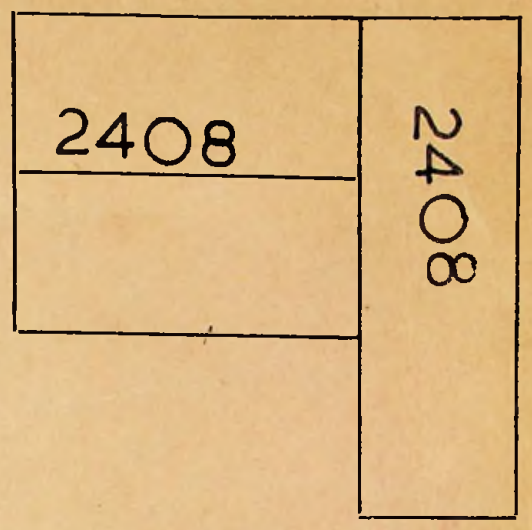


[CONFIDENTIAL.]

ESTABLISHMENT OF LOCAL AIRFIELD.

[Contact map at back. Cover]

CONNECTED FILES.

NUMBER

No. 2408

It is requested that, in any reference to this memorandum the above number and date should be quoted.

MEMORANDUM

17th April 1967

From: Grasslands Officer

Stanley, Falkland Islands.

To: The Colonial Secretary,

STANLEY

Copies to: SPW and DCA

SUBJECT :- Airfield

I have examined the site with Mr Gough and discussed the requirements of the surface with Mr Kerr. I am told that a dead level site is not necessary but it should be free from any bumps or hollows. Such a surface could be achieved without much difficulty after drainage.

2. As the soil is very sandy and is of low fertility the existing sward should be destroyed as little as possible to preclude the extensive use of fertilisers and the chance of erosion. The present ground cover is also very tough and hard wearing. The smaller irregularities could be removed by heavy rolling when wet and some infilling. The larger hollows could be filled with a mineral soil and oversown. Diddle-dee could be removed by hand pulling or harrowing.

3. The above operations would be inexpensive as they would only need a few men, lorries, roller and loader for a week or ten days.

Colin D Yeeming.
Grasslands Officer

Appreciation of the Possibility of a Falkland Islands Airstrip.

Introduction

1. The following appreciation is based on two visits to a proposed site for a Falkland Islands airstrip and must therefore be in the form of a broad outline study. A map is attached showing the possible location for an airstrip 3300 ft x 100 ft in a direction approximately E - W with associated approach and departure sectors.

Site Considerations

2. Along the length of the proposed strip the surface is generally flat and requires minimal grading and drainage. The top surface comprises a thin layer of soil supporting the growth of wild grass and other vegetation. The sub strata has the appearance of peaty clay rather than sand and this would account for the extensive areas of surface water adjacent to the proposed strip. There is evidence of sand but this is considered to be wind blown deposits rather than an extensive sand sub strata. The exact nature of the sub strata could be established by drilling out a sample core to a depth of several feet and such a task may be within the capability of the Department of Agriculture. Drainage of the few pools along the length of the strip could be achieved by ditches filled with gravel crushed from the adjacent rock areas and covered by a top surface of soil and grass.

3. The area surrounding the strip would require extensive drainage to clear the surface water and this would involve a long term work programme. However, within the area surrounding the strip there are a number of rock outcrops which could provide firm foundations for the future construction of buildings in connection with flying operations, i.e. hangar, fuel store, terminal building. Access to the strip from the rock outcrops would in some cases be over dry ground. In addition, the area contains adequate deposits of rock, water and sand for use in making concrete. In this context high explosive might be used to break up rock into manageable size for crushing.

4. Animals and bird life would have to be prevented from occupying the site during flying operations and it may be more economical to employ someone to attend to this rather than to fence off the entire area.

5. A road would be necessary to provide access to the site from Port Stanley in connection with the construction of the airstrip and associated buildings and installations. Approach from the sea via Whalebone Cove would be uneconomical as the gradual shelving of the beach would necessitate construction of a long jetty and a road over the soft approach to the site of the strip. However, in event of future expansion bulk fuel supplies might be pumped ashore at this position.

Operational Considerations

6. Weather Factor. Local advice indicates that the proposed site is not subject to radiation fog and that there is a minimal incidence of advection fog (sea fog). Cloud base rarely deteriorates below 300 feet above ground level and prevailing wind direction varies between south west and north west with a mean speed of 16 - 18 knots. The majority of landing approaches would therefore take place over the sea to the east of the proposed strip. Some turbulence may occur over the strip but marked turbulence is unlikely across flat terrain with over water approaches. The wind gradient near the surface may become steep during strong winds but no more so than at any other airfield.

7. Take Off and Landing. This should present no problem on a graded grass strip, although braking and ground manoeuvring may be difficult following heavy rainfall. It is not possible to state aircraft weights that would be feasible on such a strip as these are a function of surface strength and aircraft tyre pressure.

