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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	12261	Press
B.P. No.		Mis.
Dated	7-5-	1874 195

Not to be folded or roughly handled

N^o 40

Office of the Inspecting Engineer
for Civil & Military Buildings
Chepauk 12th January 1874.

From,

Colonel E. A. Ford R.E.
Inspecting Engineer for Civil
& Military Buildings

To

Colonel G. W. Walker R.E.
Secretary to Government P.W.D.

Sir,

Enclosures 28.

9 Plans

7 Abstract Estimates

7 Specifications

11 Statements

1 Letter

With reference to the order
of Government of the 29th of August
1872, N^o 2065, I have the honor
to forward the undermentioned
estimates, amounting to Rs. 208200-
accompanied by plans and reports,
for new Public Works Stores and
and Workshops to be built, on
a new site, near the Seven Wells,
with the materials that were
intended for the Snider Factory,

per

as far as they will go.

N ^o	Amount of estimate requiring sanction		Materials & machinery to be utilized		Total	
1. Factory Snider	48820	..	37600	..	86420	..
2. Iron and Brass foundries	14200	..	10910	..	25110	..
3. Boilers and Engine House	12070	..	..	..	12070	..
4. Saw Mills and shed &c.	9100	..	..	..	9100	..
5. Shed erecting	1120	..	10860	..	11980	..
6. Storage sheds	90070	..	..	..	90070	..
7. Reservoirs	32820	..	..	..	32820	..
8. Machinery in use (book value)	..	..	75050	..	75050	..
Total Rupees	208200	..	134420	..	342620	..

2 The estimate also provides for building additional cisterns at the Seven Wells and raising the water by a Steam Pumping Engine, instead of picottake as at present. It is also proposed to establish a timber depôt in connection with the Workshops.

3 I do not think it will be advisable,

to alter the present arrangements for raising the water. From the distance the wells are from each other there will be great difficulty in drawing the water from them by a single pump, and to connect the wells, by pipes laid at a low level, would be very expensive. There is moreover a probability of many of the buildings and establishments, at present receiving water from the Seven Wells, being supplied with water from the Red Hill Tank.

4012, dated Nov 1873.

4 The District Engineer in his report enters into calculations as to the rate at which the timber could be supplied from the depôt, and doubts whether Executive Engineers will procure timber from the depôt, if it can be got cheaper elsewhere. I think

on the contrary, that it may be assumed that all the timber that is required, in districts that can be supplied from Madras, will be obtained from the Public Works depot. No Executive Engineer will incur the responsibility of using unseasoned, when he has the opportunity of getting seasoned timber. At present, there is no choice in the matter, as no properly seasoned timber is procurable at Madras. As to the proportion of first class selected logs to ordinary timber, that should be kept in stock, this is a matter of detail, which will regulate itself when the depot comes into operation.

5. The materials of the builder factory will be used in constructing the new Office and Workshop and the

Boilers

Boiler and Engine house, and the designs of these two buildings are determined in a great measure by these materials. The Iron and Brass Foundries and the Erecting shed will be of the same design as at present. The principal outlay will be on the store sheds, of the usual kind, in which will also be the Smiths' shops, to be built on the four sides of the yard. The space provided for stores in these sheds and in the two storied building will be nearly double that in the buildings at Chepauk but it is understood that the additional space is required.

6. After deducting the cost of the new reservoirs Rs. 32820 the proposed

outlay

outlay on buildings is Rs. 175380.

I have the honor to be
Sir

Your Most Obedient Servant,

E A Mm Colonel R.E.
Inspecting Engineer for
Civil & Military Buildings

W 4012.
From

The District Engineer
Presidency.

To,

The Inspecting Engineer
for Civil and Military Buildings.

Sir,

In obedience to G. O. No. 2065 dated 29. Aug. 1872, I have the honor to forward for your approval and eventual submission to Government Plans, Specification reports, and Estimates amounting to Rs 3,42,620 for the provision of the requisite accommodation for the P. & S. Stores and 18 or 20 shops on a new site in the immediate neighborhood of the space occupied by the 7 Wells, and the further cost of supplementing them to the necessary extent, at the same time utilizing the materials intended for the Smider Factory, as detailed in the subjoined statement:

- Enclos 31.
9. Plans.
7. Estimates.
7. Specifications.
4. Statements.

No.	Unit of Ests requiring sanction.	Stock materials & machinery to be utilized.	Total
1. Factory Smider.	48,820 . .	37,600 . .	86,420 . .
2. Iron and Wrought sundries	14,200 . .	10,910 . .	25,110 . .
3. Boilers and Engine House.	12,070 . .	. .	12,070 . .
4. Saw Mills and Shed &c.	9,100 . .	. .	9,100 . .
5. Shed erecting.	1120 . .	10,860 . .	11,980 . .
6. Storage Sheds	90,070 . .	. .	90,070 . .
7. Reservoirs	32,820 . .	. .	32,820 . .
8. Machinery, in use. (book value)	. .	75,050 . .	75,050 . .
Total Rs —	208,200 . .	73,420 . .	342,620 . .

