts.

204. This concludes our recommendations as to alterations or modifications of the rules prescribed in Standing Order No. 90.

We must point out that, however, expeditiously officers work, it is difficult to finish the procedure prescribed by the Act within any time less than three months from the date of the original application.

205. Under present rules acquisition proceedings cannot begin until the plans and estimates for the building or irrigation work have been sanctioned, because the cost of the land forms part of the estimate and Collectors cannot forward the draft notification until they have ascertained that funds have been allotted.

Consequently Executive Engineers have to wait for several months after plans and estimates have been sanctioned, before they can begin work or even make preparations for a beginning, because sites have not been handed over to them.

206. In some cases awards are not passed until after the close of the official year, with the result that the whole of the grant lapses. In other cases officers fail to surrender grants in the hope that the sites they require will be handed over to them in time to get material collected and a start made. If, however, any unforeseen delay occurs in the acquisition proceedings, it may happen that they are unable to expend any portion of their grant, even on the purchase of material, because, until the site is handed over, there is nowhere to store this material and entry on the land is prohibited, even with the owners' consent.

207. We therefore make the following recommendation :—

As soon as administrative approval has been given to any proposed work, a

separate allotment should be made for the cost of the land and orders issued that acquisition proceedings be begun at once.

The cost of the land is relatively a small item of the total estimate and there is no difficulty in separating it from the rest of the estimate. At the time the site is selected, a rough calculation of its cost can be made and an allotment made to meet it.

208. It will thus be possible to begin the acquisition proceedings while the plans and estimates for the proposed work are under preparation. By the time these have been completed, the site will have been already handed over or the acquisition proceedings well advanced, and there will be little or no delay in putting the work in hand.

PART VIII.

PRESSURE OF WORK AT THE END OF THE OFFICIAL YEAR.

209. The final paragraph of the Government Order directs our attention to the pressure of work at the end of the official year and the reaction that sets in at the beginning of the ensuing year. We have examined the question very closely and discussed a number of schemes with the object of suggesting improvements which will lead to a more equal distribution of work throughout the year.

210. We find that the condition of affairs described in paragraph 6 of the Government Order does not obtain in all districts, at least not to the same extent. In the Delta divisions of Godavari and Kistna, it would be untrue to say that there was any slackening off in April resultant from a pressure of work in March. In these divisions a great part of the work connected with the repair of canals must of necessity be pushed through when the canals are closed, that is, between the beginning of March and the middle of May. During these months every one is working at high pressure and there is no slackening off until the canals again fill at the beginning of June. A very considerable proportion of the grants allotted are expended in April and May, with the result that there is no special pressure of work at the end of the official year.

211. In other districts, however, pressure of work in February and March and reaction in April do obtain to a greater or

G.O., No. 699, Financial, dated 5th November 1906.

less degree. In districts which are not affected by the north-east monsoon the best working months are from January to October, when the monsoon may be expected to break. In districts affected by the south-west monsoon December to June are the best months.

212. That the end of the official year should fall in the middle of the best working period is without doubt a most inconvenient and undesirable arrangement and the inevitable result is that there must be some pressure of work in February and March.

The pressure is greatest in southern districts subject to the north-east monsoon: works incomplete, when the monsoon breaks, can seldom be finished before the close of the official year without some special arrangement.

If for instance the rains are continued into January, both in the case of irrigation or ordinary building work, the forecasting of expenditure becomes a matter of great difficulty. Officers must keep some reserve of funds to expend on repairs for monsoon damages and unless the tanks dry up early, it is difficult to get these repairs completed within the official year.

213. Again allotments are often made before plans and estimates are ready and sanction to these estimates is delayed till late in the year. The preparation of designs takes a considerable time and a still more fruitful source of delay is the difficulty in acquiring sites. A judicious surrender of the whole or part of the allotment often becomes necessary but among some Executive Engineers an impression exists that all surrenders are looked upon with disfavour. We fear that in some cases work is hurried through regardless of all considerations but the expenditure of allotments and that bad or indifferent work is passed without proper check.

214. That there should be some reaction after the close of the official year is only to be expected. Officers who have been working hard for two or three months, pressing on the completion of work and inspecting work when completed, feel that they and their subordinates have earned a holiday. Further, they have been so busy in the preceding months expending the grants of the previous year that they have had little or no time to put in hand the preliminaries for new works, such as

calling for tenders, and obtaining possession of sites, collecting materials and the like. These preliminaries may take a month or more, and if a beginning is not made before the close of the official year, April and a great part of May have passed before new work is actually begun.

215. In this connection it has been pointed out to us that the delay in the communication of the preliminary budget is a serious handicap to Executive Engineers. Usually the preliminary budget does not come into their hands till March and the final issue not till May or June. Valuable time is lost, because officers do not know what new works have been sanctioned in time to make the necessary preparations to get works started early in the new official year.

216. It must, however, be pointed out that though April is usually a month of short expenditure, yet work continues during the month especially in the case of incomplete works begun in the preceding year. The ordinary procedure in regard to the payments is to measure up and pay in the current month for work done in the preceding month. Thus the expenditure of one month represents the amount of work done in the month before. But at the close of the official year it is necessary to measure up and pay for all the work as quickly as it is completed in order that the grants may be expended. Thus work done in March is measured and paid for in March and little remains to be carried forward to April. April must necessarily therefore be a month of short expenditure.

217. Another point which has been brought to our notice very prominently is the delay in obtaining sanction for the transfer of funds from one work to another. For example, an Executive Engineer has two works in progress in his division. He finds that for various reasons the work in one case is going on slowly, while in the other case he has expended his full grant. He therefore applies for a transfer of funds from one work to another. The application is forwarded to the Superintending Engineer: if approved, it is transmitted to the Chief Engineer. The proposal is circulated among the Departmental Secretaries concerned and finally, if no objection is raised, comes before the Chief Secretary, Financial Department, for approval. If approved by him, the proposal is submitted by the Chief Engineer in his capacity of Secretary to

Government to His Excellency the Governor or the Member of Council in charge of the Public Works Department portfolio.

This procedure obviously must take up a considerable length of time. It is recognised that it is impracticable towards the close of the official year; and during the last three months of the year the Secretary to Government, Public Works Department, sanctions transfers without reference to other departments.

218. We have examined a number of instances taken at random. We find that the time spent in circulating the papers among the various Secretaries takes from seven to twenty-eight days. We will take a typical example. Modifications of grants were suggested by the Superintending Engineers of the different circles between the 1st September and 23rd October 1906. The file was circulated on 31st October 1906 to the departments concerned—Revenue, Educational, Judicial, Public, Local and Municipal, and Financial. The proposals with one or two modifications were accepted by the Financial Department on 16th November 1906 and were finally approved on 4th December 1906. The Government Order sanctioning the modifications issued on 5th December. Only in the case of three items out of 95 were any objections made by the departments concerned. In the case of item 62 the Educational Department remarked that the surrender of Rs. 5,000 proposed in the case of the Training school at Villupuram seemed early. In deference to this objection the surrender was not accepted; but ultimately surrenders of Rs. 3,000 and Rs. 500 had to be made in January and February when it was too late to utilise the sums for other works.

219. The result of the time and labour spent in referring the matter to the departments concerned merely meant delay in issuing the Government Order sanctioning the modifications proposed and consequent delay in the execution of works, while Executive Engineers were awaiting the necessary sanction. The result of the objection raised by the Educational Department was that Rs. 3,500, which might have been utilised for the completion of other works if the surrender had been accepted promptly, practically lapsed.

220. The inconvenience caused by the delay in getting sanction for transfers would be even greater, were it not for the fact that the majority of Executive officers act on the supposition that the transfers proposed will be accepted and proceed with work in anticipation of sanction. This is irregular and might lead to difficulties, if it happened that sanction was refused.

221. Undoubtedly the pressure of work at the end of the official year would almost disappear if the year terminated at the end of September instead of at the end of March. We recognise, however, that such a drastic remedy is probably impracticable.

Our recommendations therefore contained in the ensuing paragraphs are based on the assumption that the end of the official year will continue to fall on March 31st.

222. The modifications in the Land Acquisition rules suggested in Part VII will, we hope, minimise the delay which seems inseparable from the present procedure.

We attach still more importance to our other suggestion that in future allotments for the cost of sites should be made separate from and prior to those for the buildings to be erected on them.

223. In order to obviate the hasty inspection and measurement of works at the close of the official year we suggest that work done in March, instead of being paid for in that month, should be carried forward to the ensuing year, a lump sum provision being made in the budget to meet this charge. Expenditure will then be equalised throughout the year and work will be carried out at a more uniform rate.

