

## GOVERNMENT NOTIFICATION.—No. 276.

The following Report of the Director of Public Works, for the year 1900, is published.

By Command,

T. SERCOMBE SMITH,  
*Acting Colonial Secretary.*

Colonial Secretary's Office, Hongkong, 11th May, 1901.

ANNUAL REPORT OF THE DIRECTOR OF PUBLIC WORKS,  
FOR THE YEAR 1900.

1. The sums voted for the Expenditure of the Public Works Department in the year 1900 (excluding expenditure on the Praya Reclamation dealt with separately) were as follows, with the actual expenditure under each head shewn in Column 2:—

		<i>Expenditure.</i>
Public Works Department--Personal Emoluments and other Charges,.....	\$ 91,402.00	* \$ 90,411.61
Annually Recurrent, charged to Revenue, .....	187,500.00	173,030.77
Annually Recurrent, charged to Water Account,.....	19,700.00	18,765.41
Public Works Extraordinary, charged to General Revenue, .....	164,600.00	132,198.13
Public Works Extraordinary, charged to Water Account, .....	73,000.00	37,799.82
Public Works Extraordinary, charged to Loan,.....	73,500.00	47,978.65
Erection of a Chair Shelter at the Peak, as per Financial Minute No. 1, .....	4,300.00	3,400.00
Re-vote of Balance of Vote for Works in the New Territory, Financial Minute No. 3, .....	18,525.52	18,525.52
Re-vote of Votes for:—		
<i>a.</i> Public Works Department Store, Financial Minute No. 4,.....	4,064.86	3,908.82
<i>b.</i> Public Latrines, Financial Minute No. 4, .....	5,000.00	2,290.65
<i>c.</i> City of Victoria and Hill District Water Works, Financial Minute No. 4, .....	19,637.26	12,028.42
<i>d.</i> Pokfulam Conduit Road, Financial Minute No. 4, .....	3,768.74	3,715.72
Storm Water Nullah at Yaumati, Financial Minute No. 5, .....	8,200.00	6,936.68
Expenses in the New Territory, Financial Minute No. 6, .....	7,000.00	6,390.72
Telephone Line in the New Territory, Financial Minute No. 8, .....	1,000.00	852.21
Supplementary Vote for Taipo Road, Financial Minute No. 10,.....	50,000.00	30,755.17
Maintenance of Roads in the New Territory, Financial Minute No. 11, .....	1,050.00	904.00
Rifle Range for Hongkong Volunteer Corps in Sookunpo Valley, Financial Minute No. 16, .....	3,201.40	3,201.40
Road from Upper Tram Station to High West, Financial Minute No. 20,.....	6,050.00	991.01
Completion of Improvement, Wong-nei-chung Recreation Ground, Financial Minute No. 20,.....	15,897.00	12,764.90
<i>Forward</i> ,.....	\$757,396.78	\$606,849.61

\* Exclusive of Crown Agents' accounts for Salaries paid in England of Officers on leave.

	<i>Forward</i> ,.....	<i>Expenditure.</i>
	\$757,396.78	\$606,849.61
Public Latrine in Gough Street, Financial Minute No. 21,.....	3,000.00	3,000.00
Supplementary Vote for New Territory, Financial Minute No. 22, .....	5,000.00	5,000.00
Public Latrine at Sookunpo Market, Financial Minute No. 25, .....	3,292.88	1,137.54
Supplementary Vote for Water Accounts, Meters, &c., Financial Minute No. 30, .....	6,000.00	5,987.64
Supplementary Vote for Maintenance of Water Works, City and Hill District, Financial Minute No. 33, .....	7,000.00	7,000.00
Amount of Compensation awarded to Madame Lucia V. Musso, Financial Minute No. 35,.....	29,453.88	29,453.88
Rain Storm Damages of 14th and 15th June, 1900, Financial Minute No. 39 of 1900, .....	5,000.00	4,625.50
Supplementary Votes for:—		
<i>a.</i> Starling Inlet Police Station, Financial Minute No. 46, .....	5,471.98	4,100.15
<i>b.</i> Survey of New Territory, Financial Minute No. 46, .....	15,000.00	12,455.26
<i>c.</i> Rifle Range at Tai Hang, Financial Minute No. 46, .....	416.60	416.60
<i>d.</i> Gaol Extension, Financial Minute No. 46, .....	5,000.00	4,959.06
Supplementary Vote for Maintenance of Telegraphs, Financial Minute No. 48, .....	1,000.00	984.84
Supplementary Vote for Maintenance of Water Works, Kowloon, Financial Minute No. 52, .....	4,500.00	3,995.03
Telephone Communication with Police Station at San Tin, Financial Minute No. 54, .....	944.04	944.04
Supplementary Vote, Maintenance of Sewers, Financial Minute No. 61, .....	2,000.00	1,531.80
Supplementary Vote, Maintenance of Water Works City and Hill District, Financial Minute No. 61, .....	4,500.00	4,496.50
Supplementary Vote, New Territory Public Works Miscellaneous, Financial Minute No. 63, .....	1,000.00	475.34
Signal Station at Green Island, Financial Minute No. 70, .....	6,954.40	6,777.99
Total, .....	<u>\$862,930.56</u>	<u>\$704,190.78</u>

2. The balances remaining over on Public Works Extraordinary are due to the extreme difficulty experienced last year in getting contractors to undertake works except at exorbitant rates, the greatly increased cost of materials, and the scarcity of skilled labour, owing to the large works in progress in the Colony.

3. The following is a list of the sums collected by, or through, the Public Works Department during the year:—

<i>a.</i> Premiums realized by sale of land, extensions, adjustments of boundaries, &c.,.....	\$810,614.20
<i>b.</i> Government stores sold in 1900,.....	4,792.91
<i>c.</i> Fees for allotments in the Cemetery, .....	254.50
<i>d.</i> Fees for sheds in the Happy Valley, .....	945.95
<i>e.</i> Loan of the Government Dredger, .....	50.00
<i>f.</i> Loan of the Steam Roller, .....	} 185.00
<i>g.</i> Miscellaneous, .....	

4. The following particulars of Land Sales and Survey Work are taken from figures furnished by Mr. KING, at present in charge of this branch :—

*Land Sales, Extensions and Grants.*

The following table gives particulars of these :—

	No. of Lots.	Area in square feet.		Annual Crown Rent.		Premium.	
				\$	c.	\$	c.
<b>SALES BY AUCTION :—</b>							
Island of Hongkong, .....	41	Total.	1,937,344	Total.	16,174.00	Total.	451,489.00
Kowloon Peninsula, .....	45	86	774,811	2,712,155	7,518.00	23,692.00	324,119.00
New Territory, .....	0		0		0	0	0
<b>EXTENSIONS GRANTED :—</b>							
Island of Hongkong, .....	8		354,410		1,609.84		34,959.70
Kowloon Peninsula, .....	2	10	108	354,518	2.00	1,611.84	46.50
New Territory, .....	0		0		0	0	0
<b>GRANT ON SHORT LEASES, &amp;C. :—</b>							
Island of Hongkong, .....	7		95,788		201.00		0
Kowloon Peninsula, .....	7	14	317,674	413,462	803.00	1,004.00	0
New Territory, .....	0		0		0	0	0
Total, .....	110		3,480,135 or 79 $\frac{1}{10}$ acres.		\$26,307.84		\$810,614.20

The sales of Crown Land were greatly in excess of the Estimate (\$250,000). The following are a few of the principal sales :—

**ISLAND OF HONGKONG :—**

	No. of Lot.	Annual Rent.	Premium.	Price per Square Foot.
Quarry Bay Marine Lot 3, .....		\$ 8,680	\$ 100,860	\$ 0.10
Inland Lot 1491, .....		122	97,000	14.63
Inland Lot 1614, .....		228	35,488	2.50
Quarry Bay Inland Lot 6, .....		4,503	52,324	0.10
Inland Lot 1591, .....		63	27,100	5.94
Inland Lot 1592, .....		66	21,820	4.52

**KOWLOON PENINSULA :—**

Kowloon Inland Lot 1087, .....	459	20,350	0.60
Kowloon Inland Lot 1094, .....	1,205	9,000	0.06
Kowloon Marine Lot 69, .....	798	45,200	0.32 $\frac{1}{2}$
Hung Hom Inland Lots 225 and 226, .....	460	22,500	0.56
Kowloon Inland Lot 1102, .....	144	15,200	1.20

One hundred and six sets of plans and particulars (in duplicate) of lots were furnished to the Land Officer for the preparation of leases.

A sum of \$945.95 was realized by the rent of Crown Land to the West of the Race Course for the erection of Booths and Stands during the Race Meeting, a great falling off from the sum realized the previous year, namely \$10,390, due to certain stringent police regulations being enforced.

Inland Lot 1625, to the South of Morrison Hill Road, was granted to the Natives of Northern India for a "Dharma Sala"; and Inland Lot 1613 Kennedy Town was granted to the Trustees of the Tung Wah Hospital for extensions, both under 75-year leases. There were also two free grants at Kowloon, one of 30,000 square feet to the Church Missionary Society for the erection of a Home for Chinese Girls at Kau Pui Shek; and the other of 15,000 square feet to the Hildeheim Mission for Blind Girls at To-kwa-wan.

