

GOVERNMENT NOTIFICATION.—No. 206.

The following Report of the Commission appointed by His Excellency the Governor to enquire into the Public Works Department, was laid before the Legislative Council on the 10th instant, and is published.

By Command,

J. H. STEWART LOCKHART,
Colonial Secretary.

Colonial Secretary's Office, Hongkong, 11th April, 1902.

REPORT.

1. A Commission (see Appendix No. 1) was appointed by His Excellency the Governor to enquire into the Public Works Department on the 11th October last.

2. The Commissioners originally appointed were as follows:—

Honourable J. H. STEWART LOCKHART, C.M.G., *Chairman.*

Honourable H. E. POLLOCK, K.C.

Honourable J. THURBURN.

Colonel L. F. BROWN, R.E.

ROBERT G. SHEWAN, Esq.

Owing to his having to leave the Colony, the Honourable H. E. POLLOCK resigned his seat on the Commission, and Mr. G. C. C. MASTER was appointed to fill the vacancy.

Mr. E. D. C. WOLFE was appointed Secretary.

The first meeting was held on the 18th October, 1901, and the last on the 18th March, 1902. Ten meetings were held altogether.

An unavoidable delay arose as it was deemed advisable to examine as a witness Mr. CHADWICK, the Sanitary Expert, who only arrived in the Colony on the 28th of February and did not appear before the Commission until the 13th of March.

Thirty witnesses in all were examined by the Commission including all the Senior Officers and Overseers of the Public Works Department and most of the leading Engineers and Architects engaged in private practice in the Colony, who are brought into intimate relations with that Department.

3. The Commission made a careful enquiry into the duties and responsibilities of the Public Works Department with a view to being in a position to report on the matters specially referred to it, viz.:—

(a.) The constitution and sufficiency of the staff.

(b.) The advisability of increasing such staff or of making any changes in its personnel.

(c.) Generally what changes should be made in the working of the Department.

4. A clear and succinct statement drawn up by Mr. CHATHAM, Director of Public Works, of the Ordinances and Regulations under which the operations of the Public Works Department are carried on, of the present staff and the duties discharged by it, and of the expenditure on account of the Department from 1894-1900, will be found in Appendix No. 2.

5. A careful perusal of the evidence taken by the Commission will show that it is clear that the staff, as at present constituted, is not sufficient to discharge efficiently the varied and important duties entrusted to it.

6. An instructive Statement (see Appendix No. 3) is attached by Mr. CHATHAM to his Report of the 25th September, 1901, in which he makes proposals for increasing the staff of his Department. That statement shows the amount of estimated and actual expenditure on account of public works from the year 1894 to 1900, and reveals the fact that during the period under review, owing to insufficiency of staff, it has not been possible to expend the money voted in the Estimates.

The Director of Public Works states:—"From this statement it will be seen that the estimated expenditure for 1901 is almost exactly double the actual expenditure for 1894, whilst the Estimates for 1902 show an increase of \$80,000 over those of 1901. Comparing the Estimates for 1902 with the actual expenditure for 1897, when the staff numbered 10, the increase is seen to be nearly \$400,000, whilst the staff has been increased by one solitary member, consisting at the present time of the Assistant Director of Public Works, 3 Executive Engineers, 6 Assistant Engineers, and 1 Draftsman. It must be unnecessary for me to point out that the expenditure for this year will fall far short of the estimated amount, notwithstanding the fact that all the drawings required in connection with the Law Courts and the Governor's Peak Residence, and the requisition for materials for the same are being supplied by outside architectural firms. Equally, it will be impossible for the Department to overtake the programme of works drawn up for 1902, unless it be materially strengthened without delay. In this way works which are considered of great urgency are falling into arrear, and, if the Department is not to be rendered capable of keeping pace with the greatly increased demands upon it, the consequences to the Colony generally will be most serious."

7. The Commission is of opinion that this statement shows clearly that the staff is not sufficient to carry out the works entrusted to it.

But that opinion is also supported by the evidence of Mr. CHATHAM and the other members of his staff who were examined as witnesses, and also by the evidence of the Engineers and Architects in private practice.

Mr. CHATHAM and the other members of his staff in their evidence show, beyond a doubt, that work is neglected owing to the Department being underequipped, and the Engineers and Architects complain of unnecessary delays to which they have been subjected and which are acknowledged by Mr. CHATHAM as due to insufficiency of staff and want of time to overtake the increasing amount of work.

Mr. CHADWICK also is of opinion that the staff is not sufficient, and requires to be increased.

RECOMMENDATIONS AS TO STAFF.

8. The Commission, being satisfied not only of the advisability but of the absolute necessity in the interests of the Colony that the staff should be increased in order to overtake the work entrusted to it, begs to make the following recommendations as to increase and change in the personnel of the Department.

DIRECTOR OF PUBLIC WORKS.

Evidence.
Page 3

9. It is clear from the evidence taken that the Director of Public Works is at present so overwhelmed with his duties that he is tied to his desk and has no time for the work of supervision, which, in the opinion of the Commission, is of supreme importance if the Department is to be carried on efficiently. Indeed, the Commission is unable to understand how the work of the Department can be performed thoroughly and effectively in the absence of such supervision.

The Commission, therefore, strongly recommends that steps be taken at once to relieve the Head of the Department of all routine work and other duties which can be discharged by the Assistant Director of Public Works. Mr. CHATHAM is of opinion that such a course will enable him to devote time to the exercise of general supervision, which, in the opinion of the Commission, is essential.

ASSISTANT DIRECTOR OF PUBLIC WORKS.

10. Owing to the promotion of Mr. CHATHAM to be Director of Public Works, this post is at present vacant. The Commission recommends that the vacancy be filled without delay and that the officer selected for the post should be one of experience and activity and possessed of powers of organisation.

MAINTENANCE OF BUILDINGS, ROADS, &C.

11. Mr. CHATHAM is of opinion that an additional Assistant Engineer should be appointed to assist in maintenance work generally, including roads, and that another European Overseer should be appointed to supervise the roads inside the City of Victoria.

The evidence showed that the staff, as at present constituted, is not sufficient to exercise proper supervision over the roads, and the Commission is, therefore, in favour of increasing the staff as proposed.

The Commission took a great deal of evidence regarding the unsatisfactory condition of the roads, especially in the City of Victoria.

The evidence regarding roads shows that road-making in this Colony is not an easy matter, and that opinions vary as to the best mode of constructing roads, and the most suitable materials to be used in such construction. Amidst such a variety of opinion it is difficult to arrive at a definite conclusion, but, as the present condition of the roads cannot be regarded as satisfactory, the Commission would urge the necessity of every attempt being made to bring them into a state creditable to the Colony.

In view of the evidence of Mr. CHADWICK as to the asphalt road laid under his instructions at Malta, which has worn so well, and of the evidence of other witnesses as to the desirability of giving wood pavement a trial, the Commission recommends that a portion of a road in a busy thoroughfare be laid with asphalt and another portion with wood pavement with a view to ascertaining whether roads constructed of either material are likely to prove a success in this Colony.

The attention of the Director of Public Works should also be directed to the evidence given before the Commission regarding roads, as the preponderating weight of that evidence tends to show that the present mode of constructing roads is faulty.

TELEGRAPHS AND TELEPHONES.

12. The evidence of Mr. FARRELL makes it clear that he has not time to attend to the work involved in the laying and maintenance of telegraphs and telephones in addition to the duties of supervising the roads outside the City of Victoria. Mr. CHATHAM is also of opinion that one Overseer should devote his entire time to telegraphs and telephones. The Commission endorses that opinion and recommends its adoption.

Mr. TOOKER recommends that iron poles should be substituted for the timber poles now in use. Mr. CHATHAM also advises the same course, which the Commission thinks should be followed.

CEMETERY.

13. In view of the shifting nature of the population of Hongkong, the Commission strongly recommends that the care of all the monuments in the Cemetery should be undertaken by the Government—a recommendation which it has the less hesitation in making, as the estimated extra expenditure involved is trifling.

BUILDING ORDINANCE.

14. A new Building Ordinance has been drafted and is at present before the Legislative Council. It is not, therefore, necessary for the Commission to enter into details regarding that measure, which is now being carefully considered by the public and will be fully discussed elsewhere.

The question of the staff required to carry out the Building Ordinance, so far as the Public Works Department is concerned, is one which comes within the purview of the Commission.

The present staff consists of :—

- 1 Executive Engineer.
- 1 Assistant Engineer.
- 1 Overseer.

Evidence.

Pages:—

7
10
22-30.
61-66
67
115-116
118-119
163-165
170-172
173-174
183-184

Evidence.

Pages:—

66-70

Evidence.

Page 31

Evidence.

Pages:—

31-32

The increase in the staff proposed by Mr. CHATHAM is two Inspectors or Overseers.

The Commission is not certain whether the increase proposed will be sufficient, but it might be given a trial, and if it proves insufficient, the staff should be still further strengthened.

WATER AND DRAINAGE.

Evidence.

Pages—
15-23
16-17
40-46
77-78
128-130
139
142-145
175-181
184-185

15. Mr. CHADWICK is of opinion that Water and Drainage should be reconstituted as a separate Department independent of the Public Works Department, whilst Mr. CHATHAM considers that such a separation is undesirable, but recommends that, whilst Water and Drainage remains a sub-department of the Public Works Department, it should be strengthened by appointing one Executive Engineer to be in charge of the Water only and another Executive Engineer to be in charge of the Drainage, instead of having only one Executive Engineer in charge of both Water and Drainage as at present, and by the appointment of a more responsible Clerk to take charge of the Water accounts.

Whilst fully sensible of the value of the opinion of an expert of such experience as Mr. CHADWICK, the Commission is of opinion that, with a view to concentration and to the saving of increased expense, which almost invariably results from the creation of separate departments, it would be well to follow the advice of Mr. CHATHAM and to strengthen the staff engaged on Water and Drainage in the manner proposed by him, but not to reconstitute it as a separate department.

As to the general question of the water-supply, though it has not been directly referred to it for inquiry and report, the Commission ventures to invite attention to the evidence given regarding it by the various witnesses and to the statements printed in Appendix No. 4, No. 5, and No. 6.

The evidence and these statements show that provision for increased water-supply has not been made so rapidly as the necessity of the case demanded.

The Commission regards the question of water-supply as one of immediate and pressing urgency, and desires to record its opinion that steps should be taken forthwith to put in hand such schemes as can be most rapidly carried out with a view to placing the Colony well ahead of its requirements instead of allowing it to lag behind in that respect.

The question is not only one of present urgency but one which concerns the future. The importance of not only providing against actual requirements but also possible future wants cannot be too strongly insisted on, as the prosperity of the Colony and the welfare of its inhabitants now and in the future are intimately connected with an adequate supply of water.

LIGHTING.

16. The Commission is of opinion that the lighting of the Queen's Road, between Fletcher Street and Arsenal Street, should be improved.

LAND WORK.

Evidence.

Pages—
131-134
168-159

17. The evidence given to the Commission shows that the work of the Department as regards land has not been carried out in a manner satisfactory to the public. There have been numerous complaints of delay, especially recently, and Mr. CHATHAM confesses that such complaints are justified. He, however, points out that the staff dealing with land has not been properly constituted, rendering it impossible to overtake the work. For some considerable period—about two years—the work had been conducted by the Officer who had hitherto filled the post of Land Bailiff. He is of opinion, however, that with the staff as now constituted, consisting of a Land Surveyor, an Assistant Surveyor and a Land Bailiff, there ought to be no difficulty in carrying on the work in a satisfactory manner.

From the evidence of Mr. KING, Land Bailiff, it seems that the co-operation between the Public Works Department and the Police, who can give much valuable assistance in the direction of preventing illegal squatting on land, has not been so close as is desirable. The Commission feels sure that it will be sufficient merely to call attention to this matter to secure closer co-operation in future.

Evidence.
Pages:--
99-100

OFFICE ACCOMMODATION.

18. Mr. HUGHES, in his evidence, drew attention to the want of office accommodation. This matter is receiving attention, and it is hoped by Mr. CHATHAM that he will be able to provide accommodation sufficient for the staff recommended by him.

Evidence.
Pages:--
102-103

ENTRUSTING GOVERNMENT WORK TO PRIVATE FIRMS.

19. One question on which a good deal of evidence was given was whether it is desirable to entrust the carrying out of Government work to private firms.

Evidence.
Pages:--
10-11
84
90-94
112-114
119-121
134-139
148-147
180-163
181-182

The evidence given does not show clearly that such a course would, as a rule, lead to either greater efficiency, better work or saving of public expenditure, whilst, as Mr. CHADWICK points out, there are objections to giving out Government work in the manner proposed, and difficulties as to selection of firms which could not be easily met.

After careful consideration and in view of the fact that Mr. CHATHAM states that the staff, if increased as proposed by him, will be sufficient to carry out all works involving an expenditure equal to that for which provision is made in the Estimates for 1902, the Commission is not in favour, under ordinary circumstances, of giving out public works to private firms, and is of opinion that this should not be done except in cases of a special nature or of urgency, when the staff of the Public Works Department is not able to carry out a work.

ARCHITECTS.

20. Mr. GALE is of opinion that two of the Assistant Engineers in the Public Works Department should be qualified Architects. Mr. CHATHAM agrees with that opinion, and the Commission recommends that it be adopted.

Evidence.
Page 87

SUMMARY OF INCREASE OF STAFF AND ESTIMATED ADDITIONAL EXPENDITURE.

21. The increase in the staff of the Public Works Department recommended by the Commission beyond what is provided in the Estimates for 1902, may be summarised as follows:—

- 1 Executive Engineer for the supervision of Extraordinary Works.
- 1 Executive Engineer for Drainage or Water-works.
- 1 Assistant Engineer for general Maintenance Work (Government Buildings, Roads, &c.)
- 1 Overseer for Roads inside the City.
- 1 Overseer for Telephones.
- 2 Overseers or Inspectors for performing the duties imposed on the Public Works Department by the Building Ordinances.
- 1 Overseer for Water-works, City and Hill District.
- 1 Experienced Clerk to take charge of the Water accounts.

Evidence.
Page 122

The present staff is not up to the strength provided for in the 1902 Estimates; which accounts for the apparent disparity between the summary given above, and the increase of staff referred to in the evidence, which refers entirely to the staff in existence when the Commission was first appointed.