224. We recognise that there are certain difficulties in carrying forward the liabilities of one year to the budget of the next, but we may point to the fact that salaries for March are under present rules carried forward in this way and paid in April. It will not be difficult from the figures of preceding years to estimate the amount of provision necessary for March's liabilities.

225. We suggest that the preliminary issue of the budget should be placed in the hands of Executive officers earlier than at present. March is too late for them to make timely arrangements for putting in hand new works at the beginning of the official year. It would be more convenient

that intimations should reach them in January but this may not be possible in all cases.

226. To save delay, lists of new works for which allotments have been made should be circulated to Superintending Engineers in manuscript in anticipation of the issue of the printed copies of the preliminary budget.

It should also be clearly explained that this preliminary issue is an authority for Executive officers to make such preparations as are necessary for putting in hand new works, a point on which there appears to be some misunderstanding at present.

227. In regard to the delay in obtaining sanction for transfers and reappropriations we submit that the present system is both cumbersome and unnecessary. Nothing is gained by circulating proposals among the different departmental Secretaries concerned and delay in the execution of work is frequently the result. There are two classes of works in the budget. A class comprises all works for which funds have been allotted in the current year. B class includes all other works to which administrative approval has been given.

The list of works in A class is made out at a conference of the various departmental Secretaries which takes place usually early in the calendar year.

228. It seems to us that when once a decision has been arrived at, after mature deliberation, as to which works should find a place in the A class, the responsibility for the prompt execution of works in that class should be left with the Chief Engineer as head of the department without subsequent interference. He, as a professional officer, is best competent to judge whether the surrenders, transfers, and reappropriations suggested by Superintending Engineers may be approved.

We therefore recommend that the Chief Engineer be given full discretion to make transfers between class A works.

229. We further suggest that the Secretaries at the time of the preparation of the budget should select a number of class B works, placing them in order of urgency, for execution as funds become available in the course of the year. This will enable the Chief Engineer to utilize promptly such funds as cannot be expended on A class works and obviate the difficulties pointed out in paragraphs above.

PART IX.

CONCLUSION.

230. We have now concluded the recommendations we wish to make on the several points referred to us for investigation. The scope of our enquiry is limited to the subordinate establishments of the Public Works department and we are not required to make any proposals as to its general constitution. We have studied the general principles on which the establishment is organised and distributed and find that they call for no radical change. Our recommendations are therefore chiefly directed towards securing greater efficiency on the present lines.

231. Our proposal in Part III to alter the scale of pay of the clerical portion of establishment will improve the prospects of clerks without any serious increase in cost. We hope that thereby service will become more popular and a better class of clerks will enter the department. At the same time we think that, with the abolition of the disciplinary power of stopping increments, which will disappear with the introduction of the fixed pay system, power should be given to Superintending and Executive Engineers to impose fines on clerks for minor breaches of discipline.

232. Our recommendation in Part IV that the present draftsmen be replaced by subordinates of the executive branch carries to its logical conclusion a principle already accepted by Government. The present class of draftsmen is so unsatisfactory that it is impossible to make any change for the better without a considerable improvement in their pay and prospects. We are confident that increased expenditure on this branch of the establishment will be well repaid.

233. We attach much importance to our proposal contained in Part VII that a new class of sub-divisional officers be created. The change is important and far-reaching in its consequences. If our proposal be accepted by Government, a great improvement in the subordinate executive officers of the department may be looked for.

234. It is unnecessary to refer to our recommendations contained in parts V and VIII except to say that in the interests of the prompt and efficient execution of work, some of the powers now exercised by Government should be delegated to administrative officers.

235. Before concluding our report we wish to throw out one or two suggestions which we have not thought fit to embody in definite recommendations. It will be noticed in Part III that our scale of clerical establishments includes a number of appointments carrying pay of less than Rs. 20. We would suggest that the time has come for a reconsideration of the scales of pay in all departments, taking into account the increase in the cost of living since these scales were first adopted. We cannot but think that Rs. 15 is insufficient as the pay of a clerk under present conditions.

236. For a similar reason we suggest a reconsideration of the pay of the lower subordinate establishment engaged in executive work. The qualifications now demanded of sub-overseers are far higher than in former years and the present scale of remuneration seems inadequate.

237. We must also record our opinion that clerical and accounts work in the department has become extremely elaborate and complicated: too much time is occupied by executive officers in routine office work. We have made some suggestions in Part III with the object of decreasing clerical labour, but our recommendations affect details only. In many offices there has been an extraordinary development of the system of drawing up elaborate office notes for submission with the files to the head of the office. Such a system ought to be unnecessary in the offices of Executive Engineers and should be discouraged.

238. In conclusion we desire to state that our recommendations in all cases are unanimous.

We desire to place on record our appreciation of the services of our Secretary, Mr. G. T. H. Bracken, who has been of the greatest assistance to us.

We must also express our thanks to Mr. J. D. L. Calder, Assistant Examiner in the office of the Examiner, Public Works Accounts, Madras, whose long experience of the accounts work in the Presidency has been of great value.

M.R.Ry. R. Krishnaswami Rao, B.A., Accountant, 6th grade, has proved a capable manager of our office and we are glad to bring his name to the notice of Government.

25th April 1907. J. P. DAVIDSON.
R. MORRIS.
N. S. BRODIE.

APPENDIX E.

(Paragraph 51).

STATEMENT showing the average number of letters, received and despatched, for the last five years, vouchers and grants for the last three years.

Circle and Divisional offices.	Average number of letters for the last five years.		Average number of vouchers for the last three years.	Average amount of grants for the last three years (a)	Remarks.
	Received.	Despatched.			
Superintending Engineer, I circle, Ganjam	8,176	8,193	..	Rs	

9

IV

APPENDIX H—cont.

(Paragraph 74.)

Incremental scale.				Fixed pay scale.			
No.	Class and grade of clerks.	Pay.	Total average pay.	No.	Designation.	Pay.	Total average pay.
<i>V Circle.</i>							
1	II-1	Rs. 160-8-200	Rs. A. 190 0	1	Clerk	Rs. 200	Rs. A. 200 0
1	II-3	100-4-120	115 0	1	Do.	125	125 0
6	III-2	60-4-80	450 0	4	Clerks	80	320 0
2	III-3	50-2-60	115 0	2	Do.	70	140 0
7	IV-1	40-2-50	332 8	2	Do.	60	120 0
10	IV-2	30-2-40	375 0	5	Do.	50	250 0
28	IV-3	20-2-30	770 0	12	Do.	40	480 0
19	V-1	15-1-20	356 4	18	Do.	30	540 0
1	V-2	10-1-15	13 12	11	Do.	25	275 0
8	Typists	15-1-20	112 8	10	Do.	20	200 0
4	Store clerks	15-1-20 + Local allowance Rs. 5.	75 0 20 0	13	Do.	15	195 0
				6	Typists	20-1-35 Plus local allowance of Rs. 5 to four store clerks.	172 8 20 0
85	Total		2,925 0	85			3,037 8
						Extra cost	112 8
<i>VI Circle.</i>							
1	II-1	160-8-200	190 0	1	Clerk	200	200 0
1	II-3	100-4-120	115 0	1	Do.	125	125 0
8	III-2	60-4-80	225 0	2	Clerks	80	160 0
1	III-3	50-2-60	57 8	1	Clerk	70	70 0
3	IV-1	40-2-50	142 8	1	Do.	60	60 0
7	IV-2	30-2-40	262 8	2	Clerks	50	100 0
15	IV-3	20-2-30	412 8	6	Do.	40	240 0
7	V-1	15-1-20	131 4	9	Do.	30	270 0
4	Typists	20-1-35	115 0	6	Do.	25	150 0
3	Store clerks	15-1-20 + Local allowance Rs. 5.	56 4 15 0	5	Do.	20	100 0
				7	Do.	15	105 0
				4	Typists	20-1-35 Plus local allowance of Rs. 5 to three store clerks.	115 0 15 0
45	Total		1,722 8	45			1,710 0
						Saving	12 8
	Grand Total		14,339 9	..			14,389 9
						Extra cost	50 0

APPENDIX I.

(Paragraph 92.)

Guntur Division.

Name of work—Constructing outlet No. 1 at 285 feet, Atmakur tank. Estimate No. 2 of 1902-1903. Rs. 205.