The owners of 53 lots on Praya Reclamation amounting to 290,239 square feet were permitted to enter into occupation. The annual rental on the lots being \$5,346.

The principal item under extensions during the year was Quarry Bay Marine Lot 2; the area so granted amounting to 323,800 square feet, Crown Rent \$1,487 and the premium \$32,380.

Under the Heading of Grants on Short Leases 7 lots were granted in Hongkong, 3 of which were Garden Lots, and the remainder Inland; while at Kowloon 7 Inland Lots were sanctioned.

The conversion of Farm and Garden Lots in Hongkong were as follows :—Portion of Farm Lot No. 64 owned by Mr. Ho Tung, was converted into Inland Lot 1611 with an area of 11,314 square feet, Crown Rent \$31.00 per annum, and premium \$905.12. Garden Lot 1, was converted into Inland Lot 932 with an area of 17,050 square feet, Crown Rent \$79.00 and premium \$511.50.

In Kowloon Peninsula, portion of Kowloon Farm Lot No. 13 was converted into 13 Inland Lots of a total area of 100,457 square feet, with a Crown Rent of \$452.

Kowloon Garden Lot No. 58 has been converted into 5 Kowloon Inland Lots, the area of these are 81,600 square feet, Crown Rent \$376, and the premium \$408.

Nineteen Kowloon Inland Lots were granted to squatters at Mong Kok Tsui, no premium being charged. It was necessary to move these squatters owing to the extension of roads and proper laying out of the district. The area these people occupy is 14,296 square feet, and the annual rent \$51.00.

## ADJUSTMENT OF BOUNDARIES.

Twenty Inland Lots, one Rural Building Lot, and one Garden Lot in Hongkong; one Marine Lot, four Inland Lots, and Hung Hom Inland Lot at Kowloon have had their boundaries re-adjusted with slight increases in premium and Crown Rent. The total area of these different lots show that 33,235 square feet, annual rental \$114, and premium \$156.30, have been dealt with. In Kowloon one Marine Lot 48, four Inland Lots, viz., 394, 910, 911, and 912, and one Lot at Hung Hom 219, have had their boundaries re-adjusted increasing them by a total of 132,297 square feet, additional Crown Rent \$1,984, and additional premium \$5,003.70.

Three thousand and eight hundred square feet of Kowloon Marine Lot No. 39 were resumed in order to permit of Reclamation Street, Yau Ma Ti, being widened to 50 feet, the owners of the lot were compensated to the amount of \$2,280, and their Crown Rent reduced by \$27.00.

The exclusive right to use a pier at Yau Ma Ti was put up to public competition, and realized a monthly rental of \$105.

The number of squatters' licenses on the roll on 1st January, 1900, was 1,112, and the fees recoverable \$3,104.98; 89 were written off during the year representing a rent of \$388.39 leaving 1,023 licenses on the roll at the close of the year. Out of the 1,023 licenses, 8 have now to be cancelled although paid for 1900, the licensees having been granted Crown Leases. The total number of squatters' licenses for 1901 will be 1,015 paying \$2,699.23.

## SURVEY BRANCH.

The demand for land, as evidenced by the large sales effected, necessitated an unusual amount of work in the survey branch.

Special surveys were also made, one in connection with extension of water storage in Tytam Valley, a re-survey of Wong Nei Cheong reservoir in order to ascertain the exact storage capacity, and a survey of the Military Reserve North of Austin Road, Kowloon. In all it is estimated that nearly 1,000 acres were surveyed.

## WORK UNDER THE BUILDING ORDINANCE.

5. Plans were deposited for 148 European and 752 Chinese houses, and for 1,332 Miscellaneous structures. Certificates were granted under section 52 of Ordinance 15 of 1889 for 368 houses, and permission was given for the erection of 227 Verandahs.

6. Notices relating to structures in a dangerous condition were served in 225 cases, and 1,680 notices and permits of a miscellaneous nature were issued. 74 permits were granted for the erection or repair of monuments in the Colonial Cemetery, the fees on account of which amounted to \$291.16.

7. Private buildings have been going up very rapidly both in Hongkong and in British Kowloon, there was probably never such activity in the building trade before, and this, in spite of greatly enhanced prices of all materials and of wages. Many new and handsome houses designed for European occupation have been completed on MacDonnell Road and elsewhere, but as the wealthier Chinese now purchase and occupy such houses, and are willing to pay enormous prices for them, the scarcity of houses for Europeans increases and rents still go up.

8. Large blocks of land have been sold with the express condition that only European houses should be erected thereon, and a very great number of such buildings were completed and came into use in 1900, while others in the Happy Valley are nearing completion. But there is no law by which such buildings can be reserved for European occupation, so the relief in rents is not felt.

## ANNUALLY RECURRENT EXPENDITURE.

9. Works under this heading, which have been directly under the control of Mr. H. P. TOOKER, Senior Executive Engineer and Acting Assistant Director of Public Works, during Mr. CHATHAM'S absence, are reported on by that Officer as follows:—

## MAINTENANCE OF BUILDINGS.

1. The Public Buildings of the Colony and those in the New Territory, with the exception of some of the Old Customs Stations, the total number on the list being 151, were maintained in fair order during the year.
2. A portion of Government House was re-coloured and painted internally, and the Jalousies re-varnished, the verandah roof was also repaired.
3. The Government Civil Hospital was repainted externally at an expenditure of over \$2,000; much defective timber was also renewed.
4. The Medical Staff Quarters were thoroughly painted, colourwashed and repaired.
5. The Maternity Hospital was painted and colourwashed.
6. Queen's College was colourwashed externally and a quantity of anti-eaten timber renewed.
7. The Harbour Office was thoroughly overhauled, painted and coloured.
8. Shek Tong Tsui Market was thoroughly repainted and colourwashed.
9. The Magistracy was repainted externally and repaired and colourwashed internally.
10. The Western Market received extensive repairs and was limewhited and tarred throughout.
11. No. 8 Police Station was provided with new Cook Houses.
12. The Government Offices were painted externally.
13. Belilios School was thoroughly repaired and painted.
14. Yau Ma Ti and Mount Gough Police Stations were generally repaired and painted.
15. The Observatory, Kowloon, received general repairs.
16. Other buildings which underwent repairs, painting, &c., during the year were:—Sui Ying Pun Market, Soo Kun Po Market, Central Police Station, Quarters at Victoria Gaol, Sheep and Swine Depôts, No. 1 Police Station, No. 3 Police Station, Wanchai School, Aberdeen Police Station, Water Police Station, No. 6 Police Station, Peak Signal Station, and Kau Pui Shek Old Customs Station.

MAINTENANCE OF TELEGRAPHS.

17. All the Government Telegraph and Telephone lines have been kept in good repair. Considerable expenditure was found to be necessary in the New Territory, where most of the poles are of timber. The Police Station at San Tin was connected by Telephone with Tai Po, (see C.S.O. Extension  $\frac{141}{1900}$ ), new switchboards were installed at the Central and Tsim Sha Tsui Police Stations, and a great improvement in efficiency was effected thereby. A Special Telephone line was constructed from Government House to "The Cliffs" (C.S.O.  $\frac{1769}{1900}$ ).

MAINTENANCE OF PUBLIC CEMETERY.

18. The Cemetery grounds were kept in good order, and the usual supply of flower seeds was obtained from England. A portion of the ground was handed over to the Military Authorities under authority of C.S.O.  $\frac{1257}{1900}$  as a special reserve for the burial of soldiers. The available space for general European burial is now very limited and the question of laying out a New Cemetery will ere long have to be faced.

MAINTENANCE OF PRAYA WALL AND PIERS.

19. General repairs and tarring were executed to the timber pier at Stonecutters' Island and to the Police pier at Tsim Sha Tsui. Under authority of C.S.O.  $\frac{816}{1900}$  the Ice House Street Wharf was rented to the "Star" Ferry Co. on the completion of the Blake Pier. The timber pier at Sam Shui Po was washed away by the heavy gale which occurred during the Autumn; it was in a decayed state. No works requiring special mention were executed to the Praya Wall.

MAINTENANCE OF LIGHTHOUSES.

20. All the Lighthouses were kept in good repair, Gap Rock and Green Island Lighthouses were generally repaired and painted.

MAINTENANCE OF ROADS AND BRIDGES IN VICTORIA.

21. The Roads, Streets and Bridges generally were kept in good repair. A large portion of Queen's Road was coated with Syenite Macadam broken by the Stone Breaker and rolled in by the Steam Roller, this stone being very hard forms a good road surface, forming less mud in wet and less dust in dry weather, than the softer kinds of granite.

In accordance with the scheme set forth in C. O. Tel. of 6th August, 1897, the work of widening Queen's Road was undertaken by the Naval Authorities, the surfacing, kerbing and channelling, &c. being carried out by this Department at their expense. The portion from the City Hall to Murray Road has been completed with the exception of the strip to be taken off the Cricket Ground opposite Garden Road, which may conveniently be left over until the widening of Murray Road is taken in hand. The widening of Queen's Road East in the neighbourhood of Wellington Barracks, was about completed at the close of the year.