2.

With regard to the Establishment of The
Dimer

1377. 1874. 1874.
The Inspecting Engineer
for Civil and Military Buildings
Government of India

1377. 1874. 1874.
The Inspecting Engineer
for Civil and Military Buildings
Government of India

Forwarded to the
Estimates amounting to
Rs. 20,82,000 for new
Civil and Military
Buildings to be built
near the Seven Wells,
Madras.
P. O. No. 1224. 7-5-74.

Timber Depot the General Suptt of M.S. Stores and
 Horthofos in accordance with para 7 of the G.O.
 under reply placed himself in communication with
 the late Supg. Engineers of Divisions relative to the sup-
 ply of timber to the different Ranges and has em-
 bodied the information thus obtained in a statement
 marked A showing the Ranges that would probably
 draw their supplies of timber from the Madras Depot.
 The Northern Districts will have recourse to the Dow-
 laishwaram Horthofos, while the Southern & Western
 Districts will be supplied locally from the Forest
 Department.

3. In this Statement it is shown that 27,000
 cubic feet of timber will be the probable annual re-
 quirements from the Depot at Madras, and which
 at about Rs 1.14.0 (selling price at Depot) per cubic
 foot would give a yearly sale of about Rs 40,500 bring-
 ing very nearly the assumed amount noted in para 2 of
 the General Suptt's letter embodied in the above G.O.

4. Statement B shows the cost of 4 years' sta-
 tioning, as computed by Mr Grainger. The timber
 being delivered at Madras at Rs 75 per ton in the first instance.
 The timber would thus cost Rs 93.2.3 per ton
 or Rs 1.14.0 per cubic foot. This rate is high for timber in the
 log, the present rate in the Fort being Rs 79.8.0.

Rs 75 per ton unseasoned is arrived at by Mr Grainger
 by figures entered in letter from Ag. Principal
 Asst. to Commissioner of Forests British Burmah to the
 General Suptt M.S. Stores Madras, dated 8th July 1872 No.

31/28A printed in G.O. No 2065 of 29 August 1872 - G.V.

Timber

4 years stock	Rs 162,000
Interest	81,000
Plant Depreciation	1697
Establishment vide Stat B5	Rs 9797 @
Rs 24.19 per cent on Rs 75	
Rs 18.2.3 Prime cost per ton	
Rs 93.2.3 Rate per ton of seasoned timber	

Timber for the Fort is now purchased at Rs 79.8.0
 per ton from Messrs Artburth & Co. and allowing them
 25 per cent profit the timber would cost them
 say about Rs 64 landed, and I am therefore led
 to believe that the price Rs 75 landed determined for
 1st class selected timber by the Burmah Forest Ag.
 Conservator and Mr Grainger is prohibitory, of the
 project, as the majority of officers will not be con-
 tent to pay the enhanced rates and we may get
 equally useful timber for far less vide
 my para 14.

5. Mr Grainger reports as follows regarding
 the opinions of officers consulted by him in the
 matter of using seasoned timber. That the Super-
 Engineer 3^d Division stated in the remarks column
 of his replies that all his officers preferred getting
 their supplies from Madras, and the majority of
 them are willing to allow an increased rate for
 seasoned timber.

6. The Consulting Architect to Govt writes
 strongly in favour of a seasoning Depot. He
 says, "There is one point however in connection
 with the Establishment of a Timber Depot on which
 I would like to express an opinion, I believe that
 until some such an Establishment is set on foot
 Govt will never realize a reasonable return for
 the very heavy sum which is annually expended
 on all kinds of wood work. At present it is
 nearly impossible to get seasoned timber in the
 market. In the timber work which I now
 design I am obliged to allow extra scantlings and

to adopt such forms of construction as shrinking
will least effect. One roof I put up would
have failed from this cause, had I not taken
it down and rebuilt it. Articles of furniture I
have grown up making entirely for the simple
reason that I cannot get seasoned wood, indeed
as I may say that during the past six years, I have
scarcely executed one piece of carpentry work that
has retained its original dimensions. Taking these
facts into consideration I cannot too strongly urge the
desirability of establishing a Govt. Timber Yard, and
I am further of opinion that the savings effected
by skilful cutting will more than pay the interest
of the capital sunk for seasoning.

The District Engineer of Bangalore says:-

The timber obtained in Bangalore is generally good,
and no advance would be made in the above prices,
the Bangalore supplies being drawn from Madras.
The Officers in charge of Cuddalore, Dindrovanam, Vir-
dachellum, and Tripatore state, that they could
allow 4 annas a cubic foot extra for good timber,
whilst at Salem and Opori, no increase for
seasoned timber would be allowed on the ground
of their present rates (Rs. 4, and Rs. 3 1/4, respectively)
being ample to cover the cost of good seasoned
timber.