Month and date.	From what source posted.		Napa stone in surki mortar.		Pointing in surki.		Napa stone dry packing.	
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
1	2	3	4	5	6	7	8	9
31st October 1904 .. 9th December 1905.	Estimate .. M. Kondayya .. Do. .. Total to end of March 1906 .. Part pay of maistry .. M. Kondayya ..	.. 77G 59G .. 115G 123G	8 6.64 6.64 6.64	Rs. A. P. 14 8 0 14 8 0	Rs. A. P. 116 0 0 94 13 3 .. 94 13 3	8.5 7.64 7.64 7.64	Rs. A. P. 21 0 0 2 8 0 2 8 0 18 13 7 18 13 7	Rs. A. P. 32 0 0 4 8 0 4 8 0 17 11 0 17 11 0
August 1906 .. 30th November ..	From what source posted.	Cash book number or adjustment book page.	Gravel baling.		Lump sums for excavating foundations and filling in, etc., petty supervision contingencies.		Deduct arrears.	
	Brief particulars.		Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
31st October 1904 .. 8th December 1905.	Estimate .. M. Mondayya .. Do. .. Total to end of March 1906 .. Part pay of maistry .. M. Kondayya ..	.. 77G 59G .. 115G 123G	3 1/2 1.97 1.97	Rs. A. P. 2 0 0 2 0 0	Rs. A. P. 7 0 0 3 15 0 3 15 0	.. 551 234 785	Rs. A. P. 1 14 7 0 13 0 2 11 7 2 0 0 2 0 0	Rs. A. P. 205 0 0 205 0 0 91 11 10 91 11 10 39 4 7 131 0 5 131 0 5
August 1906 .. 30th November 1906.	From what source posted.	Cash book number or adjustment book page.	Gravel baling.		Lump sums for excavating foundations and filling in, etc., petty supervision contingencies.		Deduct arrears.	
	Brief particulars.		Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
31st October 1904 .. 8th December 1905.	Estimate .. M. Mondayya .. Do. .. Total to end of March 1906 .. Part pay of maistry .. M. Kondayya ..	.. 77G 59G .. 115G 123G	3 1/2 1.97 1.97	Rs. A. P. 2 0 0 2 0 0	Rs. A. P. 7 0 0 3 15 0 3 15 0	.. 551 234 785	Rs. A. P. 1 14 7 0 13 0 2 11 7 2 0 0 2 0 0	Rs. A. P. 205 0 0 205 0 0 91 11 10 91 11 10 39 4 7 131 0 5 131 0 5
August 1906 .. 30th November 1906.	From what source posted.	Cash book number or adjustment book page.	Gravel baling.		Lump sums for excavating foundations and filling in, etc., petty supervision contingencies.		Deduct arrears.	
	Brief particulars.		Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
31st October 1904 .. 8th December 1905.	Estimate .. M. Mondayya .. Do. .. Total to end of March 1906 .. Part pay of maistry .. M. Kondayya ..	.. 77G 59G .. 115G 123G	3 1/2 1.97 1.97	Rs. A. P. 2 0 0 2 0 0	Rs. A. P. 7 0 0 3 15 0 3 15 0	.. 551 234 785	Rs. A. P. 1 14 7 0 13 0 2 11 7 2 0 0 2 0 0	Rs. A. P. 205 0 0 205 0 0 91 11 10 91 11 10 39 4 7 131 0 5 131 0 5

APPENDIX I—cont.

GUNTUR DIVISION—cont.
Name of work—Fixing demarcation stones for the waterspread of Atmakur tank project. Estimate No. 30 of 1902-1903. Rs. 80.

Month and date.	From what source posted.		Demarcation stones in concrete 1½ feet cube.		Petty supervision contingencies.		Deduct arrears.	Total of the vouchers paid.		Total for the month.	Total up to date.
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Amount.	Amount.	Amount.
1	2	3	4	5	6	7	8	9	10	11	12
30th April 1904	Estimate	..	50	RS. A. P. 1 8 0	75 0 0	..	..	RS. A. P. 5 0 0	RS. A. P. ..	RS. A. P. 80 0 0	RS. A. P. 80 0 0
10th June "	M. Kondayya per bill ..	72G.	50	1 8 0	75 0 0	..	..	..	3 0 0	72 0 0	72 0 0
1st "	Do. ..	9G.	..	..	..	..	..	..	3 0 0	3 0 0	75 0 0
7th August "	Total to end of March 1906 ..	..	50	..	75 0 0	..	..	..	..	..	75 0 0

Name of work—Excavating branch channel from left flank distributary at 3, 380 feet, Atmakur tank. Estimate No. 30 of 1902-1903. Rs. 300.

Month and date.	From what source posted.		Earthwork.		Lump sums for petty supervision contingencies.		Removing dry stone.		Deduct arrears.	Total of the vouchers paid.		Total up to date.
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Amount.	Amount.	Amount.	Amount.
1	2	3	4	5	6	7	8	9	10	11	12	13
31st Mar. 1906.	Estimate	..	83	RS. A. P. 3 7 6	288 0 0	..	..	RS. A. P. 12 0 0	RS. A. P. ..	RS. A. P. ..	RS. A. P. 300 0 0	RS. A. P. 300 0 0
31st July "	M. Sreeramulu per bill for excavating channel and forming bank.	79G.	6063	3 1 3	18 10 7	..	..	..	..	..	18 10 7	18 10 7
6th Aug. "	Do. forming bank.	112G.	37502	3 1 3	121 9 8	..	..	..	..	..	114 9 8	114 9 8
1st "	Part pay of masonry for August 1906.	77G.	..	..	..	..	..	3 0 0	..	..	3 0 0	3 0 0
7th August "	Muster roll for coolies ..	77G.	..	..	..	..	..	3 0 0	..	..	3 0 0	3 0 0
28th September "	N. M. Roll for 18th to 22nd August 1906.	79G.	..	..	..	..	..	2 4 0	..	..	2 4 0	2 4 0
30th November "	Bill of M. Sreeramulu fence . Adj.	..	..	..	..	1050	0 6 0	3 15 0	29451	3 1 3	90 10 6	101 9 6

APPENDIX I—cont.

GUNTUR DIVISION—cont.
Name of work—Constructing a syphon culvert at 4, 230 feet, Atmakur tank. Estimate No. 30 of 1902-1903. Rs. 335.

Month and date.	From what source posted.		Concrete in surki mortar.		Rough stone in surki.		Pointing in surki.	
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
1	2	3	4	5	6	7	8	9
31st March 1906	Estimate	..	500	RS. A. P. 12 8 0	63 0 0	1100	RS. A. P. 14 8 0	160 0 0
30th April "	M. Kondiah	92G.	300	12 8 0	37 8 0	622	14 8 0	90 3 0
10th June "	Do. ..	54G.	..	..	..	373	14 8 0	54 1 5
1st "	Do. ..	34G.	..	..	..	71	14 8 0	10 4 8
7th August "	Part pay of masonry for April 1906.	97G.	..	..	..	..	..	..
28th September "	Do. for May ..	150G.	..	..	..	..	..	..
30th November "	Do. for July ..	115G.	..	..	..	..	..	..
	Do. for Aug. ..	77G.	..	..	..	..	..	..
	M. Kondiah	126G.	97	12 8 0	12 2 0	610	11 8 0	1 7 3

Month and date.	From what source posted.		Plastering in surki.		Napa stone covering 6 inches.		Napa stone dry packing.	
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
1	2	3	4	5	6	7	8	9
31st March 1906	Estimate	..	20	RS. A. P. 3 8 0	7 0 0	25	RS. A. P. 8 0 0	20 0 0
30th April "	M. Kondiah	92G.	..	..	..	..	..	..
10th June "	Do. ..	54G.	..	..	..	..	..	..
1st "	Do. ..	34G.	..	..	..	..	..	..
7th August "	Part pay of masonry for April 1906.	97G.	..	..	..	..	..	..
28th September "	Do. for May ..	150G.	..	..	..	..	..	..
30th November "	Do. for July ..	115G.	..	..	..	..	..	..
	Do. for Aug. ..	77G.	..	..	..	..	..	..
	M. Kondiah	126G.	025	3 8 0	0 14 0	90	8 0 0	7 3 2

APPENDIX I—cont.
GUNTUR DIVISION—cont.

Name of work—Constructing syphon culvert at 3, Atmakuru tank. Estimate No. 30 of 1902-1903. Rs. 400.