8. Aircraft Approach Paths. Both approaches to the proposed strip are over water and free of obstructions in the vicinity of the landing area. Under I.M.C. (Instrument Met Conditions), instrument approaches from the east would be feasible and in event of a missed approach the climb gradient required to maintain adequate ground clearance is less than 1 in 40. In event of instrument approaches from the west, the glide slope angle of an I.L.S. (Instrument Landing System) installation would permit safe ground clearance and a missed approach would present no hazard. A.D.F. (Automatic Direction Finder) approaches would be possible using an aircraft radio compass in conjunction with a simple radio beacon transmitter sited near the strip. However, A.D.F. approaches from the west would be hazarded by Sapper Hill which projects into the required ground clearance envelope for an instrument approach without centre line guidance.

9. Flight in I.M.C. or at Night. Flights in I.M.C. or at night would be feasible subject to the provision of an approach aid such as I.L.S. or a radio beacon and suitable airstrip lighting. A small portable I.L.S. combined with portable electric runway lighting would be ideal but if cost prohibited this a radio beacon combined with a line of goose necks (paraffin flares) would provide rudimentary instrument flying facilities.

Ground Installations

10. The proposed airstrip could be sown with suitable grass following levelling, or alternatively turfed with sections cut from the surrounding grass areas. Hardstandings for aircraft parking and fuel storage could be constructed from pierced steel planking initially, although concrete platforms built directly on to bed rock, where near to the surface, would probably be more economical. Some form of storage for airfield lighting, aircraft spares and maintenance equipment would be necessary and could be erected on one of the rock outcrops noted in paragraph 3. Ideally, a hangar for aircraft storage and major maintenance should be erected, together with bulk fuel storage facilities, but this could be reconsidered when the type of aircraft using the strip is known. Electric power, telephone and fire fighting equipment would be necessary installations.

Development Potential

11. Although westward extension of the proposed strip would be prevented by the proximity of Whalebone Cove, there is room for expansion to the east, subject to more extensive surface grading and drainage. In event of a requirement, space available would permit the installation of a 12000 ft runway which could accommodate large commercial aircraft. Extensive resources of rock and sand exist in the surrounding area for the eventual construction of a hard surfaced runway.

12. Commercial prospects for the proposed airstrip could be considerable. Rapid transport of passengers and perishable goods would be possible between the Falkland Islands and South America. Interchange of staff and transport of urgent spares for the Satellite Tracking Station would become easier than at present. The British Antarctic Survey flying effort could be based on Port Stanley instead of Deception Island. Air ambulance facilities would be possible in the event of cases of serious illness beyond the facilities of Port Stanley hospital. The introduction of tourist traffic from South America is a further possibility.

Construction of the Airstrip

13. It is not possible at this stage to estimate the cost of construction of an airstrip as outlined above and it might be necessary to hire some construction plant from either the United Kingdom or South America in order to progress the project beyond the initial stage. In this context it may be economically feasible to use foreign labour on the construction work should local resources prove inadequate. It is worthy

of note that many of the civil airports in the United Kingdom were originally constructed for military purposes and subsequently modified for civilian use. Therefore, is it not possible to acquire some assistance from the Ministry of Defence, London, in the construction of a basic airstrip for the use of the Falkland Islands Government Air Service?

Conclusion

14. It is considered that the projected site as marked on the attached map is the best one from all aspects, in the vicinity of Port Stanley, and that a basic airstrip with development potential could be constructed there.

18th April 1967

(R.W. BURGESS)
Flight Lieutenant

Copy

Extracts from a letter from H.E. to Mr J.S. Bennett, C.M.G., Commonwealth Office, dated 20th April 1967.

Would you please refer to your letter YC10/2 of 15th February about the possible construction of an airfield. I acknowledged this on 12th March and sent a further brief interim letter on 15th March.

You may well be wondering at my subsequent silence. This has been partly induced by the formidable list of questions which you sent me but it has also come about because we have been taken a look at the problem from a different angle, namely, that if the Falkland Islands were to have minimum facilities for aircraft to land, then we should at least be in a position to accept occasional chartered aircraft. In other words, rather than talk about provision of an aircraft service, we should quite modestly set about providing the means for aircraft to land in conditions of reasonable safety.

.....

I am grateful to you for drawing my attention to correspondence which took place in Clifford's time. The note prepared for the Secretary of State in 1955 and quoted by you seems to cover the position pretty conclusively. That note does however concentrate on the problems posed by attempting to introduce an air service and is therefore not conclusive when one is merely talking about providing facilities.

I suppose we have to accept that flying boats are a dying species, though I should like to discover a good deal more about the length of time their demise might be expected to take, because in Port Stanley we have an admirable stretch of water on which flying boats can land.

Assuming however that in these days we need to plan in terms of land planes, it does not seem to me beyond the bounds of possibility that airlines already operating in South America might from time to time be interested in making a charter flight to the Falklands. It is too ambitious to think in terms of an external air service of even the most simple nature being financed by the Falkland Islands Government or by the Falkland Islands Company and, while it would bepleasant to see B.U.A. planes coming here, I assume that this is quite out of the question. We are therefore compelled to think in terms of existing Latin American airlines.