MAINTENANCE OF ROADS AND BRIDGES OUT OF VICTORIA.

22. With the exception of Pokfulam Road nearly all these roads are surfaced with decomposed granite or such material as can be found within a reasonable distance, consequently they suffer much in the rainy season.

During the period under review the Road leading from Wanchai Gap to Aberdeen was coated with small broken granite obtained along the roadsides, although the material is soft, yet it makes a sufficiently good surface for Bridle Roads.

The old wooden Bridge near the top of this road, having fallen into decay, was replaced by a brick arch at a considerably higher level, thereby much improving the gradient of the road which was very steep at this place.

MAINTENANCE OF ROADS AND BRIDGES IN KOWLOON.

23. It can hardly be said that the main Roads in Kowloon have been maintained in a satisfactory condition during the year, for they have been very much cut up by the Siege Train connected with the China Expeditionary Force. The roads were not constructed to stand such heavy traffic and consequently a considerable expenditure, not met by the ordinary maintenance vote, will be necessary before the principal thoroughfares in Kowloon can be thoroughly repaired and I believe the time has arrived to lay down Macadam here, as the Peninsula has grown to such an extent that the requirements of the ordinary traffic must be provided for.

GAS LIGHTING, CITY OF VICTORIA.

24. The number of Public lamps on the 25th of December, 1900, was as follows:—

Lamps with "S" Welsbach Burners, .....	600
Do. "C" Do., .....	146
Do. Ordinary Burners, .....	3
Wharf Lamps with Ordinary Burners, .....	6
Do. do. "S" and "C" Welsbach Burners, .....	2
Total, .....	757

The Gas Company have carried out their contract during the year in a satisfactory manner.

ELECTRIC LIGHTING, CITY OF VICTORIA.

25. There are 75 Electric lamps lighting Public Streets. The Electric Co. have maintained a satisfactory supply of Electricity and kept the lamps in good working order.

GAS LIGHTING, KOWLOON.

26. The number of Public lamps in Kowloon on the 25th December, 1900, was as follows:—

Lamps using "S" Welsbach burners, .....	166
Wharf lamp, .....	1
Total, .....	167

The Gas Co. fulfilled their obligations satisfactorily.

## MAINTENANCE OF PUBLIC RECREATION GROUND.

27. The Wongneichong and the Queen's Recreation Grounds have been kept in a good state of repair. On the former a portion of the turf was taken up and relaid (C.S.O.  $\frac{1272}{1300}$ ) and this work should be continued as opportunity offers.

## MAINTENANCE OF CLOCK TOWER.

28. The Clock has been kept, cleaned and repaired by Messrs. FALCONER & Co. without any exceptional expenditure.

## FORMING AND CURBING STREETS.

29. The principal work done under this vote includes the forming, curbing and channelling of streets in Tai Hang New Village, the curbing and channelling of Austin Road, Kowloon, and the forming, curbing and channelling of Belcher Street from Queen's Road West to Collinson Street.

## EXTENSION OF GAS LIGHTING.

30. Under this vote, 12 new lamps were erected in Barker Road, and 6 in Pokfulam Conduit Road.

## IMPROVEMENT OF GAS LIGHTING.

31. Nothing was done under this item of expenditure calling for special mention.

## SIGNALLING STATION, GREEN ISLAND.

32. In order to improve the method of signalling the approach of vessels, especially those bound from the South, it was considered advisable to construct a Signalling Station on the top of Green Island (C.S.O.  $\frac{501}{300}$ .) This involved the erection of a flag staff, and matched quarters for the signalman on Green Island, also the laying of a cable between Kennedy Town and Green Island so as to establish telephonic communication between the New Station and the Harbour Office.

The flag staff was constructed and fixed by the Dock Company, the lower mast and yard being of steel.

The cable was laid by this Department, it is of B type, and was purchased from the Joint Telegraph Cos.

The total cost of establishing the station was \$6,777.99.

## CABLE FROM CAPE D'AGUILAR TO WAGLAN ISLAND.

33. In connection with the taking over of the Lighthouse on Waglan Island by the Colonial Government it was considered necessary to lay a cable from Cape D'Aguilar to Waglan so as to bring the Lighthouse into telephonic communication with the Telegraph Cos' Office. The Cable was purchased from the Joint Telegraph Cos. and laid on the 25th of December by the S.S. *Sherard Osborn* kindly lent by the Great Northern Telegraph Co. for the work. (C.S.O.  $\frac{328}{1300}$  Extension.)

## PRIVATE STREETS IMPROVEMENT.

34. During the year the important work of improving private streets by concreting, channelling, draining and providing them with lighting apparatus at the owners' expense under the authority of sections 9 and 10 of Ordinance 34 of 1899 was begun. Eleven private streets running from Queen's Road Central to Des Vœux Road and immediately West of the Central Market, were taken in hand. Most of these streets were paved with large stone slabs which were very uneven and loose, and laid with wide joints through which water found its way and lodged underneath causing a most insanitary state of things. The drainage was inadequate, and the streets were either very badly lighted or not lighted at all. New surfaces were formed by laying on the top of the stone paving from 4 to 6 inches of lime and cement concrete. The Drainage was properly provided for and sufficient gas lamps erected, the total expenditure being \$7,491.82 chargeable against the owners of the land abutting on the streets.

10. The following were the principal items carried out under the vote for Miscellaneous Works :—

The extension to the General Post Office authorized in C.S.O.  $\frac{2298}{1899}$  was taken in hand, and completed in November, the total amount expended including extras on the contract being \$5,507.62.

11. The approaches to Belilios Reformatory were improved and the slopes turfed at a cost of \$800. (C.S.O.  $\frac{726}{1898}$ .)

12. A public latrine of 40 seats was built in the Taipingshan District at a cost of \$2,644.41.

13. A new service reservoir above Glenealy was built at the expenditure of \$3,995.

14. The landing pier at Kowloon City, referred to in last year's Annual Report, the timber work of which had become rotten and dangerous, was renewed at a cost of \$2,816 additional to the sum spent in 1899.

15. The Treasury was provided with electric light for an expenditure of \$407.16.

16. A new Telephone line was constructed between Government house and *The Cliffs* which cost \$77.96.

## THE WATER SUPPLY OF THE COLONY.

17. The necessity for further storage in Hongkong again became apparent by the necessity which arose on the 1st May of putting the City on an intermittent supply, which, however, owing to the timely commencement of the rains, only had to be continued for 13 days. Wongneicheong reservoir, holding 33,000,000 gallons, was completed in 1899, and the full benefit of it was obtained for the last dry season. The rainfall of 1899 had only reached 72.71 inches, or 16.29 inches below the average, and 1900 was again short, only reaching 73.71 inches. It has been decided to proceed with the construction of three more reservoirs in the Tytam Valley, and one will be commenced in 1901. The transfer of Mr. CROOK to Gibraltar and the delay in filling up the vacancy caused some delay in starting these works. These reservoirs are estimated to contain 70,000,000, 40,000,000 and 20,000,000 gallons respectively, and no doubt in a wet year all will fill and thus 530,000,000 gallons will be held up in Tytam Valley alone. Two of them fill at the expense of Tytam, that is they are in the same watershed and above it. It is also intended to raise Pokfulam two feet which will add 4,000,000 gallons to the supply.

18. The extension of building on the higher levels of the city rendered it necessary to construct a new service reservoir, to replace that to the south of Belilios Terrace. This new reservoir was completed at the end of the year, at a cost of \$5,440.03 and now supplies all the new houses on the Pokfulam Conduit Road, besides affording greater pressure for Belilios Terrace and the Robinson Road houses. It is filled by the Arbuthnot Road motor, and a new main of larger dimensions has been laid connecting them. Another new service reservoir, to be filled from the Bowen Road filter beds and reservoir, is required above the site of the Military Hospital and was commenced before the end of the year. A hydraulic motor is being fixed at Bowen Road, to pump up water to this reservoir, as well as to a third new reservoir to be built on the summit of Mount Gough.

19. Owing to the large and permanent increase in the population at the Peak, the supply in the summer months was maintained with much difficulty, and not without more than one break down. The engine house at Bonham Road was enlarged during the year, and a new and much larger boiler fitted up. Steps have been taken and the necessary materials obtained from England to duplicate the rising main from Bonham Road to Victoria Peak, but the Peak supply will be in a somewhat precarious and unsatisfactory state, until the Mount Gough reservoir is completed, and filled from Bowen Road motor. Particulars as to increased consumption of water, &c., will be found in Mr. HOLLINGSWORTH'S report and in the appendices.

20. In Kowloon, during the summer, there was much complaint regarding the water supply and not without reason, owing to irregularity and occasional total stoppage in some localities. This was not due to want of water, but to various other causes, the chief being the quantities of sand which were carried down from the valleys by the rain storm of June to the pumping engines causing great wear and damage to the machinery. The pumps were also in need of a complete overhaul, a work which has been undertaken with satisfactory results.