The Offg. Supd. Engineer Tanjore writes,
it is supposed by most Range Officers that the
timber at present used is seasoned, of this I
feel very doubtful, and quite agree with those
Officers who have stated that it would be worthwhile
to pay 8 annas a foot in excess of existing rates,
for

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for seasoned timber, and provided that the Madras
seasoned timber could be delivered in Tanjore within
that amount, he says; I therefore conclude that it
would be generally advantageous to procure seasoned
timber from Madras for use in Tanjore, and under
a similar provision the Trichinopoly District supplies
should also be obtained from Madras.

9. The same officer further states; I wish
it to be understood that I would recommend the
employment of Madras Timber only, on the under-
standing that, at the rates given and referred to
above, the supply should be sound timber, thoroughly
seasoned, and that has been carefully selected before
being despatched. In constructing a building we re-
quire a certain amount of sound wood work to
be delivered within a certain time, or contractors will
not engage under a penalty to supply such wood
work and every piece which shows holes, or cracks, &c.
can be rejected by the Executive Engineer. If we are
to get our wood work from Madras, we must be
assured that our supply will be despatched within
the time required, and that every piece of wood
is of the best description. My opinions given above
relate to the present state of these Districts, and
sources of supply. I believe that if the Government
should ever sanction the Establishment of Timber
Yards at Negapatam, Tuticorin, and near the
Hill Jungles, timber may be supplied to this part
of the Presidency cheaper than from Madras.

10. In the return of the District Engineer of
Chingleputt it is stated with reference to the first
and

37 and second Ranges that, "as no seasoned timber
18 has ever been used in this Range it is not
in known what extra should be allowed," and
the for the 3^d Range it is stated "this rate (the same
as in N^o 1 Range) is intended to cover the cost
of good seasoned timber and I do not consider
it advisable to allow any advance in this rate,"
the three Ranges using timber procured in the
Madras Market.

11. From para 4 it will be seen that sea-
soned timber in the log will cost Rs 1.14.0
per cubic foot, and therefore the rate at
which the Workshops could deliver cut timber
of sizes in Madras would be;

Seasoned timber in log per cubic foot	1	14	0
Loss at saw pit including side cutting 25 per cent	2	5	6
Workshopcentage 10 per cent		3	6
Rates for cut timber Rs	2	9	12
3 ^d wrought - do		6	
	Rs 2 15		

12. Mr. Spranger believes that he can reduce this
charge of Rs 2/15 for selected seasoned wrought
timber by judicious cutting, and owing to the fact
that he will be able to utilize more slabs or side
pieces of logs than he does now.

13. By casting the eye over the Statement A
it will at once be apparent that in 13 Ranges
the officers will work at a disadvantage if we
charge Rs 2/15 whereas in 14 an advantage will accrue.

14. From the above it will be seen that the
officers of the Department are not unanimous as to
the desirability of employing properly seasoned timber
on the terms proposed by Mr. Spranger. You will
observe on reference to the Durmah Forest Conservator's
letter that he proposes to supply first class selected
timber. From enquiry I am led to believe that
selected 1st class timber is never landed at Madras,
and we seldom or never require such. I believe
that timber other than selected 1st class will do for
pole, ripper every purpose, and that it might be
obtained at a very much lower figure than
Rs 75 per ton landed. Supposing I want to make
a door why should I cut a log 50 feet long
which will cost me Rs 93.2.3 per ton, when I
can get stuff equally good out of a log which
costs me very much less. It might perhaps be
advisable to have say 50 selected 1st class logs in
stock at Rs 75 landed and the rest ordinary tim-
ber at Rs 64 landed, vide para 4 of this letter. If
we adopt this system we may work at considerable
advantage, but I should not advise the general
adoption of 1st class selected timber. Upon due
consideration I advocate the establishment of a
depot for timber such as we now obtain in
Madras for general purposes, with perfect confi-
dence that the practice would be attended with
success both as regards the quality and price of
the material at the end of 4 years.

3. The cost of timber purchased at Rp 64 will be
 Rs in 4 years Rs 79.7.8
 in per ton, and wrought
 it will cost Rp 2.12.0
 per cubic foot.

