

Educational (1916) Department.

ORDINARY MS.

G.O., No. 791

20/1/16

DATED 19. 7. 16.

[Despatch Abstract.]

College of Engineering, Madras.

Declining to comply with the request of
MR. P. V. Manikkam Narayana, acting professor
of Civil Engineering in the ——— for his con-
firmation in that post.

Received



Registered 12/4/1916

Subject.

32
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Submitting with remarks an application from M.R.Ry.
P.V. Manickam Naicker Avargal, Acting Professor of Civil
Engineering, College of Engineering, Madras, requesting
to be confirmed in his present post.

ENCLOSURES.

No.

N. Ref on Cur No. 2888/1916.

Spare copies

Station Madras Dated the 10th April 1916

From (Name) The Hon. Mr. J. H. Stone, M.A., C.I.E., F.R.H.S.,

(Designation) Director of Public Instruction.

To The Secretary to the Government of Madras,
EDUCATIONAL Department.

Sir,

See my pending issue of order appointing him back to the post.
See page 6 of order with no 407. See 55-5-16. (A)

From,

M. R. Ry. P.V.Manickam Naicker B.E.; M.C.L.

Acting Professor of Civil Engineering,

College of Engineering,

Madras.

To,

The Secretary to the Government of Madras,

Educational Department,

Madras.

Through,

The Principal,

College of Engineering,

Madras.

Subject.

Requesting to be confirmed in the post of the Professor of
Civil Engineering in the College of Engineering, Madras.

3
Madras.

Dated the 24th March 1916.

From,

M. R. Ry. P.V. Manickam Naicker Avl. B.E.; M.C.I.

Acting Professor of Civil Engineering,

College of Engineering,

Madras.

To,

The Secretary to Government,

Educational Department,

Madras.

Through,

The Principal,

College of Engineering,

Madras.

Sir;

As I learn that His Lordship the Secretary of State for India has authorized this Government to select a candidate for the post of the Professor of Civil Engineering in the College of Engineering, Madras, I beg to offer myself for permanent appointment to the same.

2. I am acting in the said post for the last 2 sessions except during the short term in the beginning of 1915 when I had to vacate on the return of the permanent incumbent from leave. The permanent incumbent had however resigned his appointment at the end of the short term and I was re-posted to act in the permanent vacancy till a new officer arrived from England, but as no officer is available from England I beg to submit my claim for confirmation in the said post.

3. As for my educational qualifications, in addition to the course of training I underwent here, I have in 1912-1913

Ag: Professor of Civil Engineering,
College of Engineering, Madras.
From 28th June 1914 to 18th December 1914
From 28th June 1915 to date.

as rank

I am holding that rank for the last 13 years.

6. Even after my appointment, I continued to be an ardent student of the science of Engineering and in my service of 20 years, I availed myself of all opportunities and facilities in and out of the Department for original scientific research in the various branches of Engineering and attained results of considerable scientific and professional value. 6-791

7. Some of the researches and the results briefly stated are:-----

Subject.	Result.
(a) The theory of the frictional stability of a granular mass.	The theory built up from data, both theoretical and experimental, fully explains the anomalies in the theories of Professors Rankine, Bousinesque, and Coloumb and the faults of Baker's experiments. A note on this subject was submitted to the

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Chief Engineer for Irrigation, Madras, in the year 1905, while I was employed as the Assistant Chief Engineer for Irrigation T.R.S.

(b) The internal transmission of stresses in elastic bodies and the time factor indispensable to determine the disposition and extent of stresses.

Admittedly this important subject, the soul of Applied Mechanics, is yet in its rudimentary stage. The research has brought to light some phenomena of much scientific and practical value explaining a number of anomalies recorded by previous experimenters. The elementary portions of this subject were dealt with in the Madras College while he acted last year.

(c) The inverse of Bazin's and Kutter's formulae, i.e. the method of determining water levels for known sections and discharges and a detail study of afflux therefrom.

A note on the theory and a mechanical device for easy solution were submitted to his higher office in 1900, and the principle was utilised for the re-sludging of old channels in the Coimbatore District. The problem was to determine beforehand what the water levels will be after the re-sludging of these ancient channels which had sections and bed levels varying from point to point, and the principle adopted gave most reliable results.