The expenditure on account of these increases in the staff beyond that provided for in the Estimates for 1902, is estimated at \$29,500 (*See Appendix No. 25.*)

CROWN AGENT SYSTEM.

Evidence.

Pages—
126-128
140
148-149
182-183

22. In view of the statements made regarding the Crown Agents, the Commission thought it only fair to all parties concerned that those statements should be thoroughly investigated, though the Crown Agent system was not referred to it for inquiry and report.

Appendix No. 22 contains a list shewing the various firms that supplied goods and materials to this Colony, during the last ten years, through the Crown Agents. The variety of firms on the list shews that the field of selection for purchases is a wide one and not too circumscribed, as has been suggested.

Evidence.

Page 122

Mr. DENISON in his evidence stated that he knew an instance in which he was purchasing iron for his clients at a much cheaper rate than that at which it was being supplied at the same time to the Colony by the Crown Agents.

From the correspondence in Appendix No. 19, it appears that Mr. DENISON is mistaken and that, as a matter of fact, the Crown Agents were supplying the Colony with iron at a cheaper rate than that at which Mr. DENISON obtained it for his clients.

Evidence.

Pages—
127-128
168

It was also stated by a member of the Commission that the Crown Agents had forwarded a consignment of cement to Hongkong without having received any requisition in the usual way from the Government.

The documents in Appendix No. 23 shew that the cement in question was duly ordered by the Director of Public Works, Mr. ORMSBY, who appears to have forgotten that he had sent his order and to have misled others into believing that the Crown Agents had forwarded the cement without authority.

Those witnesses who have had practical experience of the Crown Agent system, including Mr. CHADWICK, all speak highly of it, and the Commission is of opinion that it works well and that it would not be easy to substitute for it any other system that would work so satisfactorily.

DISCHARGE OF DUTIES BY P. W. D. FROM 1ST OCT., 1899 TO 30TH SEPT., 1900.

23. The second subject of reference on which the Commission was appointed to report is stated in the Commission as follows:—

The manner in which the duties devolving upon the Public Works Department have been performed during the period of two years preceding the 1st day of October, 1901.

In view of the evidence given to the Commission, it is of opinion that, owing to insufficiency of staff, it was not possible for the Department to discharge its duties thoroughly.

Through want of staff, public works, including water-works, have been delayed, and the general business of the Department has not been conducted with that promptitude which the Commission regards as most necessary and desirable.

24. In conclusion the Commission recommends that no expenditure on account of public works should be included in the yearly Estimates, unless there is every reason to anticipate that such moneys will be expended during the financial year, and that such works as are approved in those Estimates should be taken in hand without delay and not postponed unless for exceptional reasons.

J. H. STEWART LOCKHART, *Chairman.*

JOHN THURBURN.

L. F. BROWN, *Col.*

GODFREY C. C. MASTER.

Hongkong, 29th March, 1902.

I agree with the above Report except that I am not of the opinion that the Crown Agent system works well. I think the Government would be better served by its own Agents, under its own orders, whom the Government could change when dissatisfied. I do not think that the Crown Agents should be entrusted with the floating of loans. That should be done through a Bank or financial firm of first class standing.

ROBT. SHEWAN.

Hongkong, 29th March, 1902.

EVIDENCE.*

* Not printed.

Appendix No. 1.

COMMISSION BY HIS EXCELLENCY THE GOVERNOR OF HONGKONG.

[L.S.] HENRY A. BLAKE,
Governor.

WHEREAS it is expedient that a Commission be appointed to enquire into and report on the following matters, viz.:—

1. The duties and responsibilities of the Public Works Department of Hong-kong generally, with special reference to—
 - (a.) The constitution and sufficiency of the staff of the Department,
 - (b.) The advisability of increasing such staff or of making any changes in its personnel,
 - and
 - (c.) Generally what changes should be made in the working of the Department.
2. The manner in which the duties devolving upon the Public Works Department have been performed during the period of two years preceding the 1st day of October, 1901.

NOW, therefore, I, Sir HENRY ARTHUR BLAKE, Knight Grand Cross of the Most Distinguished Order of St. Michael and St. George, Governor of the Colony of Hong-kong and its Dependencies and Vice-Admiral of the same, do hereby under the powers vested in me by Ordinance 27 of 1886, entitled The Commissioners Powers Ordinance, 1886, appoint you :—

1. The Honourable JAMES HALDANE STEWART LOCKHART, C.M.G.,
2. The Honourable HENRY EDWARD POLLOCK, K.C.,
3. The Honourable JOHN THURBURN,
4. Colonel LEWIS FAULKNER BROWN, R.E.,
5. ROBERT GORDON SHEWAN, Esquire,

to be a Commission for the purpose of instituting, making, and conducting such enquiry ; And I do hereby appoint you the said JAMES HALDANE STEWART LOCKHART to be Chairman of such Commission ; And I do hereby appoint EDWARD DUDLEY CORSCADEN WOLFE to be Secretary to such Commission ; And I do hereby order and direct that for all or any of the purposes of this Commission three Members thereof inclusive of the Chairman shall be and constitute a quorum.

AND I do further hereby order and direct that the said Commission shall, for the purpose of making the said enquiry, have all such powers as are vested in the Supreme Court of this Colony or in any Judge thereof on the occasion of any suit or action in respect of the following matters, viz. :—

- (a.) The enforcing the attendance of witnesses and examining them on oath, affirmation or otherwise, as the Commissioners or any of them may think fit.
- (b.) The compelling the production of documents.
- (c.) The punishing persons guilty of contempt.
- (d.) The ordering an inspection of any property.

AND also the power, for the purposes of this Commission, to enter and view any premises.

AND I do hereby further direct that every examination of witnesses shall be held in private; AND I do further direct that any person examined as a witness in the enquiry aforesaid who in the opinion of the Commissioners makes a full and true disclosure touching all the matters in respect of which he is examined shall receive a certificate under the hand of the Chairman or presiding Member of the Commission, countersigned by the Secretary, stating that the witness has upon his examination made a full and true disclosure as aforesaid, as provided by Section 4 of the before mentioned Ordinance; AND I do further require you to report to me the evidence and your opinion thereon; AND I hereby charge all persons in the Public Service to assist you herein.

GIVEN under my hand and the Public Seal of the Colony in Executive Council, this 11th day of October A.D. 1901.

By Command,

C. CLEMENTI,
Acting Clerk of Councils.

Council Chamber, Hongkong, 11th October, 1901.

Appendix No. 2.

NOTES FOR THE PUBLIC WORKS COMMISSION.

November, 1901.

The following are the Ordinances and Regulations, arranged under headings, under which certain of the operations of the Public Works Department are conducted:—

Building Work.

Ordinances.

- No. 15 of 1889,—Principal Building Ordinance.
- „ 25 of 1891,—Amending Ordinance, dealing principally with thickness of walls, &c.
- „ 7 of 1895,—Amending Ordinance, as to notices to commence work.
- „ 5 of 1896,— Do., as to wells on private land.
- „ 11 of 1898,— Do., as to drain connections.
- „ 4 of 1888,—Verandah Enclosure Ordinance.
- „ 15 of 1894,—Closed Houses and Insanitary Dwellings—deals with height of buildings.
- „ 13 of 1901,—Public Health Ordinance—deals with back-yards, &c.

Regulations.

- Government Notification No. 416 of 1895,—Verandah Regulations.
- „ „ „ 528 of 1897,— Do.
- „ „ „ 25 of 1897,—Matsheds.
- „ „ „ 538 of 1900,—Regulations for obtaining stone, earth, &c. from Crown land.

*Water Supply.**Ordinances.*

- No. 16 of 1890,—Principal Waterworks Ordinance.
 „ 6 of 1895,—Amending Principal Waterworks Ordinance, as to meters.
 „ 19 of 1897,—Amending Principal Waterworks Ordinance, as to withholding services from Chinese houses outside the City of Victoria.
 „ 30 of 1898,—Amending Principal Waterworks Ordinance, as to entering private premises to shut off water.

Regulations.

- Government Notification No. 144 of 1899,—General Regulations affecting the supply of water.

*Drainage Work.**Ordinances.*

- No. 15 of 1889,—Building Ordinance.
 „ 13 of 1901,—Public Health Ordinance.

*Miscellaneous.**Ordinances.*

- No. 8 of 1870,—Maintenance of order in Public Places—applies to Recreation Grounds.
 „ 13 of 1888,—Regulation of Chinese—issue of permits for matsbeds for theatrical purposes, &c.
 „ 16 of 1888,—European District Reservation.
 „ 16 of 1889,—Praya Reclamation.
 „ 27 of 1890,—Squatters.
 „ 18 of 1897,—Kowloon Godown Tramways.
 „ 9 of 1898,— Do. do., (Amendment).
 „ 23 of 1900,— Do. do., (do.).
 „ 15 of 1898,—Queen's Recreation Ground.
 „ 3 of 1899,—Sung Wong Toi Reservation.
 „ 37 of 1899,—Piers.
 „ 17 of 1900,—Piers, (Amendment).
 „ 32 of 1900,—Crown Lands Resumption.
 „ 21 of 1901,—Foreshores and Sea-bed.

Regulations.

- Government Notification No. 179 of 1891,—Monument fees in Cemetery.
 „ „ „ 461 of 1897,—Wongneich'ung Recreation Ground.
 „ „ „ 164 of 1896,—Colonial Cemetery.

In addition to the foregoing, there are Instructions regarding the disposal of Crown Land, the exchange or transfer of Military Lands and other matters.

STAFF AND DUTIES.

The staff consists of the Director, Assistant Director, 3 Executive Engineers, 6 Assistant Engineers, 2 Land Surveyors, an English Draftsman, a Superintendent of the Clerical and Accounting Branch, a Land Bailiff, 20 European Overseers, and 124 Clerks, Foremen and others.

The staff on the Praya Reclamation consists of two Executive Engineers, a Chief Clerk, two Overseers and 46 Divers, Bargemen and others.

The total number of these two establishments is, therefore, 206, the monthly salaries and wages amounting to over \$12,000.

In addition to these, the Survey Party, engaged upon the New Territory, which consists of an English Officer in charge and 152 Indians, &c., is under the Director of Public Works. There is also a sum of about \$350 per week expended in wages for labour employed departmentally on house service work for Water Supply.

The Director of Public Works is a Member of the Executive and Legislative Councils and is also Chairman of the Public Works Committee, Chairman of the Queen's and Wongneich'ung Recreation Grounds Committee, a Member of the Sanitary Board and Member of the Squatters' Board. He is frequently appointed to serve on Committees. During the past 8 months, Committees of which he was a member have dealt with the following subjects:—

Additional Market accommodation ; Removal of Explosives Magazine ; Removal of the Gaol to Stonecutters ; Housing of Officials ; Taxation of Land in the New Territory ; and Provision of a Quarantine Station.

For the four first mentioned subjects, plans and estimates had to be prepared.

The ordinary work of his office includes all transactions in Crown Land, applications for extensions or conversions of lots, valuations of land, compensation to squatters, laying out of roads and lots, reporting non-fulfilment of building covenants, advising Government as to all public works, revising specifications for important works, obtaining and submitting estimates, referring to Government matters connected with the Building and Waterworks administration, directing the staff of the Department, making arrangements to fill vacancies and other matters connected with the staff, and reporting on the staff and numerous other subjects. Besides all this, many important matters came up for consideration. The following which have been dealt with during the past 8 months will serve as examples:—

- (1.) The Electric Tramways Ordinance.
- (2.) The Kowloon Water Supply Scheme, estimated to cost \$835,000.
- (3.) The Praya East Reclamation Scheme, estimated to cost about \$5,000,000.
- (4.) The abolition of the Quarry Farm and introduction of a new system of letting the Granite Quarries.
- (5.) The devising of an improved type of Chinese houses.
- (6.) The reply to the Petition on the Sanitary Condition of the Colony.

Of the entire correspondence which reaches the Colonial Secretary's Office, fully one-fourth emanates from the Director of Public Works, the remaining three-fourths coming from the other Government Departments (15 in number) and the general public. Of the latter portion more than one-fourth of the documents are referred to the Director of Public Works on account of their raising subjects which come within his scope.

The Director ought also to exercise some supervision over the execution of works, but, under existing conditions, this is quite impossible.

The Assistant Director of Public Works.—This office was only revived in 1898, and, owing to the inadequacy of the Staff, it has never been possible to organize its duties properly. The duties of the Assistant Director ought to be to deal with the routine work and to assist in exercising supervision over the preparation and execution of contracts and the operations of the Staff generally. He is also entrusted with the general supervision of the Praya Reclamation Works.

From the statement given of the Director's duties, it will be plainly seen that there is amply sufficient for the Assistant Director to do, without any risk of unduly curtailing the work of the former.

Mr. Tooker, Executive Engineer, has charge of the Maintenance Works, exclusive of Water and Drainage items, Dredging Foreshores, Miscellaneous Services and portion of Miscellaneous Works. He is also in charge of the Building Ordinance Works and supervises Private Streets Improvements and the clearing of stream courses with a view to the abatement of fever.

He has the following staff of overseers and foremen to assist in carrying on the above work.

Maintenance of Buildings and Miscellaneous Works:—Messrs. MUGFORD, COYLE, WOLFE and another. The last mentioned appointment is vacant on account of the overseer having decamped and no one having been obtained to fill his place. Application has been made to the Colonial Office to appoint a suitable man. There are also two foremen, C. GRANT and HUI KWAI, employed on this work.

Maintenance of Roads and Telephones:—Messrs. DOUGHERTY and CARROL. These two officers are both on leave at present and their places have been temporarily filled by Messrs. FRANKLIN and FARRELL. The latter supervises the telephone work. There are also engaged on roads, the following foremen:—NIMMO, PORTARIA, NEVES, LI SING and U PAT.

Maintenance of Cemetery.—A foreman gardener, named HUI SZE, and two working gardeners are employed in addition to men furnished by a Contractor. The extension of the Cemetery from time to time by forming new terraces is carried out by Contractors.

Maintenance of Public Recreation Ground.—A custodian named GODWIN is employed in looking after the Happy Valley and supervising the coolies employed in grass-cutting, &c.

Building Ordinance Work.—Mr. CRISP is the only overseer employed on this work. He devotes the whole of his time to it.

Clearing of Stream Courses.—This work is looked after by Sapper WILLIAMS who has been lent for the purpose by the Military Authorities.

