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165

*Proceedings of the Madras Government, Public Works Department,
25th June 1868.*

No. 605. Read the following Circular from the Government of India, Public Works Department, (Account,) dated Fort William, 27th April 1868, No. 42:—

The Contract System in Bengal.

Read the following papers:—
Extract from the Proceedings of the Honorable the Lieutenant-Governor of Bengal, in the Public Works Department, dated 3rd December 1867, No. 6,800

Read:—

Introduction of Contract System in Bengal

Notification by the Officiating Secretary to the Government of Bengal, in the Public Works Department, No. 16, of 17th January 1862
Circular letter, Public Works Department, No. 4331, of 22nd January 1862
Letter from the Secretary to the Government of Bengal, in the Public Works Department, to the Secretary to the Government of India, in the Public Works Department, No. 4,301, of 18th September 1862
Letter to ditto from ditto, No. 3,914, of 10th October 1862

Rules regarding Contracts

Public Works Code
Chapter III, Section III, paragraphs 16, 21, 23, 25, Section IV, paragraphs 2 and 3, and Section V, paragraphs 2 and 8
Chapter XII, Section I, paragraph 16
XIV
XIX, Section IA, paragraph 25, Section ID, paragraphs 66—90.
Standing Order No 1 of 1866
Circular letter by the Secretary to the Government of India, in the Public Works Department, No. 46, of 1st June 1866.

Read also:—

Note by the Chief Engineer of Bengal (No 747 of 22nd August 1866), on the working of the Contract system, and Notes by Colonel Short and the Controller of the Public Works Accounts therewith submitted
Notes of July 1867, by Major Trevor, Superintending Engineer, Presidency Circle, and Captain Trevor, Garrison Engineer.

REMARKS.—The introduction of contracts to the utmost practicable exclusion of daily labor, and, when possible, in supersession of petty contracts, was formally insisted on in 1862, at which period the general introduction of the system throughout India was thought desirable.

The special enquiries made by the Chief Engineer in 1863 showed that the general introduction of a system of large contracts had completely failed. In some Divisions contractors had not been procurable; in others, the system failed almost as soon as tried; in further cases it lasted longer and then failed; in other instances it dragged on unsuccessfully.

Further experience also shows that there have been several instances of loss to Government, owing to the lax manner in which contracts were entered upon and worked; and in many instances where these contracts have been employed, they have proved unsatisfactory.

The system which has met with most general approval from the Departmental Officers concerned, is that of "Petty Contract," which is in general use, and which seems to be the system most likely to be efficient and satisfactory at present. The term "petty contract" is not, however, very clearly defined, and it will be convenient, in order to indicate the system approved of, to consider petty contract as a contract made directly with the immediate organizer or employer of labor, or the supplier of material.

This general rule will not preclude the employment of large contracts or of contracts ranging between these extremes, provided that it is advantageous to execute work in either of these ways; but there are certain elements which must be efficiently and carefully secured before work can be given on contracts in this way. There must be substantial security given for the execution of the contract; there must be a carefully drawn Deed of Contract, and there must be efficient and honest supervision on the part of Government, this last condition being also fully applicable to petty contracts.

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As regards large contracts, the rules of the Public Works Code contain full instructions regarding the preparation of the Contract Deed, but as regards the intermediate class of contracts, the form which has been prepared and revised in communication with the Advocate General, and has been found to answer in the Garrison Engineers and Presidency Divisions, may be used instead of a more formal one. A copy of this form, with instructions, is appended to this Resolution.

Tenders should be publicly called for, and competition invited, the lowest tender being accepted in all cases, unless there are strong and positive objections to the tenderer.

Resolution.—The Lieutenant Governor is pleased to direct that, in future, the petty contract system should be employed as far as practicable in the execution of public works in Bengal, contracts on a larger scale being employed where desirable and advantageous, especial attention being given in all cases to the efficiency of the security, the bond, and the supervision as applicable to the case in question.

Order.—Ordered, that a copy of the above Resolution be forwarded to all Superintending Engineers in Bengal, for information and guidance, and communication to the Officers under them.

Also, that a copy be submitted to the Government of India, Public Works Department, for information.

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No. 186

PETTY CONTRACT WORK.

do hereby agree with the Executive Engineer, Division, for the time being, to execute the under-mentioned description of work at the rates enumerated, and in accordance with the Conditions noted below, in consideration of payment being made for the quantity of work executed at the rates specified in the following Schedule —

Name of work	Number of Item	Class and description of work to be executed.	Unit of Calculation	Rate of Payment
				RS A P

CONDITIONS

1. The Petty Contractor is to proceed with the work with due diligence, and all work executed is to be done in a workmanlike manner, and the material used is to be of the best of the several kinds procurable, and in all cases is to be subject to the approval of the Executive Engineer for the time being, or his Sub-Divisional Officer, whose decision as to the rate of progress and the quality of work or material shall be final.
2. The quantity of work executed shall be measured and payments made every days on the completion of the work, or the determination of this Agreement, final measurements will be made and the account shall be adjusted accordingly.
3. In the event of due progress not being made, or of bad work being done, or bad material being used, the Executive Engineer may determine and end this Agreement without further notice, and in the case of bad work or material, the Executive Engineer may remove the same and have it re-placed, deducting the value of the work or material removed, or the cost of re-placing the same, as he may think proper, from any amount due, or that may be due, or become due, to the Petty Contractor.

Signature of Petty Contractor

Residence.

Date

Witness.

No. 186

Name of Contractor

Memorandum of payments made.

Date	Quantity of work paid for	Amount paid
		RS A P

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From the Secretary to the Government of Bengal, in the Public Works Department, to the Secretary to the Government of India, Public Works Department, dated 3rd December 1867, No 6,801

1 With reference to Memorandum No 443 C, dated 19th June last, from your Office, drawing attention to your letter No 679 E, dated 23rd April 1867, and previous communications on the

Note by the Chief Engineer of Bengal, No 747, of 22nd August 1866
Notes of July 1867, by Major Trevor, Superintending Engineer, Presidency Circle, and Captain Trevor, Garrison Engineer
Resolution by the Honorable the Lieutenant-Governor of Bengal, in Public Works Department, under date 3rd December 1867

subject of the working of the Contract system in Calcutta, I am directed by the Lieutenant Governor to submit, for the consideration and orders of the Government of India, the papers marginally noted, with the following remarks explanatory of what has been done by the Govern-

ment of Bengal for the better supervision of Contract work in Calcutta

2. A considerable time having elapsed since the Chief Engineer's first Note on the Contract system, No 747, dated 22nd August 1866, it was considered desirable that the experience gained in the interval should be brought forward, and with this view a copy of this Note was given to Major W. S. Trevor, Superintending Engineer, Presidency Circle, for the purpose of his recording the experience gained at the Presidency. Major Trevor has done so in his Note, to which is appended a Note by the late Garrison Engineer, Captain Trevor, who has been, perhaps, the most successful of all the Officers in Bengal in working the Contract system

3 The Chief Engineer agrees for the most part in what is advanced in these Notes, but he does not think that either Officer has quite hit off the definition of a petty contract. Taking the meaning in general terms, and in reference to the present discussion, a petty contract may be defined as a contract with the immediate organizer or employer of the means to be used for carrying out the work. This definition would most probably resolve itself in practice into contracts for items in an estimate, or a portion of items, or, in a pecuniary view, into contracts within the competence of the Executive Engineer (Rupees 2,000), or of the Superintending Engineer (Rupees 10,000)

4 All such contracts should be written, though this need not be done with all the preciseness and formality of a large and regular contract

5 The form introduced by the Garrison Engineer, and revised by the Advocate General, meets the wants of a system of moderate contracts readily and efficiently. This document is on the same principle as Code Form No 110 B, but far more complete, and Captain Trevor deserves much credit for the manner in which he has worked his contracts, and for the system he has introduced. So much of the efficiency of his arrangement is, however, due to his personal qualities, that the same success must not be expected everywhere

6. The only material alteration which the Chief Engineer would now wish to make in his Note is one in the views expressed in the 36th paragraph, and he would adhere strongly to his original opinion that the contracts should be given to the lowest tender after competition; the only exception being in the case of parties who had previously failed, or not given satisfaction.

7. The whole question the Lieutenant-Governor regards as a practical one, and he considers it therefore unprofitable to theorise, or to lay down general rules about contracts, that is to say, that work shall be executed in this or that locality by contract. There are certain elements which His Honor is of opinion should be secured before works are given in contract, and these are—

1st—There should be substantial security given for the execution of the contract

2nd—There should be a carefully drawn Deed of Contract

3rd—There should be an assurance that the supervision on the part of Government will be efficient and honest.

Unless these points can one and all be secured (and the last is not the least important), no works should, in the opinion of the Lieutenant-Governor, be given in contract, and where they can be secured, His Honor is then in favor of work by contract

8 I am also directed to observe, with reference to the specific enquiry of the Government of India as to what has been done for the improvement of the contract system, that, as soon as attention was attracted to the subject by the fall of the Custom House sheds in 1865, and other circumstances, the general state of the question of the contract system throughout Bengal was enquired

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into, as mentioned in the Chief Engineer's Note above referred to, and meanwhile the system which had been worked out by Captain Trevor, Garrison Engineer, and which had been found to work well, was introduced into the Divisions at and near the Presidency where contract work was mostly employed after the conditions and arrangements with the contractors, as proposed by Captain Trevor, had been revised by the Advocate General

9 The result of the Chief Engineer's enquiries showed that the general contract arrangements laid down for the Department were efficient, and that the difficulties of the question had arisen from the attempt to force on a system for which neither the state of the Department nor of the country was prepared, coupled with considerable laxity of administration and efficiency of establishments. It appeared that the question of executing all works by contract had practically solved itself by the inability of the country or the Department to uphold such a system at present, and further, that the sudden change that had been attempted had had the effect of disorganizing Departmental arrangements which it was not possible to restore as suddenly as they had been upset

10 The remedy for these difficulties has been sought amongst other means, and in addition to taking advantage of opportunities as they arose, by causing careful inspections to be made by the superior Officers of the Department, and by examining their Reports and correcting what required notice. General schedules and specifications of work have also been prepared by the Chief Engineer and Controller, and circulated for guidance and modification where necessary. In this way much has been done, and considerable change has been effected, but attention will still be required before matters can be expected to be in quite a satisfactory condition. Amongst the points especially requiring attention may be mentioned Establishments, both as regards their personnel and their numerical sufficiency, as well as their efficiency

Note by Colonel J E T NICOLLS, R E, Officiating Chief Engineer, Bengal, on the working of the Contract System in Bengal, dated 22nd August 1866, No 747

1 My attention having been drawn to the working of the Contract System, a number of questions were circulated to each Executive Engineer with the view of ascertaining what was the real state of this important subject

2 Recent events at the Presidency have rendered it more than ever necessary that I should lay the present condition of our contract arrangements before Government; and, in doing this, it will be necessary, for a clear view of the subject, to re-capitulate what has already taken place in regard to contracts

3 The introduction of contracts to the utmost practicable exclusion of daily labor, and, when possible, in supersession of petty contracts, was formally insisted on by the Bengal Government in 1862. In January of that year, a Notification No 16 was issued to the public that Government was desirous of seeing the ordinary works of the Department carried out by contract; that directions had been given to Superintending Engineers to arrange so as to give fair encouragement to contractors to settle themselves as residents at the principal stations, and that work would be so carried out as to allow builders with small capital and a practical knowledge of work to take up all ordinary works in Stations, and a certain class of works in the Districts. This Resolution was followed up by Departmental Circulars.

4 The subject had also been taken up by the Government of India, and was discussed in the letter of instructions addressed to Major Chesney who was proceeding on a tour of inspection. It was thought that by the general introduction of contracts, costly establishments would be reduced, peculation amongst subordinates would be restricted, and material relief would be afforded to the Offices of Account. It was also contemplated that, although prices might be high at first, rates would eventually sink to a proper level as contractors multiplied and competition arose. It was further remarked that it was clearly the policy of Government to encourage the growth of a class of small contractors, as all experience had shown that the most successful men of the contractor class had begun life with no capital whatever but their own talents and industry

5 The experience of four years in Bengal has shown these views to be partly correct; but in some respects the results have been contrary to what was expected. It is found that a system of

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large contracts requires increased establishments, and there seems reason for believing that speculation has not diminished, but rather increased: on the other hand, the accounts have been relieved, and small contractors have proved the most satisfactory.

6 In some Divisions the large contract system appears to have failed almost as soon as tried; in others it lasted longer and then failed, in other cases it has dragged on unsatisfactorily, and, although at present the system is more or less in operation in Bengal, it can only be said to be really working in a few Divisions, viz, the Braugulpore and Rayshahye Divisions, and the Divisions in and near Calcutta. Excluding these Divisions, the opinion of the Executive Engineers and of the Superintending Engineers, where expressed, is adverse to the system of large contracts, and in this opinion, as a general rule, I quite agree. The circumstances of the Presidency Divisions are somewhat exceptional, and will receive more particular discussion hereafter, meanwhile, these Divisions should be regarded as excluded from consideration in the following remarks.

7 The objections to large contracts are the unsuitableness of such contracts in some respects, their inefficiency in others, and their expense in all.

8 It has been found in some cases that the call of the Executive Engineer for tenders has met with no response whatever, in others, that only one or two parties have come forward, and those not qualified. There is no real competition as the rule. Many of the persons who do come forward as contractors come as speculators, and not to work out a steady livelihood. Large contractors merely tender to sub-let, and there is no reality in the transaction. But supposing that duly qualified contractors were procurable, and that all objections on that score were removed, I am strongly of opinion that the Department is not in a condition to take up large contracts, and I do not limit this opinion to the branch of the Department in Bengal. By this I do not mean that large contracts are not successfully taken up and carried out by some Officers, nor that other Officers may not take up such contracts and flounder through them at the expense of Government and of the work, and to the gain of the contractor, but my experience of the Department, taken as a whole, is, that its Officers have not, as a body, those business-habits, that firmness of character, that promptness of decision, and, in some cases, that knowledge of their duties, which is necessary to cope with a contractor and to work efficiently a system which leaves Government entirely in the hands of such men. To the above it may be added that the estimating and designing of the Department is far short of what is necessary for carrying on large contracts in an efficient and satisfactory manner; and that Officers have so many calls on them that they cannot do this satisfactorily, nor yet give the necessary attention to the actual execution of the work. The consequence is that alterations are made, so numerous, perhaps, as virtually to vitiate the contract. Inferior work also creeps in perhaps only by degrees, being tolerated in order not to delay progress; and when it has reached a point that can no longer be allowed, the Officer cannot recover himself. He finds that he has passed so nearly what he now objects to, that his objections can be securely questioned and that the power which he should wield under the contract has been impaired by changes, incautious admissions, &c. Much of this may have taken place under a predecessor, and when thus bound, he may find himself called on to cope with energies sharpened by self-interest, and, perhaps, unscrupulous characters. The opposition is probably not of one and simple, but of many and complicated, as the contracts are generally sub-let. Large contractors are employed in England and elsewhere, and even in this country, but however suitable they may be to the circumstances in which employed, it does not at all follow that they will answer at present in the very different and dissimilar conditions of the work in this Department. Several of the difficulties could be overcome by larger establishments, or the employment of first class contractors from Europe, but this would augment the expense of works already much increased by these contracts, and this in the latter case to an impracticable degree.

9 The efficiency of these contracts has been already touched upon, but other considerations may be adduced regarding this point. Whatever may come, the time has certainly not yet arrived when reliance can be placed on the good faith of the body of contractors that we can employ. We must look sharply after our own interests, and recent events have shown how entirely efficiency rests

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on the supervision of the Department. Neither the good name of an European Firm, nor the keenness of competition, have protected Government from most disgraceful work. It needs no argument to prove that there cannot be efficiency with unscrupulous self-interest on the one hand, and ineffective (from whatever cause, whether in system or men) supervision on the other.

10 There are other points from which the efficiency of large contracts is to be viewed. They are troublesome in the drawing out, and time is consumed in the arrangements. The large contractor, both from his status and from his complication with small contractors, is a difficult person to deal with, unless he has matters all his own way. Government also, in this description of arrangement, stands committed to a large expenditure which may be, and is often, very inconvenient in these days of limited funds and constant change.

11 Another fertile cause of inefficiency is, that, with this description of contractors, the Departmental Officers are disposed to rely on the security which must be taken from contractors as the means of keeping the necessary hold on them, whereas the interests of Government depend upon the constant and vigilant supervision of Departmental Establishments as work goes on. In most cases no amount of subsequent patching can produce work equal to what is originally done. The realization by the members of the Department of their responsibility in regard to contract work, is a point where much reform is needed.

12 I may add to the above that large contracts rather tend to prevent improvement in work. A contractor's object, certainly in the men we have to deal with, is to do as little as he can for his money. At best he will merely keep up to what he considers a fair standard, and this he will gauge by the quality of the work usually executed, which is just what it is wanted to raise. Well drawn agreements and specifications, constant vigilance, active supervision, and great determination of character, will no doubt overcome difficulties and ensure the best of work, but if we can attain these in a few instances, we cannot expect to do so as the rule, and the question that has to be determined is, what system can be satisfactorily worked in a large Department containing varying degrees of efficiency?

13 An instance of the above may be cited in the case of bricks, a material of the first importance, and on which a very large proportion of our expenditure is incurred. I believe there is not a question that a great improvement is required in the manufacture of this material generally. The state of efficiency which the Akra manufactory has attained, is an example of what may be done, and affords the means of effecting general improvement by detaching from it, permanently or temporarily, as may be requisite, persons to afford the necessary impetus and assistance to local endeavours. It is comparatively easy to arrange what is wanted with a series of small contracts, but not so with a large contractor, except at greatly enhanced expense.

14 Diminution of expense appears, however, to have been one great desideratum in regard to these contracts, and the argument in favor of this seems to have been that Government would gain by reduction of establishment, the supposed speculations of subordinates becoming the profit of the contractor, and the actual expense of the work remaining as it was. This view is not borne out by experience, and it could not be otherwise. The use of contracts may, no doubt, effect a saving in the inferior and petty establishments, it may also effect a saving to some slight extent in accounts; but, as has already been shown, and will be again discussed, it necessitates increased expenditure in the upper grades, and one result of employing large contracts must, no doubt, be increased expenditure in establishment.

15 The pecuniary state of the case as regards the general description of contractor on a large scale appears to be very much as follows, and I will first suppose the contractor to carry out the work himself directly. He can do the actual work no cheaper than a Government Officer, probably not so cheaply, for he has not the prestige or influence of the Government servant, possibly not his experience. He is bound to time, his own time is valuable, what he does must be done off-hand, he views matters in a purely mercantile light, and must cover all these drawbacks by the sum he receives. He cannot be always on the work himself, and he must either have an establishment

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similar to that employed by Government, which he cannot, with large contracts on hand, supervise more effectually than Government does their own, or he must, as is more commonly the case, have little more than an account-keeping establishment, and throw the actual supervision of the work on the Government Officers, who then have more to do than usual, as they have to deal with an establishment with adverse interests, and not under their control. These people probably speculate as much or more than Government subordinates, and if the contractor's accounts show that the work has cost him little, it will probably be found that the work-people have suffered, or the work has been scamped. The chances seem to be that the work costs as much, and the petty establishment as much as if contracts had not been employed, and that, in addition to virtually paying these expenses as usual, Government has to pay the duplicate establishment maintained by the contractor, his profit 20 or 25 per cent, and increased supervising establishment on its own account.

16 The more usual case, however, is for a large contractor to sub-let his contract to the very men to whom Government Officers would let it out on petty contract at probably the same rate. In this case, Government simply pays a high price for doing that which it should do more efficiently through its own servants at very much less cost.

17 The opinion has been broached that the direct speculation of subordinates has been re-placed by the indirect results of doucours, and this seems very probable, as, under the present organization of the Department, subordinates must be placed over contractors who cannot fail to realize the value of abstinence from the annoyance which can be given by a party constantly on the work, and the value of the evidence of such a party when a point is being litigated in a Court of Law.

18 The system which has met with most general approval amongst the Officers of the Department is the "petty contract" system, and this seems to be by far the best. The petty Zamindars, mistrees, and similar people who take up this description of contract, have most influence over work-people, and can turn labor to the best account. The engagements being small, there can be considerable competition, and, should necessity arise, the arrangement can be terminated at once. The Executive Engineer has great power by this system, he can expand, contract, or push on his operations at pleasure, and he can ensure better work. He also feels more directly responsible.

19 The Divisions about the Presidency differ from the general description already given mainly in the number of contractors who come forward for some descriptions of work, and as the management of labor at the Presidency itself is no doubt difficult, and contractors more numerous, the Presidency Divisions are those in which the contract system should be continued if it is to be preserved.

20 It appeared in evidence in the Inquest on the fall of the Custom House sheds, and there seems every reason for accepting the statement, that large contracts are merely taken to be sub-let. The increased expense and the decreased power of control which occur in contracts which are sub-let has already been noticed, and considering the failures which have taken place as regards work, and the inability of our Officers to manage and control large contracts, as evidenced in several instances, it seems to me that the same conclusion should be generally arrived at in regard to the Presidency Divisions as elsewhere, viz, that the system should be that of petty contract or direct dealing with the class of contractor that really does the work.

21. I would not, however, either at the Presidency or elsewhere, absolutely prohibit large contracts. The experience which have been gained shows that, when large contracts have succeeded, it has been mainly owing to the individual character and energy of the Officers concerned, and such Officers are to be found. A combination of circumstances may arise in which the execution of work by a large contract would be desirable, and it would be unwise to make any stringent rule that would prevent advantage being taken of such an occasion; but there should be special arrangements in all such cases.

