Enclosure to Falkland Islands Despatch No. 207 of 8th October, 1929.

Report

on

Improvement Works in Stanley,

proposed as eligible

for grant from

Colonial Development Fund.

9th September, 1929.

CONTENTS.

Schedule of information required by the Advisary Committee in considering applications for assistance from the Colonial Development Fund.

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1. (a) Description of Scheme :

   Ans. Improvement and extension of Roads, Drainage and Water Supply in Stanley. See detailed estimates and photographs, pages 6 to 18.

   (b) Its objects :

   Ans. The promotion of public health. See Medical Reports, pages 8 and 9. The supply of water to dwellings and shipping. Revenue estimated at £750 a year would be derived from this source if adequate facilities were provided.

2. Estimated total cost :

   Ans. £20,000.

3. Earliest estimated date of commencement :

   Ans. Immediately on receipt of intimation by telegram that grant has been approved.

4. Approximate estimated date of completion :

   Ans. 1934.

5. Approximate estimate of allocation of cost :

   (a) Local expenditure : *Ans.* £12,574.

   (b) Expenditure in Great Britain : *Ans.* £7,418.

6. Circumstances that have prevented the work being put in hand before :

   Ans. Lack of funds.

7. Proposed method of financing capital expenditure contemplated : See answer to 10 infra.

8. The advantages to be derived and additional yearly net revenue : See 1. above.

9. Detailed estimates (see pages 6 and 7) have been prepared under the expert direction of Mr. G. Roberts, seconded from C. E. in C. Admiralty in 1924 as Executive Engineer of the Stanley Improvement Works and appointed Colonial Engineer in 1928.

10. A direct grant from the Fund is required.

PUBLIC WORKS DEPARTMENT,
STANLEY, FALKLAND ISLANDS.
9th September, 1929.

Sir,

I have the honour to submit the following report on the roads, drains and water supply of Stanley.

2. In 1921 a scheme for the improvement of Stanley was drawn up, the estimated cost of which was some £91,000.

3. The Government at that time, through lack of funds, decided to proceed with the work on a modified scale, voting £30,000 to be spread over three years ; another £8,000 has since been added, making a total of £38,000 in all.

4. This money has been spent as follows :—

Plant and Working Sheds	£ 2,700.
Water Supply	13,300.
Drainage	8,250.
Roads	10,000.
Engineering, Administration, and passages of Staff ...	3,750.
	38,000.

5. There is still much more to do, chiefly to the roads and drains in the upper reaches of the town.

6. It may be argued that the above figure is a large sum to spend on such work. It should however be remembered that until 1926, over eighty years after its establishment as the capital, Stanley had no proper drainage scheme. Such drainage as could be said to exist was carried out by means of open ditches constructed and maintained in the most haphazard manner. Considerable sums were spent annually in maintaining these ditches with no lasting result, and in consequence the system while being wholly inadequate, was exceedingly costly.

DRAINAGE.

A proper scheme was commenced in 1926, 12″ and 9″ sewers being laid, which discharge into the sea at three main outfalls, composed of 12″ C.I. pipes on re-inforced concrete piers. The work was commenced at the low level and continued upwards, connections to properties and street gullies being made *en route*. The work has now been completed for approximately half of the town, *i.e.* to Fitzroy Road, and is working to my entire satisfaction.

Many W.Cs., sinks, and bathrooms have been installed – luxuries hitherto unknown ; also, arrangements have been made to take the storm water, in open channels, from the higher regions of the town. Ultimately it is hoped that every house will be provided with at least one yard gulley, properly trapped and led into the main sewer.

The whole of the sewers so far laid down have been designed, and provision made, for further extensions with a view to completing the drainage scheme.

THE HONOURABLE,
THE COLONIAL SECRETARY,
STANLEY, FALKLAND ISLANDS.