Private Streets Improvements.—Mr. XAVIER, Assistant Engineer, conducts the work, and a foreman named L. CASTRO is employed in looking after it. Apart from the operations of surfacing, &c., the names of all the owners concerned in each lane have to be ascertained, the cost apportioned among them and bills sent out to them.

Mr. Gale, Executive Engineer, has charge of all Public Works Extraordinary with the exception of the Praya Reclamation and Waterworks.

The works at present actually in progress are the following:—

Law Courts Foundations; Governor's Peak Residence; No. 7 Police Station; three Police Stations in New Territory; Gaol Officers' Quarters; Tái Pó Road; Pokfulum Conduit Road; Western Market Foundations; Harbour Office Foundations; Home for Quarantined Dogs; Training and Diverting Nullah near Tram Station and Catch-water at Mount Cameron.

Contracts are being let for the following:—

Cattle Crematorium; Site for Kowloon Market; Public Bath-house; three Public Urinals; a Public Latrine; Nullah at Mongkoktsui; Coolie-house at Victoria Gap; two Temporary Markets; Extension of Wanchai Market.

The following Assistant Engineers are engaged in connection with the above:—

- Mr. MOSSOP, Law Court Foundations and Governor's Peak Residence.
- Mr. FISHER, No. 7 Police Station, Shed at Swine Depôt, Western Market Foundations, Harbour Office Foundations.
- Mr. XAVIER, Pokfulum Conduit Road, Training and Diverting Nullah near Tram Station, Nullah at Mongkoktsui.
- Mr. HUGHES, Tai Pó Road, Catchwater at Mount Cameron, Site for Kowloon Market.
- Mr. CARPENTER, Latrines, Bath-house, Home for Quarantined Dogs, Urinals, &c.

These Officers are also employed in preparing Drawings and Estimates for numerous other works.

The remaining staff employed principally in connection with Extraordinary Works includes:—

Mr. A. J. KYSHE, Draftsman—engaged almost entirely upon Office work.

WANG KWONG YIU, }
J. M. CRUZ, and } Tracers—engaged exclusively in making tracings.
TANG YAM HING, }

The following Overseers and Foremen are employed on the works:—

- J. DELANEY, Law Courts Foundations.
- J. M. DAVIS, Governor's Peak Residence.
- W. MCGREGOR, Tai Pó Road.
- H. GOODRICH, Western Market Foundations and Harbour Office Foundations.
- A-TAU, No. 7 Police Station.
- A-LIU, }
YOUNG SING, } Sheung Shui and Sai Kung Police Stations in the New Territory.

The remainder of the works are being carried on without overseers, as there is no one available for looking after them. One man, who was engaged locally, decamped a short time since. Application has been made to the Colonial Office to appoint a substitute. Application has also been made for a qualified man to supervise the erection of the Law Courts.

Mr. Hollingsworth, Executive Engineer, is in charge of Maintenance of Water-works, Sewers and Storm Water Drains. The construction of House Services is included in his duties and forms a very considerable item.

In addition to ordinary maintenance, there are numerous extensions to be carried out from time to time, of water mains, sewers and drains, to provide for new buildings. There are also the following works in hand or about to be undertaken:—

Covered Service Reservoir above Bowen Road; Reservoir on Mount Gough; Storage Reservoir at Tytam; Extensions of Storm Water Drains across Reclamations at Hunghom and Yaumati; Extension of Water Main at Happy Valley; Main for High Level Supply; Sewer in Conduit Road, &c.

A clerk, TAI SHIU LUNG, is engaged principally in connection with the issue of squatters' licences, translating Chinese documents relative to land, etc.

The Land Bailiff's duties are at present neglected, as there is no one to perform them.

Mr. Wood, Superintendent of Accounts, Correspondence and Stores.—The title is descriptive of the duties of this office.

The following staff is engaged upon the work :—

Accounts :—A. M. DE SOUZA, LO FUK LAM, J. B. GUTIERREZ and Miss A. DE SOUZA.

Correspondence :—P. JULYAN (temporarily transferred to Colonial Secretary's Department), LO Tsz LAM, F. M. FRANCO and LO KAI HONG. During Mr. JULYAN'S absence H. GOLDENBERG and WAI FONG are temporarily employed to fill his place. One clerk, CHAK SAM, is engaged almost exclusively upon the preparation of permits and notices, etc., under the Building Ordinance.

Stores :—CHENG HAU (Head Storekeeper), NG SZE and LEUNG SOO PING, (Clerks), besides CHU A MAN, CHENG FUN, HO KIU and LI FOOK, (Store Boys).

The value of the Stores at 31st December, 1900, was \$194,000. They include water and drainage pipes and fittings, telegraph materials, bolts, hinges and other fittings, gutters and down-pipes, etc., for buildings and numerous other articles.

I attach a return showing particulars of the expenditure and correspondence of the Department and other details for the years 1894 to 1900 inclusive.

W. CHATHAM,
Director of Public Works.

PUBLIC WORKS DEPARTMENT.

Statement of Salaries, Expenditure, &c., for the Years 1894, 1895, 1896, 1897, 1898, 1899 and 1900.

| YEARS. | Salaries charged in | | Total. | | Expenditure on Public Works. | | Total. | Government Buildings exclusive of Gaol and Police Stations. | | Cost of Repair of Roads. | Communications from Colonial Secretary. | | Letters despatched exclusive of Notices, Permits, Certificates, &c., issued under Building and Water-works Ordinances, &c. | |
|-------------|---------------------|---------------|--------|----|------------------------------|----------------|--------------|---|-----------------|--------------------------|---|-------------|--|----------------|
| | Pay Sheets. | Pay List. | \$ | \$ | Recurrent. | Extraordinary. | | No. | Cost of Repair. | | Separate Paper. | References. | Official to Govt. Dept. | Miscellaneous. |
| 1894, | 70,616.00 | Nil. | \$ | \$ | 177,277.00 | 271,553.00 | 448,830.00 | 108 | 21,371.00 | \$ | 782 | 1,201 | 551 | 655 |
| 1895, | * 73,518.00 | 1,538.00 | \$ | \$ | 213,510.00 | 201,536.00 | † 415,046.00 | 110 | 29,991.00 | 36,216.00 | 1,022 | 1,779 | 649 | 655 |
| 1896, | * 69,041.00 | 1,902.00 | \$ | \$ | 238,786.00 | 186,979.00 | † 422,765.00 | 108 | 42,969.00 | 40,953.00 | 844 | 1,471 | 761 | 705 |
| 1897, | * 70,954.21 | 4,188.67 | \$ | \$ | (b) 238,653.85 | (a) 388,894.70 | † 627,548.55 | 113 | 41,981.57 | 51,262.60 | 855 | 1,498 | 800 | 767 |
| 1898, | * 74,907.64 | 5,127.62 | \$ | \$ | 215,281.72 | (c) 234,920.41 | † 450,202.13 | 113 | 29,369.98 | 45,551.67 | 577 | 1,284 | 672 | 928 |
| 1899, | * 77,382.55 | (d) 5,272.98 | \$ | \$ | 345,361.00 | (c) 189,816.28 | † 535,177.28 | 125 | 33,998.53 | 44,095.49 | 867 | 1,347 | 904 | 898 |
| 1900, | * 82,827.63 | (d) 36,493.71 | \$ | \$ | 244,219.91 | (c) 405,170.82 | † 649,390.73 | 126 | 29,938.25 | 44,074.55 | 525 | 1,546 | 1,127 | 1,202 |

* Exclusive of Exchange Compensation \$19,017.41 (1895); \$8,341.98 (1896); \$10,245.84 (1897); \$12,581.76 (1898); \$12,161.69 (1899); \$13,182.69 (1890).
† Exclusive of Crown Agents' Accounts.

(a) Inclusive of \$50,000 for the purchase of Inland Lot 144 *vide* C.S.O. 1654/97.

(b) Inclusive of Stores Account.

(c) Exclusive of Stores Account.

(d) Including \$979.86 and \$23,928.12 being Salaries of the Survey Party for 1899 & 1900 respectively.

Appendix No. 3.

No. 222.

GOVERNMENT HOUSE,
HONGKONG, 12th June, 1901.

SIR,—I have the honour to transmit for your consideration the enclosed copy of a letter from the Acting Director of Public Works, respecting the urgent necessity for increasing the Staff of his Department.

2. Having considered the demands upon the Public Works Department, I agree with Mr CHATHAM that, in view of the rapid increase of the Colony, the proposed increase of Staff is necessary.

3. I accordingly submit Mr. CHATHAM's proposals for your approval, and propose to embody them in the Estimates for 1902 unless I hear to the contrary from you by telegram.

4. I shall also be glad to learn by cable whether the appointment of Principal Land Surveyor, proposed in my Despatch No. 167 of 30th April, 1901, can be included in the Estimates for 1902 which are now in hand.

I have the honour to be,

Sir,

Your most obedient, humble Servant,

HENRY A. BLAKE,
Governor.

The Right Honourable

JOSEPH CHAMBERLAIN, M. P.,
etc., etc., etc.

(Enclosure.)

(Copy.)

No. 841.

PUBLIC WORKS OFFICE,
HONGKONG, 5th June, 1901.

SIR,—In forwarding the Establishment Estimates of this Department for 1902, I desire to point out the urgent necessity for increasing the Staff in order to render it capable of carrying out efficiently the numerous and important Public Works in progress or about to be undertaken.

I feel somewhat diffident in putting forward my proposals, as I am only a *locum tenens*, but the necessity for increased staff is so palpable that I would fail in my duty if I did not point it out. It is with the Engineering Staff alone that I propose to deal.

I find that in C.S.O. 2359/1900, Mr. ORMSBY gave it as his opinion that the staff, with the addition of one Assistant Engineer, (referred to as "Special Engineer" in his minute), would be sufficient to carry out the works included in this year's Estimates, provided certain Officers returned from leave and no resignation or casualties occurred.

All the Officers returned from leave, with the exception of Mr. DRURY, who was transferred to the Imperial Service. To fill the vacancy thus created, several promotions were made, and a new Assistant Engineer was appointed locally at a salary of \$1,800 per annum.

The Department is, therefore, up to the full strength contemplated by Mr. ORMSBY when writing his minute. There have been no resignations or casualties among the Officers.

The staff is, however, in my opinion, inadequate for carrying on the large works in progress or in contemplation, and for complying with the continual demand for plans and estimates of new projects.

In order to support my opinion, I would point out that, notwithstanding the taking over of the New Territory and the enormous development now going on in the Colony, no addition whatever has been made to the Engineering Staff.

I give below a statement of it as it existed in 1892 and in 1898, selecting these years because the former saw the Department put on a proper footing to cope with the work of that period, and the latter was the year prior to the taking over of the New Territory.

Comparative Statement of Staff.

| 1892. | 1898. | 1901. |
|------------------------|---------------------------------|------------------------|
| 3 Executive Engineers. | 1 Asst. Director of Pub. Works. | 1 Asst. Director P. W. |
| 6 Assistant do. | 2 Executive Engineers. | 2 Executive Engineers. |
| 1 Chief Draftsman. | 6 Asst. Engineers. | 7 Asst. Engineers. |
| 1 Draftsman. | 1 Chief Draftsman. | ... Chief Draftsman. |
| | 1 Draftsman. | 1 Draftsman. |
| 11 Total. | 11 Total. | 11 Total. |
| | | |

I have omitted Officers engaged on the Praya Reclamation Scheme from the statement, as that work stands by itself.

From the comparative statement I have given, it will be seen that there has been absolutely no increase and, to any one acquainted with the Colony for the past 10 years, it will be obvious that a staff which was sufficient in 1892 must be wholly inadequate now. At that time the Engineers charged with the supervision of the Building Ordinance and ordinary Water and Drainage Works had an opportunity of devoting a portion of their time to special undertakings forming part of the programme of Extraordinary Public Works. Now, however, that is practically out of the question, as building work throughout the Colony is so active that it is with difficulty the extensions of roads, water mains and sewers can be overtaken in time to meet the requirements.

In the same way, the demands for Extraordinary Public Works, including Waterworks, Markets, Police Stations, Sanitary Works, etc., are far in excess of what they were. Finally the New Territory, where 7 Police Stations and 14 miles of road have been constructed or are in progress, makes considerable inroads upon the time of the Engineering Staff.

I have, therefore, to submit for the consideration of His Excellency the Governor the following recommendations :—

- (1.) Mr. A. H. HOLLINGSWORTH to be an Executive Engineer, thus restoring the number of Officers of this class to 3 as in 1892. Mr. HOLLINGSWORTH has been an Assistant Engineer for the past 4 years and has been carrying on the Water and Drainage Works since Mr. CROOK's departure for Gibraltar.
- (2.) The additional Assistant Engineers to be obtained from England, each with a salary of \$2,400, and Exchange Compensation, and Travelling Allowance of \$360.

The only other matters to which it is necessary for me to call attention are the appointment of the Principal Land Surveyor, sanctioned in C.S.O. 1144/1901, and the proposal to add one or two more Land Bailiffs to the Land Survey Branch, C.S.O. 608/1901.

In accordance with His Excellency's minute of the 15th October last, in C.S.O. 2359/1900, I have not included in the Estimates the provision required for the former appointment, as the approval of the Secretary of State has not yet been received.

The Squatters Board have recommended the appointment of two additional Land Bailiffs, and I have reported that I consider one will be sufficient. In the event of either proposal being approved, provision will require to be made in next year's Estimates in addition to the staff appearing in the Estimates as submitted.

I have the honour to be,

Sir,

Your obedient Servant,

W. CHATHAM,

Acting Director of Public Works.

The Honourable

THE COLONIAL SECRETARY.

No. 265.

DOWNING STREET,

13th August, 1901.

SIR,—I have the honour to acknowledge the receipt of your despatch No. 222 of the 12th June last, submitting Mr. CHATHAM'S proposals for the increase of the staff of the Public Works Department.

2. I caused a copy of your despatch, with its enclosure, to be transmitted to Mr. ORMSBY for any observations that might occur to him, and I enclose a copy of his reply.

3. I approve of the promotion of Mr. HOLLINGSWORTH to the rank of Executive Engineer, and I see no objection to provision being made on the Estimates for 1902 for the appointment of an additional Assistant Engineer, to fill the vacancy caused by Mr. HOLLINGSWORTH'S promotion, and an additional Land Bailiff.