22 It has always seemed to me, since the question was first mooted, and such facts as have come to my notice in different parts of the country have only tended to strengthen the opinion, that

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however desirable a general contract system might be in many ways, its being forced on the Department as a principle to which every thing must bend, is disadvantageous. Such a system is not to be brought into existence by a stroke of the pen: it requires gradual development as much as any other system, and both contractors and Government establishments require training before such a system can possibly be introduced with advantage.

23 A few remarks may here be offered on some of the less direct disadvantages of the present contract system. One of the first of these is the utterly helpless condition into which the Government has fallen. In one of the first cases in which this state of the contract system came to my notice, I received an explanation to the following effect in reply to objections which I had made to a largely increased revised estimate. It was stated that tenders had been publicly called for, several parties had competed, and the estimate was based on the result. This, no doubt, was in accordance with the system which had been introduced, and it was impossible to do otherwise than accept the proposition without great inconvenience to the public service, because the establishments were not prepared to take up the work in any other way. The subjoined extract from an Inspection Report lately received will illustrate the above remark more fully—

"I do not consider anything but the earthwork that I have seen in this Division what it would be, the bricks are bad, the building, the little I saw of it, was bad, the timber supplied far from good, the khoah not properly burnt nor broken, and the consolidation open to improvement. This state of things I consider to have arisen from the great anxiety to carry out the contract system. Contracts have been given to incompetent people, and proper supervision has not been exercised, in fact, could hardly have been exercised by an Executive Engineer without an European Assistant. I entirely deprecate the system of giving large contracts in the Mofussil, and would never do so unless the work was under the eye of an European Officer, and even then I do not think it advisable. I have not seen in this Circle a creditable piece of work turned out by a contractor,—I mean building or metalling. Earthwork is going on very well by contract on the Sea-dyke.

"The result of the contract system has also been the rendering of our subordinates nearly useless when thrown on their own resources. They have been so used to go to the contractor for every thing, that, when these men are not forthcoming, they are utterly helpless. Little or no work could be done this year on the bungalows and sluices because no contractors came forward, and the subordinates were unprepared and unable to carry on Departmentally."

24 Another disadvantage of large contracts has been experienced and already alluded to, viz, money is tied up, and, in the event of alterations being desirable in a programme, it is impossible to make them. This is a matter of some importance when the available funds are limited, and demands thereon sometimes large and sudden, as, for instance, in the present famine, when it has been found impossible to transfer to the relief of distress money which might have been made available, nor, again, when funds were available for expenditure in certain Districts, could the work be concentrated on any one place where distress prevailed, nor yet on any description of work the prosecution of which would afford the most relief.

25 A contract system can only be efficient when strictly carried out, and contractors are kept to their engagements. This necessitates, as regards the executive establishment, carefully prepared designs and estimates, a well considered agreement and constant and active supervision. As regards the Superintending Engineer and Chief Engineer, a careful revision of designs, estimates and agreements is called for, or the supposed control will be worse than useless, it will only relieve Subordinate Officers of a sense of responsibility without efficiently supplying its place. These operations occupy much time if efficiently carried out, and I do not think our establishments are sufficient for this work. It is true that the above are also requisites to some extent in petty contracts and in ordinary work, but they are so to a much less degree. The obligation in the case of a petty contractor is not so heavy, nor does it extend over such a length of time, and in the case of Schedule Contracts terminable on short notice, it is very little. If a system of large contracts is to be carried out, our establishments must be greatly strengthened in the upper grades."

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26. The small number of law-suits, and the absence of disagreements, is a noticeable feature in the returns, but cases, which have recently come up, would tend to show that this is due to easiness, as regards the prices given and the work required, and that law-suits, to some extent, are yet in store.

27. A general system of large contracts should then be discouraged, and the system, which, it seems to me, it would be preferable to pursue, is as follows:—

To base estimates on what the work could be departmentally executed for at the prevailing rates of labor and material, and not on what even the competition of petty contractors may point out. To regulate contracts strictly by these rates and the rules laid down in the Public Works Code. To prohibit larger contracts being sub-let, without permission, which would only be given in case of Mistresses or Foremen absolutely engaged in carrying out the work. The practical result of the application of these principles would be to generally limit contracts to those of a petty description, but to allow larger contracts when profitable and desirable, and then under only the revision of superior authority.

28. The foregoing portion of this Note was written, for the most part, some time ago, but not submitted, as I was desirous of placing the financial aspect of the system before Government in a complete shape. This, I am sorry to say, I have been unable to do. I am, however, enabled to add to the above remarks a Memorandum on the subject of contracts, which has just been received from the Superintending Engineer, Presidency Circle, accompanied by a Memorandum from the Controller, Public Works Accounts.

29. The Memorandum of the Superintending Engineer is of value, as being a contribution to the full discussion of the subject, and embodying the views and experience of an Officer under whom a large amount of contract work has been done. The principles on which it is based are, *first*, that there is but one price for any one thing, and that any agreement to execute work below this, necessarily entails inferior work, and demoralization of both contractor and departmental establishment. This view sets aside the facts, that various classes of men are satisfied with different degrees of profit, and that superior fitness will produce a better result; *second*, that the supervision of the department is, to a great extent, corrupt, that it is inefficient, and that the remedy lies in wealthy and honest contractors who require little or no supervision. The obvious remedy of stopping the laxity of the department, and improving its efficiency, thus gives place to a scheme of placing the interest of Government in the hands of a set of men whose avowed object is to make as much money as they can, but who, in the face of this, and of a corrupt establishment, are to secure Government honest work, *third*, that men of wealth and station are the most efficient contractors, which is opposed to all experience—(See paragraph 4 above and elsewhere).

30. This Memorandum strengthens, I think, the views taken in the preceding part of this Note, and this being the case, I need scarcely add that I differ very considerably from its reasoning and conclusions.

31. We can scarcely hope to secure a body of accredited contractors "who have a command of labor and material, and who execute good work, independent of the supervision on the part of the Government Officers," and could we get men supposed to be such, it would hardly be prudent to employ them under such a supposition.

32. The Superintending Engineer has not noticed the circumstance of contracts being generally sub-let in Calcutta, as already shown to have been brought forward in evidence, and it is scarcely to be supposed that "men with capital and experience" would do otherwise than sub-let. If this be the case, we ought to do much better if the profit of contractors went to increasing our establishments, and we dealt directly with those who actually carried out the work. This would seem to be more particularly the case when, as in Calcutta, the profit of the contractor is entirely thrown on labor, and the operations in which a contractor's services are most desirable, as in manufacturing material, or procuring it from a distance, are not required.

33. It seems needless to dwell on the opinion that contractors require to be carefully watched, but I may mention that I believe, even with large and most respectable European contractors, the

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East Indian Railway finds, from experience, that it is impossible to avoid keeping up a very large supervising staff, and that the tendency of events is to show the necessity of increasing this staff. The general complaint in regard to bad contract work is the difficulty of keeping a sufficient supervising staff.

34. The views of Government, regarding the acceptance of the lowest tender, and the principle that should regulate the acceptance of tenders, are laid down in the Code, Chapter XIV, and if contract operations are based on the propositions brought forward in paragraph 27 of this Note, it seems to me that more particular detailed instructions are unnecessary.

35. The question, which the Superintending Engineer has mooted, is a very delicate one, and, although disposed of by the Code as already noticed, still it seems questionable, whether the principle of accepting the lowest tender is not, on the whole, the best, for it checks all personal considerations; it prevents bias in judgment, properly looked after, it will prevent incompetent parties coming forward to a certain loss, and it seems best calculated to maintain the character of the department which must look to itself alone for the enforcement of proper work.

36. My own opinion is strongly in favor of the principle of accepting the lowest tender, but since, in the present state of the case, more adventurers are likely to tender without any reasonable expectation of being able to carry out the work, and since serious inconvenience to Government might arise in consequence, it would probably be advisable, as suggested by the Controller, to modify the full application of the principle so far as to restrict it to a body of selected contractors. A list should be kept of all persons considered competent to tender for each description of work. The list should be open to all persons who can satisfy the Superintending Engineer as to their competency for that particular description of work. If the tenders are within the estimate or limit fixed, the lowest tender of any person on the list should invariably be accepted, except under special permission of Government to do otherwise. The usual proviso of its not being obligatory to accept any tender will, of course, still remain. The main difficulties raised by the Superintending Engineer against the rule for always accepting the lowest tender appear to be determinable only by greater departmental efficiency and strictness. If contracts are to be employed, and whether there be large contractors or not, a sufficient and efficient staff must be put on to supervise them, and its members kept up to their duties.

37. The Superintending Engineer's Memorandum clearly points to this being the case. We find in paragraph 5—"Wherever the lowest tenders are accepted, the work is not such as could be legally condemned, but it is indifferent work, and not first class." It is not evident why, if first class work is contracted for in a proper manner, first class work cannot be enforced. Again, in paragraph 14—"The inferior and indifferent work most frequently met with is in all kind of wood-work, and with very few exceptions, the out-turn is not first class; the finish is almost invariably 'bad, and this is owing to the low class contractors employing unskilled carpenters, &c, and trusting to the work being passed.' Wood-work is one of the descriptions of work, that is, with proper arrangements, most easily examined, and concerning which least question can arise. Moderate supervision, and a properly drawn contract, would enable all work, not first class, to be rejected, and one or two rejections would cure the evil.

38. From the 4th paragraph of Superintending Engineer's Memorandum it would appear that the subordinates, even to Assistant Engineers, are virtually the contractors, and pass their own work. It is stated that this is an undoubted fact, though somewhat difficult to prove; and it would appear that to this must be ascribed the passing of so much indifferent work. Here, again, the remedy appears to lie in our arrangements and administration.

39. It is further stated in paragraph 14—"Moreover, when a work is not done as well as it ought to have been, and the money has been paid, the Executive Engineer, who may, in his own heart, confess that it is indifferent, will not concur with the Superintending Engineer in its condemnation, as such would lead to endless litigation, and the Government would lose the case in Court, since the Local Assistant Engineer and the Executive were supposed to have checked and approved of the work whilst it was progressing."

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40 These two last examples merely show that the evils complained of are due to the laxity of the departmental officials, or their insufficiency. A proper staff, and due enforcement on departmental Officers of the responsibility, which is put on them by the Code for all work they pass, would stop the evil in this case as in others.

41 But whilst the course which the remedy must take is clear, there is, perhaps, some doubt about being able to apply it thoroughly, owing to the Establishments generally not being up to such work; but if we cannot bring our Presidency Establishments up to the required standard, it will be better to reduce contract operations to a proportion that they can manage, than to persist in the system of trusting to contractors, however respectable.

42 I do not draw the same inference from the example given in paragraph 12 of the Memorandum, as is deduced by the Superintending Engineer. If prompt payments were made, as should be the case, and is enjoined by rule, there should be no necessity for borrowing, and the work or Government would not have to bear the interest on advances arising from this want of payment. The rules being complied with, I do not find any reason why "Measura Mistry" should not have carried out the work. The Superintending Engineer's rates allow 15 per cent profit to contractors, and of this, the Mistry sacrificed 8 to Government to obtain the contract. The 7 per cent which remained would have given him Rupees 280 a month profit for the work, supposing he could not, without scamping the work, have managed to execute it lower than the Superintending Engineer estimated for the actual cost. The estimate probably included Government material, on which the contractor would derive no profit; but all things considered, I do not see why the man should not have made a fair profit without doing dishonest work.

43 I need scarcely add that the Superintending Engineer will be asked for further information regarding the mal-practices attributed to the departmental subordinates.

Note by MAJOR W S TREVOR, R E, Officiating Superintending Engineer, Presidency Circle.

1 I agree with the remarks of the Chief Engineer contained in his Memorandum on the working of the contract system.

2 I observe that, amid the general dissatisfaction expressed at the results of the trial of the contract system in Bengal, there is a reservation more or less decided in favor of petty contracts.

3 It seems scarcely possible to draw a line of demarcation between large and petty contracts so called, and yet, while the former are generally condemned, the latter appear to meet with some degree of favor. The terms themselves being purely relative are little likely to meet with some of the causes which have rendered the one so unpopular, and the other comparatively successful. And yet it is important, in the interests of the department, to arrive, if possible, at a knowledge of the causes which have produced this peculiar result.

4 The Reports of Executive Officers on the results of their experience present, at first sight, a promising field for investigation, but the task of generalizing from them is so vastly complicated by personal considerations as to be almost insuperable. The character of the Officers themselves, the liberal or literal construction put by them on the orders introducing the contract system, and often also the looseness with which the terms large and petty are used in connection with contracts, combine to render the work of reconciling their views one of the greatest difficulty. Little, therefore, I conceive, is to be hoped for from any attempt to analyze their reports on the results of the trial, with a view to determining the inherent causes which have led to the peculiar failures and successes of the contract system. The problem may, however, I think, be in some measure solved by an appeal to the practical considerations which have affected the working of contracts under departmental agency.

5 I believe that the difference between large and petty contracts lies rather in the character of the agreement than in the magnitude of the interests involved. "Large" may be understood to imply a contract, having its fulfilment secured by bonds and penalties, formally executed under deeds specifying rigidly the conditions of work, and fixing the responsibilities of both contracting parties.

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The designation "Petty," on the other hand, has generally meant a far more elastic kind of agreement, dependent for its fulfilment mainly on the good faith of both parties and rendered binding by a common interest. Though the conditions of a petty contract are not unfrequently reduced to writing, the bond is generally of such a nature as to be broken, without much difficulty, whenever its terms cease to be profitable or desirable to either of the parties concerned.

6 The classes of men usually undertaking contract under these different conditions have been again quite as distinct as the terms on which they worked. The Petty Contractor is, or has been, as a rule, a working man himself, with a more or less extended experience in his calling. Rarely possessed of capital, or even a competence, he depends for his living on such employment as he can secure, and that employment is, as often as not, virtually restricted to what he can obtain in the Public Works. It is, therefore, his interest to study the pleasure of the departmental Officers under whom he works. He accommodates himself readily to their requirements, and generally yields just such quality of work as he is taught to expect will pass muster. Petty Contractors will, with rare exceptions, do pretty nearly whatever they are required to do in common fairness, but they require to be kept up to a correct standard of work under the supervision of a competent executive staff. They are too poor and too dependent to be troublesome as litigants, and they rely for their own security on the fairness and sense of justice of their employers.

7 The large contractor is generally either a man of capital himself, or else he is in league with some capitalist, and he invariably does his work through the agency of petty contractors as above described. He rarely brings any professional knowledge to the assistance of the departmental staff, and should he possess any, he cannot be trusted to exercise it unwatched. Indeed, generally, I think, he is the less to be trusted the more competent he is professionally.

The large contractor is, in fact, little more than a middle-man between the departmental Officer and the petty contractor. He secures the largest share of the profits at the risk of taking the losses and penalties, and to diminish the chances of these his ingenuity is always on the stretch to twist the letter of his bond to his personal advantage. Of course, there are exceptions to both these generalizations, but I think that, on the whole, it may fairly be stated the large contractor has hitherto been obstructive, inasmuch as his intermediation has never admitted of a reduction of the departmental supervising staff, or the least relaxation of vigilance on their part, while the single advantage of employing him, viz, simplification of accounts, has been more than counterbalanced by petty hindrances to work and increased litigation.

8 I admit it is quite possible to have trust-worthy large contractors who may be a help instead of a hindrance, and we have doubtless had such since the system came into operation, and possibly may have some now working for the department, but they have been the exception. At the same time, it must also be admitted that the petty contract system has not proved uniformly a success. I believe, however, that both the successes, amid the general failure of the one, and the failures amid the general success of the other, are, in the majority of cases, fairly traceable to differences in the administrative capacities of the various departmental Officers by whom the contract system has been tried, and can scarcely be quoted as evidence either for or against either of the systems.

9 I am further of opinion that the system was introduced under two conditions most adverse to its success. These were, first, the announcement by authority that the contract system was meant as a check against the corruption of the Subordinate Officers of the department; and second, the revolutionary character of the measure. The first of these generally led to the belief that Government having ceased to repose confidence on the honesty and capacity of its own Officers, intended to rely, to a greater extent, on the integrity and professional ability to be found among the public. This impression induced in too many instances an amount of reliance in the good faith of the contractors who first responded to the invitation of Government, which subsequent events did not justify. The natural re-action from the first state of over-confidence led to a corresponding degree of after distrust, producing perpetual conflicts between the contractor, strong in the rights conferred on him by a too favorable bond, and the departmental executive anxious, but almost powerless, to enforce the rights of Government without recourse to summary measures involving litigation, and the ultimate breaking up of the system it was the object of Government to establish.

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10 In the beginning, also, many individuals and firms obtained contracts, giving them the monopoly of all the work which had to be done in a Station or Division for almost indefinite periods. Fancying themselves assured of the support of Government so long as they kept within the letter of the very wide margin their agreements allowed them, these contractors virtually set the executive at defiance, and compelled them to adopt a formality of procedure, the delays and vexations of which not only negatived all the advantages expected from the system, but rendered it actually an incubus on the department for whose relief it had been designed.

11 In the next place, a contract system, like every other administrative system, must be of slow growth to be practically effective, and the manner of introducing the contract system into Bengal was in the beginning essentially revolutionary in its character. During the seven years it has been under trial, the system has, however, undergone considerable changes, and, as it is now successfully practised in some divisions, appears to have taken a form well adapted to existing conditions, and to no inconsiderable extent it now affords the advantages originally sought.

12 I refer here to the practice which, originating in the Garrison Engineer's Division, has gradually been improved and extended to the other divisions in the Presidency and its neighbourhood. It is unnecessary to detail the minor features of a procedure so well known to the Chief Engineer, but it is as well to note that the principle on which it is based, and to which, I believe, its success to be due, is broadly that of binding down the contractor under certain limited penalties to the completion, within a specified time, of the work he may undertake to the satisfaction of the departmental Officers with whom he contracts. If he fail to give satisfaction during the earlier stages of the work, his profits are at the mercy of the departmental Officers from whose condemnation he has no appeal. On the other hand, the contractor relies on the good faith of Government, as represented by the departments, for not being treated with harshness or unfairness, or having his work wantonly condemned. He has, of course, the usual appeal from a decision of the Executive Engineer to the Superintending Engineer and Chief Engineer, but these also are departmental Officers.

13 When it is considered that every Officer in the department is interested, not only in obtaining good work, but in getting the work done in good time, also that, in throwing unnecessary or harassing difficulties in the way of the contractor, he is virtually apt to condemn himself, the contractor's security will not be found a bad one. Indeed, the interests of the contractor and of the departmental Officer are really the same, until we come to the quality of the work, when the former tends to clash with the latter under the temptation of making larger present profits by palming off inferior work. As, however, the most that could be made by successful fraud on any one contract would be but small, as compared with the profit of a long series of honest transactions, which would be risked in the event of discovery, this divergence of interests is, in practice, very much diminished, though never, I believe, absolutely reconciled.

14 The modified contract system, which has sprung up in and about the Presidency, appears to combine the advantages of both large and petty contracts. Though, probably, not yet so fully developed as to be equally well adapted for all parts of the province, and to all occasions, it already possesses great elasticity, while it gives a legal power over the contractor quite sufficient to keep him on his best behaviour. I do not doubt that it contains the germs of a contract system of original growth, and that its more general adoption in the province will be attended with the best results. The accompanying Note by the Garrison Engineer, on the advantages of the procedure which originated with him, is so much to the purpose that I attach it for the information of the Chief Engineer, and request his attention to it.

15 As regards the recommendation of my predecessor, the late Lieutenant-Colonel Short, R.E., in favor of employing a number of selected contractors, I entirely concur with the Chief Engineer in thinking the scheme utopian and altogether unpractical in its character. Such a system would speedily degenerate into the very worst form of monopoly, and infallibly lead to a greater corruption of the departmental subordinates than has ever yet existed. Constant, wide, and open competition among contractors is the only way to achieve economy of execution. To obtain good workmanship, the department must, and can, only rely on the vigilance and professional ability of its executive and

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directing staff. No system in the world can ever counterbalance the want of honesty, capacity, or zeal on the part of the departmental staff. With these secured, almost any system will succeed which allows of sufficient scope for their exercise.

16 An efficient comprehensive contract system may possibly hereafter bring about the extinction of our present Subordinate Establishments, but it will only be at the expense of a greatly enlarged engineering staff. That this would be a desirable result I am fully inclined to believe, but it is one from which we are at present so far removed, that it would be a mere waste of time to indulge in any anticipations of its realization. All we can do is to hasten the coming of that good time by creating a body of contractors capable of displacing our subordinates in some of their functions, and establishing a system which will admit of their doing so without loss of efficiency.

17 I believe the best way of bringing this about will be to encourage, but not compel, the introduction of the modified contract procedure in all divisions within the province.

18 Gradually, what between the changes which time and experience must make in the system itself, and the general advance of the country in operative skill and intelligence, I doubt not we shall succeed in obtaining a uniform procedure and an efficient practice. But to attain success in fact and not in appearance only, the change must be a work of time, and will demand not a little delicate handling and much patient perseverance.

NOTE by Captain S. T. TREVOR, R.E., Garrison Engineer, dated — July, 1867

I understand the distinction between large and petty contracts to be the following, viz. —

1 Large contracts are entered into by bond between the Secretary of State for India on the one part, and the contractor on the other part. The contractor is bound under certain penalties to observe various rules laid down in the Code for the proper execution of work. Such contracts are publicly invited by competition, and the lowest tenders, backed by proper security, are accepted as a rule. In consequence of the delay involved in the formalities incident to this description of contracts, they are generally entered upon only in the case of large works extending over a long time, or when it is desirable to have a contractor to undertake the whole work of a division of any particular class for a given number of years. But such formalities may be observed for smaller works, and, on the other hand, they may be omitted in large works where it would be proper to observe them. But such cases are exceptions to the rule.