Timber in log per foot @ Rs 79.7.8 per ton	1	9	6
Log at saw pit including wastage 1/2%.	1	9	6
Workshop cartage at 10 per cent	2	2	6
Rate for cut timber	2	3	6
- do - wrought	2	6	6
	Rp	2	19.6

Raising of water

15. The cost of arrangements for raising the water
 of the 7 Wells by steam power is estimated at
 Rp 32,820 being Rp 14,470 for "Block" and Rs 18,350
 for "machinery and Plant," this arrangement provides
 for connecting the different wells by cast iron piping
 with 2 pumps, P² and P³ near wells No 2 and 3;
 one with P³ to supply the unfiltered water, and
 the other P² filtered water. The latter for Fort St.
 George, the Govt House, and Penitentiary area. The
 unfiltered water A is raised to the required level
 into the small compartment of the large cistern
 distinguished as item No 7 in the Plan and Esti-
 mate in one lift, but the water to Fort Saint
 George is first raised to the filter C and passing
 through this flows into a small reservoir alongside
 the filter D. When this reservoir D is nearly full
 the pump ceases to supply water to the filter C,
 but raises the filtered water to the upper compart-
 ment B of the large reservoir No 7 in plan and
 Estimate. It would probably be better to have a
 separate pump to raise the filtered water. This would
 increase the Estimate by about Rs 2000 and at the
 same time the pump could be so designed
 that

Block - 14,520
 machinery 18,300
 Rs 32,820
 Block - 14,470
 machinery 18,350
 Rs 32,820 vide
 abstract Estimate
 for this work.

Machinery 17,500
 128/100

the filtered water should not pass through the
 pump and thus we should ensure freedom from
 contamination, by the grease and oil of the
 pump.

16. In calculating the probable cost of raising
 the water at the 7 Wells it is assumed that
 we must have a separate Engine. The average
 daily quantity of water raised is 1,55,325 gallons,
 and the height to which it is raised is 34 feet,
 and as a gallon of water weighs 10 lbs, and 216
 gallons per minute have to be raised we have
 $216 \times 34 \times 10 = 73,440$ ft. lbs. of work to be done per
 minute. Assuming the practical efficiency of the
 Engine and pumps to be 50 per cent of the nominal
 efficiency we have $73,440 \times 2 = 1,46,880$ ft. lbs. or $\frac{146,880}{33,000}$
 = 5 H.P. nearly. The expenses of a 6 H.P. Engine are
 daily:

Fuel 500 cwt. @ Rs 30 per ton Rs 7.8.0
 Engine Driver 1.12.0
 4 Cooks 1.4.0
 Rs 9.8.0
 For 30 days 285.00
 Contingent 30.00
 Rs 315.00

Present working expenses 58.3

Raising per annum 268.01

Rp 32.16 per annum, but from this the charges
 for interest and depreciation have to be met.
 vizt. Rs 1281 vide para 15.

17. The object of the Reservoir is to retain a surplus of, at least one day's supply of, water, and to allow of the Engine working only in the day time to raise the water required for the 24 hours. Should this be thought objectionable and the Engine be worked day and night as in the present then the expense per mensem under that system will be nearly double that of the day work vizt Rs 630, being a dead loss of Rs 47 per mensem over the present rate, and without anything to meet the charges of Rs 1281 per mensem on account of interest and depreciation on 'machinery' and 'Plant'; therefore as far as this scheme is concerned no profit can be looked for by the substitution of steam pumps in lieu of present, unless we limit the working hours to the day time.

Proposed Est. 630
Present - do - 583
Rs 47

18. In para 15 I stated that the different wells are connected by cast iron piping, as the piping now in use ^{through} allowing water to flow through in a slight internal pressure as at present appears unfit to be used, as suction piping for the slightest leak at any one joint would render the whole pipe utterly useless throughout its whole length.

19. Even with new piping having turned joints it is questionable if we could maintain the suction pipes in working order.

20. To ensure success we ought to connect the wells by piping laid about 25 feet below the

19 10
the surface of the ground, and thus allow the water to find its way from well to well by gravitation, but the adoption of this step would necessitate a larger outlay than the scheme will admit of, if it is to be remunerative. This part of the scheme is theoretically correct, but practically it would doubtless terminate in failure, and therefore I do not recommend this part of the project.

New Stores and Workshops.

21. In the preparation of the design of the buildings for New stores and Workshops the buildings for the reception of stores are as simple and unpretending as possible, as also the meeting shed and Smiths' shops. The Foundry is of the same design as the present, whilst the original design of the Spider Factory (the materials of which are to be utilized) necessitates the present form of this building being two storied.

22. Of the total amount of Estimate vizt: Rupees 3,42,620 a sum of Rupees 88,245- will

will be chargeable to buildings -

set apart for the reception of stores with, to the upper storey of the Snider factory and half of the open sheds surrounding the yard. The present value of the premises occupied exclusively by the Imperial stores is Rs 62,000 so that the increased cost of the blocks set apart for the reception of stores will be about Rs 26,000, but this allows of increased storage room. The area of the present store buildings is 17,408 sq. ft. and that of the proposed is 33,500 sq. ft. an increase which compensates for the increased cost.