4. In view of your telegram of the 6th instant, I am not prepared to press Mr. ORMSBY'S suggestion in regard to the post of Principal Land Surveyor. The Crown Agents for the Colonies will accordingly be asked to select a candidate from this country for the appointment. They will also be asked to engage an additional Assistant Engineer, who will, of course, not leave this country before 1st January next at the earliest.

I have the honour to be,

Sir,

Your most obedient, humble Servant,

J. CHAMBERLAIN.

Governor

Sir HENRY A. BLAKE, G.C.M.G.,

etc., etc., etc.

(Enclosure.)

Hk. 256.

ST. ANNS, KILLINEY,
IRELAND, August 3rd, 1901.

SIR,—I have the honour, acknowledge receipt of your letter No. 25364/1901 of the 30th ultimo and to return as directed the enclosure therewith received.

2. I note that Mr. CHATHAM proposes (a) the promotion of Mr. HOLLINGSWORTH to the rank of Executive Engineer; (b) the appointment of two additional Assistant Engineers from England; (c) the appointment of a Principal Land Surveyor (also I presume from England) and one additional Land Bailiff.

3. With regard to (a) I agree with Mr. CHATHAM. Mr. HOLLINGSWORTH, since Mr. CROOK's transfer to Gibraltar, has been in full charge of the Water Works and Drainage Works of the Colony, a distinct branch of the Department, which, I believe, was always in charge of an Executive Engineer. It would practically cause no change except in Mr. HOLLINGSWORTH's title; as he has been for a year carrying on the duties of an Executive Engineer, directly under the Head of the Department.

4. I do not agree that two additional Assistant Engineers are now required. Last year, Mr. CROOK's transfer to Gibraltar and Mr. GIBBS' resignation occurring within a few months and thus weakening the Department by the loss of two of the most experienced and efficient officers, caused a great strain on the staff, while not much help could be expected from the three newly appointed officers—Messrs. MOSSOP, FISHER, and TRIMMINGHAM. But now it may be assumed that these officers have acquired the needful experience of local conditions and methods of work, and become useful and efficient members of the staff.

5. It must be borne in mind that in Hongkong there is little or no Departmental work, but that all work is done by contract, also that all payments are made in the Treasury, and thus the Engineering Staff spared duties which take up fully half of the time of officers holding similar appointments in Ceylon, while it is always possible to obtain, for special works, the services of private Engineering Firms, as has been done lately in regard to the New Kowloon Water Supply, the Victoria Jubilee Road and Hospital and other works.

6. Five large permanent Police Stations have been built in the New Territory, two more have been contracted for, which completes all the buildings required in that district for a long time to come. If no special loan for the more rapid development of the Territory is contemplated, the construction of the main road to Taipó and Sam-chun must necessarily go on slowly, at, say, the rate of three or four miles annually, and this only takes up the time of an Assistant Engineer (Mr. HUGHES) who has been on this special work since its commencement. The whole of the construction and maintenance work in the New Territory would be considered a small charge for one District Engineer in Ceylon.

7. Keeping in mind the comparatively small area of the Colony, I think great care should be taken not to unduly increase the permanent and pensionable establishment. I am therefore of opinion that one additional Assistant Engineer will be sufficient.

8. I see no necessity for the appointment of a Land Surveyor from England. Owing to the very limited area of the Colony, and the smallness of the lots put up for sale, surveys are of the simplest nature. The Department have in Mr. B. W. GREY an officer fully qualified to do the work of Land Surveyor, with Mr. JACOB as Assistant. Mr. GREY was trained in the Ceylon Survey Department and holds a licence, obtained after examination by the Surveyor General of that Colony, to practise as a Land Surveyor.

9. The Government having gone to the great expense of a complete cadastral survey of the New Territory by a special staff lent by the Government of India, the addition of the New Territory will add little, if anything, to the work of the Surveyor of the Department.

10. An additional Land Bailiff is certainly necessary owing to the extension of the area of the Colony. This appointment should be filled locally, as a knowledge of Colloquial Chinese is absolutely essential.

11. I regret that I have been unable to endorse the views of the Acting Director of Public Works, supported as they are by His Excellency the Governor, but possibly some of the reasons I have advanced against such a large permanent increase in the staff have not been fully considered.

I have the honour to be,

Sir,

Your most obedient Servant,

R. D. ORMSBY,

Director of Public Works, Hongkong.

The UNDER-SECRETARY OF STATE,

Colonial Office.

No. 843.

PUBLIC WORKS OFFICE,

HONGKONG, 25th September, 1901.

SIR,—I have the honour to submit the following report with regard to my proposals for increasing the Engineering Staff of this Department.

In June last, when forwarding the Establishment Estimates for 1902, I reported that I considered the appointment of two additional Assistant Engineers necessary in order to render the Department capable of carrying on the works in progress and of complying with the continual demand for plans and estimates of new projects (C.S.O. 1786 of 1901).

On the 11th instant, having been asked what further increase of staff I considered necessary in view of the programme of works drawn up for 1902, I stated that I considered that two more Assistant Engineers would be required to carry it out in addition to the two already asked for, making four in all (C.S.O. 2219 of 1901).

Both these recommendations received the approval of His Excellency the Governor, but before the latter were forwarded to the Secretary of State, a despatch No. 265 dated the 13th August was received from the Secretary of State forwarding a communication from Mr. ORMSBY and stating that one Assistant Engineer would be appointed in the beginning of January next.

From this it appears to be necessary for me to justify my recommendations by comparing the staff of a few years ago and its capabilities with the staff of to-day and the demands which are made upon it.

In Mr. COOPER'S Annual Report for 1894, Appendix J, will be found the following note:—

Fair Average Yearly Expenditure is—

| | |
|-------------------------------------|------------------|
| on Annual Recurrent Works | \$150,000 |
| on Extraordinary Public Works | 300,000 |
| Total,..... | <u>\$450,000</u> |

The Engineering Staff in that year consisted of 3 Executive Engineers, 4 Assistant Engineers and 2 Draftsmen—a total of 9. Mr. COOPER, prior to his appointment to Ceylon, considered it advisable to strengthen the staff by the addition of one Assistant Engineer, and this increase was made in the beginning of 1897, bringing the total up to 10.

I attach a statement showing the amounts provided in the Estimates and actually expended during the respective years from 1894 to 1900, after eliminating the expenditure on Praya Reclamation, Resumptions of Property for public purposes, Survey of New Territory, and Works not actually carried out by the staff of this Department. It also shows the amounts provided in this and next year's Estimates.

From this statement it will be seen that the estimated expenditure for 1901 is almost exactly double the actual expenditure for 1894, whilst the Estimates for 1902 show an increase of \$80,000 over those of 1901. Comparing the Estimates for 1902 with the actual expenditure for 1897, when the staff numbered 10, the increase is seen to be nearly \$400,000, whilst the staff has been increased by one solitary member, consisting at the present time of the Assistant Director of Public Works, 3 Executive Engineers, 6 Assistant Engineers and 1 Draftsman.

It must be unnecessary for me to point out that the expenditure for this year will fall far short of the estimated amount, notwithstanding the fact that all the drawings required in connection with the Law Courts and the Governor's Peak Residence and the requisitions for materials for the same are being supplied by outside Architectural Firms. Equally, it will be impossible for the Department to overtake the programme of Works drawn up for 1902, unless it be materially strengthened without delay. In this way works which are considered of great urgency are falling into arrear and, if the Department is not to be rendered capable of keeping pace with the greatly increased demands made upon it, the consequences to the Colony generally will be most serious.

I have confined my remarks so far to the carrying out of the works for which provision is made in the Estimates. There are also to be considered the continually increasing duties and responsibilities which are added to the Department by various Ordinances and the enormously increased demand for plans and estimates of Works which are rendered necessary by the great expansion of the Colony.

That great expansion is in progress is, I think, sufficiently proved by the fact that in 1894 the land sales amounted to \$72,852, bearing an annual rental of \$2,304, whilst in 1900 the amounts were \$810,614 and \$26,308 respectively.

I do not propose to refer to the Building Ordinance Work, for the carrying out of which recommendations have been submitted by the Public Works Committee in a separate report.

Mr. ORMSBY'S remarks in paragraph 5 of his letter are not to the point. The practice followed now as regards the carrying out of work and the making of payments is exactly the same as in former years. I cannot recommend the practice of employing private Engineering Firms, except in emergencies or where some special reasons exist. It is, in my opinion, expensive and, as a rule, unsatisfactory.

I beg to conclude by stating that I am fully convinced that, unless immediate steps are taken to increase the staff of this Department by adding four Assistant Engineers, very serious consequences are likely to arise. Mr. ORMSBY has fallen into the too common error of regarding this Colony as small because its area is somewhat limited, but it must be borne in mind that it contains the fourth largest City in point of population in the Colonial Empire (*vide* p. XXIV of the Colonial Office List) and that it ranks third amongst the Shipping ports of the world.

I have the honour to be,

Sir,

Your obedient Servant,

W. CHATHAM,

Acting Director of Public Works.

Statement of Amounts appearing in Estimates and Actual Expenditure on Works supervised by the Engineering Staff of the Public Works Department from 1894 to 1900.

| YEAR. | AMOUNTS PROVIDED IN ESTIMATES. | | | AMOUNTS ACTUALLY EXPENDED. | | |
|-------------|--------------------------------|-----------------|---------|----------------------------|-----------------|---------|
| | Recurrent. | Extra-ordinary. | Total. | Recurrent. | Extra-ordinary. | Total. |
| | \$ | \$ | \$ | \$ | \$ | \$ |
| 1894, | 162,500 | 334,500 | 497,000 | 155,437 | 271,492 | 426,929 |
| 1895, | 164,500 | 303,170 | 467,670 | 170,218 | 201,710 | 371,928 |
| 1896, | 179,700 | 245,500 | 425,200 | 184,342 | 204,434 | 388,776 |
| 1897, | 203,000 | 346,600 | 549,600 | 207,175 | (2) 325,445 | 532,620 |
| 1898, | 199,000 | 258,416 | 457,416 | 203,621 | 233,781 | 437,402 |
| 1899, | 207,000 | 424,200 | 631,200 | (3) 333,403 | 192,587 | 525,990 |
| 1900, | 207,200 | 291,100 | 498,300 | 237,851 | (4) 327,678 | 565,529 |
| 1901, | (1) 281,740 | 566,338 | 848,078 | ..... | ..... | ..... |
| 1902, | (1) 316,500 | 612,650 | 929,150 | ..... | ..... | ..... |

- (1) Includes items for "Forming and Kerbing Streets," &c., which had hitherto appeared under Public Works Extraordinary.
- (2) Includes a sum of \$104,539 spent in "City of Victoria and Hill District Waterworks" alone,—Wongneichong Reservoir then in full progress.
- (3) Includes a sum of \$111,156 spent under the heading "New Territory," which should more properly have been included under Public Works Extraordinary. The sum of \$39,786 was for matsheds, &c., which required practically no supervision.
- (4) Includes a sum of \$16,208 spent on matsheds, &c., in the New Territory, and \$60,755 spent on the Taipó Road.

Appendix No. 4.

No. 1018.

PUBLIC WORKS OFFICE,
HONGKONG, 6th December, 1901.

SIR,—I have the honour to forward, for the information of the Public Works Commission, a copy of Mr. Cooper's Report on the Water Supply of the City of Victoria and Hill District and to subjoin the following remarks with regard to what has been done in order to give effect to the recommendations contained in it.

See Gov-
ernment
Notifica-
tion, No.
260 of
11th July,
1898.

On page 11 will be found particulars of a project for increasing the capacity of Tytam Reservoir which included the raising of the dam and the extension of the catchment area by the construction of a catchwater to the East a little over one and a half miles long. These works were completed early in 1897.

The estimated capacity of Tytam Reservoir is now 384,800,000 gallons to overflow level and can be increased to 407,000,000 gallons by inserting sluice boards 2½ feet in height on top of the overflow dam.

Ibid.

On page 14, under the heading "Distribution of Water within the City and Hill Districts," reference is made to certain works which were in progress at the time the Report was written and to the necessity of laying new mains in certain roads. These works have been carried out, as has also the construction of the covered service reservoir at the Peak referred to in paragraph 120.

The repairs to No. 2 Tank have not been carried out however, the tank having been disconnected from the distribution system since the date of the Report. I consider that it will be necessary to reconstruct this tank entirely and that it will be advisable to move the position of it at the same time, as its present site cannot be regarded as a satisfactory one.

Ibid.

On page 17, under the heading "Particulars of Proposed Works to meet Present Requirements" are detailed certain works, which include a reservoir at Wongneich'ung Gap, catchwaters to increase the catchment areas of this reservoir and of that at Tytam and certain additional Filter Beds.

These works have all been carried out and the only modifications which were made in the proposals were the substitution of thin steel for cast iron pipes for conveying the water across the ravine below Tytam Reservoir and the omission of the 5" cast iron main from Wongneich'ung Reservoir to the Tytam Conduit.

The former modification was made by Mr. Cooper himself. With regard to the latter the provision of the 5" main was considered unnecessary in carrying out the work, as the natural stream course was available for conveying the water the greater part of the distance, a small dam and pipe being provided to lead it into the conduit.

Of the works referred to in the tabulated statement on page 17, all have been carried out with the exception of the first item and the repairs to No. 2 Tank, already mentioned.

With regard to the Improvements of Pokfulam Conduit, there is no definite information on the subject as to what Mr. Cooper's intentions were. I have no doubt, however, that he meant to improve or alter the syphons which convey the water flowing through the conduit across several deep valleys occurring along the route.

I am of opinion that the best method of carrying out the improvements will be to bridge the valleys in the same manner as has been done in the case of the Tytam Conduit.

The object of the work is to enable a larger proportion of the supply to be drawn from Pokfulam Reservoir during the summer months, as that Reservoir fills up and is liable to overflow at a much earlier period than Tytam.

In the Estimates for the year 1897 it will be found that the sum of \$267,000 appears opposite the item "City and Hill District Waterworks" under the heading "Estimated Cost," instead of \$260,000 as given in the Report. The additional sum of \$7,000 was to cover the cost of extending the City mains to North Point and Wongnei-ch'ung, a work which has been carried out.