2 Petty contracts are all contracts entered into by an Executive Engineer not coming within the above description of large contracts. As a rule, they embrace only single works, sometimes large, sometimes small. They are seldom open to competition, being generally given to some person who has attached himself to the division, and is called a "Petty Contractor." More or less formality is observed on making the agreement, depending on the degree of confidence placed by the Executive Engineer in the petty contractor, and the magnitude of the work. Some Executive Engineers would follow the Code Rules implicitly, others would make a short agreement suitable to the nature of the work; others would omit to make a written agreement at all. In any case, the petty contractor being seldom a stranger, and generally an unpaid attaché of the division, would follow the Executive Engineer's wishes rather than his agreement, even to the extent of resigning the work altogether if required. He, in most cases, has no capital to work with, and relies upon advances or frequent payments to account, and has probably an open account always running with the Executive Engineer.

3 Large contracts proved a failure, I believe, throughout Bengal. Just before I took charge of the Garrison Engineer's Division, there was a general contractor who had a monopoly of all repair works in the fort and out-buildings of the division; another similar contractor for Chinsurah, and a third for the maintenance of the Barrackpoor Road. All three had been signal failures. The first (who had been a Native Assistant Engineer of the Public Works Department) cancelled his contract by mutual consent, the second, also a Native, had his contract annulled under one of the penal clauses of the agreement, the third, a European, who had been an Overseer in the Department, also had his contract annulled and brought a successful suit against Government in the High Court on that account. In all these cases, the greatest possible dilatoriness and negligence had been shown by the contractors in the execution of their work, leading to endless complaints.

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4 I had necessarily to turn my attention, therefore, to the introduction of some new plan for the execution of the work of the division. During the interval of about six months between the cessation of the large contracts and the introduction of the system now in force, the work was carried on by petty contracts in the manner described above, i.e., it was given without written agreement to various petty contractors who had been in the habit of doing work in the division; the terms of payment being settled just as often after completion of the work as before.

5 After much consideration of the subject, I tried to make the new system a compromise between the large contracts and petty contracts as conducted formerly. The problem was to retain the good features of each system and eliminate the bad. The latter were the following, viz., in large contracts, *first*, the practical freedom from control and the vested rights acquired by contractors by means of their bond with the Government, which left Executive Engineers powerless to mend matters, however improperly a contractor might carry on work, so long as he kept within the letter of his bond, *second*, the cumbrous and dilatory nature of the forms to be gone through in making contracts. And in petty contracts they were, *first*, the want of competition; and *second*, the loose and informal nature of the agreements, not binding all contractors alike by the same rules as they should be. On the other hand, the good features were the following, viz., in large contracts, *first*, the public competition, *second*, the security lodged beforehand for the execution of the contract, *third*, the formal acceptance by the contractor of the terms and conditions enjoined in the Code, and *fourth*, the execution of work without advances. And the good points of the petty contract system were, *first*, the power exercisable by the Executive Engineer to annul the contract in case of failure, *second*, the limited scope given to each contract, which was more suitable to the capabilities of the class of contractors available here. All these features are embodied in the system of contracts now in force. Every work above Rupees 200 is competed for by contractors and given to the lowest tenderer. Definite dates are fixed for the commencement and completion of each work and adhered to in the great majority of cases. Power is reserved to the Executive Engineer to annul the contract if the progress is not proportionate to the time spent in it. And the contractor is bound to a set of terms and conditions, for the most part, extracted from the Code. All these are set forth in the printed form of tender. There is no novelty in the system beyond the manageable form into which it has been thrown. It has been successfully worked in the Garrison Engineer's division for the last three years. In that time 409 contracts have been entered upon out of 2,031 tenders received. This is an average of five tenders for each work offered for contract. Only in one case was no tender received at all, and that was a small work below Rupees 500. In six cases, the lowest tenderers failed to come forward and take up the contract after their tenders had been accepted, and the contract was, therefore, made with the next lowest tenderers. Fines amounting to Rupees 10,189-14-9 have been realized on account of delay in 21 cases. In one case, a contractor's work was entirely rejected after he had claimed its acceptance as complete, and he was obliged to remove it, and it was done over again by a fresh contractor. In seven cases, the work has been taken out of contractors' hands and finished at their risk and expense. In the great majority of cases, tenders have been accepted at rates considerably below the sanctioned schedule. On the whole, contractors' work has been fairly done. The Supervisor has complained of having great trouble in exacting good work and punctuality, but that is no fault of the system. No work on any system can be well done without trouble. The great difficulty I have found is to enforce the rules rigidly, and avoid making exceptional cases. In this I must confess to not having been as successful as I could wish, and yet it is the key to the efficient working of contracts.

Extract from the Proceedings of the Honorable the Lieutenant-Governor of Bengal, in the Public Works Department, dated 3rd December 1867, No 6,830.

Read—

Public Works Proceedings, General, November 1863, Nos 78—9

Read also—

Chief Engineer's Nos 474—75, dated 8th July 1867, with Schedule of rates for 1867 and Specimen Form of Estimate
Superintending Engineer, Presidency Circle, No 1,546, dated 27th April 1867
Chief Engineer's No 137, dated 4th May 1867
Superintending Engineer, Presidency Circle, No 3,532, dated 4th September 1867, with enclosures
Chief Engineer's No 1,082, dated 5th December 1867
Controller of Public Works Accounts, Bengal, No 3,795, dated 8th June 1867, with enclosure
Note by ditto, dated 12th August 1867.
Controller of Public Works Accounts, Bengal, No 6,695, dated 2nd October 1867, with enclosures
Ditto, ditto, No 6,941, dated 23rd October 1867

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OBSERVATIONS.—The above papers bring to notice several points which have been raised in connection with the "terms and conditions of contract" now in force in the Divisions at and near the Presidency, issued with the Chief Engineer's Memorandum, No 474, of the 8th July last, and also several other matters connected with contracts and the security deposits of contractors.

2 The first question raised is whether any deposit should be required to accompany a tender as earnest money, and if so, what should be the amount thereof. The Code, Chapter XIV., paragraphs 20 to 22, indicate that, as a rule, earnest money should accompany every tender, and, in practice, it has been found that such a procedure would be desirable. This is also in accordance with the opinion of the Advocate General, and the rule should, therefore, be adopted, the amount may be fixed as noted in the margin.

Amount of Executive Engineer's estimate—	Deposit Rs	50
If not exceeding Rs 2,000	"	100
Exceeding Rs 2,000 and not exceeding Rs 5,000	"	200
" 5,000 ditto " 10,000	"	100
and for every additional Rs 5,000, or portion of Rs 5,000,	"	100
a further sum of		

3 The second question is whether a separate bond is required from contractors in connection with the forms of tender and contract above referred to. From the opinion of the Advocate General it would appear that the tender, when accepted by the Executive Engineer, forms a legal and binding contract in itself, and no further bond is required to enable the parties to enforce any of the conditions thereof, and if the conditions state clearly the circumstances under which the security shall be forfeited, and the Promissory Notes, if any, may be sold and applied to the purpose of the contract, no further bond is requisite.

4 The third point raised is whether the present Clause 3 should be modified so as to increase the responsibility of a defaulting contractor for any loss or excess expenditure which may be incurred in the completion of a work taken out of his hands. In such cases, it will generally be advisable that the proceeding should be a final one, the exception to this rule would be those cases where a work is nearly on the point of completion, when it would be desirable to deduct from the original contractor's bill for the complete work the amount paid to another contract for finishing it off, under other circumstances, to carry on a work, when in a state far from completion, at the contractor's risk, would generally involve many questions both of law and account. The Contract Rules under notice are intended for ordinary works only, and it is desirable that the conditions and procedure should be as simple as practicable. It was in this view of the case that the conditions were originally framed to provide for the forfeiture of 10 per cent, that is, ten days' fine at 1 per cent per diem for delay in completion, and this 10 per cent, and any sums of money which may become due to the contractor, which could also be applied to the purpose, appear sufficient to protect Government from any loss in those exceptional cases where a work is taken out of a contractor's hands and completed at his risk. It will be advisable, however, to define more accurately the term "ordinary works," and it may, therefore, be held that tenders should not be invited under these conditions for any work estimated to cost more than Rs. 25,000. In the case of works estimated to cost more than Rs. 25,000 each, the orders of the Chief Engineer should be first obtained, nothing the special conditions proposed, and a separate Contract Deed should in such cases be prepared.

5 It will be necessary also to introduce a Clause empowering the Executive Engineer to take possession, when necessary, of all material, tools, plant, &c., which may have been collected for any work in the case of the annulment or cancellation of a contract, paying a reasonable price for the same; and also, under similar circumstances, to have power to remove or to sell at the defaulting contractor's risk, in the event of his failing to remove the same, all material, tools, plant, &c., which the Executive Engineer may not think it proper to take over. It will also be desirable that the period, within which the Executive Engineer shall have power to annul a contract after the contractor shall have subjected himself to ten consecutive days' fine, should be such as to admit of a reference to the Superintending Engineer, or, say fourteen days.

6 The fourth question raised is as to the right of property in material which has been made to a contractor under Clause 9, but which has not been used in a work, in the event of the insolvency of the contractor. Under the rule, as it now stands, the Advocate General has stated that it would vest in the insolvent's estate. A modification of the rule, so as to preserve the right of Government to such material, is therefore necessary.

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7. The question has also arisen whether, in calling for tenders, under these contract rules, it is necessary to stipulate in all cases that each tender shall embrace the whole of the works of every class which are to be carried out under one estimate. With reference to this, it may be stated that it will rest with the Executive Engineer, subject to the orders of the Superintending Engineer, to invite tenders separately for each description of work, as mason's work, carpenter's work, &c., &c., when such a sub-division is considered desirable, provided that, in calling for tenders in such cases, it be distinctly stated what sub-division of work is to be followed in the submission of the tenders.

8. The sixth point is whether the security deposit should be returned immediately on completion of a work, or whether the contractor should be required to maintain the work or make good any defects which appear within a period to be stated in the conditions. These conditions being applicable to ordinary works only, it is considered desirable that the final settlement of all liabilities on each work should be made as promptly as possible, and it is desirable that the Officers of this department should feel and accept fully the responsibility which rests on them in approving (See Clause 6) of work, and in accepting of work as completed, under Clause 5. If work has to be maintained for any period after completion, the contractor will, of course, look for additional compensation in his charges for such outlay, and, under the circumstances, it appears advisable that the contractor's risk should cease with the completion of the work, and in view to mark this period of the termination of the contractor's risk, a certificate of completion should be given to him by the Executive Engineer, a reasonable period only being afterwards allowed for the return of the security deposit.

9. The seventh question raised is whether the security deposits of contractors should, as at present, be endorsed over to, and be sent to the Secretary to the Government of Bengal, Public Works Department. The present system is admitted to involve much delay and needless correspondence, and as it is not required by the Public Works Code, it will be advisable to modify it so far as to require that Government Promissory Notes should be endorsed over to the Executive Engineer of the Division, and be by him forwarded to the Controller of Public Works Accounts for deposit for safe custody in the Bank of Bengal.

10. The next point is whether any intimation should be given to the Office of Account of the acceptance of tenders. Though not specially provided for by the Code, it appears necessary that intimation of the acceptance of a tender should, in all cases, be immediately communicated to the Controller, whose duty it will be to see that the orders, as regards the acceptance of tenders, the amount of security deposit, and the return of the deposit only on due completion of the contract, are properly carried out.

11. The ninth point is as to the signing of tenders when received from a Firm, and as to the signing of receipts for payments made in such cases. In such cases, it is necessary that each joint contractor should sign the tender separately, and in the event of the absence of any partner, it should be signed on his behalf by a person holding a Power of Attorney to do so. In the case of receipts for money paid, it is not necessary in the case of well-known Firms that each Member of the Firm should sign, but in other cases, as a general rule, it should be required.

12. The last question raised in these papers is as to the limits of Executive Engineer's power to make petty contracts, for which no tenders are accepted, nor are the Code Rules, as regards contracts, in any way applied. The Code does not lay down any rule as to petty contracts, or recognize any other system than that of open competition, but there is a system which is in force generally throughout the Mofussil which is known by the name of "the petty contract system," and which is recommended by most Superintending Engineers as best suited to the requirements of their respective Circles. This petty contract is, in fact, generally a mere understanding, or at most a verbal agreement to execute work at a certain rate without any stipulation as to the quantity to be performed, or the period during which the agreement shall be in force; and it is this very indefiniteness which is urged as making the system so peculiarly suitable, leaving, as it does, so much power with the Executive Engineer.

13. It should, therefore, be the earnest endeavour of all concerned to introduce a system of contract in which the conditions as to the payment, the quantity of work, and the period, should be precisely stated, and to which all parties concerned should be required to adhere strictly. Without at present laying down any very detailed rules, it may be held that no petty contract should be made which will involve payments to one person or Firm of more than Rupees 2,000 on account of any one work, without the approval of the Superintending Engineer, and that in all cases in which the amount likely to be paid to one person or Firm is likely to exceed Rupees 100 on account of any one work, there should be a written agreement in Form No. 110B, or such modification thereof as may be suitable, and a schedule of all such agreements should be filed in the Executive Engineer's Office. These written agreements need not, of course, be taken from that class of persons who ordinarily execute earth-work, or such like work, working in gangs under a headman or sirdar, to take written agreements from such persons would probably be injudicious, and tend merely to an increase of rate without any corresponding advantage.

ORDER—Ordered, that a copy of the above Resolution, and of the Form of tender and agreement for petty contract work therein alluded to, be forwarded to the several Superintending Engineers in Bengal for information and for guidance.

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Ordered also, that a copy of the foregoing Resolution, and of the papers alluded to therein, be forwarded to the Controller of Public Works Accounts, Bengal, for information and guidance, and for the issue of any subsidiary instructions under paragraphs 8 and 9 which may be necessary; also that a copy of the papers be forwarded to the Irrigation Branch of this Secretariat for information.

Ordered also, that an extract of paragraphs 1 and 9 from the above Resolution be forwarded to the Secretary and Treasurer of the Bank of Bengal for information and future guidance.

PUBLIC WORKS DEPARTMENT.

TENDER FOR WORKS

(a) —I or we
(b) —Here enter rate
(c) —Above or below

(a) Herby tender for the execution, by contract, of the under-mentioned work at (b) per cent (c) the rates entered in the general schedule of the Office of the Executive Engineer.

Division, for the year 1866, and special estimate for the said work, and

(a) agree to abide by the terms and conditions printed on the reverse of this paper in the event of

(d) tender being accepted, at the foot hereof

MEMORANDUM OF WORK TENDERED FOR

No of work.	Name of work.	Amount of Estimate	Date for commencement of work	Date for completion of work	Number and amount of Currency Notes which accompany as earnest money.

(e) —Here fill in amount of earnest money

The sum of Rupees (e) in Currency Notes is herewith forwarded as earnest money, to be absolutely forfeited to Government should (f) not

(f) —I or we deposit the full amount of 10 per cent on the estimated cost of the work in accordance with Clause 1 of the terms and conditions of contract, in the event of this tender being accepted.

* As regards signature, see paragraph 2 of the rules on the back of this tender *

Dated _____

The above tender is hereby accepted by me on behalf of the Secretary of State for India in Council, as intimated to the above-named Contractors this day.

† Signature of the officer by whom accepted

Dated _____

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TERMS AND CONDITIONS OF CONTRACT.

1. The person whose tender may be accepted shall, before the date fixed for commencing the work, deposit in cash, or Government Securities endorsed to the Executive Engineer, a sum amounting to 10 per cent on the estimated cost of the work undertaken by him as security for the due performance of his contract. The Executive Engineer shall have power to deduct all fines incurred by contractors from or by sale of a sufficient part of this security deposit, or from the interest of any Government Security or from any other sums due, or which may become due to them by Government.

2. The dates fixed by the Executive Engineer for the commencement and completion of work, as notified on the board hung up in the Executive Engineer's Office, and entered in the tender, shall be strictly observed by contractors, who shall be subject to pay a daily fine of one per cent on the amount of the estimate for every day not exceeding ten days that the work remains uncommenced, or unfinished, after the proper date. And further, to ensure good progress during the execution of works, contractors shall be bound in all cases in which the time allowed for a work exceeds one month, to complete one-fourth of the whole work to be done when one-fourth of the whole time allowed for it has elapsed, one-half of the work when one-half of the time has elapsed; and three-fourths of the work when three-fourths of the time has elapsed, and the penalty for failure in either of these cases shall likewise be that the contractor shall be subject to pay a daily fine of one per cent on the amount of the estimate for every day not exceeding ten days that the due quantity of work remains incomplete. All such fines shall be considered as liquidated damages to be applied to the use of Government without reference to the actual loss sustained owing to the delay.

3. In every case in which any fine mentioned in the preceding clause shall have been incurred for ten consecutive days, the Executive Engineer shall have power, within fourteen days thereafter, either to annul the contract altogether, or to have the work completed without further notice at the contractor's risk or expense, as he may deem best suited to the interests of Government, and the contractor shall have no claim to compensation for any loss that may accrue from any materials he may have collected, or engagements he may have entered into, on account of his work, and in the latter case the Executive Engineer shall have power to deduct whatever amount may be expended on the completion of the work from any sums that may be due or become due from Government to the contractor on account of this or any other work.

4. In the event of the Executive Engineer putting in force the power vested in him under the preceding clause, he may, if he so required it, take possession of all tools, plant, materials, and stores, or any portion thereof, on the premises, paying or allowing for the same in account at the contract rates above or below the general Schedule rates, or if not specially provided for therein, at current market rates, otherwise the contractor may be required to remove such tools, plant, materials, or stores from the premises, and in the event of his failing to do so, the Executive Engineer may remove them at the contractor's expense, or sell them by auction on account of the contractor.

5. If the contractor shall be hindered in the execution of his work so as to necessitate an extension of the time allowed for its completion, he shall apply in writing to the Executive Engineer, who shall grant in writing the extension required, if reasonable grounds be shown for it, and without such written authority of the Executive Engineer, the contractor shall not claim exemption from the fine leviable under Clause 2, if the work is not finished within the prescribed time.

6. On completion of a work, the contractor shall be furnished with a certificate to that effect by the Executive Engineer, but no work shall be considered as complete until the contractor shall have removed all collections of scaffolding, surplus materials, and rubbish resulting from it, and cleaned off the dirt from all wood-work, doors, windows, walls, floors, or other parts of any building he may have had in possession for repairs or other work.

7. No payments shall be made for works estimated to cost not more than Rupees 1,000 till after the works have been completed and approved. But in the case of works estimated to cost more than Rupees 1,000, the contractor shall submit a monthly bill for work done, which shall be paid to such extent as the work may be approved and passed by the Executive Engineer. But all such intermediate payments shall be regarded as payments to account, to be covered by the final bill for the complete work, and not as payments for work actually done and completed.

8. Contractors shall make out their bills, whether for complete works, or works in progress, on the printed forms to be had in the Executive Engineer's Office. The charges in the bills are always to be entered at the Schedule rates as entered in the Executive Engineer's estimate for the work, and the percentage allowed in the accepted tender is to be added to, or deducted from, the total at foot of the bill.

9. When an estimate provides for the use of any special description of materials to be supplied from the Executive Engineer's store, the contractor shall be supplied from such store with the material as required from time to time to be used by him for the purpose of the contract only, the

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value of the full quantity of material so supplied being deducted at the general Schedule or Divisional rate from the bills submitted by the contractor, or from, or by sale of, the security deposit, or a sufficient part thereof. Any such materials unused at the time of completion or determination of the contract to be returned to the Executive Engineer's store, if he so require it, but otherwise, the contractor shall not return remnants of such materials into the Executive Engineer's store, or claim any compensation for loss by wastage in such materials beyond what may be allowed in the estimated, it being assumed that all risk is provided for in the tenders.

10. Contractors shall invariably execute all work in the most substantial and workman-like manner, and in strict accordance with the specifications attached to the schedule of rates, and the material used shall be of the best description. Contractors shall also conform minutely to the designs, drawings, and instructions in writing relating to their work, signed by the Executive Engineer, and lodged in his Office for their inspection during Office hours.

11. The Executive Engineer shall have power to make any alterations in the original designs, drawings, or instructions, that may appear to him to be necessary during the progress of the work, and contractors shall be bound to carry them out forthwith on the same being pointed out to them or their Agent in writing. Such alterations shall not invalidate the contract, but contractors shall not make any alterations or execute any work not provided in the contract without the Executive Engineer's authority in writing.

12. If it shall appear to the Executive Engineer, or his subordinate in charge of the work, that any work has been executed with unsound, imperfect, or unskilful workmanship, or with materials of an inferior description, the contractor shall, on demand in writing, forthwith rectify, remove, or re-construct the same in whole or in part, as the case may require, at his own proper charge and cost, and in the event of his refusing to do so within a period to be specified by the Executive Engineer or his subordinate, or if he shall fail to remove from the site of the work within a specified period, any materials or articles which are considered by the same Officer unsound, of bad quality, or not agreeable to the terms of the contract, and to provide immediately suitable materials or articles in lieu of those condemned, then the contractor shall be liable to pay a fine of 1 per cent. on the amount of the estimate for every day not exceeding ten days that he fails to comply with the written demand of the Executive Engineer or his subordinate, and if he shall incur such fine for ten consecutive days, the Executive Engineer may act as provided in Clauses 3 and 4.