We need not of course think only in terms of the 1010 mile stretch between Stanley and Montevideo (not 1200 miles as quoted in the note of 1955); Punta Arenas is only about 480 miles from Stanley. On 30th March this year our two new Beaver single engined aircraft, which had flown all the way from Toronto to Punta Arenas, performed the flight from Punta Arenas to Stanley in three hours and 20 minutes. The ferry pilots, two Americans named Weston and Averill, expressed astonishment at our lack of contact with South America by air and made light of the journey which they had just performed. Of course it is one thing for the pilots of an aircraft delivery firm to fly over a stretch of the South Atlantic in single engined aircraft; it is a different matter once one starts talking of operating aircraft on a commercial basis. Nevertheless, these men showed us what can be done.

In paragraph 4 of your letter of 15th February you suggest that in recent years the size and sophistication and therefore the cost of aircraft and ground facilities have increased proportionately more than the potential traffic to and from the Falklands. This is probably so but it is worth mentioning that the type of aircraft which might be expected to come to the Falklands would probably be one of the smaller twin engined planes, such as those operated by the Chilean airline Tama who have already shown interest in flights to and from the Falkland Islands.

I confirm that there would be no traffic whatever today in connection with South Georgia whaling.

In paragraph 5 of your letter you ask me to calculate the potential traffic and revenue earning capacity of an air service to the South American mainland which would be needed to make it an economic proposition. I am not attempting to provide this information because I think we are already agreed that at present the revenue earning capacity just is not there. That is why I have switched my approach away from provision of an air service to the alternative of provision of an air strip.

.....

When Weston and Averill, the ferry pilots, were here we arranged for them to visit the Cape Pembroke area with Kerr, the local Director of Civil Aviation. The pilots were favourably impressed by the site shown to them.

This week a visit has been paid to the site by Flight Lieutenant Burgess who has just returned from the Antarctic after spending 15 months as a pilot for B.A.S. Burgess, assisted by a geologist, Matthews, has made a very interesting report on the Cape Pembroke site and we shall be providing you with a copy next month. It appears that a reasonable site does in fact exist and, although anything to do with aircraft these days is expensive, I doubt whether the sort of landing ground we have in mind,

No. 2408.

It is requested that, in any reference to this memorandum the above number and date should be quoted.

MEMORANDUM

25th April 1967.

The Supt. Poer & Electrical Dept.

Stanley, Falkland Islands.

The Colonial Secretary,
Secretariat,
STANLEY.

SUBJECT :- Power Supply to Proposed Air-strip, Stanley.

I refer to your recent enquiry with regard to a power supply and costs to a proposed air strip site east of Stanley. As you are aware without definate information as to the nature of the load and firm prices of materials, it is not possible to give anything other than a tentative pricing.

The distance to the site from the present termination of our H.V. distribution system is some 7,000 yards and from the Stanley Power Station some 9,500 yards or about 5½ miles. It is practice to increase voltage with distance, our present transmitting voltage is 3,300. It would be advisable in my opinion to step this up to 6,600 volts or possibly to 11,000 volts. If the present voltage was used the volt drop over the distance would be excessive, about 8 volts per ampere of current. This however could be corrected at the receiving end by extra transformer tappings. The cost of this latter scheme would be of the order of £10,000.

I would hesitate advising expenditure for the scheme without a complete and thorough appraisal of future developments from Stanley to and at the site. For if a landing strip was built and used even sparingly at first, it is bound to develop and electric power in a growing quantity would be needed.

If the project does go ahead then power will be required right from the beginning, but to avoid killing such an excellent project by heavy initial capital costs, I suggest that a remote diesel generating unit should be set up at the site. I know where there is one that is surplus to requirements that would be ideal and suitable. It is lying unused in the Grytviken Power Station, it's output is 27 Kva. at 230/400 volts 50 cycles and it is in excellent condition. Costs would be negligable in installing it. S.P.W. would no doubt give a costing of a small housing for it.

I hope the above information is sufficient at this stage but I can of course go deeper into all of the costing and implications if you wish.

Supt. Power & Electrical Department.

BW Xco
4.5.67

4a

BRITISH ANTARCTIC SURVEY

FORMERLY FALKLAND ISLANDS DEPENDENCIES SURVEY

DIRECTOR: SIR VIVIAN FUCHS

30, GILLINGHAM STREET, S.W.1

TELEPHONE: VICTORIA 3687-8-9

TELEGRAMS: POLASURVEY, LONDON-SW1

RESTRICTED

28th April, 1967.

SW1 3rd 28/6

Dear Thompson,

In a letter dated 19th April, 1967 the Governor asked me to write to you about the possible use of a Stanley air-strip by B.A.S. twin-engine planes.

We hope to acquire at least one twin-engined Skyvan or Otter within the next two years, with the possibility of a second later on. It would be justifiable to fly such planes from Deception Island to Stanley since they can maintain height on one engine, and with extra tanks could return to their starting point.