21. It is however now certain that in a few years Kowloon will have a plentiful supply of good water without any pumping from a reservoir to the North of the hills bounding the harbour,  $5\frac{1}{4}$  miles from Tsim Sha Tsui below the new road leading to Taipo. Here an excellent site has been found for a large reservoir, intercepting several perennial streams, and having a drainage area of 517 acres. A masonry dam is being designed which will eventually be 100 feet high, or equal to the main dam at Tytam. It will impound 310,000,000 gallons of water with a top level of 455 feet above ordnance datum, thus allowing ample head after filtration and to command the highest part of British Kowloon as well as Kowloon City, Sam Shuipo and other places in New Kowloon still dependent on wells. The completion of this work will be a great boon to Kowloon in many ways, and will no doubt enhance the value of property greatly. At the same time the valleys now reserved for the present water supply will be available for sale, and good building sites both for Europeans and Chinese will be opened up by the construction of cross roads between Hunghom and Yaumati, and similar roads traversing the peninsula from East to West. It is not unreasonable to suppose that before many years British Kowloon will rival Victoria in population and trade. With this in view broad and straight roads are being, and should continue to be laid out, and open spaces for parks and recreation grounds reserved.

The following is Mr. HOLLINGSWORTH'S report on Water and Drainage Works :—

## WATER WORKS.

A. 1.—Particulars of the quantity of water supplied during 1900 will be found in Appendices A, B & C.

The Total Quantity supplied was 1,279,551,000 filtered and 37,269,000 unfiltered making a total of 1,316,820,000 gallons. The Government Analyst reported monthly that the water was of excellent quality.

2. Intermittent supply had to be resorted to from 1st May to the 13th May inclusive, or 13 days, consequent on the small rainfall during the year 1899 which was 16.29 inches below the average.

3. The water pumped to the High Level District of the City amounted to 23,962,000 gallons over the whole year, equal to a daily consumption of 65,649 gallons, whilst 22,587,000 gallons were pumped to the Hill District giving a daily consumption of 61,882 gallons.

The grand total pumped during the year was 46,279,000 gallons.

4. The number of meters in use in the City at the end of 1900 was 407 and 142 in the Hill District.

5. The quantity of water supplied by meters was—

Filtered, Trade .....	145,097,000
Domestic .....	86,454,000
Hill District .....	19,166,000
Unfiltered .....	37,269,000
Total,.....	<u>287,986,000</u>

6. The average consumption of filtered water per day in the City and Hill District was 3,505,630 gallons, which with an estimated population of 206,750 gives a daily consumption of 16.95 per head for all purposes.

7. There has been a steady increase in the consumption of the Hill District and it has been necessary to keep the steam-pumps working night and day.

Bonham Road Pumping Station extension (C.S.O.  $\frac{88}{1899}$ ) was completed in November last and a new boiler installed.

Unfortunately the old vertical boiler gave out on August 17th and this necessitated a stoppage in the supply to the Hill District for a period of 5 days while the new boiler was being connected up, and the new boiler-house was in an uncompleted state.

The work was carried on as expeditiously as possible, gangs working day and night.

During this unavoidable stoppage, opportunity was taken for thoroughly overhauling the engine and pumps and it was found that the heavy work that had been necessarily put upon it for so many years had told severely upon it, and the following work had become necessary:—

1. New piston rods,
2. New valve rods,
3. No. 1 new piston to intermediate pressure cylinder,
4. New piston rings throughout,
5. New pump rods (air pump),
6. New pump plungers and levers (air pump).
7. New spindles to air pump valve and all main valves of engine to be faced up.

This work was put in hand at once and before the end of the year good progress was made.

Further investigation shewed that the only main to the Hill District from this station—a 3" wrought iron main was in a very furred condition limiting its capacity to about  $2\frac{1}{2}$ " bore and consequently putting a lot of extra work on the already overworked engine.

Preparations were then made for duplicating this main and good progress was made in the preliminary work—cutting the trench, making anchors for the steep parts, &c.

8. The Bowen Road Motor House, C.S.O.  $\frac{22}{1900}$ , was nearly completed and in a sufficiently advanced state to lay down the new Motor and put in the rising main as far as Barker Road.

The Motor when ready for work will divide the Hill District into two parts: the one supplied from the Bonham Road Station through the Peak Tank, the other from Bowen Road Motor House through a reservoir to be built on the summit of Mount Gough.

The High Level consumption has also increased and more work has fallen in consequence on the various pumping stations.

The new Motor at Bowen Road is fitted with pumps of two sizes—3" pumps for the reservoir to be constructed at Mount Gough and 5" pumps for another reservoir to serve the High Level.

The old tank behind Belilios Terrace has now been done away with and a new tank built higher up the hill, West of the Glenealy ravine (C.S.O.  $\frac{99}{1896}$ ) this reservoir was completed in November last.

Another reservoir has been commenced above the site for the proposed Military Hospital on Bowen Road (C.S.O.  $\frac{31}{1900}$ ) and good progress was made with the excavation. This is the reservoir for the High Levels to be fed from the Bowen Road Motor.

Appendices *D* and *E* give details of the increased consumption in the Hill District and High Levels respectively.

9. During the year new services were constructed or old ones extended in 660 instances and in addition 183 services were inspected and connected to the mains.

10. The services of 1,988 houses were inspected during the year; 1,894 were found in order and 94 were defective. All defects were repaired after the usual notices had been served.

#### KOWLOON.

*B. 1.*—During the year there was a total consumption of 101,094,000 gallons or an average consumption of 276,970 per day, which, with an estimated population of 28,250, gives an average of 9.8 gallons per head per day for all purposes.

Details of supply are given in Appendix *F*.

2. It was not found necessary to resort to the intermittent system of supply during the year, but difficulty was experienced in maintaining the supply to the higher levels of the Peninsula. This arose principally through the injury caused to the pumping machinery by sand carried in suspension by the water passing through the pumps and was largely attributable to the heavy rainfall in June, when 26.52 inches were registered.

The repairs of one pumping engine have been completed and it is now capable of maintaining the full supply. It is hoped that the other engine will soon be in equally good condition.

3. At the end of the year there were 143 meters in use in Kowloon.

4. During the year 59 private services were constructed or repaired.

#### ABERDEEN.

*C. 1.*—A full supply was maintained to the Village during the year amounting to 4,384,000 gallons or an average of 12,011 gallons per day.

2. Particulars of consumption are given in Appendix *G*.

## SHAUKIWAN.

D. 1.—A full supply was maintained to the Village throughout the year amounting to 9,344,000 gallons or an average of 25,600 gallons per day.

2. Particulars of consumption are given in Appendix H.

## DRAINAGE WORKS.

*Drainage Works, Miscellaneous.*

E. 1.—The principal works under this head were the completion of works commenced in the latter part of 1899, namely:—

Wongneichong Village main sewer, Barker Road sewer and Hunghom sewerage system; added to these were the extension of Wongneichong sewer, Conduit Road sewer, re-draining the valley below Stewart Terrace at the Peak—in order to prevent the upper portion of the stream there being rendered foul by the drainage from the surrounding property—and numerous small works of diversions, extensions and improvements.

Owing to the large reclamation on the Praya fronts at Yaumati, Mongkoktsui, Hunghom and Hok Ün, it will be necessary to thoroughly re-drain those places and with this object the preparation of the necessary plans has been undertaken.

2.—*Maintenance of Sewers.*

Consequent on the change in the foreshore at Waichai blocking up the outlets to some of the large storm drains it has been found necessary to make several extensions.

3.—*Sewerage of Victoria.*

Alterations and diversions have been executed as the old lots are extended or new ones sold. 560 yards of new sewer have been laid in Hongkong, 84 house connections have been made, and 151 traps have been renewed; and in Kowloon 204 yards of new sewer have been laid, 12 new house connections given and 13 traps have been renewed, not taking into consideration the large number of traps inspected and cleared.

## PUBLIC WORKS EXTRAORDINARY.

22. *New Law Courts.*—The designs for this building were, by direction of the Right Honourable the Secretary of State, prepared in England by Messrs. ASTON WEBB & INGRESS BELL, Consulting Architects to the Colonial Office. The plans were carefully scrutinized and approved of locally with some slight alterations. The plans for the piled foundations were prepared locally, a satisfactory contract for the work was let in July, and good progress has since been made.

23. *The Public Works Department Store* at Waichai was completed early in the year, the total cost being \$17,843.96. To it all the stores previously kept at Crosby Store and the rented building on Praya East were removed and then properly arranged and catalogued. The Storekeeper lives in the quarters built on the premises, and the work has proved a great success in every way, except that already more room is required.

24. *No. 7 Police Station and Branch at Kennedy Town.*—A new Police Station was built on a site selected above the Cattle Depôts on the road leading to the Pokfulam Road. The work was completed on the 1st October at a total cost of \$6,737.37. It is said to be a healthy and convenient station. Before work could be commenced on the new No. 7 Station, temporary matched quarters had to be erected to accommodate the Police required in this neighbourhood and this was done on the Government Reclamation opposite the Sailors' Home. Good well built sheds including all necessary out-offices and cells were completed and are now occupied.