13. All works under execution by contract shall at all times be open to the inspection and supervision of the Executive Engineer and his Assistants, and contractors shall always have a responsible Agent present at the works, when they are not present themselves, to receive their orders and instructions. Orders given to contractors' agents shall be considered to have the same force as if they had been given to contractors themselves.

14. Contractors shall be responsible to give due notice to the Executive Engineer or his Assistants to measure any work which is going to be covered up, or otherwise placed beyond the reach of measurement, in order that the correct dimensions may be taken before being so covered, in default whereof, the same shall be uncovered at the contractors' expense, or no allowance made for such work or materials.

15. If contractors or their work-people break, deface, or injure any part of a building they may be working in, or any building, road, fence, enclosure, or grass land, or cultivated ground contiguous to their work, or if any damage shall happen to the work while in progress, from any cause whatever, or any imperfections become apparent in it, they shall make the same good at their own expense, or, in default, the Executive Engineer may cause the same to be made good by other workmen, and deduct the expense from any sums that may be due to contractors.

16. Contractors are to supply, at their own cost, all plant, tools, implements, ladders, cordage, tackle, and scaffolding required for the proper execution of their work, together with carriage for the same to and from the works. They are also to supply without charge the requisite number of persons with the necessary means to set out works, and to count, weigh, and assist in the measurement of their work or materials. They are also to provide all necessary fencing and lights required to protect the public from accidents, and they shall be bound to bear the expenses of defence of any action or law proceedings that may be brought by any person for injury sustained owing to neglect of the above precautions, and to pay any damages and cost which may be awarded in consequence.

17. No work is to be done on Sundays without the written permission of the Executive Engineer.

18. No contract is to be sub-let without the written approval of the Executive Engineer. A contractor sub-letting his contract, without such approval, shall be considered as thereby com-

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mitting a breach of contract, and the contractor shall forfeit his security deposit, and shall have no claim for any compensation for loss that may accrue from materials he may have collected, or engagements entered into.

19. All works under execution by contract shall be under the direction of the Superintending Engineer of the Circle for the time being, whose decision shall be final, conclusive, and binding to all parties to the contract on all questions relating to the meaning of drawings and specifications and to the quality of workmanship and materials used on the work

*Signature of the
Party tendering*

PUBLIC WORKS DEPARTMENT.

TENDER FOR WORKS

Division.

General Rules and Directions for the guidance of Contractors.

1. All works proposed for execution by contract will be notified in a tabular form, posted on a board and hung up in the Office of the Executive Engineer. This form will show the estimated and probable, but not guaranteed, cost of each work, as well as the date for submitting tenders for it, and for commencing and completing it, and the amount of earnest money to be deposited with the tender.
2. In the event of this tender being submitted by a Firm, it must be signed separately by each member thereof, or, in the event of the absence of any partner, it must be signed on his behalf by a person holding a Power of Attorney authorizing him to do so.
3. Receipts for payments made on account of a work when executed by a Firm, must also be signed by the several partners, except in the case of well known and recognized Firms.
4. The amount of earnest money to be deposited will be—

If the amount of the Executive Engineer's estimate does not exceed	RS.	RS.
If exceeding Rupees 2,000 and not exceeding 5,000	2,000	50
5,000	5,000	100
and for each additional Rs. 5,000, or portion of Rs. 5,000, a further sum of	10,000	200
		100

5. Any person who submits a tender is to fill up the above printed form, stating at how much per cent. above are below the rates in the Office Schedule, he is willing to undertake the work. Only one rate of percentage, more or less, on the whole schedule is to be named. Tenders which propose any alteration in the estimate or schedule of rates, or which contain any other conditions of any sort, will be rejected. No single tender is to include more than one work, but contractors, who wish to tender for two or more works, are to submit a separate tender for each. Tenders are to have the name and number of the work to which they refer written outside the envelope.

6 The Executive Engineer or his Assistant will open tenders in the presence of any intending contractors who may be present at the time, and will enter the several tenders in a Schedule. In the case of tenders not exceeding Rupees 2,000 for each work, the Executive Engineer will at once note that which is accepted by him. If the amount be more than Rupees 2,000, the acceptance of the Executive Engineer will be subject to the confirmation of the higher Officers of the Department

7 The Executive Engineer reserves the right of rejecting the whole or any of the tenders.

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PETTY CONTRACT WORK.

do hereby agree with the Executive Engineer, Division, for the time being, to execute the under-mentioned description of work at the rates enumerated, and in accordance with the conditions noted below, in consideration of payment being made for the quantity of work executed at the rates specified at the following Schedule —

Name of work.	Number of Item.	Class and description of work to be executed.	Unit of calculation.	Rate of payment.
				RS A. P.

CONDITIONS.

The Petty Contractor is to proceed with the work with due diligence, and all work executed is to be done in a workman-like manner, and the material used is to be of the best of the several kinds procurable, and in all cases is to be subject to the approval of the Executive Engineer for the time being, or his Sub-Divisional Officer, whose decision, as to the rate of progress and the quality of work for material, shall be final.

2 The quantity of work executed shall be measured and payments made every days on the completion of the work, or the determination of this agreement, final measurements will be made and the account shall be adjusted accordingly.

3. In the event of due progress not being made, or of bad work being done or bad material being used, the Executive Engineer may determine and end this agreement without further notice, and in the case of bad work or material, the Executive Engineer may remove the same and have it re-placed, deducting the value of the work or material removed, or the cost of re-placing the same, as he may think proper, from any amount due, or that may be due, or become due, to the Petty Contractor

*Signature of Petty
Contractor.*

Witness

Residence.

No _____ of 186 .

Name of Contractor

Memorandum of payments made.

Date	Quantity of works paid for.	Amount paid
		RS. A. P.

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From the Secretary to the Government of India, Public Works Department, to the Secretary to the Government of Bengal, in the Public Works Department, dated 9th April 1868, No. 276 A.

The Resolution of the Bengal Government, on the subject of the working of contracts in Calcutta, received on 6th January with your docket, No. 6,801, of 3rd December last, has been under the consideration of the Governor General in Council, and I am now directed to communicate the remarks of His Excellency in Council thereon.

2. I am first to state that the Government of India is satisfied that the matter has now been very carefully considered by the Public Works Department of Bengal, and I am to express the general concurrence of the Governor General in Council in the conclusions arrived at, subject to the exceptions and remarks which follow. But it is still necessary to carry out practical improvements in the manner proposed in these reports. The Governor General in Council hopes that matters are now in train towards the more prompt and efficient execution of work in Calcutta; but His Excellency in Council is bound to say that as yet the expected improvement is not very apparent, and it will require the earnest attention of all the Officers concerned to give it real and practical effect.

3. Returning now to the documents above acknowledged, the first point that I am to remark upon is the conclusion, in which the Government of India quite concurs, that it is necessary to exercise very close supervision on the performance of work by contract. It appears to the Governor General in Council that it is necessary to carry this conclusion to its practical consequence, and to re-organize the establishments of the Executive Engineers in Calcutta accordingly. And this, the Governor General in Council is disposed to think should be done, not merely by making a reasonable addition to the number of Assistant Engineers and Upper Subordinates, but also by strengthening the Lower Subordinate agency by the appointment of head artificers in the principal crafts employed in building. I am to suggest that such an addition would be a very useful aid to the Assistant Engineers and Upper Subordinates, and would also place the Executive Engineer in a position to work, if occasion required, independently altogether of contractors, large or petty. It seems to the Governor General in Council that it would be in any case desirable to carry out work occasionally in this way, if only to secure a proper control over rates, and enable the Executive Engineer to deal strictly with unsatisfactory contractors without inconvenience to the public service. The additional expense involved in a reasonable strengthening of establishments will be quite trifling compared with the enormous outlay involved in the work going on in Calcutta; and will be far more than re-paid in any, even very small, improvement in supervision. The Governor General in Council will be glad to receive specific proposals from the Bengal Government for the re-organization of these establishments at an early date.

4. But while the Governor General in Council is strongly impressed with the importance of doing what is possible by means of the Government establishments to secure good and honest work, and timely execution of works, this is a matter of so much difficulty and importance that it is also desirable to insist upon arrangements being made by contractors to the same end. And this should be done just as fully and strictly as if the Government were to leave the matter

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wholly in the contractors' hands. To this end the Governor General in Council would suggest that the 12th Clause of the Bengal Government's new Conditions of Contracts should be expanded so as to require not only that the contractors shall have an Agent always on the works, but also a proper supervising staff, consisting of such a number of persons as the Executive Engineer shall require, and bring such persons as the Executive Engineer shall be satisfied with as regards their knowledge, tact, zeal, and vigilance. It should be specifically provided that failure to meet the Executive Engineer's demands in this respect shall annul the contract. There are, no doubt, provisions in the Conditions which might be made to meet these objects, but they are not sufficiently prominent and specific. Of course, the Executive Engineer would be bound to exercise his power, under these conditions, with reason and consideration. He must not expect unattainable perfections in the contractor's staff. But he has a perfect right to insist upon a liberal outlay and reasonable care in providing what is so essentially necessary to securing the honest performance of a contract.

5. The Governor General in Council observes, from the 7th paragraph of your letter, that the Lieutenant-Governor considers that the first condition to be secured, in case of works being given on contract, is that there should be substantial security for the execution of the contract. If the word security be interpreted in its widest sense, the Governor General in Council quite concurs in this observation. This condition would, in that case, include the provision of proper supervision by the contractor which has been insisted on in the last paragraph. But I am to remark that, if the term security be restricted to the means given to impose penalties in case of non-performance, then the giving of substantial security, even accompanied by the execution of a carefully drawn Deed of Contract, will not suffice. To enforce penalties after a work has been carried out in an inefficient way, or has failed, is a poor compensation of disappointment and delay. Even the provision of increased supervision on the part of the Government may fail to detect or remedy defects. All these means may fail unless good faith and efficient supervision, on the part of the contractors, can be secured in a reasonable degree.

6. The building or contractor's trade must depend, like all other commercial affairs, in a great degree, on personal credit. And it appears to the Governor General in Council that this must be allowed for in our contract rules, not only in the negative way proposed by the Chief Engineer of Bengal of excluding those contractors who have failed to carry out works satisfactorily, but positively, in giving a special preference to those who have previously given satisfaction. It may be better for the Government, as it is certainly proper for the encouragement of a desire to give satisfaction to the Government on the part of contractors, to give 10 per cent. more to a contractor who is certain to execute a work well, than to give the work at a lower cost to an unknown person who may fail. The limits, within which preference of this sort is to be confined, must be left to the judgment of the local Officers, and the Governor General in Council would not impose any rule to compel the acceptance, unless in cases of previous failure, the lowest tender for the execution of work.

7. The Government of India quite agree with the Lieutenant-Governor that, in this and many other matters connected with contractors, general rules applicable to all cases cannot be carried out, and it should certainly be left to the local Officers under proper direction and control to work with or without contracts

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3. Returning now to the documents above acknowledged, the first point that I am to remark upon is the conclusion, in which the Government of India quite concurs, that it is necessary to exercise very close supervision on the performance of work by contract. It appears to the Governor General in Council that it is necessary to carry this conclusion to its practical consequence, and to re-organize the establishments of the Executive Engineers in Calcutta accordingly. And this, the Governor General in Council is disposed to think should be done, not merely by making a reasonable addition to the number of Assistant Engineers and Upper Subordinates, but also by strengthening the Lower Subordinate agency by the appointment of head artificers in the principal crafts employed in building. I am to suggest that such an addition would be a very useful aid to the Assistant Engineers and Upper Subordinates, and would also place the Executive Engineer in a position to work, if occasion required, independently altogether of contractors, large or petty. It seems to the Governor General in Council that it would be in any case desirable to carry out work occasionally in this way, if only to secure a proper control over rates, and enable the Executive Engineer to deal strictly with unsatisfactory contractors without inconvenience to the public service. The additional expense involved in a reasonable strengthening of establishments will be quite trifling compared with the enormous outlay involved in the work going on in Calcutta; and will be far more than re-paid in any, even very small, improvement in supervision. The Governor General in Council will be glad to receive specific proposals from the Bengal Government for the re-organization of these establishments at an early date.

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wholly in the contractors' hands. To this end the Governor General in Council would suggest that the 12th Clause of the Bengal Government's new Conditions of Contracts should be expanded so as to require not only that the contractors shall have an Agent always on the works, but also a proper supervising staff, consisting of such a number of persons as the Executive Engineer shall require, and bring such persons as the Executive Engineer shall be satisfied with as regards their knowledge, tact, zeal, and vigilance. It should be specifically provided that failure to meet the Executive Engineer's demands in this respect shall annul the contract. There are, no doubt, provisions in the Conditions which might be made to meet these objects, but they are not sufficiently prominent and specific. Of course, the Executive Engineer would be bound to exercise his power, under these conditions, with reason and consideration. He must not expect unattainable perfections in the contractor's staff. But he has a perfect right to insist upon a liberal outlay and reasonable care in providing what is so essentially necessary to securing the honest performance of a contract.

5. The Governor General in Council observes, from the 7th paragraph of your letter, that the Lieutenant-Governor considers that the first condition to be secured, in case of works being given on contract, is that there should be substantial security for the execution of the contract. If the word security be interpreted in its widest sense, the Governor General in Council quite concurs in this observation. This condition would, in that case, include the provision of proper supervision by the contractor which has been insisted on in the last paragraph. But I am to remark that, if the term security be restricted to the means given to impose penalties in case of non-performance, then the giving of substantial security, even accompanied by the execution of a carefully drawn Deed of Contract, will not suffice. To enforce penalties after a work has been carried out in an inefficient way, or has failed, is a poor compensation of disappointment and delay. Even the provision of increased supervision on the part of the Government may fail to detect or remedy defects. All these means may fail unless good faith and efficient supervision, on the part of the contractors, can be secured in a reasonable degree.

6. The building or contractor's trade must depend, like all other commercial affairs, in a great degree, on personal credit. And it appears to the Governor General in Council that this must be allowed for in our contract rules, not only in the negative way proposed by the Chief Engineer of Bengal of excluding those contractors who have failed to carry out works satisfactorily, but positively, in giving a special preference to those who have previously given satisfaction. It may be better for the Government, as it is certainly proper for the encouragement of a desire to give satisfaction to the Government on the part of contractors, to give 10 per cent. more to a contractor who is certain to execute a work well, than to give the work at a lower cost to an unknown person who may fail. The limits, within which preference of this sort is to be confined, must be left to the judgment of the local Officers, and the Governor General in Council would not impose any rule to compel the acceptance, unless in cases of previous failure, the lowest tender for the execution of work.

7. The Government of India quite agree with the Lieutenant-Governor that, in this and many other matters connected with contractors, general rules applicable to all cases cannot be carried out, and it should certainly be left to the local Officers under proper direction and control to work with or without contracts

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according to circumstances, bearing in mind that contractors should be encouraged to come forward when there is no reason to the contrary.

8. As regards the employment of contractors for the entire construction of large works, the Government of India agree with the Chief Engineer that this kind of contract should not be discouraged when there is reason to hope for success within reasonable limits of expense. But this, like other matters, must, in a great measure, be left to the discretion and experience of local Officers.

9. I am directed to forward, for the information of the Lieutenant-Governor, a copy of correspondence with the Trades Association of Calcutta on the subject of contracts; and I am to beg His Honor's special attention to the question of the short hours of labor in Calcutta referred to in the conclusion of the letter to the Secretary of the Trades Association Committee.

10. The correspondence on the subject of contracts in Calcutta will be circulated for information to all Local Governments.

From the Secretary to the Calcutta Trades Association, to the Secretary to the Government of India, Public Works Department, dated 31st December 1867.

In the observations of His Excellency the Governor General in Council on the failure of the Custom House Sheds, dated 10th May 1867, His Excellency remarks that—"The experience of the last few years clearly shows that the system of contracts for large works, as in force in Calcutta, has entirely failed, and there has been a large waste of public money. It, therefore, becomes a matter for consideration whether the system, so far as regards large contracts, not petty ones for materials, &c., should not be abolished in Calcutta, or whether at least some steps should not be taken to work it very differently; but before finally determining this point, the Government of Bengal will be invited to submit its views on the subject."

The Committee of the Calcutta Trades Association, on behalf of an important trading interest, while expressing their entire concurrence in His Excellency's statement, desire respectfully to offer some suggestions with a view to the contract system being placed on a proper basis, it being considered that contracts, if based on principles alike fair to Government and the Contractor, cannot fail, under proper superintendence, to secure both cheapness, efficiency, and celerity in construction of public works.

It must be remarked in the outset that a system of contracts based on such principles has not been tried in Calcutta.

The main objections to the present system are that the work is so sub-divided that no leading European Firm can tender successfully, while the conditions are such as to be unfair to any party who intends to execute his work faithfully.

Those conditions are—

1st—That the Contractor shall deposit one-tenth of the amount of his tender in cash or Government of India Notes as security for the due performance of his contract—a condition inevitably crippling the Contractor by the withdrawal of a considerable portion of his Capital. This is utterly opposed to the ordinary rules governing contracts, either for Railway or private works, the usual course being to pay for work done at certain intervals, retaining a per-centage as security until the completion of the contract.

2nd—That the tender should be at a per-centage on schedule rates. This condition is unfair to the party contracting, inasmuch as it deprives him of all possible advantages to accrue from the state of the market, while it exposes him to loss on a particular item of the contract, which, if the whole were in the hands of one Firm or individual, might be made up by the profits on other items.

3rd—The conditions as to the quantity of work to be performed in a certain time are arbitrary and incompatible with the possibilities of performance in such a climate as this. The sub-division of contracts entails many inconveniences, often causing serious delay in the completion of

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For the work, and entailing consequent loss on the contractor as well as on the Government. In the case of the barracks now in construction at Barrackpore, one of the conditions under which the contract was advertised was, that the buildings should be completed in August 1867.

The contract was simply for masonry work at schedule rates, the bricks being supplied by Government. The contract was, therefore, virtually one for soorkey and labor, in which no respectable European Firm could compete with a Native. At first sight, a saving would be effected; but the sequel will show how the system works, the buildings were not only not completed at the time specified, but the Committee observe that so late as October last tenders were issued for the beams for the buildings—a contract of such extent, both as to the quantity and size of the beams required, that it was impossible it should be executed from any stock then in Calcutta, or procurable within the period named from the ports of timber shipment. The necessary consequences are, great delay and increased rates, both of which might have been avoided if the entire contract had been given on proper conditions to a Firm of established repute, who would, in the course of business, have taken steps to procure the needful supply of timber, or any other material, to arrive at the time when it should be required.

The slow progress and inefficient construction of public buildings recently erected, and now in course of construction in Calcutta, afford a strong proof of the imperfection of the system under which works are now carried on, and call loudly for a change, not in the direction, the Committee would venture to assert, of abolishing a system of execution of such works by contract, but of its extension so as to assimilate the system more to that which has been proved to be successful in the case of private buildings.

It cannot be supposed that a system which has been successful in the construction of Railways, Docks, and other public works all over the world, should be totally inapplicable to Government work in this country.

The immense expenditure on public works throughout the country, and the gross and known abuses which have crept into the Department, appear to the Committee imperatively to demand that steps be taken to ensure at once efficiency and economy in the expenditure of the public funds, and with this view, the Committee respectfully suggest that the whole question be submitted to a Commission, in which experienced men in the trade shall be included, for the purpose of inquiring into the particular working of the Department, and laying before Government a report on the best means of promoting its efficient and economical working.

The Committee have the honor to request that you will take an early opportunity of laying this letter before His Excellency the Governor General.

From the Secretary to the Government of India, Public Works Department, to the Secretary of the Calcutta Trades Association, dated 9th April 1868, No. 275A.

1. Your letter of the 31st December last, on the contract system of the Public Works Department in Calcutta, was received at the same time with the Report from the Government of Bengal alluded to, as having been called for in the Resolution of 10th May 1867, which you quote. The subject has since been under the consideration of the Governor General in Council, and I am now directed to reply as follows to the statements and suggestions you have made on behalf of the Calcutta Trades Association.

2. One objection made by the Trades Association to the existing contract system is, that the work is so sub-divided that no leading European Firm can tender successfully. On this I am to remark that this sub-division of the works has been brought about recently to meet the evil of large contractors sub-letting the contracts without taking any proper steps to supervise the work of the sub-contractors. The consequence has been that the Government have paid highly to

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leading Firm for doing what it could more cheaply do itself, namely, to entrust the work to petty contractors under Government supervision. There might be no objection to sub-letting contracts, under proper limitation, if the leading European Firms employed could be relied upon to see that the work was well and honestly performed; but this is exactly where the previous system of contracts has failed.

3. The next objection is to the crippling the contractor by requiring him to deposit 10 per cent. of the amount of his tender as security for the due performance of his contract. It scarcely appears to the Government of India that this ought to cripple a contractor possessed of sufficient capital to be able to work efficiently a large contract. I am to add that the object of the requirement is to exclude "men of straw" who might undertake, under no sort of penalty, to do what they could not perform, and so lead to trouble and delay in getting work done. No alternative provision for meeting this object has been suggested.

4. The Association further object to the practice of requiring tenders to be on schedule rates, as depriving the contractor of the possible advantages which might accrue from the state of the market. On this I am to remark that this system is intended simply to facilitate the disposal of tenders which, if presented in various forms, would not admit of easy comparison. The plan is the one in use by the Government in England, and it does not appear to the Governor General in Council in what respect it can be unfair to contractors. If the Trades Association have any specific amendment of the schedules to suggest, such suggestions would doubtless meet with due attention from the Government of Bengal, in the Public Works Department.

5. It is said that the conditions, as to the quantity of work to be performed, are arbitrary and incompatible with the possibilities of performance in such a climate as this. But I am to remark that work is performed under those conditions which have been introduced after long experience. Some conditions are obviously necessary.