With this in mind I have expressed the view that it would be advantageous to fly such aircraft to Stanley for major maintenance during the winter. This would not necessarily be done every year since we would need to station mechanics in Stanley. Much would also depend on the possibility of keeping the planes under cover.

We already have on order an extension to the present hangar at Deception so that twin-engined planes can be accommodated there. This would make it difficult to justify further expense at Stanley.

I would certainly be most interested to hear whether the proposed project is to go ahead.

Yours sincerely

V.E. Fuchs

V.E. FUCHS

The Colonial Secretary,
Stanley,
Falkland Islands,
SOUTH ATLANTIC

5

EXTRACT FROM MINUTES OF MEETING NO. 3/67 OF EXECUTIVE COUNCIL HELD ON

THE 8th MAY 1967

2408 12. CONSTRUCTION OF AIR STRIP

Council took note of the report submitted by Flight Lieutenant R.W. Burgess of the British Antarctic Survey.

Clerk of Council

BW ~~20~~ 31.8.67 to Kiw

ER

Ref: 2408

8

Notes on Airstrip - Falkland Islands

The position is that no airstrip exists at the moment. The Falkland Islands Government is in the process of investigating the possibility of constructing an airstrip within the near future. The answers which have been provided to the questions asked by Messrs. Tame Limitada are therefore an indication of what is presently envisaged. 6+7

1. Airstrip

   a) Three miles East of Stanley in the Cape Pembroke area.

   b) The airstrip is expected to consist of two runways. One of 3,300 feet in length running approximately East to West and the other of 2,400 feet running North West to South East.

   c) This is under investigation. A grass cover is expected.

   d) Prevailing wind directions vary between South West and North West with a mean speed of 16-18 knots.

   e) The majority of landing approaches would take place over the sea and across flat terrain.

   f) If the strip is built it will be fully marked and have full wind indication.

2. Radio Communications and Beacons

   Full radio cover will be provided together with homing beacons. Until the strip is built no further details can be given, but it can be expected that all radio aids will work within accepted international ranges.

3. Other facilities

   At this stage of early planning it can only be said that the Falkland Islands Government is fully aware of the need to provide aviation fuels, oils, storage and tanking facilities.

   The provision of shelter is being studied, and it is expected that shelter will be provided.

   An alternative area exists and in the event of an airstrip being constructed this will be demarcated.

BU 31.8.67 (5)

Translation

7

Questionnare received from Mr. Sven B. Robson

Linea Aerea Taxis Magallanes
TAMA LIMITADA

Punta Arenas, 15th May 1967

The following information is required in order to programme flights to the Falkland Islands:-

1. AIRPORT

a) Situation
b) Exact dimensions and magnetic bearings
c) Composition of strip
d) Predominant winds and intensity of same
e) Indicate height of obstacles to be found when approaching strip, up to a distance of three miles from each landing point.
f) Does the strip have marks which can be clearly identified from the air, as also "catavientos".

2. RADIO HELP

a) Stations transmitting on 200 to 450 Kc or 600 to 1,600 Kc indicating time schedules and power of tranmission. If there are radio-beacons give characteristics.
b) Indicate VHF frequency for contact with aircraft in Spanish.
c) Indicate the possibility of contact during flight with a radio station for weather information in Spanish; the aircraft transmits on 5,727.5 Kc and receives between 3,000 and 6,000 Kc. Indicate power of transmission and frequencies.
d) Possibility of a radio station transmitting the day before the flight, contacting Bahia Catalina or Punta Arenas Centro, on 5,727.5 Kc the following:- Barometric pressure, temperature, reletive humidity, direction and intensity of wind, type of clouds and quantity of clear sky. This information would have to be transmitted from two hours before estimated time of take off until landing in Port Stanley.

3. Other Facilities

Indicate the existence of aviation "bencina". Our aircraft needs AVGAS 100/130 also lubricating oil AVOIL 100 "Costos".

Is there some shelter for the aircraft in the event of staying overnight. Possibility of selecting some flat ground about 80 miles from Stanley to have as an alternative airport.

Stanley airport must be internationally recognised as such for the purpose of insurance.

We have to inform you that the Hourly Cost, for this kind of Flight, would be U$S98.

pmc.

9

28th June 67

Thank you for your letter of the 28th April about the possibility of our being able to establish an airfield here. 4(a)

The preliminary investigations are all very optimistic and it seems that there is a very good chance of our being able to provide a two-runway airfield completely suitable for the smaller twin engine planes such as Skyvans and Otters.

We have found an area at Cape Pembroke where there is a good hard sandy flat surface requiring the minimum of grading and drainage. Even at this very wet period of the year the water hardly lies there, and we think that the proper drainage of the area is within our own capability.

The proposed site is not subject to radiation fog and has only a minimal incidence of sea fog. The majority of landing approaches would be over the sea, and we are told that there is unlikely to be marked turbulence across flat terrain with over-water approaches. There are no obstructions on the probable approach paths and the necessary radio beacon, transmitters and instrument landing system should present no difficulty.