Month and date.	From what source posted.		Concrete in surki mortar.		Napa stone in surki mortar.		Pointing in surki.		Plastering in surki.		Napa stone covering 6" thick.	
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.
1	2	3	4	5	6	7	8	9	10	11	12	13
1st Dec. 1904 ..	Estimate ..	..	4	12 8 0	50 0 0	15	14 8 0	218 0 0	8	2 8 0	20 0 0	1 1/2
2nd May 1905 ..	M. Kondiah ..	2G	3-00	12 8 0	37 8 0	5 67	14 8 0	82 3 5	8-00	2 8 0	29 0 0	..
3rd Feb. 1905 ..	Do. ..	3G	80	12 8 0	10 0 0	..	..	..	72	2 8 0	1 12 10	1 75
	Total to end of March 1905.	..	3-80	..	47 8 0	14 45	..	209 8 5	8 72	..	21 12 10	1 75
30th Nov. 1905..	M. Kondiah..	125G	..	..	..	..	..	8 8 11	1 00	2 8 0	2 8 0	..
			..	..	..	..	..	..	..	..	..	..

110

Month and date.	From what source posted.		Napa stone dry packing.		Gravel packing.		Lump sums for excavating foundations and filling in. Petty Supervision—Contingencies.		Deduct of arrears.		Total of the month.		Total up to date.	
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
1st Dec. 1904 ..	Estimate ..	..	9	4 8 0	41 0 0	4 1/2	..	..	..	..	..	..	..	..
2nd May 1905 ..	M. Kondiah ..	2G	..	..	..	..	..	..	..	..	..	..	..	..
3rd Feb. 1905 ..	Do. ..	3G	10-18	4 8 0	45 13 0	4-19	2 0 0	8 6 1	2-106	2 5 0	4 13 11	6 0 0	113 11 5	113 11 5
	Total to end of March 1905.	..	10-18	..	45 13 0	4-19	..	8 6 1	6-147	..	5 14 3	18 0 0	345 0 7	345 0 7
30th Nov. 1905..	M. Kondiah ..	125G	2-33	4 8 0	10 7 9	0 72	2 0 0	1 7 0	2-39	2 5 0	0 8 10	18 0 0	19 6 8	364 7 8

APPENDIX I—cont.
GUNTUR DIVISION—cont.

Name of work—Constructing sluice to left flank distributary, Atmakuru tank. Estimate No. 30 of 1902-1903. Rs. 910.

Month and date.	From what source posted.		Rough stone in surki mortar.		Napa stone covering 6" thick.		Concrete over Napa stone covering.		Pointing in surki.	
	Brief particulars.	Cash book number or Adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.
1	2	3	4	5	6	7	8	9	10	11
February 1904 ..	Estimate ..	..	39-5	16 0 0	632 0 0	5	..	..	..	..
April ..	M. Kondiah ..	63G	..	..	..	..	..	..	..	..
August ..	Do. ..	7G	16-15	16 0 0	258 6 5	..	..	..	..	..
1st October ..	Do. ..	7G	5-60	16 0 0	89 9 7	..	..	..	..	..
31st ..	Do. ..	78G	11-03	16 0 0	176 7 8	344	8 0 0	27 8 4	..	..
9th December 1905.	Do. ..	60G	3-72	16 0 0	59 8 4	1 70	8 0 0	13 9 7	..	..
	Total to end of March 1905.	..	39-66	..	634 9 0	5 14	..	41 1 11	19-32	..
30th November ..	M. Kondiah ..	122G	0-41	16 0 0	6 8 11	0 23	8 0 0	1 13 5	0 07	12 8 0

111

Month and date.	From what source posted.		Cut stone work of 1' thick.		Lump sums for earthwork, screw-gearing shutter, etc., petty supervision, contingencies.		Deduct arrears.		Total for the month.		Total up to date.	
	Brief particulars.	Cash book number or Adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.
February 1904 ..	Estimate ..	..	16	17	18	..	..	..	..	..	..	..
April ..	M. Kondiah ..	63G	11	1 0 0	11 0 0	..	..	..	..	..	..	..
August ..	Do. ..	7G	..	..	..	..	..	..	..	..	..	..
1st October ..	Do. ..	78G	11-25	1 0 0	11 4 0	..	..	..	..	..	..	..
31st ..	Do. ..	60G	3-75	1 0 0	3 12 0	..	..	..	..	..	..	..
9th December 1905.	Total to end of March 1905.	..	15-00	..	15 0 0	..	..	..	..	..	..	..
30th November ..	M. Kondiah ..	122G	— 3 75	1 0 0	3 12 0	0 75	4 8 0	3 6 0	48-0	792 1 6	957 2 5	1,014 3 2

APPENDIX I—cont.
GUNTÚR DIVISION—cont.
Name of work.—Land compensation for left flank distributary, Atmakúru Tank. Estimate No. 305 of 1902-1903. Rs. 850.

Month and date.	From what source posted.		Land compensation.		Deduct arrears.	Total of the month.		Total up to date.	
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.
1	2	3	4	5	6	7	8	9	10
January 1904	Estimate	..	ACS. 34	RS. A. P. 25 0 0	RS. A. P. 850 0 0	..	RS. A. P. ..	RS. A. P. 850 0 0	..
February "	Pay of Compensation Gunasta for December 1903.	Part of 21G	..	..	15 0 0	..	15 0 0	15 0 0	..
	Write back of expenditure	Adj.	..	..	15 0 0	..	15 0 0	15 0 0	..
	Total to end of March 1904	..	..	..	..	..	..	..	..
February 1905	Land Compensation	Adj.	15.56	..	307 0 2	..	307 0 2	307 0 2	..
March "	Do.	Adj.	1.49	..	30 11 3	..	30 11 3	30 11 3	..
March "	Do.	Adj.	..	..	95 15 3	..	95 15 3	95 15 3	..
March "	Do.	Adj.	..	..	43 15 9	..	43 15 9	43 15 9	..
	Total to end of March 1905	..	17.05	..	477 10 5	..	477 10 5	477 10 5	..
March 1906	Land Compensation	Adj.	0.03	..	0 11 0	..	0 11 0	0 11 0	..
	Do.	..	0.51	..	8 12 9	..	8 12 9	8 12 9	..
	Do.	..	0.04	..	0 14 10	..	0 14 10	0 14 10	..
	Do.	..	0.01	..	0 2 9	..	0 2 9	0 2 9	..
	Do.	Adj.	0.36	..	4 2 2	..	4 2 2	4 2 2	..
	Total to end of March 1906	..	18.00	..	492 5 11	..	492 5 11	492 5 11	..

APPENDIX I—cont.
GUNTÚR DIVISION—cont.
Name of work.—Compensation for land required for the water spread of Atmakúru Tank. Estimate No. 30 of 1902-1903. Rs. 16,125.

Month and date.	From what source posted.		Acres of land required for water spread of Atmakúru tank.		Deduct arrears.	Total of the month.		Total up to date.	
	Brief particulars.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.
June 1903	Estimate	..	ACS. 645	RS. A. P. 25 0 0	RS. A. P. 16,125 0 0	..	RS. A. P. ..	RS. A. P. 16,125 0 0	..
August "	Labour for surveying land	38-G.	..	..	2 4 0	..	2 4 0	2 4 0	..
September "	Do. water spread	52-G.	..	..	13 8 0	..	13 8 0	13 8 0	..
October "	Pay of compensation gunasta for August	44-G.	..	..	15 0 0	..	15 0 0	15 0 0	..
February 1904	Do. do. for September	49-G.	..	..	15 0 0	..	15 0 0	15 0 0	..
March "	Write back of expenditure	Adj.	..	..	45 12 0	..	45 12 0	45 12 0	..
March "	Land compensation	Adj.	302.79	..	6,948 8 9	..	6,948 8 9	6,948 8 9	..
	Total to end of March 1904	..	302.79	..	6,948 8 9	..	6,948 8 9	6,948 8 9	..
June 1904	Land compensation	Adj.	33.72	..	768 7 11	..	768 7 11	768 7 11	..
July "	Do.	Adj.	23.78	..	579 6 8	..	579 6 8	579 6 8	..
August "	Do.	Adj.	23.74	..	386 14 9	..	386 14 9	386 14 9	..
October "	Do.	Adj.	2.32	..	42 8 0	..	42 8 0	42 8 0	..
January 1905	Do.	Adj.	0.8	..	1 6 0	..	1 6 0	1 6 0	..
	Total to end of March 1905	..	386.43	..	8,727 4 1	..	8,727 4 1	8,727 4 1	..
January 1906	Temporary occupation, compensation, M. Venkaiah, etc.	52-G.	..	..	16 0 0	..	16 0 0	16 0 0	..
	Temporary occupation, compensation, M. Venkaiah.	53-G.	..	..	3 2 5	..	3 2 5	3 2 5	..
	Total to end of March 1906	..	386.43	..	8,746 6 6	..	8,746 6 6	8,746 6 6	..