Ibid. The only other item described in Mr. Cooper's Report, towards the carrying out of which steps have been taken, is the Reservoir referred to on page 20 as that on Site No. 3, paragraph 159, a contract for which has just been let.

Ibid. I consider it desirable to proceed as early as possible with the construction of the Reservoir on Site No. 1, page 19, and have given instructions for the necessary plans, &c., to be prepared.

It has been found necessary to carry out certain works in connection with the City and Hill District Waterworks, which do not appear in Mr. Cooper's Report, beyond the mere mention of the fact that the construction of the filter beds below Bowen Road would furnish facilities for actuating a small hydraulic motor in the event of a supply being required above Bowen Road.

This motor has been established and has been so constructed as to be capable of pumping alternatively into a service reservoir above Bowen Road for the supply of the High Level District, or into one at Mount Gough for the supply of the Hill District. The former reservoir is nearing completion and the latter is being begun. Meanwhile, the motor is being used to pump into small iron tanks on Mount Gough, which supply the houses on Barker Road and at Magazine Gap.

In consequence of the formation of Conduit Road and the erection of numerous houses above it, a new service reservoir has been constructed some distance above Belilios Terrace and the necessary mains in connection with it have been laid. A main is now being laid along Bowen Road to connect this reservoir with the one referred to in the preceding paragraph as being nearly completed above Bowen Road.

Two new filter beds have been constructed at West Point for the purpose of enabling the additional quantity of water drawn from Pokfulam Reservoir to be dealt with.

A 3" additional rising main to the Peak has been laid and a 5" main has been laid in substitution for the 3" formerly existing from the Peak Reservoir to Victoria Gap. The pipes obtained by dispensing with the latter have been utilized for the main required in Barker Road, which connects through to the Magazine Gap Road main.

The following is a statement of the expenditure incurred under the heading, "City and Hill District Waterworks" in carrying out the above works, commencing with the programme contained in the tabulated statement on page 17 of Mr. Cooper's Report:—

| | |
|-------------------------------|--------------|
| 1897, | \$104,539.93 |
| 1898, | 78,363.77 |
| 1899, | 29,452.90 |
| 1900, | 39,046.42 |
| 1901 (to end of October), ... | 13,908.06 |

Total \$265,311.08

Several of the smaller items referred to, such as the reservoir behind Belilios Terrace, were charged to other votes.

It will be gathered from the foregoing remarks that very considerable works have been carried out during the past 5 years for improving and extending the water supply of the City and Hill District but that the addition of Storage Reservoirs has been allowed to lag behind somewhat. The principal causes of this have, I think, been the pressure of other necessary public works and the inadequacy of the staff to undertake more. It can safely be asserted, at all events, that the existing staff has been kept fully employed in connection with the works which have been carried out during recent years.

I append a tabular statement of Mr. Cooper's recommendations with notes as to what has been done towards carrying them out.

I have the honour to be,

Sir,

Your obedient Servant,

W. CHATHAM,
Director of Public Works.

E. D. C. WOLFE, Esq.,
Secretary to the Public Works Commission.

CITY AND HILL DISTRICT WATERWORKS.

Tabular Statement of Works referred to in Mr. Cooper's Report, dated 9th May, 1896,
with notes as to whether they have been carried out or not.

| <i>Page.</i> | <i>Description of Work.</i> | <i>Remarks.</i> |
|--------------|--|---|
| 11 | Raising Tytam Dam 10 feet, | Completed early in 1897. |
| 11 | Catchwater to East of Tytam Reservoir,..... | Do. |
| 14 | New Mains in Caine, Robinson and Bonham Roads, | Do. |
| 14 | Repairs to No. 2 Tank, | Not carried out yet. Tank disused meanwhile. |
| 15 | Peak Service Reservoir, | Completed in December, 1897. |
| 17 | Improvement of Pokfulam Conduit,..... | Not carried out yet. |
| 17 | Catchwater West of Tytam Valley,..... | Completed in December, 1897. |
| 17 | Reservoir and Catchwater Wongneich'ung Gap,..... | Completed in April, 1899. |
| 17 | Filter Beds and Service Reservoirs below Bowen Road, | Completed in 1898. |
| 18 | Reservoir below Pokfulam Reservoir, main to City and new Filter Beds, | Not carried out yet. |
| 19 | Raising existing Dam at Pokfulam,..... | Do. |
| 19 | Reservoir in Tytam Valley—Site No. 1..... | Not carried out yet. Plans in course of pre- paration. |
| 19 | „ „ „ „ No. 2..... | Not carried out yet. Plans in course of pre- paration. |
| 20 | „ „ „ „ No. 3..... | In progress. |
| 21 | Reservoirs below Tytam Dam—Sites No. 4 and 5, | Not carried out yet. These reservoirs involve pumping and are merely referred to by Mr. Cooper as possible sources of Water Supply— <i>vide</i> para. 167. |

Appendix No. 5.

EXPENDITURE ON WATER WORKS FOR THE LAST TEN YEARS.

Statement showing Expenditure on Construction of Water Works from 1st January, 1892, to 31st December, 1901, inclusive.

| Year. | Kowloon Water Works. | Peak Water Supply. | New Water Mains City of Victoria. | Tytam Water Works Extension. | City of Victoria Hill District Water Works. | Water Works, Miscellaneous including items under Water and Drainage Works Miscellaneous. | Water Works, Items included under Miscellaneous Works. | Water Account. | Totals. |
|-------------|----------------------|--------------------|-----------------------------------|------------------------------|---|--|--|----------------|--------------|
| 1892, | \$ 3,167.32 | \$ 3,692.71 | \$ 18,005.62 | ..... | ..... | ..... | ..... | \$ 2,446.89 | \$ 27,312.74 |
| 1893, | 15,573.14 | ..... | 2,018.66 | ..... | ..... | ..... | \$ 235.07 | 1,832.22 | 19,659.09 |
| 1894, | 60,926.05 | ..... | 1,134.15 | ..... | ..... | \$ 15.07 | ..... | 2,702.18 | 64,777.45 |
| 1895, | 27,291.09 | ..... | 3,362.57 | \$37,590.09 | ..... | 42.34 | 2,288.12 | 8,033.73 | 78,607.94 |
| 1896, | 9,292.85 | ..... | 22,684.65 | 19,153.21 | ..... | 15,047.02 | 530.80 | 6,188.38 | 72,896.91 |
| 1897, | 2,930.94 | ..... | 4,607.92 | 8,962.55 | \$104,539.93 | 24,856.39 | ..... | 4,590.39 | 150,488.12 |
| 1898, | 3,817.92 | ..... | ..... | 21.23 | 78,363.77 | 13,704.83 | ..... | 3,277.58 | 99,185.33 |
| 1899, | 16,385.00 | ..... | ..... | ..... | 29,452.90 | 9,858.01 | ..... | 6,877.99 | 62,573.90 |
| 1900, | 3,988.33 | ..... | ..... | 80.50 | 39,028.42 | 1,730.99 | 4,652.73 | 10,987.64 | 60,468.61 |
| 1901, | 2,648.26 | ..... | ..... | 157.70 | 19,670.60 | 3,911.07 | 1,608.77 | 6,919.35 | 34,915.75 |
| Totals, ... | \$146,021.10 | \$ 3,692.71 | \$51,813.57 | \$65,965.28 | \$271,055.62 | \$69,165.72 | \$9,315.49 | \$53,856.35 | \$670,885.84 |

W. CHATHAM,
Director of Public Works.

HONGKONG, 4th January, 1902.

EXPENDITURE ON WATER WORKS FOR THE LAST TEN YEARS.

Statement showing Expenditure on Maintenance of Water Works from 1st January, 1892, to 31st December, 1901, inclusive.

| Year. | City and Hill District. | Kowloon. | Aberdeen. | Shaukiwan. | Totals. |
|-------------|-------------------------|-------------|------------|------------|--------------|
| 1892, | ..... | ..... | ..... | ..... | ..... |
| 1893, | \$ 7,957.17 | ..... | ..... | ..... | \$ 7,957.17 |
| 1894, | 7,910.94 | ..... | ..... | ..... | 7,910.94 |
| 1895, | 10,136.95 | ..... | ..... | ..... | 10,136.95 |
| 1896, | 6,565.76 | \$ 5,788.43 | ..... | ..... | 12,354.19 |
| 1897, | 7,878.93 | 5,880.74 | \$1,007.54 | \$1,088.69 | 15,855.90 |
| 1898, | 11,758.13 | 6,298.58 | 890.51 | 968.77 | 19,915.99 |
| 1899, | 14,556.41 | 9,175.11 | 920.64 | 1,117.00 | 25,769.16 |
| 1900, | 20,416.50 | 11,995.03 | 578.96 | 1,186.45 | 34,256.94 |
| 1901, | 20,864.38 | 17,766.53 | 189.40 | 78.48 | 38,898.79 |
| Totals, ... | \$108,125.17 | \$56,904.42 | \$3,587.05 | \$4,439.39 | \$173,056.03 |

W. CHATHAM,
Director of Public Works.

4th January, 1902.

Appendix No. 6.

CITY AND HILL DISTRICT WATER WORKS.

Statement of Periods of Intermittent Supply from and including 1896.

| Year. | Period. | Number of Days. | Rainfall of Preceding Year. |
|-------|--|-----------------|-----------------------------|
| 1896, | 1st January to 29th March, } 1st to 14th June, } | 103 | 45.84 |
| 1897, | ..... | ... | 72.78 |
| 1898, | ..... | ... | 100.03 |
| 1899, | 1st April to 10th May, } 26th May to 7th June, } | 53 | 57.02 |
| 1900, | 1st to 13th May, | 13 | 72.70 |
| 1901, | Full supply maintained during the Spring. Intermittent supply introduced on 11th November in consequence of rainfall amounting to only 54.18 inches to end of October, | ... | 73.71 |

Note.—The rainfall of the preceding year is given opposite each year, as it is only in exceptional cases, such as the present, that the intermittent supply is introduced before Spring, and its introduction is therefore due as a rule to deficiency in the preceding year's rainfall.

W. CHATHAM,
Director of Public Works.

21st December, 1901.

Appendix No. 7.

REPORT OF PROCEEDINGS OF THE PUBLIC WORKS COMMITTEE

at a Meeting held on the 27th August, 1901.

Present:—The Honourable the Acting Director of Public Works (William Chatham), Chairman; the Honourable the Acting Colonial Treasurer (Charles McIlvaine Messer); the Honourable Catchick Paul Chater, C.M.G.; the Honourable Dr. Ho Kai; the Honourable John Thurburn.

1. *Supervision of Building Operations in the Colony.* (C.S.O. $\frac{2193}{1901}$.)

The Chairman explained that this question, which had arisen out of the collapse of houses in Cochrane Street, had been referred to the Committee by direction of His Excellency the Governor in Council. He then read a report by Mr. Tooker, dated 23rd July, on the subject of the recent collapse, and a lengthy minute by the Honourable Acting Attorney General on the same subject, which was contained in C.S.O. $\frac{2518}{1901}$.

The following recommendations were unanimously adopted by the Committee:—

(1.) The duties of the Public Works Department to be confined to general supervision as regards the construction of new buildings, the staff being increased in order to render such general supervision effective.

(2.) In the case of alterations or additions to existing buildings, the duty of inspection in order to ascertain the structural capability of such buildings to undergo such alterations or additions to devolve upon the Public Works Department.

(3.) The Director of Public Works to have full discretion in the matter of sanctioning or refusing to sanction any alterations or additions to existing buildings. His decision shall, however, be subject to appeal to the Governor in Council as provided by Section 87 of Ordinance 15 of 1889.

(4.) The staff of the Public Works Department for the supervision of work under the Building Ordinances to consist of at least one Assistant Engineer at a commencing salary of £300 and travelling allowance of \$360 per annum, and four thoroughly competent Overseers at commencing salaries of £200 each with travelling allowances of \$270 each per annum.

(5.) All Architects or Engineers, in order to be admitted as competent to submit plans or proposals under the Building Ordinances, must hold the certificate of some Body or Incorporated Society, recognized by the Government, as a guarantee of their fitness to practise as Architects or Engineers. This stipulation to come into force upon the passing of the Ordinance.

(6.) All works carried out under the Building Ordinances to be supervised until their completion by an Architect or Engineer of the standing specified in clause (5), who must have power to employ, at the expense of the party on whose behalf the work is being executed, such amount of skilled supervision as he may consider necessary.

(7.) Any party not possessed of the qualification specified in clause (5), who may attempt to submit plans or carry out work, falling within the scope of the Building Ordinances, to be punishable by law.

(8.) All buildings hereafter erected of the type known as Chinese tenement houses to have courses of hoop iron bond built into the walls at the level of the foundations, each floor and the eaves of roof. The hoop iron to measure $1\frac{1}{4}$ " wide by $3\frac{1}{2}$ " thick and to consist of two bonds in each course in 14" walls and three bonds in each course in 18" walls and foundations. The bonds to be continuous, whenever practicable, and to be lap-jointed. Where continuous bonds are impracticable such bonds to be arranged as required by the Director of Public Works.

2. *Surface Overcrowding.* (C.S.O. 2041.)

The Chairman mentioned that this matter had also been referred to the Committee by His Excellency the Governor in Council. He then read a letter from the Secretary of the Sanitary Board, dated the 28th June, 1901, forwarding certain resolutions with regard to the height of buildings and other matters, and a minute by himself arising out of the letter referred to.

The following recommendations were unanimously adopted by the Committee:—

(1.) No building shall be hereafter erected or raised to a height exceeding one-and-a-half times the width of the street upon which it fronts. Provided always that no domestic building shall be of more than four storeys in height including a ground floor and three upper floors. For the purposes of this section, the width of street and height of building shall be measured in accordance with Section 6 of Ordinance 34 of 1899. This section shall not apply, however, to the re-erection of buildings which have already been erected in excess of the height specified.

Exceptions to the above rule may be granted by the Governor in Council.

(2.) No balcony shall, except with the sanction of the Governor in Council, hereafter be permitted in any street, whether public or private, which measures less than 25 feet in width.

(3.) No verandah shall, except with the sanction of the Governor in Council, hereafter be permitted in any street, whether public or private, which measures less than 50 feet in width.

(4.) No verandah shall, except with the sanction of the Governor in Council, hereafter exceed three storeys in height, including a ground floor and two upper floors, except in streets of 60 feet in width and upwards.