A further sum is chargeable to the application of Engine power for raising the water, leaving Rs 1,46,905 chargeable to the Workshops for "blocks" against Rs 58,820 at present as shown in statement B. The sum of Rs 75,050 for machinery as per statement C is included in the Estimate on account of "machinery"

Value of half of Snider Factory	Rs 43,210.
- do of open sheds	Rs 45,035
Present value of premises	Rs 62,000
Difference	Rs 26,245

Factory (Snider)	Rs 58,245
Reservoir and Engine	32,820
Machinery (present book value)	75,050
	Rs 1,96,115
Entire cost of project	3,42,620
Factory & machinery &c.	1,96,115
	Rs 1,46,505 chargeable to Workshops

"Machinery", so that the "Capital" outlay as proposed for blocks and machinery will be about Rs 2,21,555 in which interest at the rate of 5 per cent and Depreciation at 2 per cent will be charged. In addition to these charges interest at 5 per cent is chargeable on account of outstanding Bills which Mr. Grainger proposes to keep within Rs 5000. (far too large a figure in my opinion) and on unfinished work and Raw Material which will be about Rs 20,000 (vide Statement D). This statement shows the general working of the Workshop from the year 1868/69 to 1872/73 with the exception of the year which produced an extraordinary profit, and it has therefore been left out in obtaining the yearly average profit that the Workshop may expect to realize.

23. In this statement the probable expenses under the head Establishment and so on have been taken as the average of 4 years, and these under Depreciation and Interest are calculated on the value of "blocks" and "machinery" and "Plant" as proposed. The profit expected to be realized is the average of the same 4 years, from which it will be observed that there would probably be a loss of Rs 2818 on the year's transaction.

24. Mr. Grainger calls attention to the fact that as yet no profit to the Workshop has been taken into account from the increased sales of timber which from Statement in para 12 is 3 annas and 6 pice per cubic foot on the probable

From

The District Engineer
Presidency

To Mr. 194/74

The Inspecting Engineer
Forb. & M. Buildings

Dated 25th November 1873
Recd 27th November 1873
Encl 3rd Nov. 1873

Forwards for approval
& eventual submission to Govt.
Plans, Specification reports, &
Estimates amount Rs 3,42,620
for the provision of the requisite
accommodation for the P. & S. Stores
& Workshops on a new site
in the immediate neighbour-
hood of the 7 Wells.

Dy. 7th May 1874
No. 171.

No. 3699
Public Works Stores & Workshop
Chepauk 23rd March 1874.
From

J. A. Kraininger Esq.
General Superintendent
Public Works Stores and Workshop

To Lieut Col. & Col. & Col.
District Engineer Presidency
Fort Saint George

Sir
With reference to your verbal
communication relative to the suit-
ability of the Old Grand Jail Premises
for the location of the Chepauk Workshop
and stores in lieu of those now in occu-
pation, I have the honor to state that
having thoroughly examined the whole
of the Buildings, the greater portion
of which is occupied by Telegraph
Department and the remainder by
Civil Debtors Jail, I do not consider
that any part of the Building could
be converted into Workshop premises
without radical alterations involving
considerable expenses and that no
savings could be effected by such
alterations over the expense necessary
for

for building new Stores and Workshops
as it would render it necessary
to provide accommodation for the
large quantity of Telegraph Stores
located in the Building the quantity
and form of these stores rendering
it possible at present to utilize to
the utmost the low vaulted passages
of the lower Storey of the Buildings
which would not be the case if
Machinery had to be stored there
and therefore do not consider it
possible to utilize the Buildings
with more advantage than is now
being done by the Telegraph Department.
A comparison of the storage room
available in these Buildings and
that at Shepaul now occupied and
found to be insufficient will I
trust fully bear out the above remarks.

2. Site. The area of the ground a-
vailable for being enclosed by removing
the present walls and rebuilding the
East, West and South walls fifty
feet to the east, west and south of
their respective positions and by
building the North wall on the
side of Wall Bay Road, will be about
202,740 Square feet whilst the present

area of the Shepaul Enclosure is 175,266 Square feet, the difference in
favor of the proposed site does not
from its form give a corresponding
advantage, the central position of the
Buildings within the enclosure
renders it necessary to place the
Workshops on three sides of a square
instead of along one side and is
therefore an objection.

3. Of the Buildings shown in the
Plan I it would be possible to utilize
only those marked ABC, (the three wings
of the main building) Hospital,
G and H. all other masonry work would
have to be removed as not being of
any use in connection with Stores
and Workshops.

4. The Lower Storey of the main
Building ABC consists of two vaulted
passages with verandahs on each
side as shown in Plan II. Section of
Main Building, the walls being
pierced by arches at 10 feet distances.
It would be possible to remove the
pibbed arches a a from the centre
passages making them 10 feet wide
and 10 feet high in centre and owing
to want of light in these passages
they

they could not be used as workshops but only as store Rooms for machinery, their dimensions not allowing of the storage of bar iron in the average lengths of 10 feet. The storing of machinery in the centre passages would necessitate the side arches and Verandahs being kept almost empty for the removal of machinery &c. to or from the centre vaults, the area of these vaults in the three wings is 5320 square feet whilst the present machinery store at Shepaul has an area of 7965 square feet and an average height of 15 feet: the lower storey is therefore insufficient to accommodate the stores in the Machinery Room at Shepaul.