6. The Government of India are not at all indisposed to adopt contracts for complete buildings on proper occasions, or, indeed, universally, if contractors can be got to work satisfactorily. The difficulty is to obtain contractors who will be as anxious as the Government are to secure good and honest work; and more, who will take a pride in executing work of the first quality, and feel themselves discredited by bad work so far as to prefer occasional loss to executing a contract in anything but a perfectly satisfactory style.

7. This is far from being the case at present. Contracts, as far as can be judged from the experience of the Government Officers, are most commonly taken rather as mere speculation than as professional transactions. All the work is immediately sub-let, and no care is taken to see that good work is done. It is left to the Government Officers to do this. The contractors, so far from aiding the Government Officers, generally appear to use every expedient to escape from their obligations, and resort to litigation in preference to seconding the efforts of the Government Engineers to improve the style of building.

8. To illustrate what is meant, I am to draw attention to the very disgraceful quality of the bricks obtainable in the market in Calcutta as compared with those manufactured by the Government at Akra. If the Calcutta contractors had any pride in their work, it would be impossible that this could go on. No contractor

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of capital would be content to use such bricks as are alone obtainable in the Calcutta market. The quality of these bricks is evidence of entire want of care to secure the first essential of good building. And it is such want of regard to any matter, which is not one of immediate profit, which leads the Government Officers to be averse to trust more to the contractors of Calcutta

9. Doubtless it would be an immense advantage to the Government if contractors could be got to come forward in a proper spirit to construct public works, who, like the contractors in England, could be relied upon after once having taken a contract to do the work rapidly and well, even at a loss to themselves occasionally. But in Calcutta the Government have been driven, by experience, to abandon a system adapted to such a state of things, for one which is suited to existing circumstances.

10. The Governor General in Council is not disposed at present to appoint another Commission on Public Works in this country, but will be very ready to receive any practical suggestion for improvement which the Committee of the Trades Association may be disposed to make. I am to add that one great desideratum appears to be to encourage the desire to establish a creditable style of work in the business of contractors, so that the Government Officers might employ them with confidence that their efforts to secure good and honest work would be practically supported, and not met by objections and litigation.

11. Every Officer in the Public Works Department is interested in obtaining good work, and in getting it done in good time. To throw unnecessary and harassing difficulties in the way of a contractor, can be no object to a Government Engineer. The interest of the contractor and the Departmental Officer are really the same. It is not really the interest of the contractor to attempt to make profit at the expense of the quality of his work, either directly or indirectly, in sub-letting the same. The advantage, which might accrue from adopting this policy in one or two works, would be small compared with the profits of a long series of creditably executed contracts. And the Trades Association may rest assured that, when it can be relied upon that large contractors in Calcutta will act in this spirit, there will be no backwardness on the part of the Government Officers to employ them.

12. Before concluding, I am to suggest one more point for the consideration of the Calcutta Trades Association. This is, the very late and brief attendance given by the workmen employed in the building trade. They usually do not come to work before 9 or 10 o'clock, and leave at 5. This not only is an absolute reduction of the productive power of the trade, but is a source of unnecessary costliness of work, and unnecessary delays in construction. It is further inconvenient in the fact that the supervision of work is altogether thrown into the hottest hours of the day, and into the time necessarily more or less devoted to the duties of the Office. It is probable that an effort on the part of employers might secure at least some mitigation of this evil.

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Governments of North Western Provinces and Punjab
Chief Commissioners of Oudh, the Central Provinces, and
British Burmah
Commissioner of Mysore and Coorg
Resident at Hyderabad
Agents to the Governor General for Rajpootana and Central
India

ORDER.—Ordered, that copies of
these papers be forwarded to the Local
Governments and Administrations noted
in the margin, with the remark that
the Bengal system may be adopted if
found convenient.

Ordered also, that copies of the papers be forwarded to the Governments of
Madras, Bombay, and Bengal, for information.

(Signed) C. H. DICKENS, Colonel, R. A.,
Secy. to the Govt. of India.

No. 606.

ORDER THEREON, 25th June 1868, No. 2,021.

ACCOUNT, No. 39.

Ordered to be recorded.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

Ed F. R. Bantleman.

CIRCULAR No. 42 PUBLIC WORKS.
GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
ACCOUNT.

FORT WILLIAM, APRIL 27, 1868.

The Contract System in Bengal.

Read the following papers:—

Extract from the *Accounts of the Hon'ble the Lieutenant Governor of Bengal, in the
P. W. Dept*
No 6800, dated 3rd December, 1867.

Read.—
Introduction of Contract System in Bengal { Notification by the Officiating Secretary to the Government of Bengal, in the Public
Works Department, No 16 of 17th January 1862
Circular letter, Public Works Department, No 433 of 22nd January 1862
Letter from the Secretary to the Government of Bengal, in the Public Works Department,
ment, to the Secretary to the Government of India, in the Public Works Department,
No 4301 of 18th September 1862
Letter to ditto from ditto, No 3914 of 10th October 1862
Public Works Code { Chapter III, Section iii, paras 16, 21, 23, 25, Section iv, paras 2 and 3,
and Section v, paras 2 and 8
Chapter XII, Section i, paras 16.
" XIV
" XIX, Section iA, para. 25, Section iD, paras. 66—90
Standing Order No 1 of 1866
Circular letter by the Secretary to the Government of India, in the Public Works
Department, No 46 of 1st June 1866

Read also —
Note by the Chief Engineer of Bengal (No 747 of 22nd August 1866), on the working of the Contract system,
and Notes by Colonel Short and the Controller of the Public Works Accounts therewith submitted
Notes of July 1867, by Major Trevor, Superintending Engineer, Presidency Circle, and Captain Trevor, Garrison
Engineer

REMARKS.—The introduction of contracts to the utmost practicable exclusion of daily
labour, and, when possible, in supercession of petty contracts, was formally insisted on in
1862, at which period the general introduction of the system throughout India was thought
desirable.

The special enquiries made by the Chief Engineer in 1865 showed that the general
introduction of a system of large contracts had completely failed. In some Divisions con-
tractors had not been procurable, in others, the system failed almost as soon as tried, in
further cases it lasted longer and then failed; in other instances it dragged on unsuc-
cessfully.

Further experience also shows that there have been several instances of loss to Government, owing to the lax manner in which contracts were entered upon and worked; and in many instances where these contracts have been employed, they have proved unsatisfactory.

The system which has met with most general approval from the Departmental Officers consulted, is that of "Petty Contract," which is in general use, and which seems to be the system most likely to be efficient and satisfactory at present. The term "petty contract" is not, however, very clearly defined, and it will be convenient, in order to indicate the system approved of, to consider petty contract as a contract made directly with the immediate organizer or employer of labour, or the supplier of material

This general rule will not preclude the employment of large contracts or of contracts ranging between these extremes, provided that it is advantageous to execute work in either of these ways, but there are certain elements which must be efficiently and carefully secured before work can be given on contracts in this way. There must be substantial security given for the execution of the contract, there must be a carefully drawn Deed of Contract; and there must be efficient and honest supervision on the part of Government, this last condition being also fully applicable to petty contracts.

As regards large contracts, the rules of the Public Works Code contain full instructions regarding the preparation of the Contract Deed; but as regards the intermediate class of contracts, the form which has been prepared and revised in communication with the Advocate General, and has been found to answer in the Garrison Engineer's and Presidency Divisions, may be used instead of a more formal bond. A copy of this form, with instructions, is appended to this Resolution

Tenders should be publicly called for, and competition invited, the lowest tender being accepted in all cases, unless there are strong and positive objections to the tenderer

RESOLUTION—The Lieutenant Governor is pleased to direct that, in future, the petty contract system should be employed as far as practicable in the execution of public works in Bengal, contracts on a larger scale being employed where desirable and advantageous, special attention being given in all cases to the efficiency of the security, the bond, and the supervision as applicable to the case in question.

ORDER.—Ordered, that a copy of the above Resolution be forwarded to all Superintending Engineers in Bengal, for information and guidance, and communication to the Officers under them.

Also, that a copy be submitted to the Government of India, Public Works Department, for information.

Patent Contract Work. No. OF 186 .

No. _____ OF 1881 .

Name of Contractor

Memorandum of payments made

do hereby agree with the Executive Engineer, Division, for the time being, to execute the under-mentioned description of work at the rates enumerated, and in accordance with the Conditions noted below, in consideration of payment being made for the quantity of work executed at the rates specified in the following Schedule —

[illegible]

Conditions.

The Petty Contractor is to proceed with the work with due diligence, and all work executed is to be done in a workmanlike manner, and the material used is to be of the best of the several kinds procurable, and in all cases is to be subject to the approval of the Executive Engineer for the time being, or his Sub-Divisional Officer, whose decision as to the rate of progress and the quality of work or material shall be final.

2. The quantity of work executed shall be measured and payments made every days on the completion of the work, or the determination of this Agreement, final measurements will be made and the account shall be adjusted accordingly.

3. In the event of due progress not being made, or of bad work being done, or bad material being used, the Executive Engineer may determine and end this Agreement without further notice; and in the case of bad work or material, the Executive Engineer may remove the same and have it re-placed, deducting the value of the work or material removed, or the cost of re-placing the same, as he may think proper, from any amount due, or that may be due, or become due, to the Petty Contractor.

Signature of Petty Contractor.

Residence:

Date:

00047200

No 6801, dated 3rd December, 1867.

From—COLONEL J E T. NICOLLS, R E, Secy to the Govt. of Bengal, in the P. W. Dept.,
To—Secretary to the Government of India, P. W. Dept.

With reference to Memorandum No. 418 C, dated 19th June last, from your Office, drawing attention to your letter No 679 E, dated 23rd April 1867, and previous communications on the subject of the working of the Contract system in Calcutta, I am directed by the Lieutenant Governor to submit, for the consideration and orders of the Government of India, the papers marginally noted, with the following remarks explanatory of what has been done by the Government of Bengal for the better supervision of Contract work in Calcutta.

2 A considerable time having elapsed since the Chief Engineer's first Note on the Contract system, No 717, dated 22nd August 1866, it was considered desirable that the experience gained in the interval should be brought forward, and with this view a copy of this Note was given to Major W. S. Trevor, Superintending Engineer, Presidency Circle, for the purpose of his recording the experience gained at the Presidency. Major Trevor has done so in his Note, to which is appended a Note by the late Garrison Engineer, Captain Trevor, who has been, perhaps, the most successful of all the Officers in Bengal in working the Contract system.

3. The Chief Engineer agrees for the most part in what is advanced in these Notes, but he does not think that either Officer has quite hit off the definition of a petty contract. Taking the meaning in general terms, and in reference to the present discussion, a petty contract may be defined as a contract with the immediate organizer or employer of the means to be used for carrying out the work. This definition would most probably resolve itself in practice into contracts for items in an estimate, or a portion of items, or, in a pecuniary view, into contracts within the competence of the Executive Engineer (Rs. 2,000), or of the Superintending Engineer (Rs. 10,000).

4 All such contracts should be written, though this need not be done with all the preciseness and formality of a large and regular contract.

5 The form introduced by the Garrison Engineer, and revised by the Advocate General, meets the wants of a system of moderate contracts readily and efficiently. This document is on the same principle as Code Form No 110 B, but far more complete, and Captain Trevor deserves much credit for the manner in which he has worked his contracts, and for the system he has introduced. So much of the efficiency of his arrangement is, however, due to his personal qualities, that the same success must not be expected everywhere.

6 The only material alteration which the Chief Engineer would now wish to make in his Note is one in the views expressed in the 36th para., and he would adhere strongly to his original opinion that the contracts should be given to the lowest tender after competition; the only exception being in the case of parties who had previously failed, or not given satisfaction.

7. The whole question the Lieutenant Governor regards as a practical one, and he considers it therefore unprofitable to theorise, or to lay down general rules about contracts, that is to say, that work shall be executed in this or that locality by contract. There are certain elements which His Honour is of opinion should be secured before works are given in contract, and these are—

1st—There should be substantial security given for the execution of the contract.

2nd—There should be a carefully drawn Deed of Contract.

3rd—There should be an assurance that the supervision on the part of Government will be efficient and honest.

Unless these points can one and all be secured (and the last is not the least important), no works should, in the opinion of the Lieutenant Governor, be given in contract, and where they can be secured, His Honour is then in favour of work by contract.

8 I am also directed to observe, with reference to the specific enquiry of the Government of India as to what has been done for the improvement of the contract system, that, as soon as attention was attracted to the subject by the fall of the Custom House Sheds in 1865, and other circumstances, the general state of the question of the contract system throughout Bengal was enquired into, as mentioned in the Chief Engineer's Note above referred to, and meanwhile the system which had been worked out by Captain Trevor, Garrison Engineer, and which had been found to work well, was introduced into the Divisions at and near the Presidency where contract work was mostly employed after the conditions and arrangements with the contractors, as proposed by Captain Trevor, had been revised by the Advocate General.

9. The result of the Chief Engineer's enquiries showed that the general contract arrangements laid down for the Department were efficient, and that the difficulties of the question had arisen from the attempt to force on a system for which neither the state of the Department nor of the country was prepared, coupled with considerable laxity of administration and efficiency of establishments. It appeared that the question of executing all works by contract had practically solved itself by the inability of the country or the Department to uphold such a system at present, and further, that the sudden change that had been attempted had had the effect of disorganizing Departmental arrangements which it was not possible to restore as suddenly as they had been upset.

10. The remedy for these difficulties has been sought amongst other means, and in addition to taking advantage of opportunities as they arose, by causing careful inspections to be made by the superior Officers of the Department, and by examining their Reports and correcting what required notice. General schedules and specifications of work have also been prepared by the Chief Engineer and Controller, and circulated for guidance and modification where necessary. In this way much has been done, and considerable change has been effected, but attention will still be required before matters can be expected to be in quite a satisfactory condition. Amongst the points especially requiring attention may be mentioned Establishments, both as regards their personnel and their numerical sufficiency, as well as their efficiency.

No 747, dated 22nd August, 1866

Note by COLONEL J. E. T. NICOLLS, R E, Officiating Chief Engineer Bengal, on the working of the Contract System in Bengal

My attention having been drawn to the working of the Contract System, a number of questions were circulated to each Executive Engineer with the view of ascertaining what was the real state of this important subject.

2. Recent events at the Presidency have rendered it more than ever necessary that I should lay the present condition of our contract arrangements before Government; and, in doing this, it will be necessary, for a clear view of the subject, to re-capitulate what has already taken place in regard to contracts.

3 The introduction of contracts to the utmost practicable exclusion of daily labour, and, when possible, in supercession of petty contracts, was formally insisted on by the Bengal Government in 1862. In January of that year, a Notification No. 16 was issued to the public that Government was desirous of seeing the ordinary works of the Department carried out by contract, that directions had been given to Superintending Engineers to arrange so as to give fair encouragement to contractors to settle themselves as residents at the principal stations, and that work would be so carried out as to allow builders with small capital and a practical knowledge of work to take up all ordinary works in Stations, and a certain class of works in the Districts. This Resolution was followed up by Departmental Circulars.

4. The subject had also been taken up by the Government of India, and was discussed in the letter of instructions addressed to Major Chesney who was proceeding on a tour of inspection. It was thought that, by the general introduction of contracts, costly establishments would be reduced, speculation amongst subordinates would be restricted, and material relief would be afforded to the Offices of Account. It was also contemplated that, although prices might be high at first, rates would eventually sink to a proper level as contractors multiplied and competition arose. It was further remarked that it was clearly the policy of Government to encourage the growth of a class of small contractors, as all experience had shown that the most successful men of the contractor class had begun life with no Capital whatever but their own talents and industry.

5. The experience of four years in Bengal has shown these views to be partly correct; but in some respects the results have been contrary to what was expected. It is found that a system of large contracts requires increased establishments, and there seems reason for believing that speculation has not diminished, but rather increased: on the other hand, the accounts have been relieved, and small contractors have proved the most satisfactory.

6 In some Divisions the large contract system appears to have failed almost as soon as tried, in others it lasted longer and then failed, in other cases it has dragged on unsatisfactorily, and, although at present the system is more or less in operation in out of the Divisions in Bengal, it can only be said to be really working in a few Divisions, viz, the Bhaugulpore and Rajshahye Divisions, and the Divisions in and near Calcutta. Excluding these Divisions, the opinion of the Executive Engineers and of the Superintending Engineers, where expressed, is adverse to the system of large contracts, and in this opinion, as a general rule, I quite agree. The circumstances of the Presidency Divisions are somewhat exceptional, and will receive more particular discussion hereafter; meanwhile, these Divisions should be regarded as excluded from consideration in the following remarks.

7. The objections to large contracts are the unsuitableness of such contracts in some respects, their inefficiency in others, and their expense in all.

8. It has been found in some cases that the call of the Executive Engineer for tenders has met with no response whatever; in others, that only one or two parties have come forward, and those not qualified. There is no real competition as the rule. Many of the persons who do come forward as contractors come as speculators, and not to work out a steady livelihood. Large contractors merely tender to sub-let, and there is no reality in the transaction. But supposing that duly qualified contractors were procurable, and that all objections on that score were removed, I am strongly of opinion that the Department is not in a condition to take up large contracts, and I do not limit this opinion to the branch of the Department in Bengal. By this I do not mean that large contracts are not successfully taken up and carried out by some Officers; nor that other Officers may not take up such contracts and flounder through them at the expense of Government and of the work, and to the gain of the contractor, but my experience of the Department, taken as a whole, is, that its Officers have not, as a body, those business-habits, that firmness of character, that promptness of decision, and, in some cases, that knowledge of their duties, which is necessary to cope with a contractor and to work efficiently a system which leaves Government entirely in the hands of such men. To the above it may be added that the estimating and designing of the Department is far short of what is necessary for carrying on large contracts in an efficient and satisfactory manner; and that Officers have so many calls on them that they cannot do this satisfactorily, nor yet give the necessary attention to the actual execution of the work. The consequence is that alterations are made, so numerous, perhaps, as virtually to vitiate the contract. Inferior work also creeps in, and when it has reached a point that can no longer be allowed, the Officer cannot recover himself. He finds that he has passed so nearly what he now objects to, that his objections can be securely questioned, and that the power which he should wield under the contract has been impaired by changes, incautious admissions, &c. Much of this may have taken place under a predecessor, and when thus bound, he may find himself called on to cope with energies sharpened by self-interest, and, perhaps, unscrupulous characters. The opposition is probably not of one and simple, but of many and complicated, as the contracts are generally sub-let. Large contractors are employed in England and elsewhere, and even in this country, but however suitable they may be to the circumstances in which employed, it does not at all follow that they will answer at present in the very different and dissimilar conditions of the work in this Department. Several of the difficulties could be overcome by larger establishments, or the employment of first class contractors from Europe, but this would augment the expense of works already much increased by these contracts, and thus in the latter case to an impracticable degree.

9. The efficiency of these contracts has been already touched upon, but other considerations may be adduced regarding this point. Whatever may come, the time has certainly not yet arrived when reliance can be placed on the good faith of the body of contractors that we can employ. We must look sharply after our own interests, and recent events have shown how entirely efficiency rests on the supervision of the Department. Neither the good name of an European Firm, nor the keenness of competition, have protected Government from most disgraceful work. It needs no argument to prove that there cannot be efficiency with unscrupulous self-interest on the one hand, and ineffective (from whatever cause, whether in system or men) supervision on the other.

10. There are other points from which the efficiency of large contracts is to be viewed. They are troublesome in the drawing out, and time is consumed in the arrangements. The large contractor, both from his status and from his complication with small contractors, is a difficult person to deal with, unless he has matters all his own way. Government also, in this description of arrangement, stands committed to a large expenditure which may be, and is often, very inconvenient in these days of limited funds and constant change.

11. Another fertile cause of inefficiency is, that, with this description of contractors, the Departmental Officers are disposed to rely on the security which must be taken from contractors as the means of keeping the necessary hold on them; whereas the interests of Government depend upon the constant and vigilant supervision of Departmental Establishments as work goes on. In most cases no amount of subsequent patching can produce work equal to what is originally done. The realization by the members of the Department of their responsibility in regard to contract work, is a point where much reform is needed.

12. I may add to the above that large contracts rather tend to prevent improvement in work. A contractor's object, certainly in the men we have to deal with, is to do as little as he can for his money. At best he will merely keep up to what he considers a fair standard, and this he will gauge by the quality of the work usually executed, which is just what it is wanted to raise. Well drawn agreements and specifications, constant vigilance, active supervision, and great determination of character, will no doubt overcome difficulties and ensure the best of work, but if we can attain these in a few instances, we cannot expect to do so as the rule, and the question that has to be determined is, what system can be satisfactorily worked in a large Department containing varying degrees of efficiency?

13. An instance of the above may be cited in the case of bricks, a material of the first importance, and on which a very large proportion of our expenditure is incurred. I believe there is not a question that a great improvement is required in the manufacture of this material generally. The state of efficiency which the Akra manufactory has attained, is an example of what may be done, and affords the means of effecting general improvement by detaching from it, permanently or temporarily, as may be requisite, persons to afford the necessary impetus and assistance to local endeavours. It is comparatively easy to arrange what is wanted with a series of small contracts, but not so with a large contractor, except at greatly enhanced expense.

14. Diminution of expense appears, however, to have been one great desideratum in regard to these contracts, and the argument in favour of this seems to have been that Government would gain by reduction of establishment, the supposed peculations of subordinates becoming the profit of the contractor, and the actual expense of the work remaining as it was. This view is not borne out by experience, and it could not be otherwise. The use of contracts may, no doubt, effect a saving in the inferior and petty establishments; it may also effect a saving to some slight extent in accounts; but, as has already been shown, and will be again discussed, it necessitates increased expenditure in the upper grades, and one result of employing large contractors must, no doubt, be increased expenditure in establishment.