Getting down to earth, our Superintendent of Works is in the process of producing a drainage plan and digging a few test holes. When he has done this we are going to price drainage and leveling and see just what work is involved. I hope to have this information ready for Sir Cosmo's return, and if he does not come back with a veto from the Ministry of Defence, which must have a large say in the matter, we should then be in a position to apply some sort of time scale to the project.

We have already heard that Chilean Airlines and a Punta Arenas charter firm are interested in providing a connecting service.

(W.H. Thompson)

Sir Vivian Fuchs,
Director,
British Antarctic Survey,
30, Gillingham Street,
LONDON, S.W.1.

pmc.

BO 31.8.67

CONFIDENTIAL

COMMONWEALTH OFFICE
GREAT SMITH STREET, LONDON S.W.1
Telephone: ABBEY 1266, *ext.*

Our reference: ATC 8/249/1
Your reference:

25th July, 1967.

Dear Tom,

In Sir Cosmo Haskard's letter to Bennett No. 2341 of 20 April this year he referred to the possibility of building an airstrip to take occasional planes from the mainland and when Sir Cosmo arrived here he gave me a copy of a report by Burgess about an airfield.

2. We sought advice on this and I enclose a copy of a letter we received from the Board of Trade. In the absence of more detailed information about the surface and drainage at the two possible sites suggested, it is not possible to offer even a rough estimate of the likely costs of constructing an airstrip to meet requirements suggested in the letter. It will depend, in addition to the nature of the terrain, upon the availability of materials and of local labour to carry out any construction work involved. The advise now offered may, however, be of value to Flight Lieutenant Burgess who prepared the original appreciation and if, on the basis of the information now supplied, he could furnish a map and description of the most likely site for an airstrip the Board of Trade may be able to furnish more precise information.

3. In the event that Flight Lieutenant Burgess is no longer available and that there is no-one locally who might advise on a suitable location for an airstrip, it is possible that the services of an officer of Royal Engineers might be obtained to conduct the survey of a suitable airstrip. The Royal Engineers generally require at least 6 months notice before an officer can be made available for work of this nature and his services might possibly be obtained on technical assistance terms, if agreed by the Ministry of Overseas Development.

4. It would not appear that construction of a simple airstrip as envisaged in the report would necessitate work by contractors and if local labour and materials are available it is possible that supervision of the work necessary might also be undertaken by a Royal Engineer officer should this be necessary, to reduce the cost to the territory.

/5.

W.H. Thompson, Esq., M.B.E.,
Government House,
STANLEY,
Falkland Islands.

Acknowledged at 11

CONFIDENTIAL

5. The construction of any sort of airfield on the Falklands might however adversely effect the defence position and before you make any plans to go ahead with such an airfield we should be grateful if you would let us know what your plans were so that we could properly consider this aspect of the matter.

(A. ST. J. SUGG)

BOARD OF TRADE
Civil Aviation Department,
O.S.O.1, Room 329
The Adelphi, John Adam Street, LONDON W.C.2
Telegrams: Avmin, London, Telex.
Telex No.: 22231
Telephone: Temple Bar 1207, ext.

Our reference:
Your reference: JS/23/04

12th July, 1967.

Dear Bruce

Falkland Islands

Aerodrome Development

Thank you very much for your letter ATC 8/249/1 of 7th June 1967 on the possible development of an airstrip on the Falkland Islands for charter operations.

We have been trying to obtain as much information as we can of the Falkland Islands and will, if necessary, let you have a more detailed study with plans for the development of a possible aerodrome for these Islands. As this would take a little time, however, you may wish to send an interim reply to the Governor offering the following advice on the basis of the helpful appreciation by Flt. Lt. Burgess. We should like to see a copy of the map that he mentions, apparently showing a possible site in the vicinity of Cape Pembroke.

Possible Sites

As far as we can see, there are two possible sites in the vicinity of Stanley, one to the west of Cape Pembroke as suggested by Flt. Ltd. Burgess and the other to the area to the south of the town Stanley.

According to Sheet 2 of the map GS 4465, published by the War Office in 1943, both of these sites offer possible alignments on the 50 foot contour in the general direction of the prevailing winds, although much will depend on whether the type of ground offers a suitable base for the construction of a runway. Flt. Lt. Burgess says in his statement that there exists extensive rock and sand in the area which would be useful for constructional purposes.

Possible Alignments

According to the Met information that we have been able to obtain, the winds blow mainly from 290°/310° and to a lesser extent from 230°/250°. Calculation of all the wind directions, however, would seem to offer the following usability in the runway directions shown:-

Runway Alignment	Cross Wind Factor	Usability
090/270°	10 knots +	61.1%
	20 knots +	89.5%
135/315°	10 knots +	57.7%
	20 knots +	88.4%
045/225°	10 knots +	58.8%
	20 knots +	92%
All three directions	10 knots +	90.1%
	20 knots +	99.2%

/Taking

A. W. B. Strachan, Esq.,
Commonwealth Office,
Curtis Green Building,
Victoria Embankment, W.1.

Taking the lower cross wind factor, the best alignment would appear to be in the east/west direction, as suggested by Flt. Lt. Burgess, although the actual runway usability would be well below that normally required for an aerodrome with one runway. In view of the apparently high winds that normally prevail, this is an important factor when considering operations by light aircraft, particularly with the lack of alternate aerodrome facilities. It may be necessary, therefore, in order to ensure a reasonable margin of safety for such aircraft, to provide at least two runway directions, possibly on the alignments of 120°/300° and 060°/240° covering the most prevalent wind directions.