25. *Disinfecter Station and Quarters.*—Plans and estimates were prepared for this building on a site close below the No. 8 Police Station in the Taipingshan resumed area, and a contract let for the work. It was completed after much delay on the part of the contractor in November at a cost of \$11,508.43 after deducting a fine of \$810 for delay. The old and unsightly building previously used near the Medical Staff Quarters has since been removed.

26. *Chair Shelter at the Peak Tram Station.*—This building should have been completed in November, but for various causes the contractor is much behind his time, and the work will not be out of hands until February. The masonry is completed and the roof on, so that the coolies can even now obtain shelter from the weather. The building being in an exposed position is built in a very solid and massive way to defy typhoons.

27. *Public Latrines.*—A contract was let for a large 40-seat latrine at the East end of Wing Lok Street which was completed in August at a cost of \$2,522.27.

Plans and estimates were prepared and a contract let for a similar latrine on a site in the resumed area in the Taipingshan district. This work was completed in July at a total cost of \$3,167.15.

A third latrine of similar design was commenced on the site of the old Slaughter House at the extreme end of Queen's Road West, and was nearly completed at the end of the year.

A fourth latrine is under construction at Sookunpo Market.

A fifth latrine was designed by Messrs. DENISON & RAM and carried out under that firm's supervision in Gough Street. It is situated under the play ground of the Belilios' School and ventilated by a high shaft. The total cost will be \$4,331.25.

28. *Governor's Peak Residence.*—The plans for this building, which promises to be the largest and handsomest building at the Peak, were prepared by Messrs. PALMER & TURNER. The site and approach roads had been formed under special votes at a cost of \$5,575.46. A contract for the building was let to Mr. SANG LEE for \$97,715.69 and fair progress was made with the work during the year. The kitchens and servants' quarters were nearing completion when the typhoon of 10th November occurred, and, as the masonry of the walls was unset and the roof only partly framed, considerable damage was done. The stone foundations of the main building were well advanced before the close of the year, and the woodwork of the doors and windows was in course of preparation.

29. *Pokfulam Conduit Road.*—This new road was carried as far as Inland Lot 1,549 during the year at a cost of \$9,684.73. The amount of premium from sale of sites for houses on the road has already reached \$48,050, with an annual income from Crown Rent of \$1,991 besides the rates and taxes. Similar results have followed the opening of all new roads in the Colony. Plans and Estimates are ready for the completion as far as a junction with Robinson Road.

30. *Harlech Road.*—The road from the upper Tram Station to High West, which has been thus named, was commenced (owing to an arrangement kindly suggested and carried out by His Excellency Major-General GASCOIGNE) by working parties of the Royal Welch Fusiliers. The earth cutting and removal of boulders was completed for three-quarters-of-a-mile by the soldiers, at a total cost of \$990.61. Owing to the extravagant demands by Chinese contractors, the rock blasting and masonry works have not been commenced. It is now decided that this road should be taken over and completed by the Military Authorities, to give access to sites for batteries on High West and sites for buildings beyond and to the North of the saddle.

31. *Gaol Extension.*—A new wing containing 78 separate cells was completed during the year, but could not be used owing to the non-arrival from England of the special Gaol locks ordered. They have since been received. The upper yard was surfaced with concrete and covered in. The total expenditure under this heading in the year was \$16,959.06.

32. *Quarters for Gaol Staff.*—These quarters should have been completed in the year and available for use from the 1st January, but owing to the dilatoriness of the contractor were unfinished. The brickwork is completed and the roofs are being fixed. The total expenditure in the year was \$20,855.93.

33. *Swine Depot, Kennedy Town.*—This work which was commenced in the previous year was completed in February, the total cost being \$9,115.38. It is a handsome and well built structure. Further accommodation is already required.

34. *Police Station, Saikung.*—Plans and Estimates were prepared and a contract let for the erection of a Police Station at Saikung. Owing to much sickness among the workmen, probably due to their own careless manner of living rather than the unhealthiness of the site, there has been delay in the progress of the work, but the masonry was well advanced towards completion before the end of the year.

35. *Police Station at Shataukok.*—Plans and Estimates were prepared, and a contract let for this work situated on a commanding site near the head of Starling Inlet, close to the Northern boundary of the New Territory. This work was completed and the station occupied before the end of the year. It is hoped that the Police stationed in the New Territory will enjoy better health when housed in these comfortable and well built permanent stations.

36. *Taiipo Road.*—This important trunk road, leading through the heart of the New Territory, and eventually to be carried on to Samchun on the Northern boundary, is described in paragraph 41 of the Annual Report for 1899. Early in 1900 the road was completed to the 9th mile from Kowloon Ferry Pier, a point a little beyond Tai-Wai village. Here the first stream of any importance, one draining the Southern and Eastern slopes of the Tai-mo-shan range, has to be crossed. After an examination of the river and flood marks, and consulting the "oldest inhabitants" of Taiwai, the decision to leave 90 feet of waterway and to make the platform of the bridge 16 feet above the bed of the stream was arrived at. One span of 90 feet would have been provided for but for the difficulties of transport of heavy iron work, and, as good stone was fairly plentiful in the vicinity, it was decided to build two piers in the river's bed, and have three spans of 30 feet clear, bridged by rolled steel joists and a concrete platform. The foundations for both abutments and piers were formed of cement concrete in mass, resting on hard gravel 6 feet below the river-bed. The masonry was completed in 1900, and the iron work shipped from London early in December. The contractor who had constructed the road to the 9th mile, was so exorbitant in his demands for the next section that no terms could be made with him, and after much delay a new contractor was found, but the progress during the year fell far short of that made in 1899, and of what was hoped for. The 10th and 11th miles are perfectly level, and for the most part run on embankments close along the seashore, the slope on the sea side being pitched with stone laid in mortar and jointed in cement. Two more bridges occur in this section, one of 30 feet span and one of 10 feet span. In both cases cement concrete in mass was used for foundations, sand extending to a great depth below the surface. After reaching the large village of Fo-tan, it was decided to carry the road on a causeway direct across the bay a distance of 1,740 feet, rather than hug the coastline and so make a long detour. This proved a somewhat difficult

work, as the tides topped the embankment daily, and a good deal of material deposited got washed away. The causeway was so far advanced in December that the flow of sea water was stopped except through the opening of 100 feet left at the Western end. This opening will be bridged by a timber bridge of 5 spans on piles. The 11th mile ends near the centre of this causeway.

The trace for the extension of the road on to Taipo has been completed, and a footpath opened along the same, which seems to be a good deal used, as it only rises 300 feet above sea level while the old path by which the Telephone line runs crosses a gap 1,000 feet above the sea level.

37. *Pier in Deep Water, Taipo.*—This is rather a misleading title for this work which consists in connecting an island, up to which deep water extends and on which a small pier existed, by a causeway, across a shallow tidal flat, with the hills on which the Police Station and the official quarters, &c. stand. A contract amounting to \$4,887.70 was let for this work in April, and provided for a causeway four feet wide on the top, the sea face pitched with stone. The work when well advanced was twice partially destroyed by storms, and consequently progress has been very slow. It was also found necessary to pitch the inside slope of the embankment as the action of the tides and rain constantly destroyed the banks. This is now being done. It will be advisable to carry the Taipo Road along this line when the causeway can be widened and considerably strengthened. The pier from the Island was totally destroyed by gales during 1900, and a permanent iron or stone pier running into 9 feet of water will have to be constructed later on.

38. *Survey of the New Territory.*—Mr. TATE, the officer in charge of this work, reports that an area of 4,000 square miles has been triangulated and that the stations established in the New Territory for this purpose are being marked in order to preserve them.

For the production of a topographical map, on a scale of 1 inch to the mile, an area of 300 square miles has been surveyed and plotted.

Of the cadastral survey, 45,000 acres have been completed and mapped to scales of 16 and 32 inches to the mile. The former scale has been adopted in the wide valleys where the fields were of considerable area, but it was found necessary to adopt the larger scale for the narrow valleys situated among the hills.

A special survey of Kowloon City, including the walled portion, was also made and plotted to a scale of 64 inches to a mile.

39. *Praya Reclamation.*—The report of Mr. J. R. MUDIE, Executive Engineer in charge of the Praya Reclamation Works, is quoted in full below.

Owing to scarcity of labour, and the starting of the Naval Yard extension works, and the reclamation and Dock works at Quarry Bay, the progress on the Praya reclamation during the year has not been very satisfactory. However, good and useful work has been done, sections 4 and 5 from Wing Wo Street to the end of Wing Lok Street where the Nam Pak Hong Pier stood, have come into full use although the roadways are unsurfaced. Building operations on the reclaimed land are in active progress and the draining and sewerage of the land has been completed, as well as the laying of gas mains, erection of street lamps, &c., &c. The new Canton steamer wharf was completed and opened for use in November, just in time to take the place of the temporary pier at the end of Wing Lok Street which was almost completely destroyed by the typhoon on the 10th November.

This typhoon, which was of considerable severity—the centre passing within a few miles of the City—did no damage to the Praya wall or piers, but the heavy seas which broke over the roadway of the Kennedy Town reclamation scoured out deep holes in it and washed off all the surfacing.

40. The new pier opposite the end of Pedder Street, 200 feet long by 40 feet wide, was completed in October, and opened to the public on the 29th November by His Excellency Sir HENRY A. BLAKE, G.C.M.G., who was graciously pleased to consent to name it “Blake Pier.”