15. The pecuniary state of the case as regards the general description of contractor on a large scale appears to be very much as follows, and I will first suppose the contractor to carry out the work himself directly. He can do the actual work no cheaper than a Government Officer, probably not so cheaply, for he has not the prestige or influence of the Government servant, possibly not his experience. He is bound to time, his own time is valuable; what he does must be done off-hand, he views matters in a purely mercantile light, and must cover all these drawbacks by the sum he receives. He cannot be always on the work himself, and he must either have an establishment similar to that employed by Government, which he cannot, with large contracts on hand, supervise more effectually than Government does their own, or he must, as is more commonly the case, have little more than an account-keeping establishment, and throw the actual supervision of the work on the Government Officers, who then have more to do than usual, as they have to deal with an establishment with adverse interests, and not under their control. These people probably speculate as much or more than Government subordinates, and if the contractor's accounts show that the work has cost him little, it will probably be found that the work-people have suffered, or the work has been scamped. The chances seem to be that the work costs as much, and the petty establishment as much as if contracts had not been employed, and that, in addition to virtually paying these expenses as usual, Government has to pay the duplicate establishment maintained by the contractor, his profit 20 or 25 per cent, and increased supervising establishment on its own account.

16. The more usual case, however, is for a large contractor to sub-let his contract to the very men to whom Government Officers would let it out on petty contract at probably the same rate. In this case, Government simply pays a high price for doing that which it should do more efficiently through its own servants at very much less cost.

17. The opinion has been broached that the direct peculation of subordinates has been re-placed by the indirect results of *douceurs*; and this seems very probable, as, under the present organization of the Department, subordinates must be placed over contractors who cannot fail to realize the value of abstinence from the annoyance which can be given by a party constantly on the work, and the value of the evidence of such a party when a point is being litigated in a Court of Law.

18. The system which has met with most general approval amongst the Officers of the Department is the "petty contract" system, and this seems to be by far the best. The petty zemindars, mistrees, and similar people who take up this description of contract, have most influence over work-people, and can turn labour to the best account. The engagements being small, there can be considerable competition, and, should necessity arise, the arrangement can be terminated at once. The Executive Engineer has great power by this system; he can expand, contract, or push on his operations at pleasure, and he can ensure better work. He also feels more directly responsible.

19. The Divisions about the Presidency differ from the general description already given mainly in the number of contractors who come forward for some descriptions of work; and as the management of labour at the Presidency itself is no doubt difficult, and contractors more numerous, the Presidency Divisions are those in which the contract system should be continued if it is to be preserved.

20. It appeared in evidence in the Inquest on the fall of the Custom House Sheds, and there seems every reason for accepting the statement, that large contracts are merely taken to be sub-let. The increased expense and the decreased power of control which occur in contracts which are sub-let has already been noticed; and considering the failures which have taken place as regards work, and the inability of our Officers to manage and control large contracts, as evidenced in several instances, it seems to me that the same conclusion should be

generally arrived at in regard to the Presidency Divisions as elsewhere, viz., that the system should be that of petty contract or direct dealing with the class of contractor that really does the work.

21. I would not, however either at the Presidency or elsewhere, absolutely prohibit large contracts. The experience which have been gained shows that, when large contracts have succeeded, it has been mainly owing to the individual character and energy of the Officers concerned, and such Officers are to be found. A combination of circumstances may arise in which the execution of work by a large contract would be desirable, and it would be unwise to make any stringent rule that would prevent advantage being taken of such an occasion; but there should be special arrangements in all such cases.

22. It has always seemed to me, since the question was first mooted, and such facts as have come to my notice in different parts of the country have only tended to strengthen the opinion, that however desirable a general contract system might be in many ways, its being forced on the Department as a principle to which every thing must bend, is disadvantageous. Such a system is not to be brought into existence by a stroke of the pen: it requires gradual development as much as any other system, and both contractors and Government establishments require training before such a system can possibly be introduced with advantage.

23. A few remarks may here be offered on some of the less direct disadvantages of the present contract system. One of the first of these is the utterly helpless condition into which the Government has fallen. In one of the first cases in which this state of the contract system came to my notice, I received an explanation to the following effect in reply to objections which I had made to a largely increased revised estimate. It was stated that tenders had been publicly called for, several parties had competed, and the estimate was based on the result. This, no doubt, was in accordance with the system which had been introduced, and it was impossible to do otherwise than accept the position without great inconvenience to the public service, because the establishments were not prepared to take up the work in any other way. The subjoined extract from an Inspection Report lately received will illustrate the above remark more fully—

"I do not consider anything but the earthwork that I have seen in this Division what it should be; the bricks are bad, the building, the little I saw of it, was bad; the timber supplied far from good, the khoah not properly burnt nor broken, and the consolidation open to improvement. This state of things I consider to have arisen from the great anxiety to carry out the contract system. Contracts have been given to incompetent people, and proper supervision has not been exercised, in fact, could hardly have been exercised, by an Executive Engineer without an European Assistant. I entirely deprecate the system of giving large contracts in the Mofussil, and would never do so unless the work was under the eye of an European Officer, and even then I do not think it advisable. I have not seen in this Circle a creditable piece of work turned out by a contractor,—I mean building or metalling. Earth-work is going on very well by contract on the Sea-dyke.

"The result of the contract system has also been the rendering of our subordinates nearly useless when thrown on their own resources. They have been so used to go to the contractor for every thing, that, when these men are not forthcoming, they are utterly helpless. Little or no work could be done this year on the bungalows and sluices because no contractors came forward, and the subordinates were unprepared and unable to carry on Departmentally."

24. Another disadvantage of large contracts has been experienced and already alluded to, viz, money is tied up; and, in the event of alterations being desirable in a programme, it is impossible to make them. This is a matter of some importance when the available funds are limited, and demands thereon sometimes large and sudden; as, for instance, in the present famine, when it has been found impossible to transfer to the relief of distress money which might have been made available; nor, again, when funds were available for expenditure in certain Districts, could the work be concentrated on any one place where distress prevailed, nor yet on any description of work the prosecution of which would afford the most relief.

25. A contract system can only be efficient when strictly carried out, and contractors are kept to their engagements. This necessitates, as regards the executive establishment, carefully prepared designs and estimates, a well considered agreement and constant and active supervision. As regards the Superintending Engineer and Chief Engineer, a revision of designs, estimates and agreements is called for, or the supposed control will be worse than useless; it will only relieve Subordinate Officers of a sense of responsibility without efficiently supplying its place. These operations occupy much time if efficiently carried out, and I do not think our establishments are sufficient for this work. It is true that the above are also requisites to some extent in petty contracts and in ordinary work, but they are so to a much less degree. The obligation in the case of a petty contractor is not so heavy, nor does it extend over such a length of time, and in the case of Schedule Contracts terminable on short notice, it is very little. If a system of large contracts is to be carried out, our establishments must be greatly strengthened in the upper grades.

26. The small number of law-suits, and the absence of disagreements, is a noticeable feature in the returns, but cases which have recently come up would tend to show that this is due to easiness as regards the prices given and the work required, and that law-suits to some extent are yet in store.

27. A general system of large contracts should then be discouraged, and the system which it seems to me it would be preferable to pursue is as follows.—

To base estimates on what the work could be Departmentally executed for at the prevailing rates of labour and material, and not on what even the competition of petty contractors may point out. To regulate contracts strictly by these rates and the rules laid down in the Public Works Code. To prohibit larger contracts being sub-let, without permission, which would only be given in case of Mistresses or Foremen absolutely engaged in carrying out the work. The practical result of the application of these principles would be to generally limit contracts to those of a petty description, but to allow larger contracts when profitable and desirable, and then under only the revision of superior authority.

28. The foregoing portion of this Note was written for the most part some time ago but not submitted, as I was desirous of placing the financial aspect of the system before Government in a complete shape. This, I am sorry to say, I have been unable to do. I am, however, enabled to add to the above remarks a Memorandum on the subject of contracts which has just been received from the Superintending Engineer, Presidency Circle, accompanied by a Memorandum from the Controller, Public Works Accounts.

29. The Memorandum of the Superintending Engineer is of value, as being a contribution to the full discussion of the subject, and embodying the views and experience of an Officer under whom a large amount of contract work has been done. The principles on which it is based are, first, that there is but one price for any one thing, and that any agreement to execute work below this, necessarily entails inferior work, and demoralization of both contractor and Departmental establishment. This view sets aside the facts, that various classes of men are satisfied with different degrees of profit, and that superior fitness will produce a better result, second, that the supervision of the Department is to a great extent corrupt, that it is inefficient, and that the remedy lies in wealthy honest contractors who require little or no supervision. The obvious remedy of stopping the laxity of the Department and improving its efficiency, thus gives place to a scheme of placing the interest of Government in the hands of a set of men whose avowed object is to make as much money as they can, but who, in the face of this, and of a corrupt establishment, are to secure Government honest work, third, that men of wealth and station are the most efficient contractors, which is opposed to all experience (See para. 4 above and elsewhere).

30. This Memorandum strengthens, I think, the views taken in the preceding part of this Note; and this being the case, I need scarcely add that I differ very considerably from its reasoning and conclusions.

31. We can scarcely hope to secure a body of accredited contractors "who have a command of labour and material, and who execute good work, independent of the supervision on the part of the Government Officers," and could we get men supposed to be such, it would hardly be prudent to employ them under such a supposition.

32. The Superintending Engineer has not noticed the circumstance of contracts being generally sub-let in Calcutta, as already shown to have been brought forward in evidence; and it is scarcely to be supposed that "men with capital and experience," would do otherwise than sub-let. If this be the case, we ought to do much better if the profit of contractors went to increasing our establishments, and we dealt directly with those who actually carried out the work. This would seem to be more particularly the case when, as in Calcutta, the profit of the contractor is entirely thrown on labour, and the operations in which a contractor's services are most desirable, as in manufacturing material, or procuring it from a distance, are not required.

33. It seems needless to dwell on the opinion that contractors require to be carefully watched, but I may mention that I believe, even with large and most respectable European contractors, the East Indian Railway finds from experience that it is impossible to avoid keeping up a very large supervising staff, and that the tendency of events is to show the necessity of increasing this staff. The general complaint in regard to bad contract work is the difficulty of keeping a sufficient supervising staff.

34. The views of Government regarding the acceptance of the lowest tender, and the principle that should regulate the acceptance of tenders, are laid down in the Code, Chapter XIV; and if contract operations are based on the propositions brought forward in para. 27 of this Note, it seems to me that more particular detailed instructions are unnecessary.

35. The question which the Superintending Engineer has mooted is a very delicate one; and, although disposed of by the Code as already noticed, still it seems questionable, whether the principle of accepting the lowest tender is not on the whole the best, for it checks all personal considerations, it prevents bias in judgment, properly looked after, it will prevent incompetent parties coming forward to a certain loss, and it seems best calculated to maintain the character of the Department which must look to itself alone for the enforcement of proper work.

36. My own opinion is strongly in favour of the principle of accepting the lowest tender; but since, in the present state of the case, mere adventurers are likely to tender without any reasonable expectation of being able to carry out the work, and since serious inconvenience to Government might arise in consequence, it would probably be advisable, as suggested by the Controller, to modify the full application of the principle so far as to restrict it to a body of selected contractors. A list should be kept of all persons considered competent to tender for each description of work. The list should be open to all persons who can satisfy the Superintending Engineer as to their competency for that particular description of work. If the tenders are within the estimate or limit fixed, the lowest tender of any person on the list should invariably be accepted, except under special permission of Government to do otherwise. The usual proviso of its not being obligatory to accept any tender, will of course still remain. The main difficulties raised by the Superintending Engineer against the rule for always accepting the lowest tender, appear to be determinable only by greater departmental efficiency and strictness. If contracts are to be employed, and whether there be large contractors or not, a sufficient and efficient staff must be put on to supervise them, and its members kept up to their duties.

37. The Superintending Engineer's Memorandum clearly points to this being the case. We find in para 5—"Wherever the lowest tenders are accepted, the work is not such as could be legally condemned, but it is indifferent work, and not first class." It is not evident why, if first class work is contracted for in a proper manner, first class work cannot be enforced. Again, in para 14—"The inferior and indifferent work most frequently met with is in all kind of wood-work, and with very few exceptions, the out-turn is not first class; the finish is almost invariably bad, and this is owing to the low class contractors employing unskilled carpenters, &c, and trusting to the work being passed." Wood-work is one of the descriptions of work, that is, with proper arrangements, most easily examined, and concerning which least question can arise. Moderate supervision, and a properly drawn contract, would enable all work, not first class, to be rejected, and one or two rejections would cure the evil.

38. From the 4th para. of Superintending Engineer's Memorandum, it would appear that the subordinates, even to Assistant Engineers, are virtually the contractors, and pass their own work. It is stated that this is an undoubted fact, though somewhat difficult to prove; and it would appear that to this must be ascribed the passing of so much indifferent work. Here, again, the remedy appears to lie in our arrangements and administration.

39. It is further stated in para 14—"Moreover, when a work is not done as well as it ought to have been, and the money has been paid, the Executive Engineer, who may in his own heart confess that it is indifferent, will not concur with the Superintending Engineer in its condemnation, as such would lead to endless litigation, and the Government would lose the case in Court, since the Local Assistant Engineer and the Executive were supposed to have checked and approved of the work whilst it was progressing."

40. These two last examples merely show that the evils complained of are due to the laxity of the Departmental officials, or their insufficiency. A proper staff, and due enforcement on Departmental Officers of the responsibility which is put on them by the Code for all work they pass, would stop the evil in this case as in others.

41. But whilst the course which the remedy must take is clear, there is perhaps some doubt about being able to apply it thoroughly, owing to the Establishments generally not being up to such work; but if we cannot bring our Presidency Establishments up to the required standard, it will be better to reduce contract operations to a proportion that they can manage, than to persist in the system of trusting to contractors, however respectable.

42. I do not draw the same inference from the example given in para 12 of the Memorandum as is deduced by the Superintending Engineer. If prompt payments were made, as should be the case, and is enjoined by rule, there should be no necessity for borrowing, and the work or Government would not have to bear the interest on advances arising from this want of payment. The rules being complied with, I do not find any reason why "Mesaun Mistry" should not have carried out the work. The Superintending Engineer's rates allow 15 per cent. profit to contractors, and of this, the Mistry sacrificed 8 to Government to obtain the contract. The 7 per cent which remained would have given him Rs. 280 a month profit for the work, supposing he could not, without scamping the work, have managed to execute it lower than the Superintending Engineer estimated for the actual cost. The estimate probably included Government material on which the contractor would derive no profit, but all things considered, I do not see why the man should not have made a fair profit without doing dishonest work.

43. I need scarcely add that the Superintending Engineer will be asked for further information regarding the mal-practices attributed to the Departmental Subordinates.

NOTE by MAJOR W S TREVOR, R. E., Officiating Supg Engineer, Presidency Circle
I agree with the remarks of the Chief Engineer contained in his Memorandum on the working of the contract system.

2. I observe that, amid the general dissatisfaction expressed at the results of the trial of the contract system in Bengal, there is a reservation more or less decided in favour of petty contracts.

3. It seems scarcely possible to draw a line of demarcation between large and petty contracts so called, and yet, while the former are generally condemned, the latter appear to meet with some degree of favour. The terms themselves being purely relative, are little likely to provide a clue to the causes which have rendered the one so unpopular, and the other comparatively successful. And yet it is important, in the interests of the Department, to arrive, if possible, at a knowledge of the causes which have produced this peculiar result.

4. The Reports of Executive Officers on the results of their experience present at first sight a promising field for investigation, but the task of generalizing from them is so vastly complicated by personal considerations as to be almost insuperable. The character of the Officers themselves, the liberal or literal construction put by them on the orders introducing the contract system, and often also the looseness with which the terms large and petty are used in connection with contracts, combine to render the work of reconciling their views one of the greatest difficulty. Little, therefore, I conceive, is to be hoped for from any attempt to analyze their reports on the results of the trial, with a view to determining the inherent causes which have led to the peculiar failures and successes of the contract system. The problem may, however, I think, be in some measure solved by an appeal to the practical considerations which have affected the working of contracts under Departmental agency.

5. I believe that the difference between large and petty contracts lies rather in the character of the agreement than in the magnitude of the interests involved. "Large" may be understood to imply a contract having its fulfilment secured by bonds and penalties, formally executed under deeds specifying rigidly the conditions of work, and fixing the responsibilities of both contracting parties. The designation "Petty," on the other hand, has generally meant a far more elastic kind of agreement, dependent for its fulfilment mainly on the good faith of both parties and rendered binding by a common interest. Though the conditions of a petty contract are not unfrequently reduced to writing, the bond is generally of such a nature as to be broken without much difficulty whenever its terms cease to be profitable or desirable to either of the parties concerned.

6. The classes of men usually undertaking contract under these different conditions have been again quite as distinct as the terms on which they worked. The Petty Contractor is, or has been, as a rule, a working man himself, with a more or less extended experience in his calling. Rarely possessed of capital, or even a competence, he depends for his living on such employment as he can secure, and that employment is, as often as not, virtually restricted to what he can obtain in the Public Works. It is therefore his interest to study the pleasure of the Departmental Officers under whom he works. He accommodates himself readily to their requirements, and generally yields just such quality of work as he is taught to expect will pass muster. Petty contractors will, with rare exceptions, do pretty nearly whatever they are required to do in common fairness, but they require to be kept up to a correct standard of work under the supervision of a competent Executive staff. They are too poor and too dependent to be troublesome as litigants, and they rely for their own security on the fairness and sense of justice of their employers.

7. The large contractor is generally either a man of capital himself, or else he is in league with some capitalist, and he invariably does his work through the agency of petty contractors as above described. He rarely brings any professional knowledge to the assistance of the Departmental staff, and should he possess any, he cannot be trusted to exercise it unwatched. Indeed, generally, I think he is the less to be trusted the more competent he is professionally.

The large contractor is, in fact, little more than a middle-man between the Departmental Officer and the petty contractor. He secures the largest share of the profits at the risk of taking the losses and penalties, and to diminish the chances of these, his ingenuity is always on the stretch to twist the letter of his bond to his personal advantage. Of course there are exceptions to both these generalizations, but I think that, on the whole, it may fairly be stated the large contractor has hitherto been obstructive, inasmuch as his intermediation has never admitted of a reduction of the Departmental supervising staff, or the least relaxation of vigilance on their part, while the single advantage of employing him, viz, simplification of accounts, has been more than counterbalanced by petty hindrances to work and increased litigation.

8. I admit it is quite possible to have trust worthy large contractors who may be a help instead of a hindrance, and we have doubtless had such since the system came into operation, and possibly may have some now working for the Department, but they have been the exception. At the same time, it must also be admitted that the petty contract system has not proved uniformly a success. I believe, however, that both the successes, amid the general failure of the one, and the failures amid the general success of the other, are in the majority of cases fairly traceable to differences in the administrative capacities of the various Depart-

mental Officers by whom the contract system has been tried, and can scarcely be quoted as evidence either for or against either of the systems.

9 I am further of opinion that the system was introduced under two conditions most adverse to its success. These were, 1st, the announcement by authority that the contract system was meant as a check against the corruption of the Subordinate Officers of the Department, and 2nd, the revolutionary character of the measure. The first of these generally led to the belief that Government having ceased to repose confidence on the honesty and capacity of its own Officers, intended to rely to a greater extent on the integrity and professional ability to be found among the public. This impression induced in too many instances an amount of reliance in the good faith of the contractors who first responded to the invitation of Government, which subsequent events did not justify. The natural re-action from the first state of over-confidence led to a corresponding degree of after-distrust, producing perpetual conflicts between the contractor, strong in the rights conferred on him by a too favourable bond, and the Departmental Executive, anxious, but almost powerless, to enforce the rights of Government without recourse to summary measures involving litigation, and the ultimate breaking up of the system it was the object of Government to establish.

10. In the beginning, also, many individuals and Firms obtained contracts, giving them the monopoly of all the work which had to be done in a Station or Division for almost indefinite periods. Fancying themselves assured of the support of Government so long as they kept within the letter of the very wide margin their agreements allowed them, these contractors virtually set the Executive at defiance, and compelled them to adopt a formality of procedure, the delays and vexations of which not only negatived all the advantages expected from the system, but rendered it actually an incubus on the Department for whose relief it had been designed.

11 In the next place, a contract system, like, every other administrative system, must be of slow growth to be practically effective, and the manner of introducing the contract system into Bengal was in the beginning essentially revolutionary in its character. During the seven years it has been under trial, the system has, however, undergone considerable changes, and, as it is now successfully practised in some Divisions, appears to have taken a form well adapted to existing conditions, and to no inconsiderable extent it now affords the advantages originally sought.

12 I refer here to the practice which, originating in the Garrison Engineer's Division, has gradually been improved and extended to the other Divisions in the Presidency and its neighbourhood.

It is unnecessary to detail the minor features of a procedure so well known to the Chief Engineer, but it is as well to note that the principle on which it is based, and to which I believe its success to be due, is broadly that of binding down the contractor under certain limited penalties to the completion, within a specified time, of the work he may undertake to the satisfaction of the Departmental Officers with whom he contracts. If he fails to give satisfaction during the earlier stages of the work, his profits are at the mercy of the Departmental Officers from whose condemnation he has no appeal. On the other hand, the contractor relies on the good faith of Government, as represented by the Departments, for not being treated with harshness or unfairness, or having his work wantonly condemned. He has, of course, the usual appeal from a decision of the Executive Engineer to the Superintending Engineer and Chief Engineer, but these also are Departmental Officers.