The Committee strongly recommend the immediate enactment of their recommendations under the heading "Surface Overcrowding," as some time will probably elapse before the new Building Ordinance can be passed.

Appendix No. 8.

PUBLIC WORKS OFFICE,
HONGKONG, 7th January, 1902.

SIR,—I have the honour to report, for the information of the Public Works Commission, that the following works included in Annual Recurrent Expenditure are under my charge:—

Maintenance of Buildings.

Do., New Territory.

Maintenance of Telegraphs.

Do., New Territory.

Do., Public Cemetery.

Do., Praya Wall and Piers.

Do., Lighthouses.

- Miscellaneous Works (partly.)
- Maintenance of Roads and Bridges in City.
- Do. outside City.
- Do. Kowloon.
- Maintenance of Public Recreation Ground.
- Maintenance of Clock Tower.
- Forming and Kerbing Streets.
- Extension of Gas Lighting.
- Miscellaneous Services, (partly.)

I have the honour to be,

Sir,

Your obedient Servant,

H. P. TOOKER,

Acting Assistant Director of Public Works.

HON. J. H. STEWART LOCKHART, C.M.G.,
Chairman, Public Works Commission.

Appendix No. 9.

PRINCIPAL WORKS UNDER HEADING MISCELLANEOUS WORKS DURING THE YEARS 1900 AND 1901,
SUPERVISED BY MR. TOOKER.

| | Cash. | | Issues. | | Receipts. | |
|---|-------|----|---------|----|-----------|----|
| | \$ | c. | \$ | c. | \$ | c. |
| 5 Gaol—Hot Water,..... | 60 | 23 | 122 | 54 | | |
| 7 Reformatory—Sundry additions, | 704 | 00 | | | | |
| 9 Post Office (including \$971.93 under C 30.98 Extension), | 1,550 | 89 | 6 | 43 | | |
| 11 Civil Hospital—Sundry additions, | 1,096 | 93 | | | | |
| 14 Street Name-plates fixing, | 310 | 09 | 1,713 | 87 | | |
| 15 Police Telephone Service—Alterations to, | 661 | 76 | 711 | 05 | | |
| 18 Cochrane Street Collapse—Various Works, | 1,127 | 41 | | | | |
| Removing Latrines, | 310 | 15 | | | | |
| Disinfector Shed, | 400 | 00 | | | | |
| Constructing Platforms &c., Cricket Ground, ... | 154 | 28 | | | | |
| Scalding Pains at Sheep and Swine Depôt, | 100 | 97 | | | | |
| Draining Pools in Nullahs, | 247 | 21 | | | | |
| Sentry Box—Tsim Sha Tsui Station, | 100 | 79 | | | | |
| Do., Blake Pier, | 71 | 49 | | | | |
| Stalls at Yaumati Market, | 456 | 89 | | | | |
| Stall at Saiyingpun Market, | 30 | 00 | | | | |
| Hongkong Observatory—Sundry Works, | 170 | 00 | | | | |
| Telephone to Pumping Station, | 379 | 69 | | | | |
| Crosby Store—Pulling down, | 210 | 48 | | | | |
| Mt. Gough Station—Erecting Matshed, | 252 | 00 | | | | |
| Lycemun Lamp Support, | 25 | 85 | | | | |
| Lightning Conductor, Stonecutters' Island, | 16 | 71 | | | | |
| Public Well, Hung Hom—Closing one and improving one, | 40 | 11 | | | | |

Appendix No. 10.

PUBLIC WORKS OFFICE,
HONGKONG, 23rd December, 1901.

SIR,—In accordance with your instructions, I have the honour to submit a report upon the suggestion which I made before the Public Works Commission on the 6th instant, viz., to lay down Australian Hardwood Block paving in Queen's Road from the Government Civil Hospital to Wanchai Market and in Des Vœux Road, say, from the Harbour Office to the City Hall.

2. Two of the many kinds of wood which grow in the forests of Western Australia have recently come to the front as eminently suitable for street paving, these are known as Jarrah (*Eucalyptus marginata*), and Karri (*Eucalyptus diversicolor*). A full description of these woods is given in a report by Mr. J. Edine Brown, Conservator of Forests for Western Australia, dated 1899.

3. Jarrah is without doubt the principal timber tree in the Western Australian forests, for general constructive works, necessitating contact with soil and water, the timber of this tree stands foremost. The late Baron Sir F. Von Meuller, the great and well known botanist of Victoria said: "the Jarrah is famed for its indestructible wood, which is neither attacked by the borings of the chelura, tereido, or ternute." The wood when thoroughly seasoned weighs about 60 lbs. per cube foot, and the principal uses to which it is as yet applied, are street paving, piles, jetties, bridges, boat-building and railway sleepers.

4. Karri is not so well known as Jarrah owing to the somewhat limited field of its growth, and at present comparative inaccessibility of its haunts, it is very like Jarrah in its appearance, indeed so like, that it takes a good judge of the two to distinguish each. It is hard, heavy, elastic and tough. It is said that for underground or water-works this timber is inferior to Jarrah, and still instances have been known of the timber having been in the ground for 30 or 40 years with only an ordinary amount of decay. For street paving it is most valuable and perhaps superior to its colleague, the Jarrah, inasmuch that its surface does not get so slippery by wear. This timber is now largely used in London for street paving.

5. The method of paving I would recommend is as follows:—

A cement concrete foundation at least 6" thick to be laid first formed smooth on the surface and to the shape of the finished road, upon this foundation the paving, formed of blocks soaked in creosote 6" x 6" x 3" to be laid, the joints between the blocks to be racked with fine gravel, and subsequently grouted with a mixture of boiling tar and pitch.

6. As I stated before the Commission, I am convinced that macadam roads as they exist here at present are no longer suited for the main thoroughfare in the centre of the City.

Doubtless the weight of ricksha traffic is little more than $\frac{3}{4}$ cwt. per inch width of tyre, which is small compared with that of an ordinary loaded two-wheeled cart estimated at 9 cwt. per inch width of tyre, but it is the amount of the ricksha traffic which tells.

In 1890, there were 500 ricksha licences issued, and up to date of the current year as many as 1,200.

In 1895, 615 trucks and carriages were licensed, and up to date of this year the number has reached 1,255.

7. Speaking of macadamised roadways, Mr. H. Percy Bournais (now City Engineer of Liverpool) in his book on Municipal Engineering, says: "Telford's object was the complete separation of the road metal from the subsoil by a firm and regular foundation, and this system has ever since held its ground."

The advantages to be gained by constructing a roadway in this manner may be summed up as follows:—

- (1) Economy of construction, as a considerable quantity of metalling is saved.
- (2) The prevention of the rising up or "spewing" of the clay or other soft material on which the roadway rests.
- (3) A solid foundation is secured which will successfully resist the weight and percussions of the traffic.
- (4) The increased facility for the drainage of the roadway, water being ruinous to it.

No. 3 of the above advantages helps to explain why it is that, with a proper foundation hard stone can be used advantageously, as, having a good support, the traffic is enabled to wear the surface evenly.

8. In connection with the subject herein treated, the following statement by Mr. Bournais is interesting. The great objections to macadamised roadways, are as follows:—

- (1) They manufacture too much mud and dust.
- (2) They are too absorbent.
- (3) They are very noisy, and damaging to vehicles.
- (4) They constantly require mending but never seem quite sound.
- (5) They are frequently encumbered by men and carts engaged in either repairs, cleansing or watering.
- (6) They are very expensive to maintain and cleanse. I would call special attention to No. 2 of the above. Sanitarians are now agreed that in centres of population it is most desirable to have the thoroughfares non-absorbent.

9. Turning now to wood paving, its principal advantages may be stated as follows:—

- (1) It is the quietest of all known pavements.
- (2) It is much safer than either asphaltic or granite paving for horses travelling upon it.
- (3) It offers very little resistance to traction.
- (4) It is very clean.
- (5) Absorbes very little moisture.
- (6) It is inexpensive to maintain. Its chief disadvantage is that it is not easy to open for the purpose of laying gas and water pipes etc., and it has to be left a little time after repairs before traffic is again allowed upon it.

This difficulty might, however, largely be met by a notice in the Gazette that parties wishing to lay gas pipes etc., in certain roads could do so before a certain date, as the roadway would not be allowed to be opened afterwards except for a very special purpose.

10. The question of cost must, of course, as in most matters, be a considerable factor in the choice of a road pavement, but the old saying that "a bad article is dear at any price" holds good.

For the purpose of comparing the annual cost of hardwood paving and of macadam it will be expedient to take the first cost of the former and that of a properly laid macadam roadway, viz., a roadway with a good foundation covered with durable metal. The subjoined table gives the comparison in respect of Queen's Road from the Civil Hospital to Waichai Market and Des Vœux Road from the Harbour Office to the City Hall.

11. Through the courtesy of Mr. Henry Blake, son of Sir Henry Blake, G.C.M.G., I obtained the price of Australian hardwood (Jarrah or Karri) direct from Australia, since I was before the Commission. It is more than I anticipated, so that the cost of paving formed of these timbers would be \$9.50 per square yard instead of \$6.00 as I stated in evidence, thus the first cost of such pavement would be very expensive, but I am convinced, and Mr. Blake, who knows the timber well, agrees with me, that it would be practically indestructible under ricksha traffic. The figures in the table show that this paving, over the area suggested to be paved, would cost about \$1,000 per annum more than what a good macadam road would cost, but for general superior qualities there would be no comparison, and it should not be lost sight of that the tendency is for the traffic to increase in Hongkong and for prices to go up, so much so that I would not be surprised if the cost of maintaining main macadamised roads here went up to \$1.00 per square yard in a few years.

12. However the high price of Australian hardwood induced me to enquire if one of the many excellent Borneo hardwoods would not suit our purpose equally as well at a much less cost, and I believe that Borneo camphor would fulfil the requirements. It is a good sound hardwood and seems in every way suited for street paving, and of a very reasonable cost. The table shows that its annual cost including interest on original outlay, would be much less than the cost of a good macadam road, of course the use of this wood for street paving would be quite a new departure, but I would strongly recommend that a small portion be laid down in Queen's Road, say, opposite the Post Office, as an experiment, as soon as possible.

I have the honour to be,

Sir,

Your most obedient Servant,

H. P. TOOKER.

The Honourable J. H. STEWART LOCKHART, C.M.G.,
Chairman, Public Works Commission.

TABLE SHOWING THE COST OF WOOD PAVING AND OF MACADAM.

| DESCRIPTION OF PAVING. | No. of SQUARE YARD. | COST PER SQUARE YARD. | TOTAL COST. | INTEREST AT 5% PER ANNUM. | COST OF MAINTENANCE PER SQUARE YARD PER ANNUM. | TOTAL COST OF MAINTENANCE PER ANNUM. | SANDING PER SQUARE YARD PER ANNUM. | TOTAL COST OF SANDING PER SQUARE YARD. | TOTAL COST PER ANNUM. |
|----------------------------|---------------------|-----------------------|-------------|---------------------------|--|--------------------------------------|------------------------------------|--|-----------------------|
| Australian Hardwood, | 70,000 | \$9.50 | \$665,000 | \$33,250 | \$0.02 | \$1,400 | \$0.02 | \$1,400 | \$36,050 |
| Borneo Camphor Wood, | 70,000 | 6.00 | 420,000 | 21,000 | 0.03 | 2,100 | 0.02 | 1,400 | 24,500 |
| Macadam, | 70,000 | 2.00 | 140,000 | 7,000 | 0.40 | 28,000 | Nil. | Nil. | 35,000 |

Appendix No. 11.

No. 70.

PUBLIC WORKS OFFICE,
HONGKONG, 21st *January*, 1902.

SIR,—I herewith forward you, for the information of the Public Works Commission, an Extract from C.S.O. $\frac{2382}{1901}$, relating to the cost of Training Nullahs in the built areas of the City.

I enclose a copy of the plan of the City showing the positions of the nullahs referred to.

I have the honour to be,

Sir,

Your obedient Servant,

W. CHATHAM,
*Director of Public Works.*E. D. C. WOLFE, Esq.,
Secretary to the Public Works Commission.

TRAINING NULLAHS WITHIN OR ADJOINING THE BUILT AREAS OF THE CITY.

(EXTRACT FROM C.S.O. $\frac{2382}{1901}$.)

Hon. Colonial Secretary,

I now submit an estimate and plan of the City showing the various streams covered by the estimate.

The estimate shows the cost of dealing with each of the streams and the total amounts to \$26,300. This provides for the whole of the built area in the higher levels of the City.

| Reference letter on plan. | Locality. | Length in feet. | Estd. Cost per foot. | Total Estd. Cost. |
|---------------------------|--|-----------------|----------------------|-------------------|
| | | | \$ | \$ |
| Stream A. ... | West of "Merton Lodge" and "Inglewood," | 1,100 | 8.00 | 8,800 |
| " B. ... | South of "Merton Lodge," | 600 | 4.50 | 2,700 |
| " C. ... | " " "Terre Verte," | 600 | Varies. | 2,300 |
| " D. ... | West of I. L. 1,544, Conduit Road, | 400 | 6.00 | 2,400 |
| " E. ... | Between I. Ls. 1,548 and 1,624, Conduit Road, | 400 | 6.00 | 2,400 |
| " F. ... | " " 1,529 and 1,549, " " | 450 | 4.50 | 2,025 |
| " G. ... | West of I. L. 1,523, Macdonnell Road, | 120 | 3.00 | 360 |
| " H. ... | East of I. Ls. 1,523 and 1,453, Macdonnell Road, ... | 670 | 6.00 | 4,020 |
| " I. ... | West of Nethersole Hospital, | 350 | 3.70 | 1,295 |
| Grand Total, \$ | | | \$ | 26,300 |

(Sd.) W. CHATHAM,
*Director of Public Works.*HONGKONG, 9th *January*, 1902.

Appendix No. 12.

PUBLIC WORKS OFFICE,
HONGKONG, 1st January, 1902.

SIR,—I have the honour to submit a report upon the lighting of Queen's Road East between Arsenal Street and the Wanchai Market, for the information of the Public Works Commission.

This road is at present lighted by 8 Electric lamps of 2,000 candle power each, there is, however, no denying that the trees in this neighbourhood greatly obscure the light from these lamps, shadows are cast and dark places are formed, so that it becomes a question of either removing the trees or supplementing the light by some means.