The pier projects from a solid base of granite masonry 126 feet wide projecting 40 feet from the line of the Praya wall, with a flight of stone landing steps at each side. It is 200 feet long by 40 feet wide with eight flights of steps, four at each side. It was constructed by the Horseley Iron Works Company from designs and specifications prepared by Messrs. COODE, SON & MATTHEWS. It was erected here by Messrs. KINGHORN and MACDONALD under the supervision of Messrs. J. F. BOULTON and J. R. MUDIE, Executive Engineers. Difficulties were encountered, but successfully dealt with, owing to the great depth to which the piles had to be screwed, and the nature of the bottom—some of the piles being upwards of 60 feet below high water mark. The base was designed to carry the new Clock Tower which it is proposed to erect to take the place of that which stands in Pedder Street and which has become an obstruction to the traffic. The cost of the Blake Pier was \$122,774.00.

41. The following is a copy of the Report on the damaging typhoon which occurred on the night of November 9th-10th:—

*Report on the damages to Government property and buildings due to the Typhoon which passed over Hongkong on the night of the 9th and morning of the 10th November, 1900.*

This report deals only with damage done to roads, works and buildings in charge of the Public Works Department. The typhoon, which had been signalled for two days, seems to have rapidly approached the Colony during the night of the 9th and to have acquired damaging intensity and force about 2 a.m. on the 10th, apparently reaching a climax between 5 and 6 a.m. when the rapid veering of the wind from North and North-West to West caused the greatest damage.

**Roads.**—The force of the wind raised a very heavy sea in the harbour which (especially in the West) broke over the Praya Wall scouring away the surface and in some instances forming deep pits in the roadway. Owing to the Praya Wall resting on a rubble mound, the earth filling gets drawn out from under the road surface and subsidences such as described take place.

The heavy rainfall which accompanied the storm brought down much debris and silt from the hill sides, obstructing the side and cross drainage, and so causing damage to the road surfaces. The roads in Kowloon suffered much in this way, and the road into the New Territory slightly.

The damage was in no case so extensive as to stop the traffic. The repairs are being carried out as rapidly as possible, and will entail an expenditure of about \$1,000.

**Buildings (Permanent).**—Every public building in the Colony suffered more or less, tiles and guttering and down pipes were torn from the roofs, causing leakage which damaged the ceilings and plastering; jalousies were smashed and the hinges and fastenings twisted and broken, while the destruction of glass was considerable in the cases where the shutters or jalousies gave way. The sun blinds of the Government Civil Hospital were destroyed and will cost \$250 to replace. The cost of repairs to Government buildings will be about \$2,000 and can be borne on the Estimate for Maintenance, (annually recurrent).

**Buildings (Temporary).**—Temporary matshed buildings were destroyed everywhere, the principal being the official matsheds at Tai-po which would cost about \$1,500 to replace; the Governor's bungalow at the same place was badly damaged; the Police matshed at Sha-tin occupied by the Indian Police; the Assistant Engineer's bungalow and out-buildings at Tai Wai which cost upwards of \$1,000; the Kanpuishek Customs Station occupied by the Temporary Surveyor and his family, and an Overseer; the plague sheds at the Kennedy Town Hospital, which will cost \$850 to replace; and the sheds lately erected on the top of Green Island in connection with the new Signal Station.

If all these temporary buildings had to be replaced, the cost would not be less than \$8,000 to \$10,000, but some can be dispensed with until permanent buildings take their place, so that the expenditure on this account in restoring buildings absolutely necessary will probably not exceed \$3,000.

**Telephones.**—The Government telephone lines were much damaged, both iron and wooden posts being thrown down, the wires blown down, twisted, and broken so that they could not be again utilized, the estimated cost of fully restoring the Government lines is \$700.

**Government Piers.**—Very trifling damage was done to the Government Piers in Hongkong Harbour, except the timber pier at Sam-shui-po which was worn out and condemned and about to be replaced by a new pier. This was completely destroyed. The temporary pier used by the Harbour Master was carried away and an iron ladder connected with it. As a new pier for Sam-shui-po has been already sanctioned and provided for in the Estimates, no special expenditure on this account is rendered necessary.

**Light-Houses.**—At Gap Rock the Derrick Crane lately renewed was broken and 12 counterpoise weights lost, the winding gear was damaged, and the telegraphic wire broken, also one stay and halyards carried away from the flagstaff and sundry other damage done to the doors and windows of the buildings, all of which it will cost about \$1,500 to restore.

**Miscellaneous.**—The yard of the signalling flagstaff at Tsim Sha Tsui was smashed, and is being replaced by the Dock Company, \$170.

The turfed slope in front of the Belilios Reformatory was washed away and damaged to the extent of about \$200.

On the whole, considering the severity of the storm, the damage caused was not great.

Abstract of the necessary expenditure over and above expenditure met on annually recurrent Estimates:—

Roads.....	\$1,000
Tai-po sheds.....	1,500
Hospital sheds.....	850
Telephones.....	700
Light-houses.....	*1,500
Miscellaneous.....	370
Total.....	<u>\$5,920</u>

\* May be met on vote for Maintenance of Light-houses.

#### 42. The following is Mr. MUDIE'S report on the Praya Reclamation Works:—

**Section No. 1 West.**—This work was commenced in April, 1898, but owing to exceptional difficulties met with in forming the foundations, progress has been very slow.

In his report for last year Mr. BOULTON narrated the unfortunate subsidences that over and over again occurred to the rubble mound when in course of being weighted and the slow and difficult work of recovering the weighting blocks by divers. The difficulty was much increased by the great inconvenience it entailed of taking the plant away from Section No. 6—the busiest and most congested part of the whole line of work.

On 23rd February, Mr. CHAN A TONG entered into an agreement supplementary to his original contract, to reform the mound—and he has deposited 4,828 cub. yds. of "Pierre Perdue" which has brought the work almost into shape again, and as soon as the divers can be spared from Section No. 6, a commencement to re-level and set the concrete blocks will be made. This, I trust, will be in the course of a fortnight. One advantage to be put against the delay is the large quantity of filling in that has been done by casual dumping from house building operations. Thousands of yards have been so filled in at the mere cost of a Watchman.

1,240 Blocks weighing 9,100 tons have been shifted on to the section for re-weighting.

**Sections Nos. 4 and 5.**—The work remaining to be executed viz.:—

5,414 cubic feet of Seawall Coping,
54,334 cubic yards Filling in,
9,000 lineal feet Curb and Channel,
103 Ring-bolts to fix,
1,366 square yards Cement paving,
2,979 lineal feet Storm-water drain pipes,

on contract No. 51 let to TSANG KENG on these Sections, was finished during the year, but the surfacing of roadways which was not included in contract has been most unreasonably delayed. An agreement was made by TSANG KENG to execute this work at the rates fixed in his contract No. 53 for Section No. 6, but only a small portion has yet been done. The reason given, was the scarcity of workmen and the difficulty of getting materials, but as the contractor has acquired the Quarry farm for 1901, it is now probable that the work will proceed without further delay.

*Section No. 6 W.*—Work is proceeding fairly well on this section. The whole of the rubble in foundations has been put in by contractor and the diving staff is busy levelling off, laying concrete bed, and setting blocks 650 lineal feet out of a total of 1,221 lineal feet has been finished ready for setting first course of granite masonry.

The principal items of work executed by TSANG KENG during the year were :—

35,482 cubic yards "Pierre Perdue,"  
90,556 cubic yards Filling in,  
250 cubic yards Portland Cement Concrete,  
200 lineal feet Storm Water Drains completed,  
640 lineal feet formed, but left unfinished for settlement.

The whole length of work has been weighted with the usual load of 22 tons per lineal foot.

*Sections Nos. 6 E. and 7 W.*—The portion of roadway and stone platform—work which was suspended pending erection of Blake Pier—were completed by the middle of November and this work is now finished.

*Blake Pier.*—This work was completed by the contractors for its erection—Messrs. KINGHORN & MACDONALD—and opened for public use in November. Its erection was commenced on the 1st December, 1899, and the somewhat lengthy period occupied was owing to considerable difficulties experienced in screwing the piles home. These difficulties were successfully overcome and the work satisfactorily completed.

His Excellency Sir HENRY BLAKE, G.C.M.G., inaugurated the Pier on the 29th November.

*Block Making.*—Contract No. 24—4th Extension. 401 Blocks, equal to 1,773 cubic yards of concrete, were made during the year. This work, with the exception of one or two special blocks required for Section No. 1, is now complete.

*Staff and Plant.*—The diving staff has been fully employed during the year on Section No. 6, levelling, weighting and laying concrete bed and setting permanent blocks.

The Pontoon Crauc and Block Barges were employed 275 days at Section No. 6 W., 48½ days at Section No. 1 W., 12½ days at Blake Pier, 15 days at Block Yard, and 3 days at Sections Nos. 4 and 5, although the Pontoon requires docking for cleaning and repairs to hull, &c. The machine itself is in excellent order and has set and reset in weighting and permanent "setting" 6,108 Blocks aggregating 27,245 cubic yards or about 44,000 tons during the year.