13. When it is considered that every Officer in the Department is interested, not only in obtaining good work, but in getting the work done in good time, also that, in throwing unnecessary or harassing difficulties in the way of the contractor, he is virtually apt to condemn himself, the contractor's security will not be found a bad one. Indeed, the interests of the contractor and of the Departmental Officer are really the same until we come to the quality of the work, when the former tends to clash with the latter under the temptation of making larger present profits by palming off inferior work. As, however, the most that could be made by successful fraud on any one contract would be but small, as compared with the profit of a long series of honest transactions, which would be risked in the event of discovery, this divergence of interests is in practice very much diminished, though never, I believe, absolutely reconciled.

14 The modified contract system which has sprung up in and about the Presidency, appears to combine the advantages of both large and petty contracts. Though, probably, not yet so fully developed as to be equally well adapted for all parts of the Province, and to all occasions, it already possesses great elasticity, while it gives a legal power over the contractor quite sufficient to keep him on his best behaviour. I do not doubt that it contains the germs of a contract system of original growth, and that its more general adoption in the Province will be attended with the best results. The accompanying Note by the Garrison Engineer, on the advantages of the procedure which originated with him, is so much to the purpose, that I attach it for the information of the Chief Engineer, and request his attention to it.

15 As regards the recommendation of my predecessor, the late Lieut.-Colonel Short, R. E., in favor of employing a number of selected contractors, I entirely concur with the Chief Engineer in thinking the scheme utopian and altogether impractical in its character. Such a system would speedily degenerate into the very worst form of monopoly, and infallibly

lead to a greater corruption of the Departmental Subordinates than has ever yet existed. Constant, wide and open competition among contractors is the only way to achieve economy of execution. To obtain good workmanship, the Department must, and can, only rely on the vigilance and professional ability of its Executive and Directing Staff. No system in the world can ever counterbalance the want of honesty, capacity or zeal on the part of the Departmental staff. With these secured, almost any system will succeed which allows of sufficient scope for their exercise.

16 An efficient comprehensive contract system may possibly hereafter bring about the extinction of our present Subordinate Establishments, but it will only be at the expense of a greatly enlarged Engineering staff. That this would be a desirable result, I am fully inclined to believe, but it is one from which we are at present so far removed, that it would be a mere waste of time to indulge in any anticipations of its realization. All we can do is to hasten the coming of that good time by creating a body of contractors capable of displacing our Subordinates in some of their functions, and establishing a system which will admit of their doing so without loss of efficiency.

17. I believe the best way of bringing this about will be to encourage, but not compel, the introduction of the modified contract procedure in all Divisions within the Province.

18. Gradually, what between the changes which time and experience must make in the system itself, and the general advance of the country in operative skill and intelligence, I doubt not we shall succeed in obtaining a uniform procedure and an efficient practice. But to attain success in fact and not in appearance only, the change must be a work of time, and will demand not a little delicate handling and much patient perseverance.

Dated July, 1867.

Note by CAPTAIN S. T. TREVOR, R. E., Garrison Engineer.

I understand the distinction between large and petty contracts to be the following, viz :—

1 Large contracts are entered into by bond between the Secretary of State for India on the one part, and the contractor on the other part. The contractor is bound under certain penalties to observe various rules laid down in the Code for the proper execution of work. Such contracts are publicly invited by competition, and the lowest tenders, backed by proper security, are accepted as a rule. In consequence of the delay involved in the formalities incident to this description of contracts, they are generally entered upon only in the case of large works extending over a long time, or when it is desirable to have a contractor to undertake the whole work of a Division of any particular class for a given number of years. But such formalities may be observed for smaller works, and, on the other hand, they may be omitted in large works where it would be proper to observe them. But such cases are exceptions to the rule.

2. Petty contracts are all contracts entered into by an Executive Engineer not coming within the above description of large contracts. As a rule, they embrace only single works, sometimes large, sometimes small. They are seldom open to competition, being generally given to some person who has attached himself to the Division, and is called a "Petty Contractor." More or less formality is observed on making the agreement, depending on the degree of confidence placed by the Executive Engineer in the petty contractor, and the magnitude of the work. Some Executive Engineers would follow the Code Rules implicitly; others would make a short agreement suitable to the nature of the work; others would omit to make a written agreement at all. In any case, the petty contractor being seldom a stranger, and generally an unpaid attaché of the Division, would follow the Executive Engineer's wishes rather than his agreement, even to the extent of resigning the work altogether if required. He, in most cases, has no capital to work with, and relies upon advances or frequent payments to account, and has probably an open account always running with the Executive Engineer.

3. Large contracts proved a failure, I believe, throughout Bengal. Just before I took charge of the Garrison Engineer's Division, there was a general contractor who had a monopoly of all repair works in the Fort and out-buildings of the Division; another similar contractor for Chinsurah, and a third for the maintenance of the Barrackpore Road. All three had been signal failures. The first (who had been a Native Assistant Engineer of the Public Works Department) cancelled his contract by mutual consent, the second, also a Native, had his contract annulled under one of the penal clauses of the agreement; the third, a European, who had been an Overseer in the Department, also had his contract annulled and brought a successful suit against Government in the High Court on that account. In all these cases, the greatest possible dilatoriness and negligence had been shown by the contractors in the execution of their work, leading to endless complaints.

4. I had necessarily to turn my attention therefore to the introduction of some new plan for the execution of the work of the Division. During the interval of about six months between the cessation of the large contracts and the introduction of the system now in force, the work was carried on by petty contracts in the manner described above, i. e., it was given

without written agreement to various petty contractors who had been in the habit of doing work in the Division; the terms of payment being settled just as often after completion of the work as before.

5. After much consideration of the subject, I tried to make the new system a compromise between the large contracts and petty contracts as conducted formerly. The problem was to retain the good features of each system and eliminate the bad. The latter were the following, viz., in large contracts, *first*, the practical freedom from control and the vested rights acquired by contractors by means of their bond with the Government, which left Executive Engineers powerless to mend matters, however improperly a contractor might carry on work, so long as he kept within the letter of his bond, *second*, the cumbrous and dilatory nature of the forms to be gone through in making contracts. And in petty contracts they were, *first*, the want of competition; and *second*, the loose and informal nature of the agreements, not binding all contractors alike by the same rules as they should be. On the other hand, the good features were the following, viz., in large contracts, *first*, the public competition; *second*, the security lodged beforehand for the execution of the contract; *third*, the formal acceptance by the contractor of the terms and conditions enjoined in the Code; and fourth, the execution of work without advances. And the good points of the petty contract system were, *first*, the power exercisable by the Executive Engineer to annul the contract in case of failure; *second*, the limited scope given to each contract, which was more suitable to the capabilities of the class of contractors available here. All these features are embodied in the system of contracts now in force. Every work above Rs 200 is competed for by contractors and given to the lowest tenderer. Definite dates are fixed for the commencement and completion of each work and adhered to in the great majority of cases. Power is reserved to the Executive Engineer to annul the contract if the progress is not proportionate to the time spent in it. And the contractor is bound to a set of terms and conditions for the most part extracted from the Code. All these are set forth in the printed form of tender. There is no novelty in the system beyond the manageable form into which it has been thrown. It has been successfully worked in the Garrison Engineer's Division for the last three years. In that time 409 contracts have been entered upon out of 2,031 tenders received. This is an average of five tenders for each work offered for contract. Only in one case was no tender received at all, and that was a small work below Rs 500. In six cases, the lowest tenderers failed to come forward and take up the contract after their tenders had been accepted, and the contract was therefore made with the next lowest tenderers. Fines amounting to Rs 10,183-14-9 have been realized on account of delay in 21 cases. In one case, a contractor's work was entirely rejected after he had claimed its acceptance as complete, and he was obliged to remove it, and it was done over again by a fresh contractor. In seven cases, the work has been taken out of contractors' hands and finished at their risk and expense. In the great majority of cases, tenders have been accepted at rates considerably below the sanctioned schedule. On the whole, contractors' work has been fairly done. The Supervisor has complained of having great trouble in exacting good work and punctuality, but that is no fault of the system. No work on any system can be well done without trouble. The great difficulty I have found is to enforce the rules rigidly, and avoid making exceptional cases. In this I must confess to not having been as successful as I could wish, and yet it is the key to the efficient working of contracts.

No 6830, dated 3rd December, 1867.

Extract from the Proceedings of the Hon'ble the Lieutenant Governor of Bengal, in the Public Works Department.

Read—

Public Works Proceedings, General, November 1863, Nos. 78-9.

Read also—

Chief Engineer's Nos. 474-75, dated 8th July 1867, with Schedule of rates for 1867 and Specimen Form of Estimate

Superintending Engineer, Presidency Circle, No. 1546, dated 27th April 1867

Chief Engineer's No. 137 dated 4th May 1867.

Superintending Engineer, Presidency Circle, No. 3532, dated 4th September 1867, with enclosures

Chief Engineer's No 1082, dated 5th December 1867.

Controller of Public Works Accounts, Bengal, No. 3795, dated 8th June 1867, with enclosure.

Note by ditto, dated 12th August 1867

Controller of Public Works Accounts, Bengal, No. 6695 dated 2nd October 1867, with enclosures.

Ditto ditto, No. 6941, dated 23rd October 1867.

OBSERVATIONS—The above papers bring to notice several points which have been raised in connection with the "terms and conditions of contract" now in force in the Divisions at and near the Presidency, issued with the Chief Engineer's Memorandum No. 474 of the 5th July last, and also several other matters connected with contracts and the security deposits of contractors.

2. The first question raised is whether any deposit should be required to accompany a tender as earnest money, and if so, what should be the amount thereof? The Code, Chapter XIV, Paras. 20 to 22, indicate that, as a rule, earnest money should accompany every tender, and in practice it has been found that such a procedure would be desirable: this is also in accordance with the opinion of the Advocate General, and the rule should therefore be adopted; the amount may be fixed as noted in the margin.

Amount of Executive Engineer's estimate—	Deposit	Rs	50	100	200
If not exceeding Rs 2,000	"	"	"	"	"
Exceeding Rs 2,000 and not exceeding Rs 5,000	"	"	"	"	"
Exceeding " 5,000 ditto " 10,000	"	"	"	"	"
and for every additional Rs 5,000, or portion of Rs 5,000,	"	"	"	"	"
a further sum of ..	"	"	"	"	"

3. The second question is whether a separate bond is required from contractors in connection with the forms of tender and contract above referred to? From the opinion of the Advocate General it would appear that the tender, when accepted by the Executive Engineer, forms a legal and binding contract in itself, and no further bond is required to enable the parties to enforce any of the conditions thereof, and if the conditions state clearly the circumstances under which the security shall be forfeited, and the Promissory Notes, if any, may be sold and applied to the purpose of the contract, no further bond is requisite.

4. The third point raised is whether the present Clause 3 should be modified so as to increase the responsibility of a defaulting contractor for any loss or excess expenditure which may be incurred in the completion of a work taken out of his hands? In such cases, it will generally be advisable that the proceeding should be a final one; the exception to this rule would be those cases where a work is nearly on the point of completion, when it would be desirable to deduct from the original contractor's bill for the complete work the amount paid to another contractor for finishing it off, under other circumstances, to carry on a work, when in a state far from completion, at the contractor's risk, would generally involve many questions both of law and account. The Contract Rules under notice are intended for ordinary works only, and it is desirable that the conditions and procedure should be as simple as practicable. It was in this view of the case that the conditions were originally framed to provide for the forfeiture of 10 per cent, that is 10 days' fine at 1 per cent per diem for delay in completion, and this 10 per cent and any sums of money which may become due to the contractor, which could also be applied to the purpose, appear sufficient to protect Government from any loss in those exceptional cases where a work is taken out of a contractor's hands and completed at his risk. It will be advisable, however, to define more accurately the term "ordinary works," and it may therefore be held that tenders should not be invited under these conditions for any work estimated to cost more than Rs. 25,000. In the case of works estimated to cost more than Rs. 25,000 each, the orders of the Chief Engineer should be first obtained, nothing the special conditions proposed, and a separate Contract Deed should in such cases be prepared.

5. It will be necessary also to introduce a Clause empowering the Executive Engineer to take possession, when necessary, of all material, tools, plant, &c, which may have been collected for any work in the case of the annulment or cancellation of a contract, paying a reasonable price for the same; and also, under similar circumstances, to have power to remove or to sell at the defaulting contractor's risk, in the event of his failing to remove the same, all material, tools, plant, &c, which the Executive Engineer may not think it proper to take over. It will also be desirable that the period within which the Executive Engineer shall have power to annul a contract after the contractor shall have subjected himself to 10 consecutive days' fine, should be such as to admit of a reference to the Superintending Engineer, or, say 14 days.

6. The fourth question raised is as to the right of property in material which has been made to a contractor under Clause 9, but which has not been used in a work, in the event of the insolvency of the contractor. Under the rule, as it now stands, the Advocate General has stated that it would vest in the insolvent's estate. A modification of the rule, so as to preserve the right of Government to such material, is therefore necessary.

7. The question has also arisen whether, in calling for tenders under these contract rules, it is necessary to stipulate in all cases that each tender shall embrace the whole of the works of every class which are to be carried out under one estimate. With reference to this, it may be stated that it will rest with the Executive Engineer, subject to the orders of the

PUBLIC WORKS DEPARTMENT
TENDER FOR WORKS.

(a) I or we, _____ (b) per _____
(c) the rates entered in the general schedule of the Office
Division, _____ (a)
tract of the under-mentioned work at _____
cent _____
of the Executive Engineer, _____
for the year 1866, and special estimate for the said work, and
agree to abide by the terms and conditions printed on the reverse of this
paper in the event of _____ (d) tender being accepted, at
the foot hereof.

(d) If by our _____

WORK TENDERED FOR.	NUMBER AND

agree to abide by
(d) Ify or our paper in the
the foot hereof.

MEMO. OF WORK TENDERED FOR.

No. OF WORK	NAME OF WORK.	AMOUNT OF ESTIMATE.	DATE FOR COM- MENCEMENT OF WORK.	DATE FOR COM- PLETION OF WORK	NUMBER AND AMOUNT OF CUR- RENCY NOTES WHICH ACCOMPANY AS EARNST MONEY.

The sum of Rs. _____ as earnest money, to be absolutely for-
warded should not be deposited in accordance with Clause _____
(e) in currency notes
(f) not deposited

(e) — Here fill in amount of earnest money.

The sum of Rs. _____ herewith forwarded as earnest money, to be absolutely forfeited to Government should _____ (f) not deposit the full amount of 10 per cent. on the estimated cost of the work in accordance with Clause 1 of the terms and conditions of contract, in the event of this tender being accepted.

*

_____ regards signature

* As regards signature, see para 2 of the rules on the back of this tender

ture, see ph.
rules on the back of this
tender

Dated _____

The above tender is hereby accepted by me on behalf of the Secretary of State for India in
Council, as intimated to the above-named contractors this day.

†

of the

† Signature of the
Officer by whom accepted

TERMS AND CONDITIONS OF CONTRACT.

1. The person whose tender may be accepted shall, before the date fixed for commencing the work, deposit in Cash, or Government Securities endorsed to the Executive Engineer, a sum amounting to 10 per cent. on the estimated cost of the work undertaken by him as security for the due performance of his contract. The Executive Engineer shall have power to deduct all fines incurred by contractors from or by sale of a sufficient part of this security deposit, or from the interest of any Government Security or from any other sums due, or which may become due to them by Government.
2. The dates fixed by the Executive Engineer for the commencement and completion of work, as notified on the board hung up in the Executive Engineer's Office, and entered in the tender, shall be strictly observed by Contractors, who shall be subject to pay a daily fine of 1 per cent. on the amount of the estimate for every day not exceeding ten days that the work remains uncommenced, or unfinished, after the proper date. And further, to ensure good progress during the execution of works, contractors shall be bound in all cases in which the time allowed for a work exceeds one month, to complete one-fourth of the whole work to be done when one-fourth of the whole time allowed for it has elapsed; one-half of the work when one-half of the time has elapsed; and three-fourths of the work when three-fourths of the time has elapsed; and the penalty for failure in either of these cases shall likewise be that the contractor shall be subject to pay a daily fine of 1 per cent. on the amount of the estimate for every day not exceeding ten days that the due quantity of work remains incomplete. All such fines shall be considered as liquidated damages to be applied to the use of Government without reference to the actual loss sustained owing to the delay.
3. In every case in which any fine mentioned in the preceding clause shall have been incurred for ten consecutive days, the Executive Engineer shall have power, within 14 days thereafter, either to annul the contract altogether, or to have the work completed without further notice at the contractor's risk or expense, as he may deem best suited to the interests of Government, and the contractor shall have no claim to compensation for any loss that may accrue from any materials he may have collected, or engagements he may have entered into, on account of his work, and in the latter case the Executive Engineer shall have power to deduct whatever amount may be expended on the completion of the work from any sums that may be due or become due from Government to the contractor on account of this or any other work.
4. In the event of the Executive Engineer putting in force the power vested in him under the preceding clause, he may, if he so required it, take possession of all tools, plant, materials and stores, or any portion thereof, on the premises, paying or allowing for the same in account at the contract rates above or below the general Schedule rates, or, if not specially provided for therein, at current market rates, otherwise the contractor may be required to remove such tools, plant, materials, or stores from the premises; and in the event of his failing to do so, the Executive Engineer may remove them at the contractor's expense, or sell them by auction on account of the contractor.
5. If the contractor shall be hindered in the execution of his work so as to necessitate an extension of the time allowed for its completion, he shall apply in writing to the Executive Engineer, who shall grant in writing the extension required, if reasonable grounds be shown for it, and without such written authority of the Executive Engineer, the contractor shall not claim exemption from the fine leviable under Clause 2, if the work is not finished within the prescribed time.
6. On completion of a work, the contractor shall be furnished with a certificate to that effect by the Executive Engineer, but no work shall be considered as complete until the contractor shall have removed all collections of scaffolding, surplus materials, and rubbish resulting from it, and cleaned off the dirt from all wood-work, doors, windows, walls, floors, or other parts of any building he may have had in possession for repairs or other work.
7. No payments shall be made for works estimated to cost not more than Rs. 1,000 till after the works have been completed and approved. But in the case of works estimated to cost more than Rs. 1,000, the contractor shall submit a monthly bill for work done, which shall be paid to such extent as the work may be approved and passed by the Executive Engineer. But all such intermediate payments shall be regarded as payments to account, to be covered by the final bill for the complete work, and not as payments for work actually done and completed.
8. Contractors shall make out their bills, whether for complete works, or works in progress, on the printed forms to be had in the Executive Engineer's Office. The charges in the bills are always to be entered at the Schedule rates as entered in the Executive Engineer's estimate for the work, and the percentage allowed in the accepted tender is to be added to, or deducted from, the total at foot of the bill.
9. When an estimate provides for the use of any special description of materials to be supplied from the Executive Engineer's store, the contractor shall be supplied from such store with the material as required from time to time to be used by him for the purpose of the contract only; the value of the full quantity of material so supplied being deducted at the

general Schedule or Divisional rate from the bills submitted by the contractor, or from, or by sale of, the security deposit, or a sufficient part thereof. Any such materials unused at the time of completion or determination of the contract to be returned to the Executive Engineer's store, if he so require it; but otherwise, the contractor shall not return remnants of such materials into the Executive Engineer's store, or claim any compensation for loss by wastage in such materials beyond what may be allowed in the estimate, it being assumed that all risk is provided for in the tenders.

10. Contractors shall invariably execute all work in the most substantial and workmanlike manner, and in strict accordance with the specifications attached to the schedule of rates, and the materials used shall be of the best description. Contractors shall also conform minutely to the designs, drawings, and instructions in writing relating to their work, signed by the Executive Engineer, and lodged in his Office for their inspection during Office hours.

11. The Executive Engineer shall have power to make any alterations in the original designs, drawings, or instructions that may appear to him to be necessary during the progress of the work, and contractors shall be bound to carry them out forthwith on the same being pointed out to them or their Agent in writing. Such alterations shall not invalidate the contract, but contractors shall not make any alterations or execute any work not provided in the contract without the Executive Engineer's authority in writing.

12. If it shall appear to the Executive Engineer, or his subordinate in charge of the work, that any work has been executed with unsound, imperfect, or unskilful workmanship, or with materials of an inferior description, the contractor shall, on demand in writing, forthwith rectify, remove, or re-construct the same in whole or in part, as the case may require, at his own proper charge and cost, and in the event of his refusing to do so within a period to be specified by the Executive Engineer or his subordinate, or if he shall fail to remove from the site of the work within a specified period, any materials or articles which are considered by the Executive Engineer or his subordinate, or not agreeable to the terms of the contract, and the same Officer unsound, of bad quality, or articles in lieu of those condemned, then the contractor shall be liable to pay a fine of 1 per cent. on the amount of the estimate for every day not exceeding ten days that he fails to comply with the written demand of the Executive Engineer or his subordinate, and if he shall incur such fine for ten consecutive days, the Executive Engineer may act as provided in Clauses 3 and 4.

13. All works under execution by contract shall at all times be open to the inspection and supervision of the Executive Engineer and his Assistants, and contractors shall always have a responsible agent present at the works, when they are not present themselves, to receive their orders and instructions. Orders given to contractors' agents shall be considered to have the same force as if they had been given to contractors themselves.

14. Contractors shall be responsible to give due notice to the Executive Engineer or his Assistants to measure any work which is going to be covered up, or otherwise placed beyond the reach of measurement, in order that the correct dimensions may be taken before being so covered; in default whereof, the same shall be uncovered at the contractors' expense, or no allowance made for such work or materials.