The latter could be done by erecting a few gas lamps with incandescent burners "S" pattern.

I submit a plan B showing the proposed positions.

The cost would be as follows :—5 lamps at \$50—\$250.00.

The annual cost of lighting the same would be \$165.00.

I have the honour to be,

Sir,

Your obedient Servant,

H. P. TOOKER,
Acting Assistant Director of Public Works.

The Honourable J. H. STEWART LOCKHART, C.M.G.,
Chairman, Public Works Commission.

PUBLIC WORKS OFFICE,
HONGKONG, 23rd January, 1902.

SIR,—With reference to Mr. MASTER's letter of the 16th instant, in connection with my report upon the lighting of Queen's Road East between Arsenal Street and the Wanchai Market, I regret the mistake on my part as to the exact portion of Queen's Road referred to by Mr. MASTER when I was before the Public Works Commission.

I admit that the bend in the road opposite Victoria Barracks is badly lighted owing to the trees obstructing the rays from the adjacent electric lamp.

One gas lamp fitted with an "S" pattern Incandescent burner would, however, surmount the difficulty, and I show upon plan B the position I would suggest.

The lighting of the road opposite the Arsenal Yard is also somewhat shaded by trees at present, but until the roadway here is widened, which will shortly be done, when it may be found desirable to alter the positions of some of the electric lamps, I cannot recommend that any additional lamps be provided at this place. The total number of additional lamps, I suggest should be fixed in Queen's Road East, is therefore 6, the initial cost of which would be \$300.00 and the annual cost of lighting \$198.00.

I here take the opportunity of correcting in red the Annual cost of lighting the additional lamps suggested in my two previous reports the figures previously given were the monthly cost in each case.

I have the honour to be,

Sir,

Your obedient Servant,

H. P. TOOKER,

Acting Assistant Director of Public Works.

The Honourable J. H. STEWART LOCKHART, C.M.G.,

Colonial Secretary.

Appendix No. 13.

PUBLIC WORKS OFFICE,
HONGKONG, 11th January, 1902.

Sir,—I have the honour to submit the following report upon the gas lighting of Kowloon for the information of the Public Works Commission.

Kowloon was first lighted with gas in 1892 when lamps were fixed in the Public streets of Tsim Sha Tsui and Yaumati and subsequently in Hung Hom and Mongkok.

The total number of Public Street lamps in Kowloon at present is 167. The districts of Hung Hom, Yaumati and Mongkok have largely developed of late years. Land has been sold, houses built and streets laid out, so that while the older portions of Kowloon are sufficiently lighted at present the districts just mentioned require some further consideration in this respect. After careful inspection on the ground I think it would be desirable to erect 8 more lamps in Hung Hom, 17 in Yaumati and 18 in Mongkok, the cost of which would be as follows:—

| | |
|------------------------------|------------|
| 43 lamps at \$50 | \$2,150.00 |
| Annual cost of lighting..... | 1,393.20 |

I attach a plan A showing proposed positions of lamps.

I have the honour to be,

Sir,

Your obedient Servant,

H. P. TOOKER,

Acting Assistant Director of Public Works.

The Honourable J. H. STEWART LOCKHART, C.M.G.,

Chairman, Public Works Commission.

Appendix No. 14.

(Copy.)

CENTRAL POLICE STATION,
6th December, 1901.

SIR,—I have the honour to report that between the 3rd and 5th instant, I visited the roofs of twenty-eight houses, the addresses and particulars of which are attached.

I have, &c.,

(Sd.) H. GARROD, P.S. 33.

To

F. J. Badeley, Esq.,
A. C. S. of Police.

Hon. D. P. W.,

Some at least of these cases appear to be infringements of Ord. 15/89, Sec. 29. I send you the information in case you desire to take action in the matter.

(Sd) F. J. B.
6.12.01.

Mr. Tooker,

Please take necessary action where possible.

(Sd.) W. C.
7.12.01.

Mr. Crisp,

Please inspect the inflammable structures herein reported so that you can take out summons if necessary.

(Sd.) H. P. T.
10.12.01.

3rd December, 1901.

Nos. 369, 371 & 373, Queen's Road Central.

I visited the above numbered houses at 7.45 A.M. and found the following articles stored on their roofs:—

120 baskets of preserves;
222 empty baskets;
137 large stone jars filled with liquid;
12 wooden tubs.

(Sd.) H. GARROD, P.S. 33.

Found articles he mentioned.

(Sd.) P. C.
11.12.01.

3rd December, 1901.

Nos. 256 & 258, Hollywood Road.

I visited the above numbered houses at 6.45 A.M. and found 38 empty boxes and a large quantity of old beams and timber stored on the roofs.

(Sd.) H. GARROD, P.S. 33.

3rd December, 1901.

No. 13, New Street.

I visited the above numbered house at 6.35 a.m. and found a shed 8 feet by 6 feet made of canvas, matting and boards erected on the roof, there were also several baskets of orange peel laid out for the purpose of drying, the roof of this house is in a very broken up condition.

(Sd.) H. GARROD, P.S. 33.

Appendix No. 15.

List of Public Works Extraordinary likely to be proceeded with at once, and the staff I consider necessary to efficiently supervise the works and at the same time undertake the usual office routine work:—

| | | |
|-------|---|------------------|
| No. 1 | New Law Courts, | \$50,000 |
| „ 2 | Government Peak Residence, | 40,000 |
| „ 3 | No. 7 Police Station, | 10,000 |
| „ 4 | Public Latrines, | 12,000 |
| „ 5 | Public Urinals, | 10,000 |
| „ 8 | Tai-po Road—16 miles in length, | 20,000 |
| „ 9 | Western Market, | 40,000 |
| „ 10 | Harbour Master's Office, | 35,000 |
| „ 14 | Quarantine and Segregation Camp, | 10,000 |
| „ 17 | Volunteer Head Quarters, | 30,000 |
| „ 18 | Police Station—Sheung Shui, | 8,000 |
| „ 19 | „ Tai O, | 8,000 |
| „ 21 | Market at Kowloon Point, | 35,000 |
| „ 22 | Two temporary Markets, | 3,000 |
| „ 23 | Extension of Wanchai Market, | 4,000 |
| „ 25 | Disinfecting Station at Kowloon, | 9,000 |
| „ 26 | Quarters at Kowloon for Inspector, | 4,000 |
| „ 27 | New Shed at City Disinfecting Station, | 8,000 |
| „ 28 | Clock Tower, | 25,000 |
| „ 31 | Extension of Mount Gough Police Station, | 9,000 |
| „ 35 | Married Quarters at Tsim Sha Tsui Station, | 10,000 |
| „ 37 | Widening Conduit Road, | 8,000 |
| „ 41 | Resuming and reclaiming land at Starling Inlet, ... | 8,000 |
| „ 44 | Boat Slips at Sai Kung and Tai O, | 1,500 |
| | | <u>\$397,500</u> |

Work already in hand and not included in the Estimates for 1902 :—

| | |
|---|----------|
| Tai Po Road—work to be finished on contracts already let..... | \$30,000 |
| Gaol Staff Quarters | 25,000 |
| Quarantine Station for Dogs | 1,500 |
| Floor to No. 2 Shed at Kennedy Town .. | 14,600 |
| Diverting Road connecting Garden Road and Kennedy Road and completing Nullah No. 2 } .. | 2,200 |
| Mong Kok Tsui Nullah .. | 9,000 |
| | \$82,300 |

altogether a total amount of \$479,800 and to undertake this the present staff consists of:—

| | |
|---------------------------------------|-----------------|
| Executive Engineer, Mr. Gale..... | \$250 per month |
| Assistant Engineer, Mr. Fisher..... | 200 .. |
| Part of time only .. Mr. Xavier | 200 .. |
| Mr. Hughes, | 150 .. |
| Mr. Carpenter..... | 150 .. |
| European Overseers | 4 |
| Chinese Foremen | 3 |

The following new officers are required at least :—

- 2 Assistant Engineers (one to be Architect) at \$200
- 2 European Overseers
- 1 Chinese Foreman.

C. H. GALE.

HONGKONG, 24th December, 1901.

Appendix No. 16.

PUBLIC WORKS DEPARTMENT.

18th December, 1901.

SIR,—I herewith beg for permission to offer an explanation *re* the papers I put before the Commission on Friday last. In reading Mr. Tooker's minute:—"Please inspect these inflammable structures," I was quite under the impression, (and always have been) that piles of empty baskets, planks, and old boxes on roofs came under the heading of inflammable structures.

As I misconstrued the meaning of above minute, I hope an humble apology will be accepted from me.

I beg to remain,

Your obedient Servant,

P. CRISP,
Inspector of Buildings.

The Hon. STEWART LOCKHART, C.M.G.
Chairman, Public Works Commission.

Appendix No. 17.

PUBLIC WORKS DEPARTMENT,
HONGKONG, 13th January 1902.

Proposed Law Courts.

SIR,—With reference to the two questions that were raised on the 20th December last, when I was examined before the Public Works Commission, I have the honour to report as follows:—

1. *The Choice of Architects.*

With regard to the question raised by one of the members, I beg to refer to Mr. CHAMBERLAIN'S Despatch No. 132 of the 16th June, 1896, (see Sessional Papers for 1896 No. 31/96, page 487), which was published and in which he states the objections to local architects being employed, and that, in his opinion, it will be desirable to employ the Consulting Architects, Messrs. WEBB & BELL, who designed the Birmingham Law Courts and other notable buildings and who also have considerable experience in making designs for buildings in the Tropics.

2. *Deviations from Original Sketches.*

The original sketches were received on the 29th October, 1898, the Secretary of State in forwarding these sketches stated as follows:—

“The Architects have prepared these sketches with a view to ascertaining that the arrangements of the buildings are generally suited to local requirements, before the expense of detailed designs is incurred,” and Mr. ORMSBY reported on the 16th November, 1898, that the sketches had been laid before the Chief Justice, Mr. Justice WISE, the Acting Attorney General, the Crown Solicitor and the Registrar, and were generally approved, a few alterations being suggested. The alterations suggested and which have been adopted are as follows:—

“The Judges do not require a special room for their clerks.

“The Chief Justice prefers that his private room should adjoin that of the Puisne Judge.

“The Jury Room and Robing Room should be transposed.

“Accommodation on ground floor (one room) should be provided for Custodian.

“A special entrance for the clerical staff as suggested by the architects is considered advisable.

“The Store Room should be on the ground floor.

“Additional room for records.

“A Lift to be provided; and

“Hoods should be provided to all windows on the West.”

The late Mr. FRANCIS was the only person who raised any objections to which the Director of Public Works replied.

The Sketch Plans were duly transmitted to the Colonial Office and Contract Drawings prepared at home were forwarded to the Hongkong Government. These drawings were considered by His Excellency the Governor Sir HENRY A. BLAKE, and were laid before the Legislative Council on the 23rd November, 1899, (Hansard *see* Extract attached, page 30), by the Director of Public Works, Mr. ORMSBY.

Subsequently Mr. ORMSBY suggested that the plan should be modified so as to make the principal entrance face West instead of East.

A Committee consisting of the Acting Chief Justice (Mr. GOODMAN), the Puisne Judge, (Mr. WISE), the Acting Attorney General (Mr. POLLOCK), the Acting Land Officer and Registrar (Mr. SETH), the Crown Solicitor (Mr. BOWLEY) and the Director of Public Works, (Mr. ORMSBY) was appointed to consider the suggestion which it adopted.

I have the honour to be,

Sir,

Your most obedient Servant,

H. G. FISHER.

The Honourable J. H. STEWART LOCKHART, C.M.G.,

Chairman, Public Works Commission.

Extract from the "Hongkong Hansard" for 1899.

Dated 23rd November, 1899.

Page 30.

The Plans of the New Law Courts.

"The Director of Public Works:—By Your Excellency's direction I beg to lay on the table the plans of the proposed New Law Courts. The architects require some further information before completing certain architectural details, which information will be forwarded in due course. The general arrangement of the courts was approved by the Chief Justice and the other officials concerned some time ago, to whom the original sketches were, at Your Excellency's suggestion, submitted. Certain alterations and improvements were suggested by the officials who have to occupy the buildings, and these have all been attended to, I think, in a satisfactory manner by the architect. The ground plan has been approved, and consequently there is no reason why there should be any delay in proceeding with the foundations, which, I think, can be commenced early in the coming year."

Appendix No. 18.

HONGKONG, 16th January, 1902.

DEAR SIR,—With reference to the question whether the Public Works Department Staff is overworked or not, I should say not.

No doubt they do as much work as can reasonably be required of them, and if they got through all the work required of the Department, they would be, to a certain extent, overworked, but the works they are unable to do without being overworked are left until there is time to do them.

In many of the branches I consider the supply equal to the demand, as, for instance, the Praya Reclamation.

The following is my idea of the Staff necessary to carry out the works set forth in the Estimates for 1902, and any small additional works that may be required:—

1. The Director of Public Works.
2. Praya and all other reclamation works, except in the New Territory, 2 Executive Engineers.
3. Waterworks, except New Kowloon Waterworks, one Executive and one Assistant Engineer.
4. New Government buildings, including the New Territory, one Executive and two Assistant Engineers.
5. Building Ordinances, (private buildings) one Executive Engineer and two Building Inspectors.
6. New Roads and Bridges, one Assistant Engineer, and one Surveyor (Indian).
7. Maintenance of existing roads and buildings, one Assistant Engineer.
8. Crown Lands, one Superintendent, (Assistant Engineer) and one European Land Surveyor.

I should think an Assistant Engineer, one European and one Indian Land Surveyor and a Building Inspector in addition to the present staff, would be sufficient.

It must be borne in mind that the work for 1902 is exceptional, but on the other hand it would be as well to provide for future works. The staff of the P. W. D. should be in proportion to the size of the city and towns of the Colony.

I should point out that I have not included the Survey of the New Territory in my estimate, as I understand this is being done by a special staff, and, with reference to surveys, I think there should be a survey of the city and suburbs of Victoria, and a permanent Surveyor to keep pace with the alterations continually being made. He should have a record of all new buildings, &c., and as soon as they are completed, plot them on a plan of the city.

Yours faithfully,

A. DENISON.

E. D. C. WOLFE, Esq.,
Secretary of the Public Works Commission.

Appendix No. 19.

HONGKONG, 3rd January, 1901.