In the upper reaches of the town there is no drainage system except that afforded by the open ungraded trenches cut through roads and cart tracks for carrying off surface water. Into these slop water and urine in a great many cases find their way. The practice of allowing such matter to flow in open ditches and unlined channels is a serious menance to health and constitutes a grave public nuisance tolerated only on the grounds of expense. In places where, owing to unavoidable inequalities of surface, the fluid settles and stagnates the conditions can be better imagined than described.

ROADS.

The roads in the upper parts and out-skirts of the town are extremely poor ; it can be said in fact that they are practically non-existent. They consist generally of rough cart tracks on which broken stone has been thrown from time to time, and which in most cases has been lost in some two or three feet of peat. It is practically impossible to travel over these tracks during six months of the year.

The need for better roads and tracks has become more acute during the last eighteen months due chiefly to the campaign for improved housing conditions. Many houses have been, and are, being built, in outlying localities of the town. In consequence, persons who are endeavouring to improve their housing conditions are now faced with the problem of having neither roads nor drains.

The lower half of the town is in a very good position as far as roads and drains are concerned, this section having been dealt with under the recent Improvement Scheme.

I estimate that there are some 3,500 yds. run of roads that require metalling, rolling and blinding ; 7,000 yds. run of curbs and gutters and 1,750 yds. run of concrete footpath.

WATER SUPPLY.

The original scheme drawn up in 1923 was considerably curtailed owing to the lack of funds at that time.

Under the recent Improvement Works Scheme, 4″ mains were laid down and storage reservoir constructed to hold 350,000 gallons. The storage is now being taxed to its utmost, and in a very short time will prove quite inadequate owing to the growing demand for town connections and the supply of water to whalers going south.

It is therefore very essential that the following work should be carried out :—

(1) Extension of the town mains.

(2) Enlargement of existing storage reservoir to hold an additional 175,000 gallons.

(3) Enlargement of dam at catchment area thereby increasing the flow to storage reservoir.

I should like to state that unless we avail ourselves of the opportunity to supply shipping with water, they will have no alternative but to take water at a foreign port, *e.g.* Monte Video. Also, the extension of the town mains will enable us to supply those people in the town who are now entirely dependent on water caught from their roofs ; a most undesirable practice from a health point of view.

CONCLUSION.

The resources of the Colony as regards the natural supply of constructional materials are extremely poor, and, with the exception of the abundance of good rock (when crushed) for road construction or concrete work, may be said to be for practical purposes almost non-existent. Quite a large portion of the money voted would therefore be spent on materials in the United Kingdom.

The following table gives the summary of the attached estimates and the amount to be spent in the United Kingdom.

Description.	Total Estimate.	To be spent Locally.	To be spent in the U. K.	Remarks.
	£	£	£	
Drainage	5,622.	2,002.	3,620.	Stoneware pipes, manhole covers, gullies and cement.
Water Services ...	2,730.	1,432.	1,298.	C. I. pipes, surface boxes and cement for Intake.
Roads	11,640.	9,140.	2,500.	Cement, lorry for transport and crushing plant.
Totals ...	19,992.	12,574.	7,418.	

The appended photographs and comments are intended to illustrate really typical conditions prevailing in the higher levels of the town where very few improvements have been carried out. There are also attached views taken in the lower part of the town which has greatly improved during recent years.

I have the honour to be,

Sir,

Your obedient Servant,

G. Roberts,

Colonial Engineer.

BASIS OF ESTIMATE.

DRAINAGE.