APPENDIX I—cont.

GUNTÜR DIVISION—cont.

Name of Work—Constructing a surplus weir to Atnakürü tank—cont.

Month and date.	From what source posted.		Napa stone in surki mortar.			Dry stone work.			Gravel backing.			Grouting with surki.		
	Brief particulars--To whom paid.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
September 1906 November "	Estimate	..	1913-0	RS. A. P. 16 0 0	RS. A. P. 50,608 0 0	49-0	RS. A. P. 4 8 0	RS. A. P. 221 0 0	33-0	RS. A. P. 2 0 0	RS. A. P. 66 0 0	38-0	RS. A. P. 3 0 0	RS. A. P. 99 0 0
	Brought forward ..	..	2003-49	15 12 0	31,554 15 6	37-90	4 8 0	170 8 10	25-27	2 0 0	50 8 8	25-27	3 0 0	75 13 0
	Pay of maistry ..	77 G.	..	..	..	..	..	..	..	..	..	..	..	..
	Do. ..	20 G.	..	..	..	..	..	..	..	..	..	..	..	..
	Grand total ..	..	2003-49	15 12 0	31,554 15 6	37-90	4 8 0	170 8 10	25-27	2 0 0	50 8 8	25-27	3 0 0	75 13 0

126

Month and date.	From what source posted.		Pointing in surki.			Excavating foundations and filling in.			Sheds for materials.			Petty supervision.			Constructing sluice in the weir.	
	Brief particulars—To whom paid.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Amount.
September 1906 November "	Estimate	..	16	17	13	19	20	21	22	23	24	25	26	27	28	
	Brought forward ..	..	528-0	RS. A. P.	RS. A. P.	..	..	500 0 0	..	..	250 0 0	..	..	825 0 0	..	..
	Pay of maistry ..	77 G.	..	..	..	589-39	2 8 0	1,031 12 4	..	..	150 0 0	..	..	616 2 6	219 2 3	219 2 3
	Do. ..	20 G.	..	..	..	..	..	..	..	..	..	..	..	10 0 0	..	..
	Grand total ..	..	589-39	2 8 0	1,473 7 7	458-651	..	1,031 12 4	..	..	150 0 0	..	..	536 7 10	219 2 3	219 2 3

APPENDIX I—cont.

GUNTÜR DIVISION—cont.

Name of Work—Constructing a surplus weir to Atnakürü tank—cont.

Month and date.	From what source posted.		Contingencies.			Concrete in surki mortar.			Materials at site.		
	Brief particulars—To whom paid.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
			29	30	31	32	33	34	35	36	37
September 1906 November "	Estimate	..	..	..	Rs. A. P. 836 0 0	..	..	Rs. A. P. ..	..	..	Rs. A. P. ..
	Brought forward ..	..	..	..	11 6 5	1-73	12 8 0	21 10 0	..	..	140 0 0
	Pay of maistry ..	77 G.	..	..	..	..	..	..	..	..	..
	Do. ..	20 G.	..	..	..	..	..	..	..	..	..
	Grand total ..	..	..	..	11 6 5	1-73	12 8 0	21 10 0	..	..	140 0 0

127

Month and date.	From what source posted.		Deduct arrears.			Total of the voucher paid.			Total of the month.			Total up to date.	
	Brief particulars—To whom paid.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Amount.
			38	39	40	41	42	43	44	45	46	47	
	Estimate		..	..	..	..	..	RS. A. P.	..	..	RS. A. P.	34,710 0 0	34,710 0 0
	Brought forward ..		..	..	..	..	..	..	..	..	35,415 7 1	35,415 7 1	7 1
September 1906 ..	Pay of malstry ..	77 G.	..	..	..	..	..	10 0 0	..	..	10 0 0	35,425 7 1	35,425 7 1
November ..	Do. ..	20 G.	..	..	..	..	..	10 5 4	..	..	10 5 4	35,435 12 5	35,435 12 5
	Grand total ..		..	..	..	..	..	..	..	..	35,435 12 5	..	..

APPENDIX I—cont.
GUNTUR DIVISION—cont.
Name of work—Forming bund to Atmakuru tank—cont.

Month and date	From what source posted.		Sheds for materials.			Petty supervision.			Contingencies.			Materials at site.		
	Brief particulars—To whom paid.	Cash book number or adjustment book page.	Quan- tity.	Rate.	Amount.	Quan- tity.	Rate.	Amount.	Quan- tity.	Rate.	Amount.	Quan- tity.	Rate.	Amount.
February 1903	Estimate	..	..	..	RS. A. P. 100 0 0	..	..	RS. A. P. 769 0 0	..	..	RS. A. P. 1,155 0 0	..	..	RS. A. P. ..
March	Pay of maistry for December 1903 ..	7	..	..	..	..	..	13 8 9	..	..	..	..	..	..
"	Pay of watcher for February ..	38 G	..	..	..	..	..	6 0 0	..	..	..	..	..	..
"	Do. for January ..	37 G	..	..	..	..	..	1 1 2	..	..	..	..	..	1,155 11 10
"	M. Srimanulu ..	89 G	..	..	..	..	..	..	..	..	..	..	..	408 1 3
"	M. Kondayya ..	109 G	..	..	..	..	..	..	..	..	..	..	..	1,563 13 1
"	Total to end of March 1903 ..	..	..	..	..	..	..	20 9 11	..	..	..	..	..	..
April	M. Srimanulu ..	2 G	..	..	..	..	..	..	..	..	..	..	..	..
"	Do. ..	42 G	..	..	..	..	..	26 7 3	..	..	..	..	..	..
"	Pay of maistry ..	37 G	..	..	..	..	..	6 0 0	..	..	..	..	..	..
May	Salary of watcher for March 1903 ..	30 G	..	..	..	..	..	..	..	..	..	..	..	1,183 15 9
"	M. Kondayya ..	40 G	..	..	..	..	..	..	..	..	..	..	..	..
"	M. Srimanulu ..	47 G	..	..	..	..	..	5 0 0	..	..	..	..	..	..
"	Pay of watcher for April 1903 ..	54 G	..	..	..	..	..	..	..	..	..	..	..	..
"	Do. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
June	M. Srimanulu ..	81 G	..	..	..	..	..	..	..	..	..	..	..	140 0 0
"	M. Kondayya ..	74 G	..	..	80 0 0	..	..	..	..	..	..	..	..	..
July	Do. ..	63 G	..	..	..	..	..	..	..	..	..	..	..	..
August	M. Srimanulu ..	2 G	..	..	..	..	..	2 15 0	..	..	..	..	..	..
"	Salary of watcher ..	19 G	..	..	..	..	..	15 0 0	..	..	..	..	..	..
"	Pay compensation gunastah ..	..	..	..	..	..	..	..	..	..	..	..	..	..
"	M. Srimanulu ..	82 G	..	..	..	..	..	20 0 0	..	..	..	..	..	..
"	Pay of maistry for July 1903 ..	41 G	..	..	..	..	..	20 0 0	..	..	..	..	..	..
"	Do. for May ..	42 G	..	..	..	..	..	10 0 0	..	..	..	..	..	..
"	Do. for June ..	46 G	..	..	..	..	..	20 0 0	..	..	..	..	..	..
"	Do. for July ..	47 G	..	..	..	..	..	..	..	..	..	..	..	..
"	Do. ..	81 G	..	..	..	..	..	15 0 0	..	..	..	..	..	..
"	M. Kondayya ..	18 G	..	..	..	..	..	50 0 0	..	..	..	..	..	..
"	Pay of maistry ..	9 G	..	..	..	..	..	..	..	..	..	..	..	186 4 0
"	Do. ..	51 G	..	..	..	..	..	..	..	..	..	..	..	..
October	M. Srimanulu ..	52 G	..	..	..	..	..	..	..	..	..	..	..	..
"	M. Kondayya ..	..	..	..	80 0 0	..	..	211 0 2	..	..	376 2 10	..	..	2,691 8 10
"	Carried over ..	..	..	..	..	..	..	..	..	..	..	..	..	..

APPENDIX I—cont.

GUNTUR DIVISION—cont.

Name of work—Forming bund to Atmakuru tank—cont.