DEAR SIR,—With reference to my remarks about the cost of materials supplied to the Public Works Department and the cost of similar materials supplied to us from England, I send you the following list of building materials sent out to us from time to time and the cost thereof F. O. B. in English ports:—

Cast iron columns, lengths from 10 feet to 15 feet, 6 feet to 7 feet diameter, 5 to 8 cwt., each 6s. per cwt. f.o.b.

Wrought iron roof principals, 50 feet and 20 feet spans, 16s. 4d. per cwt. f.o.b.

Freight on above 30/- per ton, 1" diameter wrought iron bolts and nuts, 13s. per cwt. f.o.b.

Belgian steel rolled beams, 5" x 2", in 17 feet lengths, £4 17s. 6d. per ton f.o.b.—December, 1895.

Best English steel beams, 12" x 5", in 17 to 20 feet lengths, £6 17s. 6d. per ton, f.o.b.—June, 1897.

Best English steel beams, 12" x 6", in 24 feet lengths, £7 7s. 6d. per ton—January, 1899.

Best English steel beams, 8" x 4" to 14" x 6" in 11 to 15 feet lengths, £9 5s. 6d. in December, 1900.

Belgian steel beams from 5" x 3" to 14" x 6" at £5 15s. 6d. per ton.—July, 1901.

English steel beams from 8" x 4", £8 2s. 6d. per ton.—July, 1901.

Do. do. 12" x 5", £7 12s. 6d. per ton—September, 1901.

Yours faithfully,

A. DENISON.

E. D. C. WOLFE, Esq.,

Secretary to the Public Works Commission.

No. 145.

PUBLIC WORKS OFFICE,
HONGKONG, 4th February, 1902.

SIR,—I herewith return you Mr. DENISON's letter of the 3rd ultimo, and send you for the information of the Public Works Commission 6 copies of a Comparative Statement which I have had prepared showing the costs furnished by Mr. DENISON in parallel column with the costs of similar materials obtained by this Department through the Crown Agents.

I have the honour to be,

Sir,

Your obedient Servant,

W. CHATHAM,

Director of Public Works.

E. D. C. WOLFE, Esq.,

Secretary to the Public Works Commission.

COMPARATIVE STATEMENT OF COST OF MATERIALS OBTAINED FROM ENGLAND BY PRIVATE FIRMS IN THE COLONY AND BY THE GOVERNMENT.

| <i>Prices supplied by Mr. A. Denison.</i> | <i>Prices of goods obtained through Crown Agents.</i> |
|--|--|
| F.O.B. IN ENGLISH PORTS. | F.O.B. IN ENGLISH PORTS. |
| August, 1892, Cast iron columns; 10 to 15 ft. long; 6" to 7" diameter; 5 to 8 cwts. each. 6- per cwt. | July, 1892, Cast iron columns; 19 ft. long; 10½" to 12" diameter; 21¼ cwts. each. 7 3 per cwt. |
| August, 1892, Wrought iron roof principals 50 and 20 ft. spans. 16¼ per cwt. | July, 1892, Wrought iron roof principals 51 ft. spans. 13 9 per cwt. |
| August, 1892, Wrought iron bolts and nuts 1" diameter. 13- per cwt. | July, 1892, Wrought iron bolts and nuts varying sizes, 8" x 1" to 2¼" x ¼". 22- per cwt. |
| August, 1892, Freight on above. 30- per ton. | July, 1892, Freight on above. 13- to 25 per ton. |
| July, 1901, Belgian steel joists 5" x 3" to 14" x 6". £5. 15s. 6d. per ton. | July, 1892, Freight on above. 13- to 25 per ton. |
| July, 1901, English steel joists 8" x 4". £8. 2s. 6d. per ton. | November, 1901, English steel joists 18" x 7", in 33 ft. lengths. £7 per ton. |
| September, 1901, English steel joists 12" x 5". £7. 12s. 6d. per ton. | November, 1901, English steel joists 5" x 3" to 15" x 6", in 17 to 35 ft. lengths. £6 per ton. |
| December, 1895, Belgian steel joists 5" x 2", in 17 ft. lengths. £4. 17s. 6d. per ton. | May, 1898, English steel joists 3" x 3" to 15" x 6", in 16 to 36 ft. lengths. £5. 16s. 6d. per ton. |
| June, 1897, English steel joists 12" x 5", in 17 to 20 ft. lengths. £6. 17s. 6d. per ton. | February, 1900, English steel joists 5" x 3" to 13" x 5", in 20 to 36 ft. lengths. £8. 9s. 9d. per ton. |
| January, 1899, English steel joists 12" x 6", in 24 ft. lengths. £7. 7s. 6d. per ton. | March, 1900, English steel joists 15" x 6", in 24 to 28 ft. lengths. £8. 2s. 6d. per ton. |
| December, 1900, English steel joists 8" x 4" to 14" x 6", in 11 to 15 ft. lengths. £9. 5s. 6d. per ton. | November, 1900, English steel joists 17¾" x 6¾", in 33 ft. lengths. £7. 15s. 0d. per ton. |
| | November, 1900, English steel joists 8" x 5", in 13 ft. lengths. £7. 12s. 6d. per ton. |

Appendix No. 20.

HONOURABLE DIRECTOR OF PUBLIC WORKS,

Since 24th June, 1895, we have lost two clerks from the book-keeping and account office (viz., Messrs. Chan Fan and Chan Kam To) and Mr. Leung Lau Fan's departure will make the third.

During his twelve months' connection with the Department, he has been receiving instructions in work much of which, as far as I can learn, is suitable for this Office only, and cannot be applied generally in another.

He has no sooner arrived at a really useful stage than he is to depart. His and similar departures involve a re-arrangement of the work which is for a time weakening, besides working discontent amongst others, giving them an idea that this office is only a convenient way to something better.

So far as this office is concerned, and I believe the Government, the time given to instructing these men has been practically thrown away, as in any other Department, there is little chance of their being able to apply what they have been taught here.

For the sake of the officers themselves it would be unfair to prevent their transfer, but looking at the case from a purely business point of view, I consider it would be to the advantage of the Government to pay these men a salary sufficient to keep them at the posts they have been specially trained to work in. In the event of Mr. Leung Lau Fan's transfer I have the honour to submit the following for your consideration.

(Sd.) DAVID WOOD.
30. 6. 96.

Appendix No. 21.

STATEMENT MADE BY ME BEFORE THE PUBLIC WORKS DEPARTMENT COMMISSION REGARDING PUBLIC WORKS DEPARTMENT STORE TRANSACTIONS.

| | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. |
|---|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Stock on hand on 1st January | \$69,027 | \$79,333 | \$127,904 | \$125,352 | \$141,876 | \$196,861 | \$150,342 | \$194,364 |
| Stores issues to works during | 108,784 | 41,204 | 53,155 | 89,661 | 71,450 | 104,382 | 110,950 | ..... |
| Stores receipts from works during | 21,016 | 10,827 | 9,679 | 22,314 | 12,537 | 16,385 | 17,617 | ..... |
| Stores purchased locally | 8,892 | 16,371 | 17,099 | 16,109 | 37,308 | 30,994 | 38,295 | ..... |
| Stores received from Crown Agents | 94,176 | 31,112 | 40,816 | 57,660 | 58,794 | 35,339 | 90,454 | ..... |
| Stores sold to Public | 5,369 | 2,250 | 4,937 | 4,952 | 7,518 | 7,379 | 11,465 | ..... |
| \$ | 307,264 | 181,097 | 253,590 | 316,048 | 329,483 | 391,340 | 429,123 | ..... |

DAVID WOOD,

Superintendent of Accounts, Correspondence and Stores.

PUBLIC WORKS DEPARTMENT.

HONGKONG, 30th December, 1901.

Appendix No. 22.

PUBLIC WORKS DEPARTMENT,
HONGKONG, 30th December, 1901.

SIR,—I have the honour to supply as requested a list showing the different firms who have supplied the Public Works Department through the Crown Agents for the Colonies. The list covers approximately the last ten years, and shows that the Crown Agents have carried out for this Department the delivery of 379 orders. The 379 orders were placed with 101 different firms as follows:—

| | | | | | | |
|-------|------|-------------------|----|-----------|---|-----|
| 1 | Firm | was successful on | 27 | occasions | = | 27 |
| 2 | " | " | 26 | " | = | 52 |
| 1 | " | " | 17 | " | = | 17 |
| 1 | " | " | 16 | " | = | 16 |
| 1 | " | " | 11 | " | = | 11 |
| 1 | " | " | 10 | " | = | 10 |
| 3 | " | " | 9 | " | = | 27 |
| 1 | " | " | 8 | " | = | 8 |
| 3 | " | " | 7 | " | = | 21 |
| 7 | " | " | 6 | " | = | 42 |
| 2 | " | " | 5 | " | = | 10 |
| 7 | " | " | 4 | " | = | 28 |
| 7 | " | " | 3 | " | = | 21 |
| 25 | " | " | 2 | " | = | 50 |
| 39 | " | " | 1 | " | = | 39 |
| <hr/> | | | | | | |
| 101 | | | | | | 379 |

In 1894, the purchase of stores *locally* amounted to \$8,892, and had risen in 1900 to \$38,295. In 1894, the purchase of stores through the *Crown Agents for the Colonies* was \$94,176, and in 1900 had fallen to \$90,454.

DAVID WOOD,
Superintendent of Accounts, Correspondence and Stores.

E. D. C. WOLFE, Esq.
Secretary, Public Works Commission.

Appendix No. 23.

HONOURABLE DIRECTOR PUBLIC WORKS,

Mr. Ormsby, by Public Works Office letter No. 59 of 26th January, 1898, and accompanying Indent No. 2 of 1898, requisitioned for three hundred (300) tons of Portland Cement. Copy of letter and indent herewith.

It would appear that when the advice arrived in the Colony it was forwarded to the Praya Reclamation where they knew nothing about it, as no record of the order was in that office.

The cement should have been ordered by and recorded in the letter book &c., of the Praya Reclamation, and not the Public Works Department. The cement arrived in the months of June and September, 1898, and was taken delivery of by the Praya Reclamation.

This was the only consignment of Cement ordered or received by the Praya Reclamation or the Public Works Department during Mr. Ormsby's term of office in the Colony,—i.e., 19th October, 1897—12th March, 1901.

Herewith copies of letter and indent.

DAVID WOOD.
13.1.02.

CHAIRMAN, PUBLIC WORKS COMMISSION,

With reference to your enquiries regarding a consignment of cement, which the Crown Agents are reported to have sent to this Department without having received any order to do so, the facts of the case are as stated in the above minute. As only one consignment of cement was ordered or received during Mr. ORMSBY'S term of office, there is no room for any doubt on the subject.

W. CHATHAM.
Director Public Works.
13.1.02.

(Copy.)

No. 59.

26th January, 1898.

Cement for 1898.

Sir,—I have the honour to represent that our probable requirements in Cement this year, over and above the quantity now contracted for with the Green Island Cement Company, will be about 1,200 tons. I am somewhat doubtful as to their being able to supply this, at least with cement fit for immediate use.

I therefore recommend that at least 300 tons be ordered from England through the Crown Agents and submit an indent accordingly.—I have, &c.,

R. D. ORMSBY,
Director of Public Works.

The Honourable The Colonial Secretary.

Indent No. 2 of 1898.

GOVERNMENT OF HONGKONG.

PUBLIC WORKS DEPARTMENT.

REQUISITION ON THE CROWN AGENTS FOR THE COLONIES.

| Description of Articles. | Quantity required. | Probable Rates. | Amount. | | | Remarks. |
|--------------------------|--------------------|-------------------------|---------|----|----|----------|
| | | | £ | s. | d. | |
| Cement, Portland,..... | Tons. 300 | { £1. 15. 0. per ton | { 525 | 0 | 0 | |

(Sd.) R. D. ORMSBY,
Director of Public Works.

HONGKONG, 26th January, 1898.

Appendix No. 24.

HONGKONG, 7th March, 1902.

Messrs. SHEWAN TOMES & Co.,

DEAR SIRs,—In reply to your letter of yesterday regarding your new offices on Praya Extension M. L. 2AB North Block, we are instructed by the Land Investment Co. to explain that we cannot commence work until we receive the approval of the Public Works Department to the plans and obtain permission for verandahs over Crown Land. The plans were sent to the Director of Public Works on January 22nd.

In the meantime a contract for the building has been entered into and all the constructional ironwork ordered from home.

We wish to point out that for some time, but little progress will be seen as we cannot expect to get any stonework ready for about 4 months, after which the erection of building will proceed rapidly.

Yours truly,

LEIGH & ORANGE.

Appendix No. 25.

Staff provided for in Estimates for 1902.

| | | |
|---|---|--------------------|
| 1 | Assistant Director of Public Works, | <i>Vacant.</i> |
| 3 | { Executive Engineer, | Mr. TOOKER. |
| | { Do., | Mr. GALE. |
| | { Do., | Mr. HOLLINGSWORTH. |
| 8 | { Assistant Engineer, | Mr. FISHER. |
| | { Do., | Mr. TRIMMINGHAM. |
| | { Do., | Mr. XAVIER. |
| | { Do., | Mr. HUGHES. |
| | { Do., | Mr. CARPENTER. |
| | { Do., | <i>Vacant.</i> |
| | { Do., | <i>Vacant.</i> |
| | Do., | Mr. HAGGARD. |

Additional Staff Recommended.

| | | |
|---|--|-----------------|
| 2 | Executive Engineers @ say £500 each + \$360 (chair allowance) say, | \$11,000 |
| 1 | Assistant Engineer ,, ,, £300 ,, + \$360 ,, ,, | \$ 3,500 |
| 2 | Overseers for Building Ordinance Work @ £200 + \$270 (chair allowance) | ,, \$ 5,000 |
| 1 | Overseer for Telephone Work | ,, \$ 2,500 |
| 1 | ,, for Waterworks | ,, \$ 2,500 |
| 1 | ,, for Roads in City | ,, \$ 2,500 |
| 1 | Experienced Clerk to take charge of the Water A/cs. | ,, \$ 2,500 |
| | | <u>\$29,500</u> |

N.B.—This list does not include Mr. BOULTON & Mr. MUDIE engaged on the Praya Reclamation.

W. CHATHAM,
Director of Public Works.

Hongkong, 17th March, 1902.