	£	s.	d.
Allardyce Street & Reservoir Road to Water Pier.			
115 yds. run 9″ stoneware sewer @ 22/-	126	10	0.
200 „ „ 6″ „ „ @ 15/-	150	0	0.
8 No. Manholes @ £20	160	0	0.
4 No. Gullies @ £12	48	0	0.
Allow for 4″ connections to house drains ...	20	0	0.
St. Mary's Walk.			
250 yds. run 6″ stoneware sewer @ 15/-	187	10	0.
3 No. Manholes @ £20	60	0	0.
6 No. Gullies @ £12	72	0	0.
Allow for 4″ connections to house drains ...	40	0	0.
James Street.			
320 yds. run 6″ stoneware sewer @ 15/-	240	0	0.
5 No. Manholes @ £20	100	0	0.
6 No. Gullies @ £12	72	0	0.
Allow for 4″ connections to house drains ...	60	0	0.
Villiers Street from Fitzroy Road to Davis Street.			
150 yds. run 9″ stoneware sewer @ 22/-	165	0	0.
3 No. Manholes @ £20	60	0	0.
2 No. Gullies @ £12	24	0	0.
Allow for 4″ connections to house drains ...	20	0	0.
Dean Street from Fitzroy Road to Davis Street.			
150 yds. run 9″ stoneware sewer @ 22/-	165	0	0.
50 „ „ 6″ „ „ @ 15/-	37	10	0.
4 No. Manholes @ £20	80	0	0.
4 No. Gullies @ £12	48	0	0.
Allow for 4″ connections to house drains ...	30	0	0.
Philomel Street from Fitzroy Road to Davis Street.			
150 yds. run 6″ stoneware sewer @ 15/-	112	10	0.
3 No. Manholes @ £20	60	0	0.
4 No. Gullies @ £12	48	0	0.
Allow for 4″ connections to house drains ...	25	0	0.
Fitzroy Road from Cemetery to Villiers Street.			
800 yds. run 9″ stoneware sewer @ 22/-	880	0	0.
100 „ „ 6″ „ „ @ 15/-	75	0	0.
9 No. Manholes @ £20	180	0	0.
Allow for 4″ connections to house drains ...	75	0	0.
Carried forward ...	3,421	0	0.

	£	s.	d
Brought forward ...	3,421 :	0 :	0.
DAIRY PADDOCK ROAD.			
600 yds. run 6″ stoneware sewer @ 15/-	450 :	0 :	0.
6 No. Manholes @ £20	120 :	0 :	0.
Allow for 4″ connections to house drains ...	60 :	0 :	0.
DAVIS STREET.			
1,080 yds. run 6″ stoneware sewer @ 15/-	810 :	0 :	0.
8 No. Manholes @ £20	160 :	0 :	0.
Allow for 4″ connections to house drains ...	90 :	0 :	0.
	£5,111 :	0 :	0.
Plus 10% Contingencies ...	511 :	2 :	0.
	£5,622 :	2 :	0.

Say £5,622 : 0 : 0.

ROADS.

3,500 yds. lineal, remove peat, form road with 6″ of broken metal, water blind and roll to average 7 yds. wide @ £1 : 6 : 0 per yd. lin.	4,550 :	0 :	0.
7,000 yds. lineal of concrete curb and gutter with turf path @ 14/- per yd. lin.	4,900 :	0 :	0.
1,750 yds. lineal of concrete pavement @ 13/- per yd. lin.	1,137 :	10 :	0.
	10,587 :	10 :	0.
Plus 10% Contingencies ...	1,058 :	15 :	0.
	£11,646 :	5 :	0.

Say £11,640 : 0 : 0.

WATER SUPPLY.

880 yds. lineal of 3″ C.I. spigot and socket water pipes, with connections, hydrants, surface boxes and lead wool jointing @ 12/- per yd. lin.	528 :	0 :	0.
Extension of reservoir, constructed of re-inforced concrete to hold 175,000 gallons	2,000 :	0 :	0.
Extension of existing dam at Intake and deepening catchpits. Say...	200 :	0 :	0.
	£2,728 :	0 :	0.

Say £2,730 : 0 : 0.

MEDICAL REPORTS.

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Extracts from report by Dr. J. Hope Reford, C.M.G., dated 31st March, 1929.

HOUSING.

It can safely be stated that insanitary housing and defective teeth are the prime causes of much of the ill-health in Stanley. Both factors admit of being remedied to the great amelioration of the health and social well-being of the community. Their neglect means the perpetuation of existing disease and the menance of other serious diseases from which this Colony has hitherto been free.

While many of the better class houses are satisfactory and comfortable the general sanitary condition of housing for the working population in Stanley with the exception of some of the more recently erected houses, can only be described as deplorable.