Month and date.	From what source posted.	Sheds for materials.			Petty supervision.			Contingencies.			Materials at site.		
		Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.
	Brief particulars—To whom paid.	28	29	30	31	32	33	34	35	36	37	38	39
	Cash book number or adjustment book page.												
	Estimate			RS. A. P.			RS. A. P.			RS. A. P.			RS. A. P.
	Brought forward			100 0 0			759 0 0			1,155 0 0			2,691 8 10
December 1903.	Salaries of maistries			80 0 0			211 0 2			376 2 10			146 4 0
	M. Kondiah												
	M. Sriramulu												
	Pay of maistries												
	Do.												
January 1904.	M. Sriramulu												
	M. Kondiah												
	Pay of maistries												
	Do.												
February "	M. Kondiah												
	Pay of maistry												
	M. Kondiah												
	Pay of maistry and surveying charges.												
	Workshop charges for gearing shutters.												
	Pay of maistry												
March	M. Kondiah												
	Pay of maistry												
	M. Kondiah												
	Pay of maistry												
	Workshop charges for gearing shutters.												
	Total to end of March 1904			80 0 0			541 4 2			483 15 9			1,993 9 0
April "	M. Sriramulu												
	M. Kondiah												
	M. Sriramulu												
	M. Kondiah												
	Carting gearing shutter to railway station.												
	Workshop charges for gearing shutter.												
May "	Pay of maistry												
	M. Sriramulu												
	M. Kondiah												
	Pay of maistry												
	Workshop charges for gearing shutter.												
June "	M. Kondiah												
August "	Do.												
	Carried over			80 0 0			536 4 2			487 9 0			1,035 9 0

• Surveying charges.

APPENDIX I—cont.

GUNTUR DIVISION—cont.

Name of work—Forming bund to Atmakuru tank—cont.

Month and date.	From what source posted.	Deduct arrears.			Total of the voucher paid.			Total of the month.		
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APPENDIX I—cont.

GUNTUR DIVISION—cont.

Name of work—Forming bund to Atmakuru tank—cont.

Month and date.	From what source posted.		Earthwork between Civil Suit No. 23 and Civil Suit No. 37.		Earthwork between Civil Suit Nos. 37 and 52.		Napa stone dry packing.		Gravelling under revetm t.					
	Brief particulars—To whom paid.	Cash book number or adjustment book page.	Quan- tity.	Rate.	Amount.	Quan- tity.	Rate.	Amount.	Quan- tity.	Rate.	Amount.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
September 1904	Estimate	..	2,309-00	RS. A. P. 6 0 0	13,854 0 0	694-00	RS. A. P. 6 15 0	4,815 0 0	1,194-00	4 8 0	5,373 0 0	690-00	RS. A. P. 2 0 0	1,398 0 0
	Brought forward	..	2,106-566	..	10,664 6 9	377-672	..	1,778 2 7	311-08	4 8 0	1,389 13 9	105-76	4 8 0	475 14 9
	M. Srinamulu	2G	..	..	..	..	..	..	56-50	4 8 0	389 4 0	..	..	..
	M. Kondayya	4G	..	..	..	..	..	..	64-88	4 8 0	291 15 4	..	..	..
	Maistry's pay	51G	..	..	1 1 3	..	..	..	..	..	..	..	..	..
October	M. Srinamulu	4G	..	..	..	..	..	..	40-46	4 8 0	182 1 2	..	..	..
	M. Kondayya	8G	..	..	..	..	..	..	30-35	4 8 0	136 9 2	..	..	..
November	Pay of maistry	18G	..	..	..	..	..	..	19-22	4 8 0	86 7 10	14-41	4 8 0	64 13 6
January 1905	Do.	22G	..	..	..	..	..	..	..	..	..	..	..	..
March	Do.	11G	..	..	..	..	..	..	..	..	..	..	..	..
	Do.	12G	..	..	..	..	..	..	..	..	..	..	..	..
April	Total to end of March 1905	..	2,106-790	..	10,805 8 0	337-672	..	1,778 2 7	552-49	4 8 0	2,486 3 3	120-17	..	487 8 7
	M. Kondayya	18G	192-008	4 13 0	924 0 8	90-710	5 15 6	541 7 0	163-49	4 8 0	690 11 3	88-70	3 0 0	399 2 5
	M. Srinamulu	23G	52-917	5 0 0	264 9 5	..	..	..	172-69	4 8 0	777 1 8	..	..	219 15 4
May	Pay of maistry	84G	45-997	5 15 7	1,797 2 6	69-609	5 5 6	609 1 6	7-13	4 8 0	32 1 4	..	..	84 8 5
July	M. Srinamulu	3G	..	..	..	..	..	..	..	..	..	..	..	..
	M. Kondayya	5G	..	..	..	..	..	..	..	..	..	..	..	..
	Pay of maistry for April 1905	23G	..	..	..	..	..	..	..	..	..	..	..	..
	Do. for Feb.	34G	..	..	..	..	..	..	..	..	..	..	..	..
	Do. for May	47G	..	..	..	..	..	..	..	..	..	..	..	..
	Do. for June	48G	..	..	..	..	..	..	..	..	..	..	..	..
August	M. Kondayya	85G	151-272	8 10 0	348 5 9	114-937	6 5 6	729 2 1	108-42	4 8 0	478 14 3	77-78	2 0 0	155 9 0
September	Pay of maistry	34A	73-420	..	959 10 1	..	..	..	..	..	..	..	..	..
	Do.	34B	..	..	353 5 4	..	..	..	..	..	..	..	..	..
	Do.	23G	..	..	..	..	..	..	..	..	..	..	..	..
December	M. Kondayya	47G	..	..	..	..	..	..	..	..	..	..	..	..
March 1906	Do.	61G	..	..	250 5 9	8-232	6 5 6	52 3 7	142-52	4 8 0	641 5 6	..	..	96 0 0
	Do.	49G	1											

APPENDIX I—cont.
GUNTUR DIVISION—cont.
Name of work—Forming bund to Atmakuru tank—cont.

138

Month and date.	From what source posted.		Sheds for materials.		Petty supervision.		Contingencies.		Materials at site.					
	Brief particulars—To whom paid.	Cash book number or adjustment book page.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.	Quantity.	Rate.	Amount.			
September 1904	Estimate	..	28	29	30	31	32	33	34	35	36	37	38	39
	Brought forward ..	..	..	..	RS. A. P. 100 0 0	..	..	RS. A. P. 769 0 0	..	..	RS. A. P. 1,165 0 0	..	..	RS. A. P. ..
	M. Sriramulu ..	2G	..	..	80 0 0	..	..	555 4 2	..	..	487 9 6	..	..	1,035 9 0
	M. Kondayya ..	4G	..	..	..	..	..	..	..	..	..	..	..	173 0 0
	Maistry's pay ..	51G	..	..	..	..	..	12 0 0	..	..	..	..	..	70 0 0
October "	M. Sriramulu ..	4G	..	..	..	..	..	..	..	..	..	..	..	118 0 0
November "	M. Kondayya ..	8G	..	..	..	..	..	..	..	..	..	..	..	..
January 1905	Pay of maistry ..	13G	..	..	..	..	..	12 0 0	..	..	..	..	..	..
	Do. ..	22G	..	..	..	..	..	12 0 0	..	..	..	..	..	..
March "	Do. ..	11G	..	..	..	..	..	10 0 0	..	..	..	..	..	..
	Do. ..	12G	..	..	..	..	..	30 0 0	..	..	..	..	..	..
	Total to end of March 1905 ..	..	..	..	80 0 0	..	..	632 4 2	..	..	487 9 6	..	..	674 9 0
April "	M. Kondayya ..	18G	..	..	..	..	..	..	..	..	..	..	..	300 2 7
	M. Sriramulu ..	23G	..	..	..	..	..	15 0 0	..	..	..	..	..	374 6 5
	Pay of maistry ..	34G	..	..	..	..	..	..	..	..	..	..	..	..
May "	M. Sriramulu ..	3G	..	..	..	..	..	..	..	..	..	..	..	..
	M. Kondayya ..	5G	..	..	..	..	..	25 0 0	..	..	..	..	..	..
July "	Pay of maistry for April 1905.	23G	..	..	..	..	..	17 10 10	..	..	..	..	..	..
	Do. for Feb. "	34G	..	..	..	..	..	4 13 5	..	..	..	..	..	..
	Do. for May "	47G	..	..	..	..	..	25 0 0	..	..	..	..	..	..
	Do. for June "	48G	..	..	..	..	..	..	..	..	..	..	..	..
August "	M. Kondayya ..	85G	..	..	..	..	..	20 2 7	..	..	..	..	..	..
	Pay of maistry ..	34A	..	..	..	..	..	4 2 8	..	..	..	..	..	..
	Do. ..	84B	..	..	..	..	..	25 0 0	..	..	..	..	..	..
September "	Do. ..	23G	..	..	..	..	..	25 0 0	..	..	..	..	..	..
	Do. ..	47G	..	..	..	..	..	..	..	..	..	..	..	..
December "	M. Kondayya ..	61G	..	..	..	..	..	..	..	..	..	..	..	..
March 1906	Do. ..	49G	..	..	..	..	..	..	..	..	..	..	..	..
	Do. ..	91G	..	..	..	..	..	13 0 0	..	..	..	..	..	..
	Pay of maistry ..	123G	..	..	..	..	..	..	..	..	..	..	..	..
	Total to end of March 1906 ..	..	..	..	80 0 0	..	..	807 1 8	..	..	487 9 6	..	..	263 3 0
April "	M. Kondayya ..	52G	..	..	..	..	..	..	..	..	..	..	..	263 3 0
	Carried over ..	..	..	..	80 0 0	..	..	807 1 8	..					