Alternatively on the grounds of economy and allowing for the variable wind conditions, consideration might be given to the provision of an all-direction grass or compacted surface aerodome in the initial stages of development, purely for use by light aircraft. Assuming a take-off distance of between 2,000 feet and 2,500 feet, an area of about 3,000 by 3,000 feet should be sufficient for this purpose and should be possible on both suggested sites. The only difficulties that we can see would be those of drainage, particular with regard to a natural surface and whether and to what extent levelling of the ground surface would be required. Whereas gradients would not be as critical with the smaller type of aircraft, it would be necessary to clear such things as rocks and other obstructions from the whole area if an all-direction landing ground is to be provided. In the event of any appreciable rise in gradient it would be necessary either to carry out some sort of levelling or to provide a comparatively longer take-off run, but allowing for the fact that the performance requirements of the aircraft would improve with any head wind component. If the problems of drainage and clearance of the site are likely to present any exceptional difficulties, it might be more economical to clear two or more strips to provide for the required usability factor.

Runway Dimensions and Bearing Strength

These will depend on the types of aircraft to be used and the stage distances likely to be involved. The nearest aerodrome on the mainland would appear to be Rio Gallegos (Argentine) at a distance of about 425 nautical miles, although the use of this aerodrome might present political difficulties. Punta Arenas (Chili) is a little further away at a distance of about 485 nautical miles. These aerodromes are shown in relation to the Falkland Islands on the attached copy of a section of the relevant Flight Information Chart.

At a rough calculation, a Twin Otter, operating with a payload of about 2,500 lb and allowing for a 25 knot head wind component and one hour reserve fuel over a stage distance of about 485 nautical miles, would probably require a field length of about 2,000 feet in still air conditions, sea level at ISA. This would apply to a paved surface, however, and a 10% increase on this length would be necessary on grass or compacted ground.

A Britten Norman Islander (a much cheaper aircraft and costing fully equipped only about £25,000 sterling fob) operating with a payload of about 1,000 lb (i.e. 5 passengers and baggage) over the stage distance with a 25 knot head wind component and one hour fuel reserve, would probably require a field length slightly less than 2,000 feet under the same conditions and a paved surface, but about 10% more in length for a natural surface.

The restrictive factor in both cases is the head wind component which we assume would be in the region of about 25 knots from the west and affecting flights to the mainland. This is particularly critical with lower speed aircraft and a more accurate calculation based on the actual wind information at the cruising height for

/the

the route and the operating characteristics of the particular aircraft may, however, indicate a need for an even greater margin of safety in fuel reserves to cover a direct flight over the stage distance. It would be possible, however, to provide additional fuel tanks, but this would affect the distribution of the disposable load (i.e. fuel/payload) and the addition of about 2,000 lb of fuel (or equal to one passenger and baggage) would provide for an increase in range of about 150 nautical miles in still air conditions for the Islander. Against this, it should be possible for such an aircraft in an emergency to land at an en route alternate such as Cerro Sombrero.

A runway of about 2,000 feet and 1,000 feet wide, within a strip width of 300 feet should be adequate for both these types of light aircraft. If any larger types of aircraft are to be considered in connection with any possible future traffic development, a balanced field length of between 4,000 and 5,000 ft (10% longer for a grass or compacted surface) and 150 ft wide within a 500 foot visual strip would probably be needed to provide for use by such aircraft as the HS 748 or DC 4. The requirements of the DC 3 would probably be less demanding. In view of the doubtful future traffic potential, however, it should not be necessary to safeguard for a runway length at the Falkland Islands of more than 7,500 feet at the outside.

For light aircraft and even aircraft such as the HS 748, DC 3 and DC 4, a compacted surface on a reasonably firm base should be adequate, although it would be preferable in the case of the latter aircraft to provide a runway with some sort of paved surface.