5. In the upper storey of main Building the height is about 11 feet and would not allow of the setting up of overhead shafting for driving the machinery of the workshops. The wing A could be used for the storage of stationary, files, and other small articles in blunders but the wings B and C being entirely composed of small cells (Civil Dept's Jail) spanned by cross and longitudinal walls supporting

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supporting the roof could only be made use of by removing these walls and putting a new roof, and supposing it to be extended to the same length as lower storey C and D the area available would be about 11000 square feet of which 2000 square feet would be required to store the smaller machinery &c. that could not be stored in the vaults leaving 9000 square feet available in the wings AB and C of upper storey for the accommodation of stores that at present occupy a space of 6800 square feet up to an average height of 12 feet whilst the upper storey is only 11 feet in height and could therefore only allow a height of 10 feet for storing, so that after these extensive alterations the main building could accommodate only the store machinery, stationary tools &c. leaving the room at present occupying an area of 6000 square feet, without cover.

6. The building marked "Hospital" in Plan I could be used as an office and that marked G after building an upper storey could be used as the workshop store room.

7. The Building marked H, after removing the present upper storey and building a new one the width of the lower storey could be used, upstairs, as the Mathematical Instrument Workshop and downstairs as the Instrument Stores though the space for the latter would hardly suffer.

8. The cost of the above alterations would probably not be less than Rupees 30000— in addition to which the following buildings would be required:-

1. Cutting and fitting of iron	Rs. 30000—	probable
2. Engine and brass foundries	14200—	
3. Boiler and engine house	12070—	
4. Saw mills and joiners shop	9100—	
5. Erecting Shed	1120—	
6. Gun Store	17000—	
	86490—	
7. Alterations and additions to Old Jail buildings	30000—	probable
	<u>Rupees 116490—</u>	

while the estimated cost of building new workshops, including the under Factory, would be Rupees 130345— of 28 October 1873. if the Reservoir scheme was abandoned and only half the storage sheds built.

9. Besides the above probable Estimate for establishing the Public Works stores and workshops at the Old Jail Premises a further expense must be incurred in providing suitable storage room for the stores of the Telegraph Department.

10. In addition to the Old Jail Premises I have examined the Premises of the Male and Female Civil Orphan Asylum adjoining, and consider them to be less suitable than the Old Jail Premises for the location of the Public Works stores and workshops.

11. The area available is about 178,800 square feet being 3000 square feet more than the Hepauk enclosure but being divided into two portions, Male and Female Asylum, by a Public Road it is less suitable than the present area at Hepauk.

12. The two large buildings could only be used for keeping small stores, stationary instruments &c. the height of the storeys and thickness of the walls not being sufficient for fixing machinery.

13. In the selection of a site for

for the new stores and workshops,
I respectfully beg to submit that it
should be such as will allow of the
extension which would be necessary
to enable the Store and Workshop
Department to meet the wishes
of Government in the carrying
out of similar requisitions to that
contained in G. O. dated 13 November
1871. No 2864.

*Para 6 of Note by the
Acting Chief Engineer
for Migration. Subject
Mysore State Railways

I have the honor to be
Sir
Yours most Obedt Servant.

J. H. Mearns
Superd P. W. Workshop & Stores

[Faint, mostly illegible handwritten text, likely bleed-through from the reverse side of the page.]

Q. W. 1874 Department

No. 17302

From

The District Engineer
Presidency

Dated 23rd March

Received 24th March

1874

+ Enclosure on 21st March

Reg. 21-50-2863

Encl: 3.

+ Not received

Submitting a
letter from the Genl
Supt. P. W. Stores &
Workshops, intimating
that the old Grand
Jail & Civil Asylum
Premises
are not suited for
the P. W. Stores &
Workshops.

P.O. No. 1224 75-74

Statement A

39

Ranges.	1 Average Quantities	2 Maximum rates allowed	3 Carriage rates from Madras	4 Madras rates must not exceed per Cubic foot
Nellore	1750	3	"	" 4
Flurnool	Not known	2	"	" 9 7
Nundial	200	4	"	" 6 9
Gumbun	Small quantity	2	"	" 9 7
Cuddapah	2000	4	"	" 4 6
Mospett	70	4	"	" 11 7
Ghoochy	1280	3	"	" 7 6
Pennaconda	now at present	4	"	" 12 1
Mudanapully	70 Talagutcheru	5	"	" 6 3
Presidency	10000	2	"	" 2 13
Chingleputt	600	2	"	" 15
Bangalore	5000	2	"	" 12
Cuddalore	500	3	"	" 8
Tuduvanam	500	3	"	" 4
Vidachellum	100	2	"	" 8
Salem	772	4	"	" 6
Oospoor	800	3	"	" 4
Tripatore	730	3	"	" 4
Trichinopoly no 1 Range	800	3	"	" 8
" 2	300	"	"	" 4
Tanjore no 1	750	3	"	" 10 2
" 2	150	"	"	"
" 3	350	3	"	" 12
" 4	500	3	"	" 4
Total	27,152			

Source of Present Supply.