The working of Hopper Barges was found to be impracticable except for only a short period in the beginning of the year, they have been laid up in Causeway Bay since. During the time they were at work a quantity of 11,844 cubic yards of red earth was deposited by them into Section No. 6 W.

*Dredger.*—21,646 cubic yards of material suitable for reclamation was dredged during the year and deposited within area of Section No. 6 W. and 7,907 cubic yards of foul material was dredged from drain mouths and deposited at sea.

The "Praya" was docked in December and is in good working order.

Several changes have taken place in the staff during the year. The writer returned from nine months' leave on March 24th, and Mr. BOULTON went on a year's leave from 1st May; Mr. LEUNG WING KEE, who had been Draughtsman since the work started, resigned on 1st May, and his successor LEUNG MAN KIN has since died.

#### DEPARTMENTAL AND PERSONAL.

43. The following Officers were granted leave during the year :—

W. CHATHAM, Assistant Director of Public Works, for ten months—commencing on the 2nd May.

R. F. DRURY, Assistant Engineer, for eleven-and-a-half months—commencing on 2nd May.

J. R. CROOK, Executive Engineer, for one month from the 9th August.

J. F. BOULTON, Executive Engineer, for twelve months from the 1st May.

J. WILDEY, Overseer, for eight months from the 17th October.

R. D. ORMSBY, three weeks 'sick leave' in September.

Of the Subordinate Staff, the following had vacation leave for the period named :—

E. M. HAZELAND, Assistant Engineer, 10 days from 4th January.

AIH CHEONG, Survey Coolie, 13 days, from 8th January.

J. MILLAR, Overseer, 3 days from 17th January.

A SIN, Gardener, Colonial Cemetery, three weeks from 9th February.

A FOOK, Survey Coolie, two days from 14th February.

WONG A FAT, Tracer, one week from 7th March.

SING QUA, Draftsman, one month from 9th March.

CHAN FO SAU, Survey Coolie, one week from 4th April.

Lo Tsz LAM, Clerk, six days from 30th April.

J. F. ABRAHAM, Foreman, four days from 25th May.

A. SOUZA, Clerk, one week from 2nd June.

J. GOWANLOCK, Overseer, twelve days from 25th June.

R. C. WITCHELL, Water Inspector, one week from 4th September.

HU SZE, Foreman at Cemetery, twenty-four days from 28th September.

A FOOK, Survey Coolie, three weeks from 20th October.

CHEONG KIT, Office Messenger, five days from 2nd November.

NG YEUNG, Office Messenger, one week from 27th November.

PANG A FAT, Survey Coolie, 10 days from 8th November.

LAM HI, Office Messenger, five days from 6th December.

44. The following changes occurred among the Staff during 1900 :—

Mr. CROOK was promoted to the office of Colonial Engineer of Gibraltar in September.

Mr. DRURY was transferred to the Imperial Service on the 1st September.

Mr. L. GIBBS resigned his appointment as Assistant Engineer on 31st March, and Mr. E. M. HAZELAND, Assistant Engineer, also resigned on 30th April.

Mr. JOHN MOSSOP, A.R.I.B.A., was appointed an Assistant Engineer and joined the staff on the 8th May.

Mr. H. G. C. FISHER, A.R.I.B.A., joined as an Assistant Engineer on 22nd May; and Mr. N. S. P. TRIMMINGHAM on the 4th December.

Mr. C. H. GALE, for eleven years Chief Draughtsman in the Department, was transferred to the class of Assistant Engineers, and acted as Executive Engineer in charge of Public Works Extraordinary.

Mr. I. M. XAVIER, Land Surveyor, was on the 1st May transferred back to the class of Assistant Engineers on the retirement of Mr. HAZELAND.

Mr. T. JACOB, Assistant Draughtsman, was appointed on probation Land Surveyor from the 1st May.

Mr. A. M. PEREIRA was appointed on the 10th November to succeed Mr. JACOB as Assistant Draughtsman.

In the European Overseer class the following changes took place :—

Mr. J. MILLAR resigned on the 11th March, and was succeeded by Mr. C. LEYKUM on the following day.

Mr. A. W. J. SIMMONS was promoted on the 17th January, and was succeeded as Water Inspector by Mr. R. C. WITCHELL on the 22nd January.

Mr. C. E. WARREN resigned on 1st May on receiving an appointment under the Sanitary Board.

Mr. F. STAINTON was promoted on the 1st May and was succeeded by Mr. W. M. THOMSON on 1st June.

Mr. J. GOWANLOCK returned to Europe on completion of his three years' engagement on 26th June, a step of promotion through the Staff following.

Mr. W. M. THOMSON relinquished the post of Custodian of the Wongneichong Recreation Grounds on transfer to the class of Overseer and was succeeded by Mr. W. F. CANNING, a pensioned Petty Officer of the Royal Navy, on 14th July.

Mr. P. T. CRISP, Building Overseer, arrived on 7th November.

Mr. JOHN WILDEY died at sea three days after leaving the Colony, much regretted, his death giving a step of promotion throughout the class of Overseers.

The following Overseers were engaged, on probation, during the year :—

Mr. G. W. KYNOCH on 15th January.

Mr. JOHN GRANT on 21st May.

Mr. JOSEPH DELANEY on 1st September.

Mr. AMOS BROADBENT on 1st November.

Mr. GRANT's services were subsequently dispensed with.

R. D. ORMSBY,  
*Director of Public Works.*



## Appendix B.

## CITY OF VICTORIA AND HILL DISTRICT WATER WORKS, 1900.

*Water pumped to Hill District and High Levels of City (Theoretical Displacement of Pumps).*

MONTH.	HILL DISTRICT.		Total to Hill District.	HIGH LEVELS OF THE CITY.				Total Pumped to High Levels of City.	General Total Pumped.
	Motor.	Engine.		Peak Road Reservoir.	Belilios Terrace Reservoir.	Reservoir South of West Point Filter Beds.			
January.....	gallons. 268,000	gallons. 1,373,000	gallons. 1,641,000	gallons. 573,000	gallons. 169,000	gallons. 1,479,000	gallons. 2,221,000	gallons. 3,862,000	
February, .....	84,000	1,263,000	1,347,000	427,000	411,000	1,007,000	1,845,000	3,192,000	
March, .....	44,000	1,318,000	1,362,000	449,000	142,000	.....	591,000	1,953,000	
April, .....	518,000	1,095,000	1,613,000	580,000	1,442,000	.....	2,022,000	3,635,000	
May, .....	170,000	1,484,000	1,654,000	574,000	1,113,000	148,000	1,885,000	3,489,000	
June, .....	381,000	1,558,000	1,939,000	530,000	1,422,000	63,000	2,015,000	3,954,000	
July, .....	550,000	1,577,000	2,127,000	619,000	1,320,000	.....	1,939,000	4,066,000	
August, .....	700,000	1,623,000	2,323,000	638,000	836,000	846,000	2,320,000	4,643,000	
September, .....	702,000	1,480,000	2,182,000	649,000	1,524,000	.....	2,173,000	4,355,000	
October, .....	485,000	1,612,000	2,097,000	749,000	1,877,000	257,000	2,383,000	4,480,000	
November, .....	251,000	1,907,000	2,158,000	711,000	1,447,000	.....	2,158,000	4,316,000	
December, .....	322,000	1,822,000	2,144,000	757,000	642,000	791,000	2,190,000	4,334,000	
TOTAL, .....	4,475,000	18,112,000	22,587,000	7,256,000	11,845,000	4,591,000	23,692,000	46,279,000	

## Appendix C.

## CITY OF VICTORIA AND HILL DISTRICT WATER WORKS, 1900.

*Particulars of Metered and Unmetered Supply.*

MONTH.	SUPPLY TO CITY AND HILL DISTRICT, (Filtered.)					Supply to Pokfulam, Metered.	Mint Dam and Blue Pool, Metered.	TOTAL SUPPLY.		GRAND TOTAL.
	City Unmetered.	City Metered.		Hill District, Metered.	Filtered, Metered.			Unfiltered, Metered.		
		Trade.	Domestic.							
January, .....	gallons. 80,165,000	gallons. 8,418,000	gallons. 8,170,000	gallons. 1,339,000	gallons. 91,000	gallons. 2,163,000	gallons. 17,927,000	gallons. 2,254,000	gallons. 100,346,000	
February, .....	69,719,000	9,703,000	6,914,000	1,065,000	112,000	3,346,000	17,682,000	3,458,000	90,859,000	
March, .....	73,865,000	12,362,000	6,714,000	1,259,000	118,000	3,297,000	20,335,000	3,415,000	97,615,000	
April, .....	75,199,000	10,208,000	9,697,000	1,391,000	167,000	4,659,000	21,296,000	4,826,000	101,321,000	
May, .....	75,123,000	15,978,000	5,540,000	1,572,000	190,000	6,150,000	23,090,000	6,340,000	104,553,000	
June, .....	74,855,000	15,587,000	5,194,000	1,568,000	197,000	5,282,000	22,349,000	5,479,000	102,683,000	
July, .....	103,810,000	11,104,000	5,796,090	1,908,000	177,000	1,965,000	18,808,000	2,142,000	124,760,000	
August, .....	106,809,000	12,759,000	10,197,000	2,128,000	177,000	1,890,000	25,084,000	2,067,000	133,960,000	
September, .....	101,057,000	10,697,000	8,522,000	1,942,000	199,000	3,376,000	21,161,000	3,575,000	125,793,000	
October, .....	94,264,000	12,563,000	9,450,000	1,677,000	150,000	1,545,000	23,690,000	1,695,000	119,649,000	
November, .....	82,912,000	12,634,000	6,784,000	1,608,000	137,000	147,000	21,026,000	284,000	104,222,000	
December, .....	91,056,000	13,084,000	3,476,000	1,709,000	169,000	1,565,000	18,269,000	1,734,000	111,059,000	
Total, .....	1,028,834,000	145,097,000	86,454,000	19,166,000	1,884,000	35,385,000	250,717,000	37,269,000	1,316,820,000	

Appendix D.