APPENDIX I—cont.
GUNTUR DIVISION—cont.
Atmakuru tank project in Palnad taluk.

Month and date.	B. Land.		C. Works.		I. Head works.		O. Miscellaneous.		B. Land.		C. Works.		3. Distributaries.	
	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.
	1		2		3		4		5		6		7	

APPENDIX I—cont.

GUNTUR Division—cont.

Atmakuru tank project in Palnad taluk—cont.

Month and date.	3. Distributaries—cont.										Total C. Works.
	C. Works.										
	Constructing outlet No. 4 at mile 0.6 of left flank distributary.	Constructing outlet No. 5 at miles 2/2 of 500 feet of left flank distributary.	Constructing outlet No. 6 at miles 2/7 of 380 feet of left flank distributary.	Constructing a syphon culvert at mile 1/7 of 330 feet of left flank distributary.	Constructing a regulator at mile 1/3 of left flank distributary.	Constructing five minor irrigation sluices.	Constructing a drainage culvert at mile 0/4 of left flank distributary.	Constructing drainage culvert at mile 0/7 of left flank distributary.	Total C. Works.		
	12	13	14	15	16	17	18	19	20	21	
Estimate	RS. A. P. 480 0 0	RS. A. P. 365 0 0	RS. A. P. 120 0 0	RS. A. P. 335 0 0	RS. A. P. 400 0 0	RS. A. P. 140 0 0	RS. A. P. 500 0 0	RS. A. P. ..	RS. A. P. ..	RS. A. P. 3,820 0 0	
Brought forward ..	..	..	..	..	113 11 5	..	..	..	..	1,137 3 11	
April 1906 ..	..	..	..	..	151 6 1	..	..	..	..	161 6 1	
May ..	..	..	..	..	..	..	..	..	..	..	
June ..	..	..	..	..	..	..	..	..	..	..	
July ..	..	..	..	..	..	..	..	..	..	..	
August ..	..	..	..	..	..	..	..	..	..	..	
September ..	..	..	..	..	..	..	..	..	..	..	
October ..	..	..	..	..	..	..	..	..	..	..	
November ..	..	..	..	..	..	..	..	..	..	..	
December ..	..	..	..	..	..	..	..	..	..	..	
January 1906 ..	..	..	..	..	..	..	..	..	..	..	
February ..	..	..	..	..	..	..	..	..	..	..	
March ..	..	..	..	..	..	..	..	..	..	..	
Total ..	..	..	..	..	134 8 2	..	..	228 6 11	252 2 1	2,152 14 5	
April 1906 ..	..	..	..	..	57 9 1	..	..	7 0 0	7 0 0	71 9 1	
May ..	..	..	..	..	..	..	..	..	..	..	
June ..	..	..	..	..	..	..	..	..	..	..	
July ..	..	..	..	..	..	..	..	..	..	..	
August ..	..	..	..	..	..	..	..	..	..	..	
September ..	..	..	..	..	..	..	..	..	..	..	
October ..	..	..	..	..	..	..	..	..	..	..	
November ..	..	..	..	..	..	..	..	..	..	..	
December ..	..	..	..	..	..	..	..	..	..	..	
Grand total ..	..	..	..	..	338 6 7	..	..	257 1 8	282 5 1	2,505 2 7	

APPENDIX I—cont.

GUNTUR Division—cont.

Atmakuru tank project in Palnad taluk—cont.

Month and date.	3. Distributaries—cont.										Total cost of the month.	Total up to date.		
	O. Miscellaneous.													
	L. Earthwork.		Total L. Earthwork.		Fixing denervation stones along left flank distributary.		Fixing denervation stones along a branch channel of left flank distributary.		Total O. Miscellaneous.					
	22	23	24	25	26	27	28	29	30					
Estimate	RS. A. P. 4,930 0 0	RS. A. P. 300 0 0	RS. A. P. 5,230 0 0	RS. A. P. 225 0 0	RS. A. P. 35 0 0	RS. A. P. 260 0 0	RS. A. P. 10,150 0 0	RS. A. P. 94,175 0 0	RS. A. P. 94,175 0 0	RS				

APPENDIX I.

(Paragraph 123.)

SUPERINTENDING ENGINEER'S OFFICES.

1	2	3	4	5	6
Name of the circle.	Sanctioned scale of draftsman.	Average pay.	Proposed scale.	Average pay.	Remarks.
First	Special draftsman ..	RS. 100-3-130 120 0	Draftsman, first grade.	RS. 100-3-130 120 0	Extra cost (+) savings (-).
	Draftsman, second grade ..	55-3-70 66 4	" second "	55-3-70 66 4	
	" third "	30-4-50 45 0	" third "	30-4-50 45 0	
	Temporary draftsman ..	30 30 0	Temporary draftsman ..	50 50 0	
	" "	30 30 0	" "	" "	
	Total— Permanent ..	231 4	Total— Permanent ..	276 4	
Second	Draftsman, first grade.	100-3-130 120 0	Draftsman, first grade.	100-3-130 120 0	Permanent .. + 45 Temporary .. - 10
	" second "	55-3-70 66 4	" second "	55-3-70 66 4	
	" third "	40-4-50 55 0	" third "	30-4-50 45 0	
	Temporary draftsman ..	30 30 0	Temporary draftsman ..	30 30 0	
	" "	30 30 0	" "	30 30 0	
	Total, Permanent and Temporary.	301 4	Total ..	291 4	
Third	Draftsman, first grade.	100-3-130 120 0	Draftsman, first grade.	100-3-130 120 0	Nil.
	" second "	55-3-70 66 4	" second "	55-3-70 66 4	
	" third "	30-4-50 45 0	" third "	30-4-50 45 0	
	Clerk-draftsman ..	25 25 0	Clerk-draftsman ..	25 25 0	
	Mapping ..	35 35 0	Mapping ..	35 35 0	
	Total ..	357 8	Total ..	357 8	
Fourth	Draftsman, first grade.	100-3-130 120 0	Draftsman, first grade.	100-3-130 120 0	Nil.
	" second "	55-3-70 66 4	" second "	55-3-70 66 4	
	" third "	30-4-50 45 0	" third "	30-4-50 45 0	
	Clerk-draftsman ..	25 25 0	Clerk-draftsman ..	25 25 0	
	Mapping ..	35 35 0	Mapping ..	35 35 0	
	Total ..	357 8	Total ..	357 8	
Fifth	Draftsman, first grade.	100-3-130 120 0	Draftsman, first grade.	100-3-130 120 0	Nil.
	" second "	55-3-70 66 4	" second "	55-3-70 66 4	
	" third "	30-4-50 45 0	" third "	30-4-50 45 0	
	Clerk-draftsman ..	25 25 0	Clerk-draftsman ..	25 25 0	
	Mapping ..	35 35 0	Mapping ..	35 35 0	
	Total ..	357 8	Total ..	357 8	
Sixth	Draftsman, first grade.	100-3-130 120 0	Draftsman, first grade.	100-3-130 120 0	Nil.
	" second "	55-3-70 66 4	" second "	55-3-70 66 4	
	" third "	30-4-50 45 0	" third "	30-4-50 45 0	
	Clerk-draftsman ..	25 25 0	Clerk-draftsman ..	25 25 0	
	Mapping ..	35 35 0	Mapping ..	35 35 0	
	Total ..	357 8	Total ..	357 8	
Grand Total—			Grand Total—		
Permanent ..		1,902 8	Permanent ..		1,937 8
Temporary ..		120 0	Temporary ..		110 0
			Total—		Permanent + 35 Temporary - 1

APPENDIX I (1)

(Paragraph 124.)

I CIRCLE.

Divisional offices.