Madras
 Kullamullah Mills
 do
 do & Forest Department
 do Enragenttaacollah & Madras
 Theemooga Forest through Vallatpapur
 Madras Market
 Bellary & Madras
 Suvalcherwoo hills in Cuddapah District
 Madras
 do
 Nagpur, Astagram
 Pondicherry & Cuddalore
 do & Trichinopoly
 do Cuddalore & Portenovo
 Madras by Rail
 Forest Department & Merchants Bangalore
 Depot of Forest Department at Tripatore
 Negapettam, Palghaut & Trichinopoly Market
 do & Palghaut
 do
 do
 do
 do & Nagoor

x 30,000 Cubic feet was the amount given by the District Eng-
 but 10,000 only has been taken for an average

P. W. Workshop
 Cherpauki
 29 October 1873

[Signature]
 Dist. Eng. P. W.

[Signature]
 Mr. E. Gend. Sup. P. W. Workshop & Store

Statement 1

Ms. A. 9. 2. 17. 16
Ms. A. 9. 2. 17. 16

Mr 19474

Encls: in a letter
of 40 dated 12 Jan. 1901

Ms. A. 9.2.1.38

Residing District

Stäcker 26 B.

Particulars.	amount.	Particulars	Amount
Four years stock of Timber \$16,200.		Stock, reported	
Land and Plant (two cranes) \$5,000		for one year } \$2,405.70	
		Interest on \$10,500 at 5% 24.19	
		Portant for cranes	9796.152
Interest at 5% Portant on stock	8100 " "		
do do on Plant	250 " "		
Depreciation at 2% Portant on do	100 " "		
Cost of this inventory, per Inspector 50.00			
Per Clerk. 20.00			
Five Lascars. 1.20.00			
	112.00		
Difference for Sundries	2.15.23		
Total \$9796.152		Total Papers	9796.152

29. Oct. 1893.
 Mr. Grover
 Mr. Grover
 100 996 152

John C. Rogers 9796152
 J. W. Wadsworth 5
 Wm. C. Rogers Wm. C. Rogers

Statement B

pg. 27th Aug 1914
 2nd 8th 1911

2
 10m 194/74

Each in a letter
 No 40 dated 13 Aug 1914

Washington District

Statement C. Exhibits proposed and present value
of Water and Plant.

Proposed, estimate	Present value
Block Machine Block Machine	
146500	146500
146500	146500

Public Works Workshop
 and Machinery

Public Works Workshop
 Coleraine 29 October 1873

J. H. Wainwright

Gen. Capt. R. R. Wainwright

Wm. J. Wainwright

Wm. J. Wainwright

Reading District

Made in a letter
No 40 dated 11th Aug 1914

Mr 194/74
3

Statement to exhibit
in proceedings and
present value -

Ms. 2778 Aug 1/14
In 18 Nov 1914

Statement D Exhibiting the General Accounting of the Workshop from 1868/69 to 1872/73 omitting 1869/70.

1868/69 1869/70 1870/71 1871/72 1872/73 Total Average As Remarks.

No.

1. Establishment, Contingencies, General Materials & 2,511 12 10 27190 5 8 20183 13 24248 9 11 93134 9 5 23283 10 4 24243 10 4

2.

8608 11 8 2595 10 2547 4 2 3110 3 1 16941 3 9 12354 11 1431 3 2

3.

7655 10 9 8374 1 6 8529 9 4 10479 3 5238 5 7 8759 9 5 12328 3

Total

37856 3 3 38159 8 31260 10 6 37887 13 14514 2 9 36270 8 8 41002 13 6

38416 6 6 37561 14 7 34477 10 42283 12 9 15273 3 8 38184 12 11 38184 12 11

560 3 3 597 9 5 3216 7 4 4445 15 9 7625 11 1906 4 3 2818 7

N.B.

1. Increase of establishment added to average General charges.

2. At 2% on Block and Machinery amounting to Paper 2,21,560--

3. At 5% on Block and Machinery amounting to Paper 2,21,560--

Outstanding Bills 5000--

Unfinished work and raw materials 20000--

Paper 2,46,560--

J. H. Manger

Genl Super Ordnance Workshops

Public Works Workshop, returned
Chequers 29th October 1873

Chas Fraser M.O.R.E.

16th Nov 1873

De Quincy District

MEMORANDUM.

REQUESTED for reference the under-mentioned papers:—

7 Specification Reports of the 7 wells
O.M. Workshop Buildings sanctioned
in G.O. No 1224 of 7th May 1874.
Please send by bearer.

DISTRICT ENGR.'S OFFICE, PRESY.,
16 Feb 1874. }
To The Chief Assistant,
Government Secretariat,
P. W. D.