CITY OF VICTORIA AND HILL DISTRICT WATER WORKS, 1900.

Comparative Table shewing Water Pumped to Hill District (Theoretical Displacement of Pumps) since the Supply commenced.

MONTH.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
January, .....	gallons. 970,000	gallons. 933,000	gallons. 1,051,000	gallons. 1,022,000	gallons. 1,115,000	gallons. 735,000	gallons. 1,669,000	gallons. 1,641,000	gallons. 1,641,000
February, .....	828,000	862,000	882,000	741,000	873,000	1,434,000	1,553,000	1,347,000	1,347,000
March, .....	842,000	950,000	951,000	836,000	1,138,000	933,000	1,730,000	1,362,000	1,362,000
April, .....	726,000	659,000	976,000	992,000	1,093,000	1,373,000	1,542,000	1,613,000	1,613,000
May, .....	951,000	826,000	1,091,000	1,210,000	1,316,000	1,387,000	1,769,000	1,654,000	1,654,000
June, .....	1,152,000	1,175,000	1,140,000	1,176,000	1,409,000	1,553,000	1,957,000	1,939,000	1,939,000
July, .....	1,206,000	1,324,000	1,252,000	1,397,000	1,560,000	1,618,000	1,972,000	2,127,000	2,127,000
August, .....	1,257,000	1,386,000	1,393,000	1,462,000	1,498,000	1,808,000	2,157,000	2,323,000	2,323,000
September, .....	1,103,000	1,270,000	1,364,000	1,404,000	1,421,000	1,995,000	2,214,000	2,182,000	2,182,000
October, .....	1,475,000	1,082,000	1,353,000	1,346,000	1,297,000	1,926,000	2,185,000	2,097,000	2,097,000
November, .....	1,239,000	996,000	1,210,000	1,136,000	1,134,000	1,659,000	1,760,000	2,158,000	2,158,000
December, .....	988,000	981,000	1,194,000	976,000	1,030,000	1,464,000	1,699,000	1,800,000	2,144,000
Total, .....	6,062,000	12,261,000	13,236,000	13,217,000	13,752,000	15,318,000	18,180,000	22,308,000	22,587,000

Not measured.

## Appendix E.

## CITY OF VICTORIA AND HILL DISTRICT WATER WORKS, 1900.

Comparative Table shewing Water pumped to High Levels (*Theoretical Displacement of Pumps*) since the Supply commenced.

MONTH.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
January, .....	gallons. 2,509,000	gallons. 1,426,000	gallons. 1,340,000	gallons. 962,000	gallons. 1,358,000	gallons. 1,478,000	gallons. 1,951,000	gallons. 2,221,000	
February, .....	1,851,000	1,257,000	1,153,000	820,000	1,100,000	1,135,000	1,644,000	1,845,000	
March, .....	1,084,000	1,301,000	1,372,000	1,009,000	1,352,000	1,404,000	2,091,000	591,000.	
April, .....	989,000	945,000	1,164,000	1,203,000	1,436,000	1,355,000	1,097,000	2,022,000	
May, .....	1,839,000	1,526,000	979,000	1,463,000	1,646,000	1,608,000	1,491,000	1,835,000	
June, .....	1,745,000	1,376,000	1,226,000	1,391,000	1,473,000	1,502,000	1,451,000	2,015,000	
July, .....	1,787,000	1,476,000	1,432,000	1,478,000	1,632,000	1,613,000	1,490,000	1,939,000	
August, .....	3,692,000	1,552,000	1,496,000	1,543,000	1,638,000	1,578,000	1,569,000	2,320,000	
September, .....	2,845,000	1,584,000	1,585,000	1,449,000	1,600,000	1,701,000	1,704,000	2,173,000	
October, .....	2,536,000	1,748,000	1,136,000	1,505,000	1,653,000	1,699,000	2,192,000	2,383,000	
November, .....	2,631,000	1,646,000	1,174,000	1,425,000	1,526,000	1,641,000	1,957,000	2,158,000	
December, .....	2,304,000	1,668,000	1,216,000	1,394,000	1,431,000	1,722,000	2,135,000	2,190,000	
Total, .....	14,008,000	20,501,000	17,456,000	15,273,000	15,642,000	17,845,000	18,436,000	20,772,000	23,692,000

## Appendix F.

## KOWLOON WATER WORKS, 1900.

## Monthly Consumption.

MONTH.	METERED SUPPLY.			Unmetered Supply.	Total.
	Trade.	Domestic.	Total.		
	gallons.	gallons.	gallons.	gallons.	gallons.
January, .....	809,000	953,000	1,762,000	6,288,000	8,050,000
February, .....	902,000	631,000	1,533,000	5,481,000	7,014,000
March, .....	610,000	1,779,000	2,389,000	3,812,000	6,201,000
April, .....	1,640,000	981,000	2,621,000	5,414,000	8,035,000
May, .....	824,000	1,554,000	2,378,000	5,708,000	8,086,000
June, .....	967,000	965,000	1,932,000	7,258,000	9,190,000
July, .....	1,313,000	814,000	2,127,000	6,590,000	8,717,000
August, .....	974,000	1,101,000	2,075,000	8,706,000	10,781,000
September, .....	740,000	853,000	1,593,000	6,947,000	8,540,000
October, .....	1,730,000	1,363,000	3,093,000	4,907,000	8,000,000
November, .....	1,156,000	1,141,000	2,297,000	6,230,000	8,527,000
December, .....	1,063,000	1,466,000	2,529,000	7,424,000	9,953,000
Total, .....	12,728,000	13,601,000	26,329,000	74,765,000	101,094,000

## Appendix G.

## ABERDEEN WATER WORKS, 1900.

## Monthly Consumption.

MONTH.	Metered Supply.	Unmetered Supply.	Total Consumption.
	gallons.	gallons.	gallons.
January, .....	38,000	293,000	331,000
February, .....	49,000	315,000	364,000
March, .....	60,000	363,000	423,000
April, .....	86,000	349,000	435,000
May, .....	44,000	368,000	412,000
June, .....	50,000	371,000	421,000
July, .....	35,000	323,000	358,000
August, .....	34,000	335,000	369,000
September, .....	39,000	307,000	346,000
October, .....	46,000	274,000	320,000
November, .....	31,000	263,000	294,000
December, .....	53,000	258,000	311,000
Total, .....	565,000	3,819,000	4,384,000

## Appendix H.

## SHAUKIWAN WATER WORKS, 1900.

*Monthly Consumption.*

MONTH.	Metered Supply.	Unmetered Supply.	Total Consumption.
	gallons.	gallons.	gallons.
January,.....	78,000	651,000	729,000
February, .....	94,000	515,000	609,000
March, .....	33,000	711,000	744,000
April,.....	24,000	744,000	768,000
May, .....	45,000	736,000	781,000
June, .....	44,000	707,000	751,000
July, .....	43,000	781,000	824,000
August, .....	52,000	613,000	665,000
September,.....	44,000	906,000	950,000
October,.....	47,000	812,000	859,000
November,.....	36,000	766,000	802,000
December, .....	35,000	827,000	862,000
Total,.....	575,000	8,769,000	9,344,000

## GOVERNMENT NOTIFICATION.—No. 277.

Tenders will be received at this Office until Noon of Tuesday, the 28th May, 1901, for the erection of a Latrine containing 40 seats at Hing Wan Street, Wanchai.

No work will be permitted on Sundays.

For form of tender, specification and further particulars apply at the Public Works Office.

The Government does not bind itself to accept the lowest or any tender.

By Command,

T. SERCOMBE SMITH,  
*Acting Colonial Secretary.*

Colonial Secretary's Office, Hongkong, 11th May, 1901.

## GOVERNMENT NOTIFICATION.—No. 266.

The following Lot of Crown Land at MacDonnell Road, will be sold by Public Auction at the Offices of the Public Works Department on Monday, the 20th day of May, 1901, at 3 p.m.:—

Inland Lot No. 1,636.

For Particulars and Conditions of Sale see page 902 of the *Government Gazette* for 1901.

By Command,

T. SERCOMBE SMITH,  
*Acting Colonial Secretary.*

Colonial Secretary's Office, Hongkong, 4th May, 1901.