Radio Aids

The main requirements here would be:-

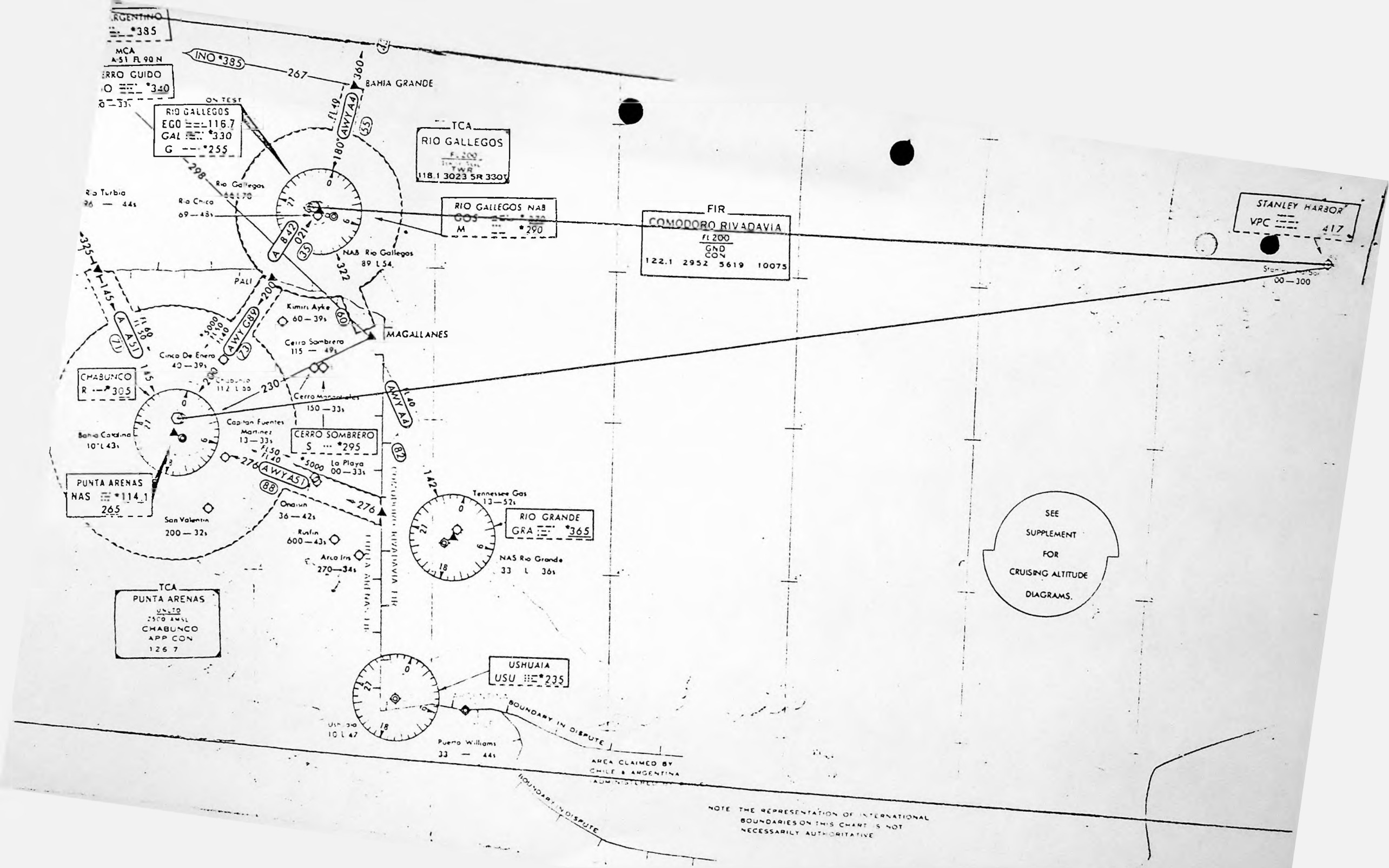
(i) an AFTN link with the Flight Information Centre at Comodoro Rivadavia for the receipt of Met information and the despatch and receipt of flight plans.

(ii) An aeromobile VHF channel for air to ground communications at Stanley.

(iii) A suitably powered NDB to provide the necessary en route guidance. It is possible that such a facility was already available in the two Marine Beacons, but if these are not favourably situated in relation to the proposed aerodrome it might be necessary, in addition, to provide a low powered locator beacon.

Yours sincerely,

(B. B. JUPP)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Rio Chico
69 — 43s
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STANLEY HARBOR
VPC 417
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Kimiri Ayke
60 — 39s
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Cerro Sombrero
115 — 49s
Cinco De Enero
40 — 39s
CHABUNCO
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185
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150 — 33s
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82
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13 — 33s
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Tennessee Gas
13 — 52s
RIO GRANDE
GRA *365
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600 — 43s
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BOUNDARY IN DISPUTE
AREA CLAIMED BY
CHILE & ARGENTINA
BOUNDARY IN DISPUTE
NOTE THE REPRESENTATION OF INTERNATIONAL
BOUNDARIES ON THIS CHART IS NOT
NECESSARILY AUTHORITATIVE

12.

Ref.No. 2408

DI. 13/10

C.S.

On 11th October I visited the Cape Pembroke peninsula with SPW and DCA in order to identify on the ground the precise area which is favoured for an airfield.

2. No drainage plan has yet been made, nor have test holes been dug.

3. The area thought most suitable lies northwards from Canopus Hill and runs roughly east and west between Canopus Hill and the long rock and sand ridge which runs east and west through Mary Hill.

4. The map at folio 3 on 2408 would seem to show the airfield area rather further south than that which we looked at on the ground on 11th October and I think that the position shown on the map is incorrect since it includes Canopus Hill itself.