The dangerous condition of overcrowding and squalor and defective sanitation which are found in many of the older houses in the upper section of the town, have been brought about by various contributory factors, chiefly :–

(a) Inadequacy of accommodation, with consequent overcrowding, through there not being nearly enough houses to accommodate the working population.

(c) Defective Sanitary provision. Earth closets are frequently too close to the dwellings, are insufficient for the congested houses, and the pails are not emptied with sufficient frequency. The advantages of the pipe-borne water supply are not yet available for most of these small houses for domestic or sewage purposes, They have no baths. Rubbish is stored in bins at the back frequently uncovered and overflowing and blown about by the constant winds. Leaking roofs, gutters, and barrels which serve as tanks all add to the dampness and discomfort of the dwellings. No surface of other drainage is provided in many cases for overflow or slop water.

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(e) Roads and Drains. The valuable road extension scheme is a great boon but has not yet reached all these small dwellings in the upper section of the town. Their existing approaches become mud tracks in the winter, undrained and well nigh impassable.

The obvious dangers and evils both from medical and social standpoints inseparable from such unhygienic conditions of housing require no comment. It is surprising that a community consigned to such unhealthy conditions of living should have suffered so little in the past from serious epidemic diseases or should not have deteriorated more in physique and mental outlook. The Falklands' climate, though so rigorous, is clearly not conducive to the spread of disease, but the continued disregard of ordinary sanitary precautions must nevertheless be a gratuitous invitation for trouble.

The obvious course elsewhere in slum dwellings of this description would be to condemn the worst houses to be pulled down as unfit for human habitation. In view of the acute shortage of housing accommodation however this course is not open in Stanley until further accommodation is provided for the present occupiers. It is manifestly essential that in order to deal effectively with the problem new houses must first be built to relieve the existing congestion of population. The present houses can then be dealt with be demolishing those unfit for habitation and abating nuisances in others. No amount of reconstruction, sanitary improvements, or drainage could rectify many of these houses, and would not relieve the overcrowding.

Report by Dr. J. Innes-Moir, Principal Medical Officer, Falkland Islands, dated 4th September, 1929.

Sanitary Conditions in Stanley.

The town of Stanley has been built with no preconceived idea of a sanitary future, and much ill-health has been the direct result of badly constructed houses, open ditches and drains which retained all conceivable manner of filth, and to make matters worse, prior to the Stanley Improvement Scheme, there was no good water supply available to help cleanse the people, houses, ditches and drains.

The Stanley Improvement Scheme has supplied the lower section of the town with roads, drains, water supply, baths, water closets, and other hygienic advantages.

Much ill-health in Stanley is directly due to overcrowding of poor, extremely insanitary dwellings in the upper section of the town.

The people are being educated up to a better health standard, and are well aware of the advantages of hygienic dwellings as shown by the fact that during the past two years, 36 houses have been built, or are in course of construction, and more are contemplated. Unfortunately, these houses are being built in areas where the essentials of sanitation, roads, drains, and water supply are not available. The tracks to these houses in winter time are knee deep in mud, liquid sewage discharges on to these tracks, and night-soil carts cannot make the necessary rounds in the winter time. The lot of children who have to wade through these abominable morasses on their way to and from school is very hard.

The fact is that the people of Stanley are making an endeavour to improve their conditions by building houses, but unfortunately these houses are being erected in the most insanitary environment possible.

The Milk and Dairies Regulations 1928 cannot be enforced, because cow-keepers cannot erect sanitary cow-sheds where no drains, or water supply are available. Local milk supplies are undoubtedly filthy and as ten cases of bone tubercle have come to notice this year, are under grave suspicion of being tubercle infected as well. Also these milk supplies are suspected of playing no minor part in the causation of epidemic sore throat which so afflicts the inhabitants of Stanley.

In conclusion, the Medical Report for 1928 regarding sanitation, housing, and general hygienic conditions is fully endorsed.

The sanitary, and hygienic conditions of Stanley cannot materially improve until a scheme of extension of roads, water supply and drainage facilities is undertaken.