(d) A geological law of The law and its use for a scientific

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precision in the formation
of water courses and soils

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consideration of Irrigation Engineering were expounded to the students of the Madras College last year. It was possible to detect some major errors in the contours of the Cauvery Reservoir with the aid of this law.

(e) A contouring telemeter) This was improvised from parts of various instruments for the Cauvery Project, and its application was approved by the Superintending and the Chief Engineers. With its aid the major portion of the contouring was carried out. The efficiency of the method was found to be at least 10 times the ordinary method with the level and the plane table. The method was taught to the Engineer Class this year.

(f) Evaporation in areas
with and without plant
growth.

Experiments were carried out to dispel some erroneous notions in vogue about the loss by evaporation in the two kinds of areas and the result which was opposed to these notions was reported to authorities in 1908 and it elicited the remark "The enclosure to your last letter is a very interesting document. After discussing the matter personally with you some definite arrangement for continuing these investigations will be settled upon."

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(g) Investigation into the methods of permanent and temporary adjustments of levelling instruments in vogue and into the provision of superfluous details by instrument makers and devising a reliable method of levelling under all conditions of weather and ground.

This was expounded and demonstrated to the Engineer students of the Madras College last year and to the staff this year who were surprised by the accuracy of the results in spite of the fact that an instrument in the worst condition of repairs was deliberately chosen for demonstration. The method was adopted in the Cauvery and the Bhavani Project Investigations and very accurate results obtained.

(h) Run off from basins.) As this important subject is yet in its primeval stage observations were made and statistics taken to arrive at a more reliable basis than was available. Reported to authorities in 1911.

(j) Graph for solving sluice problems by inspection.

This was published as part of a Professional Circular by the Chief Engineer for Irrigation who in circulating the graph eulogised it as an "ingenious diagram" with which the results are obtained without effort.

(k) An instrument for suc-

The theory and des-

on and dis

in 1912-1913. This is a very promising outcome of my troubles and its particulars are briefly stated later on.

8. I now draw a Provincial salary of Rs. 570/ corresponding to the Imperial salary of Rs. 850/ though for the length of my service I should now be drawing a Provincial salary of Rs. 850/ corresponding to the Imperial Rs. 1250/. I humbly beg to state that the very circumstances which kept my salary in the P.W.D. stationery at Rs. 570/ as briefly stated below are the same which diverted me more and more to the pursuits of study and research, and should therefore commend themselves to my preference for the post in the Educational service though such work of mine for the last five years replete with the most valuable results on the educational and professional point of view did not contribute to my annual increments of salary in the P.W.D.

9. I was the first Provincial Engineer appointed from this College under the first Provincial scheme of 1893, and in 1909 I was an Executive Engineer of 4 years standing with records as best as may be expected of any body. In 1908, the second Provincial scheme was formulated with an increased scale of pay, but making a distinction in status between the Imperial and the Provincial Engineers. I and a large number of the Provincial Engineers refused to accept this new scheme. His Lordship the Secretary of State for India was however gracious enough to finally accord equality of treatment to the Provincial and the Imperial Engineers except as regards salaries in the 3rd scheme of 1912.

The period between the said 2nd scheme which was refused by us and the 3rd scheme was most critical to me and other Provin-

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Provincial Engineers. All the senior Provincial Engineers had a set back of their promotions in 1910 and 1911 and as I was the senior most and the only one in the permanent grade of Executive Engineer then, I had to feel the crisis most. I however venture to believe that even during this crisis there is nothing against my professional competency.

For the remaining 5 years I have been solely engaged in study research and teaching as detailed below.

10. In 1911 I felt that my energies were wasted for want of good feeling of the superior officers and thought it best to break away from executive work and to engage myself in some useful pursuit till conditions changed.

11. After witnessing the Imperial Durbar of His Most Gracious

Delhi in 1911, I spent a

important work as

Manchester, has written the Introduction for the work, wherein he has stated that

"----- Mr. Maicker's Calculograph has been tested in the School of Technology, and it has been found that, after a little practice in using the Calculograph results are obtained in from one-fifth to one-hundredth - according as the problem is simple or complicated - of the time required when numerical calculations have to be made; and the results given by the Calculograph have invariably been found to be correct."