Heirf. T. V. Bant
Off. Dist. Engr. P. 9

W. 9
47

Area of proposed new
 Wash Shop ground 51
^{square}
 0 x 400 :
 400

260,000 square feet -
 of wh. about one half
 to be given up for
 Scribes -

Cost of buildings.

Factory. -	\$ 48820.
Foundry -	14200
Engine House -	12070.
Saw Mill Shed.	9100
Drying Shed	1120
Store sheds } $\frac{1}{2}$	190070
Reservoirs } $\frac{1}{2}$	32820.

20,8200

32720

157,520

45,320

100,000

Government Telegraph Department,
Office of Superintendent, Madras Division,

18.3

1874

my dear Sir

53

There is not, so far
as I am aware, another
place in Madras suitable
for a Telegraph Stone
Depôt. The quantities
of Telegraph Material and
Stationery, inside the jail
are very great: the open
space outside is most
convenient for stacking
heavy stones. This

Stone Depôts should be
near the Beach, as large
quantities of Stones frequently
arrive from England.
Some Telegraph Stones and
Instruments require very
safe stone.

Yours truly

J. B. B. B.

65
The Genl. Supt. of P. W. Stores & Workshops has reported in detail on the Chief Engineer's proposal to utilize the Old Jail for the P. W. Stores and Shops, considering it on the score of its involving such radical alterations, and such extensive additions that the cost would nearly equal the cost of entirely new buildings (utilizing the Bridges & Factory Iron Roof and Ironwork) adjacent to the Seve. Wells. being Rs 1,13,000 against 1,30,000.

Which former sum would be greatly increased by the necessity of providing shelters for Telegraph Stores now admirably accommodated at the Jail.

The Chief Engineer quite approves of Mr. Browne's conclusions after careful examination of the premises in his company. He therefore recommends the Seve. Wells project for adoption; its cost being capable of reduction by use of the Iron Roofs which are not suitable for the Jail & Hospital.

Public Works Department

Proceedings of the Madras Government
under date the March 1874.

Read the following:-

From:

The Insps Engineers
for Buildings

" Lt. Engr Presidency

(H. E. No 40 of 12 Jan 74)

(H. E. No 5863 of 23 March 1874)

His Excellency the
Governor in Council au-
thorizes the removal of the
Public Works Workshops
and stores from their present
situation which is found
ill adapted for the purpose
to which it has been put,
and is better calculated for
Civil Offices or a Hospital.

Mol
342

108
31.3.

And

And he approves of the
site immediately adjoining
the Seven Wells enclosure,
as more conveniently situated
for business purposes, with
reference to the Pier, and
Railway, and it also shows
and affording room hereafter
for storage of timber on a
large scale. But that
question will be left in
abeyance till the result
of an application to the
Government of India for
funds wherewith to ^{commence} ~~start~~
laying in a ^{of timber} stock is known;
and with it the supply of

one half

one half the shedding⁵
allowed for in the estimates
now submitted to Govern-
ment. Provision also for
pumping the water of the
Seven Wells will also be struck
out, as the experiment is
reported on doubtfully.
Clear of Charges on these
accounts, and of the value of
materials of the present
foundries and sheds which
will be utilized in the
new buildings for the same
purposes, the cost of the
works now sanctioned for
execution will stand as
follows:-

1. Factory	Rs 18,820
2. Foundry	14,200
3. Engine House	12,070
4. Sawmill Shed	9,100
5. Drying Shed	1,120
6. Store Shed	4,5040
Total Rs 1,30,350	

to which is to be added Rs 37,600, being the value of the Indian Factory materials, for which credit will have to be given to Imperial Funds in settling the precise incidence of the cost of the changes towards which the removal of the work shops from their present site is the first step to be made.

That

That it may be undertaken without delay an allotment of Rs 50,000 is made from the Provincial Reserve now amounting to Rs 73,675 which will be supplemented from time to time as progress is reported, carrying towards to carry out the work of items Nos 1, 2, 3 and 5 in the first instance as enabling the more important parts of the existing building to be earliest vacated.

10 J.C. for Buildings ✓
 10 J.C. for Press ✓ with 9 Plans desd 28/5/74
 10 Financial Dept ✓
 10 Military Dept ✓
 10 Controller with 7 Ab Estimates
 10 Copies desd to all 16/5/74

L.M.W.

x Desd 18/5/74

1940
1730A
Govt. of Madras.
PUBLIC WORKS.

The Inspr. Engr.
for Buildgs.

Encl. //

G. O., 7 May 1874, No. 1224

Nos. 172-173

Public Works Workshops &

Sheds —

The removal of the PW
Workshop & Sheds from their
present situation authorized.

and the site adjoining the
even Wells enclosure, approved.

Rs. 50,000 allotted

for the erection of
certain Works —

17/5/74

27 May 74 A. S. 17/4