1	2	3	4	5	6
Name of the division.	Sanctioned scale of draftsman.	Average pay.	Proposed scale.	Average pay.	Remarks.
Ganjam	Draftsman, second grade	RS. 55-3-70 66 4	Draftsman, second grade	RS. 55-3-70 66 4	One draftsman on Rs. 30-4-50 for workshops is separately sanctioned.
	" third "	30-4-50 45 0	" third "	30-4-50 45 0	
	Temporary draftsman ..	30 30 0	Temporary draftsman ..	55-3-70 66 4	
	Draftsman, second grade	55-3-70 66 4	Draftsman, second grade	30-4-50 45 0	
Vizagapatam					

APPENDIX I (1)—cont.

III CIRCLE.

Divisional offices.

1	2	3	4	5	6	
Name of the division.	Sanctioned scale of draftsman.	Average pay.	Proposed scale.	Average pay.	Remarks.	
Bellary ..	Draftsman, second grade ..	Rs. 55-3-70	Draftsman, second grade ..	Rs. 55-3-70	One temporary draftsman on Rs. 30 for Anantapur sub-division for 1906-1907.	
	" third ..	30-4-50	Two draftsmen, third grade ..	30-4-50		
	Temporary draftsman ..	30	Temporary draftsman ..	30		
Cuddapah ..	Draftsman, second grade ..	Rs. 55-3-70	Draftsman, second grade ..	Rs. 55-3-70		
	" third ..	30-4-50	" third ..	30-4-50		
	Temporary draftsman ..	30	" third ..	30		
Kurnool ..	Draftsman, second grade ..	Rs. 55-3-70	Draftsman, second grade ..	Rs. 55-3-70		
	" third ..	30-4-50	" third ..	30-4-50		
	" third ..	30-4-50	" third ..	30-4-50		
Total—			Total—		Extra cost.	
Permanent ..		378 12	Permanent ..			
Temporary ..		60 0	Temporary ..			

IV CIRCLE.

Divisional offices.

Coimbatore ..	Draftsman, second grade ..	Rs. 55-3-70	Draftsman, second grade ..	Rs. 55-3-70	* For Agricultural College.	
	" third ..	30-4-50	" third ..	30-4-50		
	* Temporary draftsman ..	70	* Temporary draftsman ..	60		
Salem ..	Draftsman, second grade ..	Rs. 55-3-70	Draftsman, second grade ..	Rs. 55-3-70		
	" third ..	30-4-50	" third ..	30-4-50		
	Temporary draftsman for six months ..	25	" ..	..		
North Arcot ..	Draftsman, second grade ..	Rs. 55-3-70	" second grade ..	Rs. 55-3-70		
	" third ..	30-4-50	" third ..	30-4-50		
	Temporary draftsman ..	30	" ..	30		
West Coast ..	Draftsman, second grade ..	Rs. 55-3-70	" second ..	Rs. 55-3-70		
	" third ..	30-4-50	" third ..	30-4-50		
	Temporary draftsman ..	30	Temporary draftsman ..	30		
Total—			Total—		Extra cost.	
Permanent ..		445 0	Permanent ..			
Temporary ..		175 0	Temporary ..			

V CIRCLE.

Divisional offices.

Chingleput ..	Draftsman, second grade ..	Rs. 55-3-70	Draftsman, second grade ..	Rs. 55-3-70	† For 35. Protective Irrigation works.	
	Two draftsmen, third ..	30-4-50	Two draftsmen, third ..	30-4-50		
	† Temporary draftsman, third grade ..	30	† Temporary draftsman, third grade ..	30		
South Arcot ..	Draftsman, second grade ..	Rs. 55-3-70	Draftsman, second grade ..	Rs. 55-3-70		
	" third ..	30-4-50	" third ..	30-4-50		
	Temporary draftsman, third grade ..	30	" ..	30		
Cauvery ..	Draftsman, second grade ..	Rs. 55-3-70	" second ..	Rs. 55-3-70		
	" third ..	30-4-50	" third ..	30-4-50		
	Temporary draftsman, third grade ..	30	" ..	30		
Vennar ..	Draftsman, second grade ..	Rs. 55-3-70	Two Draftsmen, third grade ..	30-4-50		
	" third ..	30-4-50	" ..	30-4-50		
	" ..	..	" ..	..		
P.W. Workshops :	" second ..	55-3-70	Draftsman, first grade ..	100-3-130		
	" third ..	30-4-50	" second ..	55-3-70		
	" ..	..	Two draftsmen, third grade ..	30-4-50		
Total—			Total—		Extra cost.	
Permanent ..		601 4	Permanent ..			
Temporary ..		90 0	Temporary ..			

† Includes one temporary draftsman for six months.

(Paragraph 140.)

Memorial—from the Draftsmen, Salem-Coimbatore Investigation Party.
To—His Excellency the Governor in Council, Fort St. George (through the
 President of the Public Works Establishment Committee).
Dated—Coimbatore, the 25th February 1907.

MOST RESPECTFULLY SHewETH,— That Your Excellency's humble memorialists are the passed draftsmen of the College of Engineering, Madras, and some of them are at present holding temporary appointments in the Salem-Coimbatore Investigation Party and their appointments cease on the 28th of this month.

2. That Your Excellency's humble memorialists who have been trained as draftsmen have practically little or no chance of securing permanent appointments either in the Government service or even under the Local Funds or Municipalities. The numerous Investigation Parties which afforded them some temporary relief are all being closed and they have now been left adrift.

3. That Your Excellency's humble memorialists further beg to submit that the present method of recruitment of the drawing branches of the numerous Public Works Department Executive offices, viz., of giving preference to men who have passed as Engineer Subordinates or Sub-Overseers, militate against their entrance into the department and practically shuts the door against those who have been specially trained for a particular branch of the service, and Your Excellency's humble memorialists therefore respectfully beg to submit that special legislation alone would secure to them some means of living.

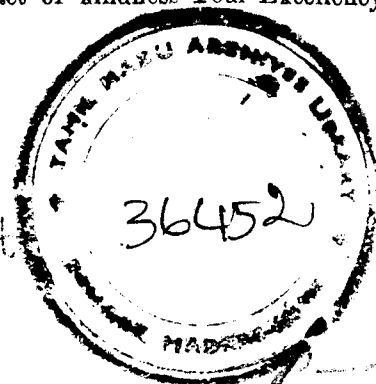
That in this connection Your Excellency's humble memorialists beg to point out that the primary object of an engineering institution at Madras was with the object of securing "duly-qualified draftsmen." Writing to Sir Charles Oakeley in 1793 Mr. Michael Topping says "I have been greatly retarded for want of proper draftsmen to take surveys and plans of the Kistna and, after much fruitless search, found but one chance left me of obtaining a person *duly qualified* for the task" (the italics are the memorialists'); again in 1883 the Government of India suggested that "It would be a good plan to hold out prospects of good temporary appointments in the Public Works Department to the students passing out of the College. It seems not improbable that if it were generally known that employment on good pay, avowedly by carrying with it no claim to pension or guarantee of continuance, but as a matter of fact fairly regular and continuous, is to be obtained under Government in the Public Works Department, a sufficiency of well-qualified applicants would soon be forthcoming and that a want which is now felt would be supplied."

4. That Your Excellency's humble memorialists have all along been entertaining hopes of securing permanent or temporary employments as "draftsmen" in preference to passed Engineer Subordinates or Sub-Overseers as the memorialists have undergone a special training for particular branch of the service, but the numerous changes that are being introduced from time to time in Public Service notifications throw obstacles in their way even to secure a temporary appointment.

5. That Your Excellency's humble memorialists therefore pray for a consideration of the existing method of recruitment of draftsmen in all branches of the service and for the issue of such orders as will ensure that specially-trained men alone are appointed as draftsmen, whether permanent or temporary.

6. That yet another grievance, which has been harassing Your Excellency's humble memorialists, is the strong rumour that the draftsmen class is to be abolished and that future recruits to the drawing branch will be passed Lower Subordinates of the College of Engineering. Even in the Local Fund departments the passed draftsmen are eligible for appointments only as Sub-Overseers, while the passed Sub-Overseers are eligible for the Overseers' posts. If Your Excellency's humble memorialists are allowed the opportunity of qualifying themselves by undergoing some theoretical or practical training in Surveying and Levelling, which may be considered necessary to place them in a level with the Lower Subordinates, they are quite prepared to qualify themselves, and they therefore pray that this matter may also be considered and justice rendered.

For which act of kindness Your Excellency's humble memorialists will, as in duty bound, ever pray.



V211, 88(PW):106

No 8;3