Mr. Leicester in his review of the Calculograph has said that

"-----It is found that by a set of converging and parallel lines which he has named 'Calculograph' simple operations in mathematics involving addition, subtraction, multiplication, division, powers, roots, logarithms and bases, trigonometrical and algebraic functions, differentials and integrals, can be performed with ease. In taking out areas, moments of inertia, centroids, and higher functions of the area for any figure, a simpler method than with the Calculograph seems impossible.----- Its chief value lies in the adaptability to every day use in the Drawing Office, but its value in the lecture room should not be overlooked. By means of the sheets and also a slide the application of the Calculograph to the practical designing of Reinforced Concrete beams will be used by me in future class work. The preparation of 'Calculograph' as a practical subject in schools might be worthy of consideration, since it seems that the principle underlying Mr. Maicker's work is capable of extension."

Dr. W.C. Unwin, the eminent Engineer, has written about the Calculograph under date 22-5-1913 as follows:-----

"-----You have shown me your diagram for the solution of

available.

These and other
Indian students, India Office,
Government was good enough to move His Lordship
of State for a sanction of deputation to complete my work which
His Lordship was also gracious enough to sanction.

14. In communicating the sanction of deputation, the Chief
Engineer offered the acting appointment of the Professor of
Civil Engineering for 6 months to fill the leave vacancy which
I accepted on condition that the deputation may be given effect
to after the acting post terminated as such employment was most
advantageous to the course of study and researches I was en-
gaged in.

15. On the arrival of the permanent incumbent in the end
of December 1914, I was relieved with furlough for one year,
so that the deputation may be availed of by me as soon as con-
ditions of the European War would permit. In the meantime the
said post fell vacant by the resignation of the incumbent.

16. The Chief Engineer again offered the post till a new
officer arrived from England which I accepted cancelling the
furlough at a great disadvantage with the full hope that on
representation His Lordship will be pleased to confirm the
on me permanently.

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17. The students trained in the Madras College are almost wholly absorbed in the various Engineering services in the Presidency and the Civil Engineering students form about 97 % of the total strength of the College, and a major portion of even the small number of the Mechanical Engineer students also is taken in Civil Engineering work in the Government P.W.D. In that Department, Irrigation works form a very important section under the control of a separate Chief Engineer. My experience in the Department of Public Works, in the design and execution of exactly such works which the passed students from this College have to handle in their practical life, cannot but be of special advantage for the students undergoing training.

When Mr. Chatterton, a Professor recruited in England, was employed in this College he was required to serve in the P.W.D. for some time in view that he may acquire practical knowledge.

The students of the College are taken out by the staff once every year for Irrigation inspection extending over two to three weeks. I have served in many of the Irrigation Districts and was further employed as Assistant Chief Engineer for Irrigation T.R.S. in the Presidency and so I have considerable local and scientific knowledge of works in the Presidency which was found very useful during the inspection tours of the students in 1914 and 1915.

18. During the two sessions I have been acting in the post the students have shown special appreciation of the teaching, it often needed some effort to keep down their enthusiasm from ripening into open demonstrations. I have no doubt the Principal appreciates the perfect concord between me and the students in a successful manner the students and the staff

Chowichay

I can serve for at least

20. I wish therefore to be permanently in the Educational Department, and as one who has received his training at least partially in one of the best English Institutions I am eligible for selection by His Lordship if he made the appointment. The Principal of the Institution in which I studied in England has certified that

" Mr. Naicker has proved himself able to make exceptional use of the educational resources of this country." -15-
791

21. I venture to believe that in my case, the successful educational career in India, the training in England attended with equal success, the vast travels for the inspection and study of works in India and England, and the original researches in various important branches of the science place me in merit not below that of any other candidate who may be available for the post, and further there is the distinct advantage of the practical experience of design and construction of works in the country where the trained students of the College have to find employment.

22. Original research by Indians had been considered a desideratum, but as I have shown my aptitude for the same I hope that the Government will be pleased to consider my aspirations favourably, and encourage and afford facilities

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further my pursuits of research by conferring the post permanently.