15. If contractors or their work-people break, deface, or injure any part of a building they may be working in, or any building, road, fence, enclosure, or grass land, or cultivated ground contiguous to their work, or if any damage shall happen to the work while in progress, from any cause whatever, or any imperfections become apparent in it, they shall make the same good at their own expense, or, in default, the Executive Engineer may cause the same to be made good by other workmen, and deduct the expense from any sums that may be due to contractors.

16. Contractors are to supply at their own cost all plant, tools, implements, ladders, cordage, tackle, and scaffolding required for the proper execution of their work, together with carriage for the same to and from the works. They are also to supply without charge the requisite number of persons with the necessary means to set out works, and to count, weigh, and assist in the measurement of their work or materials. They are also to provide all necessary fencing and lights required to protect the public from accidents, and they shall be bound to bear the expenses of defence of any action or law proceedings that may be brought by any person for injury sustained owing to neglect of the above precautions, and to pay any damages and costs which may be awarded in consequence.

17. No work is to be done on Sundays without the written permission of the Executive Engineer. A contractor sub-letting his contract without such approval of the Executive Engineer, committing a breach of contract, and the contractor shall forfeit his security deposit, and shall have no claim for any compensation for loss that may accrue from materials he may have collected, or engagements entered into.

18. All works under execution by contract shall be under the direction of the Superintendent Engineer of the Circle for the time being, whose decision shall be final, conclusive, and binding to all parties to the contract on all questions relating to the meaning of drawings and specifications, and to the quality of workmanship and materials used on the work.

Signature of the
Party tendering }

Public Works Department.

TENDER FOR WORKS.

Division

General Rules and Directions for the guidance of Contractors.

All works proposed for execution by contract will be notified in a tabular form, posted on a board and hung up in the Office of the Executive Engineer. This form will show the estimated and probable, but not guaranteed, cost of each work, as well as the date for submitting tenders for it, and for commencing and completing it, and the amount of earnest money to be deposited with the tender.

2. In the event of this tender being submitted by a Firm, it must be signed separately by each member thereof, or, in the event of the absence of any partner, it must be signed on his behalf by a person holding a Power of Attorney authorizing him to do so.

3. Receipts for payments made on account of a work when executed by a Firm, must also be signed by the several partners, except in the case of well-known and recognized Firms.

4. The amount of earnest money to be deposited will be—

	Rs.	Rs
If the amount of the Executive Engineer's estimate does not exceed	2,000	50
If exceeding Rs 2,000 and not exceeding	5,000	100
5,000	10,000	200
and for each "additional" Rs. 5,000, or "portion" of Rs. 5,000, a further sum of	...	100

5. Any person who submits a tender is to fill up the above printed form, stating at how much per cent. above or below the rates in the Office schedule, he is willing to undertake the work. Only one rate of percentage, more or less, on the whole schedule is to be named. Tenders which propose any alteration in the estimate or schedule of rates, or which contain any other conditions of any sort, will be rejected. No single tender is to include more than one work, but Contractors who wish to tender for two or more works are to submit a separate tender for each. Tenders are to have the name and number of the work to which they refer written outside the envelope.

6. The Executive Engineer or his Assistant will open tenders in the presence of any intending contractors who may be present at the time, and will enter the several tenders in a schedule. In the case of tenders not exceeding Rs 2,000 for each work, the Executive Engineer will at once note that which is accepted by him. If the amount be more than Rs. 2,000, the acceptance of the Executive Engineer will be subject to the confirmation of the higher Officers of the Department.

7. The Executive Engineer reserves the right of rejecting the whole or any of the tenders.

Petty Contract Work.

No.—OF 186

do hereby agree with the Executive Engineer, Division, for the time being, to execute the under mentioned description of work at the rates enumerated, and in accordance with the conditions noted below, in consideration of payment being made for the quantity of work executed at the rates specified at the following Schedule —

NAME OF WORK	NUMBER OF ITEM	CLASS AND DESCRIPTION OF WORK TO BE EXECUTED	UNIT OF CALCULATION	RATE OF PAYMENT
				Rs. A P

Conditions.

The Petty Contractor is to proceed with the work with due diligence, and all work executed is to be done in a workmanlike manner, and the material used is to be of the best of the several kinds procurable, and in all cases is to be subject to the approval of the Executive Engineer for the time being, or his Sub Divisional Officer, whose decision as to the rate of progress and the quality of work or material shall be final.

2. The quantity of work executed shall be measured and payments made every days on the completion of the work, or the determination of this agreement, final measurements will be made and the account shall be adjusted accordingly.

3. In the event of due progress not being made, or of bad work being done or bad material being used, the Executive Engineer may determine and end this agreement without further notice, and in the case of bad work or material, the Executive Engineer may remove the same and have it replaced, deducting the value of the work or material removed, or the cost of replacing the same, as he may think proper, from any amount due, or that may be due, or become due, to the Petty Contractor.

Date

Signature of Petty Contractor }

Witness

Residence

No.—OF 186

Name of Contractor

Memorandum of payments made

DATE	QUANTITY OF WORK PAID FOR.	AMOUNT PAID
		Rs. A P

No. 276 A, dated 9th April, 1868.

From—COLONEL C H. DICKENS, R. A., Secy to the Govt of India, P. W. Dept.,
To—Secretary to the Government of Bengal, in the P. W. Dept

The Resolution of the Bengal Government, on the subject of the working of contracts in Calcutta, received on 6th January with your docket No. 6801 of 3rd December last, has been under the consideration of the Governor General in Council, and I am now directed to communicate the remarks of His Excellency in Council thereon.

2. I am first to state that the Government of India is satisfied that the matter has now been very carefully considered by the Public Works Department of Bengal, and I am to express the general concurrence of the Governor General in Council in the conclusions arrived at, subject to the exceptions and remarks which follow. But it is still necessary to carry out practical improvements in the manner proposed in these Reports. The Governor General in Council hopes that matters are now in train towards the more prompt and efficient execution of work in Calcutta; but His Excellency in Council is bound to say that as yet the expected improvement is not very apparent, and it will require the earnest attention of all the Officers concerned to give it real and practical effect.

3. Returning now to the documents above acknowledged, the first point that I am to remark upon is the conclusion, in which the Government of India quite concurs, that it is necessary to exercise very close supervision on the performance of work by contract. It appears to the Governor General in Council that it is necessary to carry this conclusion to its practical consequence, and to re-organize the establishments of the Executive Engineers in Calcutta accordingly. And this, the Governor General in Council is disposed to think should be done, not merely by making a reasonable addition to the number of Assistant Engineers and Upper Subordinates, but also by strengthening the Lower Subordinate agency by the appointment of head artificers in the principal crafts employed in building. I am to suggest that such an addition would be a very useful aid to the Assistant Engineers and Upper Subordinates, and would also place the Executive Engineer in a position to work, if occasion required, independently altogether of contractors, large or petty. It seems to the Governor General in Council that it would be in any case desirable to carry out work occasionally in this way, if only to secure a proper control over rates, and enable the Executive Engineer to deal strictly with unsatisfactory contractors without inconvenience to the public service. The additional expense involved in a reasonable strengthening of establishments will be quite trifling compared with the enormous outlay involved in the work going on in Calcutta; and will be far more than re-paid in any, even very small, improvement in supervision. The Governor General in Council will be glad to receive specific proposals from the Bengal Government for the re-organization of these establishments at an early date.

4. But while the Governor General in Council is strongly impressed with the importance of doing what is possible by means of the Government establishments to secure good and honest work, and timely execution of works, this is a matter of so much difficulty and importance that it is also desirable to insist upon arrangements being made by contractors to the same end. And this should be done just as fully and strictly as if the Government were to leave the matter

wholly in the contractors' hands. To this end the Governor General in Council would suggest that the 13th Clause of the Bengal Government's new Conditions of Contracts should be expanded so as to require not only that the contractors shall have an Agent always on the works, but also a proper supervising staff, consisting of such a number of persons as the Executive Engineer shall require, and bring such persons as the Executive Engineer shall be satisfied with as regards their knowledge, tact, zeal, and vigilance. It should be specifically provided that failure to meet the Executive Engineer's demands in this respect shall annul the contract. There are, no doubt, provisions in the Conditions which might be made to meet these objects, but they are not sufficiently prominent and specific. Of course the Executive Engineer would be bound to exercise his power under these conditions with reason and consideration. He must not expect unattainable perfections in the contractor's staff. But he has a perfect right to insist upon a liberal outlay and reasonable care in providing what is so essentially necessary to securing the honest performance of a contract.

5. The Governor General in Council observes from the 7th para. of your letter, that the Lieutenant Governor considers that the first condition to be secured in case of works being given on contract is, that there should be substantial security for the execution of the contract. If the word security be interpreted in its widest sense, the Governor General in Council quite concurs in this observation. This condition would in that case include the provision of proper supervision by the contractor which has been insisted on in the last paragraph. But I am to remark that, if the term security be restricted to the means given to impose penalties in case of non-performance, then the giving of substantial security, even accompanied by the execution of a carefully drawn Deed of Contract, will not suffice. To enforce penalties after a work has been carried out in an inefficient way, or has failed, is a poor compensation of disappointment and delay. Even the provision of increased supervision on the part of the Government may fail to detect or remedy defects. All these means may fail unless good faith and efficient supervision on the part of the contractors can be secured in a reasonable degree.

6. The building or contractor's trade must depend, like all other commercial affairs, in a great degree on personal credit. And it appears to the Governor General in Council that this must be allowed for in our contract rules, not only in the negative way proposed by the Chief Engineer of Bengal of excluding those contractors who have failed to carry out works satisfactorily, but positively, in giving a special preference to those who have previously given satisfaction. It may be better for the Government, as it is certainly proper for the encouragement of a desire to give satisfaction to the Government on the part of contractors, to give 10 per cent. more to a contractor who is certain to execute a work well, than to give the work at a lower cost to an unknown person who may fail. The limits within which preference of this sort is to be confined must be left to the judgment of the local Officers, and the Governor General in Council would not impose any rule to compel the acceptance, unless in cases of previous failure, of the lowest tender for the execution of work.

7. The Government of India quite agrees with the Lieutenant Governor that, in this and many other matters connected with contractors, general rules applicable to all cases cannot be carried out, and it

should certainly be left to the local Officers under proper direction and control to work with or without contracts according to circumstances, bearing in mind that contractors should be encouraged to come forward when there is no reason to the contrary.

8. As regards the employment of contractors for the entire construction of large works, the Government of India agrees with the Chief Engineer that this kind of contract should not be discouraged when there is reason to hope for success within reasonable limits of expense. But this, like other matters, must in a great measure be left to the discretion and experience of local Officers.

9. I am directed to forward, for the information of the Lieutenant Governor, a copy of correspondence with the Trades Association of Calcutta on the subject of contracts; and I am to beg His Honour's special attention to the question of the short hours of labour in Calcutta referred to in the conclusion of the letter to the Secretary of the Trades Association Committee.

10. The correspondence on the subject of contracts in Calcutta will be circulated for information to all Local Governments.

Dated 31st December, 1867.

From—J. LINDLEY, Esq., Secy. to the Calcutta Trades Association,
To—Secretary to the Government of India, P. W. Dept

In the observations of His Excellency the Governor General in Council on the failure of the Custom House Sheds, dated 10th May 1867, His Excellency remarks that—"The experience of the last few years clearly shows that the system of contracts for large works as in force in Calcutta has entirely failed, and there has been a large waste of public money. It, therefore, becomes a matter for consideration whether the system, so far as regards large contracts, not petty ones for materials, &c., should not be abolished in Calcutta, or whether at least some steps should not be taken to work it very differently; but before finally determining this point, the Government of Bengal will be invited to submit its views on the subject."

The Committee of the Calcutta Trades Association, on behalf of an important trading interest, while expressing their entire concurrence in His Excellency's statement, desire respectfully to offer some suggestions with a view to the contract system being placed on a proper basis, it being considered that contracts, if based on principles alike fair to Government and the Contractor, cannot fail, under proper superintendence, to secure both cheapness, efficiency and celerity in construction of public works.

It must be remarked in the outset, that a system of contracts based on such principles has not been tried in Calcutta.

The main objections to the present system are, that the work is so sub-divided that no leading European Firm can tender successfully, while the conditions are such as to be unfair to any party who intends to execute his work faithfully.

Those conditions are—

1st—That the Contractor shall deposit one-tenth of the amount of his tender in cash or Government of India Notes as security for the due performance of his contract, a condition inevitably crippling the Contractor by the withdrawal of a considerable portion of his Capital. This is utterly opposed to the ordinary rules governing contracts, either for Railway or private works, the usual course being to pay for work done at certain intervals, retaining a percentage as security until the completion of the contract.

2nd—That the tender should be at a percentage on schedule rates. This condition is unfair to the party contracting, inasmuch as it deprives him of all possible advantages to accrue from the state of the market, while it exposes him to loss on a particular item of the contract, which, if the whole were in the hands of one Firm or individual, might be made up by the profits on other items.

3rd—The conditions as to the quantity of work to be performed in a certain time are arbitrary and incompatible with the possibilities of performance in such a climate as this. The sub-division of contracts entails many inconveniences, often causing serious delay in the

completion of the work, and entailing consequent loss on the contractor as Government. For instance, in the case of the barracks now in construction at one of the conditions under which the contract was advertised was, that the build. be completed in August 1867.

The contract was simply for masonry work at schedule rates, the bricks being supplied by Government. The contract was, therefore, virtually one for soorkey and labour, in which respectable European Firm could compete with a Native. At first sight, a saving would be effected; but the sequel will show how the system works; the buildings were not only not completed at the time specified, but the Committee observe that so late as October last tenders were issued for the beams for the buildings, a contract of such extent, both as to the quantity and size of the beams required, that it was impossible it should be executed from any stock then in Calcutta, or procurable within the period named from the ports of timber shipment. The necessary consequences are, great delay and increased rates, both of which might have been avoided if the entire contract had been given on proper conditions to a Firm of established repute, who would, in the course of business, have taken steps to procure the needful supply of timber, or any other material, to arrive at the time when it should be required.

The slow progress and inefficient construction of public buildings recently erected, and now in course of construction in Calcutta, afford a strong proof of the imperfection of the system under which works are now carried on, and call loudly for a change, not in the direction, the Committee would venture to assert, of abolishing a system of execution of such works by contract, but of its extension so as to assimilate the system more to that which has been proved to be successful in the case of private buildings.

It cannot be supposed that a system which has been successful in the construction of Railways, Docks, and other public works all over the world, should be totally inapplicable to Government work in this country.

The immense expenditure on public works throughout the country, and the gross and known abuses which have crept into the Department, appear to the Committee imperatively to demand that steps be taken to ensure at once efficiency and economy in the expenditure of the public funds, and with this view, the Committee respectfully suggest that the whole question be submitted to a Commission, in which experienced men in the trade shall be included, for the purpose of enquiring into the particular working of the Department, and laying before Government a report on the best means of promoting its efficient and economical working.

The Committee have the honour to request that you will take an early opportunity of laying this letter before His Excellency the Governor General.

No. 275 A, dated 9th April, 1868.

From—COLONEL C. H. DICKENS, R. A., Secy. to Govt of India, P. W. Dept,
To—Secretary of the Calcutta Trades Association.

Your letter of the 31st December last, on the contract system of the Public Works Department in Calcutta, was received at the same time with the Report from the Government of Bengal, alluded to as having been called for in the Resolution of 10th May 1867, which you quote. The subject has since been under the consideration of the Governor General in Council, and I am now directed to reply as follows to the statements and suggestions you have made on behalf of the Calcutta Trades Association.

2. One objection made by the Trades Association to the existing contract system is, that the work is so sub-divided that no leading European Firm can tender successfully. On this I am to remark that this sub-division of the works has been brought about recently to meet the evil of large contractors sub-letting the contracts without taking any proper steps to supervise the work of the sub-contractors. The consequence has been that the Government has paid highly to the leading Firm for doing what it could more cheaply do itself, namely, to entrust the work to petty contractors under Government supervision. There might be no objection to sub-letting contracts, under proper limitation, if the leading European Firms employed could be relied upon to see that the work was well and honestly performed; but this is exactly where the previous system of contracts has failed.

The next objection is to the crippling the contractor by requiring him to deposit 10 per cent. of the amount of his tender as security for the due performance of his contract. It scarcely appears to the Government of India that this ought to cripple a contractor possessed of sufficient capital to be able to work efficiently a large contract. I am to add that the object of the requirement is to exclude "men of straw" who might undertake, under no sort of penalty, to do what they could not perform, and so lead to trouble and delay in getting work done. No alternative provision for meeting this object has been suggested.

4. The Association further object to the practice of requiring tenders to be on schedule rates, as depriving the contractor of the possible advantages which might accrue from the state of the market. On this I am to remark that this system is intended simply to facilitate the disposal of tenders which, if presented in various forms, would not admit of easy comparison. The plan is the one in use by the Government in England, and it does not appear to the Governor General in Council in what respect it can be unfair to contractors. If the Trades Association have any specific amendment of the schedules to suggest, such suggestions would doubtless meet with due attention from the Government of Bengal, in the Public Works Department.

5. It is said that the conditions as to the quantity of work to be performed are arbitrary and incompatible with the possibilities of performance in such a climate as this. But I am to remark that work is performed under those conditions which have been introduced after long experience. Some conditions are obviously necessary.

6. The Government of India are not at all indisposed to adopt contracts for complete buildings on proper occasions, or, indeed, universally, if contractors can be got to work satisfactorily. The difficulty is to obtain contractors who will be as anxious as the Government is to secure good and honest work; and more, who will take a pride in executing work of the first quality, and feel themselves discredited by bad work so far as to prefer occasional loss to executing a contract in anything but a perfectly satisfactory style.

7. This is far from being the case at present. Contracts, as far as can be judged from the experience of the Government Officers, are most commonly taken rather as mere speculation than as professional transactions. All the work is immediately sub-let, and no care is taken to see that good work is done. It is left to the Government Officers to do this. The contractors, so far from aiding the Government Officers, generally appear to use every expedient to escape from their obligations, and resort to litigation in preference to seconding the efforts of the Government Engineers to improve the style of building.

8. To illustrate what is meant, I am to draw attention to the very disgraceful quality of the bricks obtainable in the market in Calcutta as compared with those manufactured by the Government at Akra. If the Calcutta contractors had any pride in their work, it would be impossible that this could go on. No contractor of capital would be content to use such bricks as are alone obtainable in the Calcutta market. The quality of these bricks is evidence of entire want of care to secure the first essential of good building. And it is such want of regard to any matter, which is not one of immediate profit, which leads the Government Officers to be averse to trust more to the contractors of Calcutta.

9. Doubtless it would be an immense advantage to the Government if contractors could be got to come forward in a proper spirit to

construct public works, who, like the contractors in England, could be relied upon after once having taken a contract to do the work rapidly and well, even at a loss to themselves occasionally. But in Calcutta the Government has been driven, by experience, to abandon a system adapted to such a state of things, for one which is suited to existing circumstances.

10. The Governor General in Council is not disposed at present to appoint another Commission on Public Works in this country, but will be very ready to receive any practical suggestion for improvement which the Committee of the Trades Association may be disposed to make. I am to add that one great desideratum appears to be to encourage the desire to establish a creditable style of work in the business of contractors, so that the Government Officers might employ them with confidence that their efforts to secure good and honest work would be practically supported, and not met by objections and litigation.

11. Every Officer in the Public Works Department is interested in obtaining good work, and in getting it done in good time. To throw unnecessary and harassing difficulties in the way of a contractor, can be no object to a Government Officer. The interest of the contractor and the Departmental Officer are really the same. It is not really the interest of the contractor to attempt to make profit at the expense of the quality of his work, either directly or indirectly, in sub-letting at a low figure under imperfect supervision. The advantage which might accrue from adopting this policy in one or two works would be small compared with the profits of a long series of creditably executed contracts. And the Trades Association may rest assured that, when it can be relied upon that large contractors in Calcutta will act in this spirit, there will be no backwardness on the part of the Government Officers to employ them.

12. Before concluding, I am to suggest one more point for the consideration of the Calcutta Trades Association. This is, the very late and brief attendance given by the workmen employed in the building trade. They usually do not come to work before 9 or 10 o'clock, and leave at 5. This not only is an absolute reduction of the productive power of the trade, but is a source of unnecessary costliness of work, and unnecessary delays in construction. It is further thrown into the fact that the supervision of work is altogether thrown into the hottest hours of the day, and into the time necessarily more or less devoted to the duties of the Office. It is probable that an effort on the part of employers might secure at least some mitigation of this evil.

ORDER.—Ordered, that copies of these papers be forwarded to the Local Governments and Administrations noted in the margin,* with the remark that the Bengal system may be adopted if found convenient.

Ordered also, that copies of the papers be forwarded to the Governments of Madras, Bombay and Bengal for information.

(Signed)

C. H. DICKENS, Colonel, R. A.,
Secy. to the Govt. of India.

M. L. C. E.
Offg. Asstt. Secy. to the Govt. of India.

To the Secy to the Govt. of Madras
P. A. D. P.

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*W 1868 L. 2021
No. of 1868 for June
A. 1952*

GOVERNMENT OF INDIA
PUBLIC WORKS DEPARTMENT.
ACCOUNT.

To

CIRCULAR No. 42 PUBLIC WORKS.

Dated April 27, 1868.

Received *26 May/68*

2021-25 June 1868

2021
Recorded

2021
The Contract System in Bengal

[Signature]

*For the Secretary
June 1868*

A. 605-606

29 May/68 A. 125 June