23. On account of my travels and foreign residence for some time, I have been obliged to adopt European habits of living. As the Caloulograph is considered by competent authorities to be a fit subject for introduction in all schools, my journey to all the enlightened countries in due course has become indispensable. I have incurred heavy costs for my study in England and for my travels in India and England to study works. Therefore considerations over and above those on which a higher scale of pay is allowed to Europeans exist in my case and if the Government is pleased to appoint me in the Imperial scale to the special post I shall be highly grateful.

24. If I had been fortunate enough to be entertained in the Imperial service to start with in the P.W.D. as all the Indian Engineers immediately above me were, the Provincial scheme which brought a rupture in my service would not have interfered with my progress in my emoluments and I would now be drawing a monthly salary of Rs. 1250/.

25. I therefore pray that you may be pleased to move the Government to confer the post of the Professor of Civil Engineering in the College of Engineering, Madras, permanently on me with effect from the date of my acting appointment on such salary as they may deem fit, counting also my services in the P.W.D. for leave and pension.

For such act of grace I shall ever pray.

I have the honor to be,

Sir,

Your most obedient servant.

Chennichay

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Application dated 24th March 1916 from M.R.Ry.P.V. Manickam Naicker
Avergal., Acting Professor of Civil Engineering, College of Engineer-
ing, Madras, for the post of Professor of Civil Engineering in that
institution.



Cont.
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Dated 15 March 1916.

PUBLIC WORKS DEPT.
C. No. 793E
D. 29-3-16

Submitted to the Director of Public Instruction, Madras, through
the Chief Engineer, P.W.D.

I do not support this application.



W. J. S. Srinivasan

Principal,
College of Engineering, Madras.

Encl.

no 2584C of 31-3-16

Forwarded

Srinivasan
21/3/16

Chief Engineer, P.W.D.

To the Director of Public Instruction,
Madras.

18/791 16 17

N. Ref on Cur No. 2888/1916, dated 10th April 1916.

Submitted to Government in continuation of my letter R. C. No. 2358 of 1916, dated 21st March 1916.

2. I agree with the Principal.

C. K. K. K.

for Director of Public Instruction.

11/8.4.16

M. S. S.

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D.O.

18
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Andons Gardens,

Chennai,

Madras, 6th April, 1916. 18

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Dear Sir,

I duly received and thank you for your D.O. letter No. 93, dated the 5th instant.

With reference to my salary, if my request to be appointed on Rs. 700-50-1000 cannot be granted, I request that you will submit to Government a proposal that I be appointed as Professor of Civil Engineering from July 1st 1916 and that I be paid a uniform salary of Rs. 700/- per mensem for the first four years of my service, that is to say, until the time at which the usual salary of the appointment would have risen automatically to that figure, and that my salary from the completion of my fourth year be Rs. 700-50-1000.

In submitting this I beg to draw attention to my age, which is 35, and to the fact that I have had already 3 years actual experience in engineering design and construction in Madras under an eminent engineer. Further, that, as I am already in India, Government will not be put to the expense of a passage from England.

If the ^{above} proposal can be accepted, I am prepared to enter into an agreement to remain in the position of Professor of Civil Engineering for five years, subject to my two years probationary service being satisfactory.

If this proposal cannot be entertained, I request that as some compensation for the reduction in salary, I may be appointed from this date ^(April 6th) on the terms set out in your letter, as a temporary man until the sanction of the Secretary of State is received. I may mention that I shall require to work through the college vacation to prepare my lectures. I further

request

18/19
request that in this case I may be permitted to apply for
other appointments, should I desire to do so, during the term
of probation.

20/19
yours obediently,

H. N. Barker.

To

The Hon'ble Mr. C. H. Stone,
Mungambalam, Madras.

C. No. 1411, From the 259, No. 2808, dated th. 10-4-1916

No. 791, dated the 19. 7. 1916

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The Govt regret that they are unable to comply with the request of Mr Rty. P. V. Manikham Nayaka B.A., acting Professor of Civil Engineering in the College of Eng^g, Mysore, for his confirmation in that post.

$\frac{PA}{17.7.16} \cdot \frac{CA}{12.7.16}$

[Handwritten notes:]

To. 20/9/88
Lyc
20/9/88

2. 7. 16