5. The favoured area is about a mile in length from east to west and about 5 to 600 yards broad from north to south. The north east of the area contains large shallow ponds which we felt would probably require to be drained, not so much because the area at present covered by them is needed for runway purposes but in order to dispose of as much water as possible which is in a position to seep down through the favoured area. These ponds also attract large numbers of birds which would be a hazard to aircraft.

6. I felt that the first step which should be taken is to have a detailed contour survey made of the favoured area so that a drainage plan can be properly worked out.

7. On the whole it does not appear necessary at this stage to dig many trial pits since until a survey is made this might be a waste of time. Since visiting the site however, I have come to the conclusion that it would be sensible to have two pits dug, widely spaced, along the line of what is likely to be the main runway. The pits do not have to be exceptionally deep - 4'6" should suffice as an aim. I wonder whether this is something which could be undertaken by the agricultural staff w o have to visit the area from time to time in any case for other purposes?

8. As far as a survey is concerned I shall get in touch with BAS to see whether we can obtain the services of a surveyor from them.

9. I have very little doubt that any air strip in the Cape Pembroke peninsula will need to be surrounded by a proper fence and this of course will be quite an expensive undertaking but it would have the advantage that when the airfield was not in use cattle could be grazed within the fence on purpose and this indeed would probably improve the texture of the grass.

10. I should be glad if copies of this memo might now be sent to SPW and DCA in case either of them wish to add anything to it and thereafter I should like to discuss it with you.

12/10/67

13

No. 2408

It is requested that, in any reference to this memorandum the above number and date should be quoted.

MEMORANDUM

COLONIAL SECRETARY'S OFFICE
17 OCT 1967
FALKLAND ISLANDS

16th. October, 1967.

From: Director of Civil Aviation,

Stanley, Falkland Islands.

To: The Colonial Secretary,

PORT STANLEY.

SUBJECT :- Proposed site for airfield.

With reference to His Excellency's minute 12. on the above subject, the only comment which I can make is that the problem as I see it is now one for a Civil Engineer.

Director of Civil Aviation.

C.S. I shall be sending you a minute re airfield matters early next week. HH 4/11

O/C.

14

Surveyor Fielding

In confirmation of our conversations about his survey of his Cape Pembroke airstrip site, I understand that Fielding, due in Stanley about 16th November in John Biscoe, will spend a short period during which Biscoe visits South Georgia, i.e. until about 26th November. He would continue to be paid by B.A.S. but his expenses of his accomodation, transport and any other reasonable disbursements would be met by his Colony (Development Estimates, Item A.9).

If Fielding can not complete his job within his time available, consideration could be given to retaining him here until his Biscoe calls again at the end of December but I do not think that he will need more than a week.

You have kindly undertaken to provide a FIS assistant for Fielding. The Colony would reimburse his travel in the same manner as for Fielding, for so long as Fielding needed an assistant.

If I could see Fielding soon after his arrival in Stanley, I could discuss with him his requirements. Once he has seen his site, he could advise on the vertical interval which should be adopted.

Please return this memo, to what it may be seen by C.S.

HH 8/11/67

w/c Confirmed.

3-11-67

C.S. for discussion on Thursday 9th November please.
KM 8/11

Notes on action still to be taken regarding Cape Pembroke airstrip

More precise delimitation than hitherto of area considered suitable for air strip.

Decision regarding vertical interval for contour survey for Fielding.

Transport for Fielding and his assistant.

Selection in conjunction with Fielding of points at which trial pits should be dug.

Decision as to who should ~~take~~ dig these pits. Can the Agricultural staff do it?

If a decision is taken to erect a fence round the area, to what extent do we hold the necessary materials in stock? The fence would have to be capable of controlling cattle, not merely sheep.

There are points requiring reply in answer to Sugg's letter of 25th July (folio 10).

Need for services of an officer of the Royal Engineers to "conduct the survey of a suitable air strip", remembering that his services might possibly be obtained on technical assistance terms if O.D.M. agree. Six months' notice required to secure the services of an officer.

What do we really mean by the "survey" of the air strip? Is it something more than we can accomplish here ourselves? Would it be tactically favourable to involve an officer from the U.K.? I am rather tempted to think it would. Paragraph 4 of Sugg's letter mentions that it is possible that supervision of construction work might be undertaken by the same Royal Engineer officer and this might reduce the cost to the territory and provide us with a person to undertake the supervision.

We shall not have the services of Mr Gough for very much longer and we should take full advantage of his remaining time here to give us all the advice he can.

We have to ask ourselves whether there is any possibility of P.W.D. undertaking this work or, if not P.W.D., some local contractor such as J. Rowlands, working perhaps under the supervision of the Sapper officer.

S.P.W. could I think at least give us an estimate of cost.

We are asked to send a copy of the Burgess map to the Civil Aviation Department through Sugg.

We must make it clear that Cape Pembroke is the only reasonable site and that no consideration need be given to other suggested sites in the Stanley area.

In writing to Sugg we should draw attention to any differences which may exist between the 1:50,000 map and the 1:25,000 map.

Surveyor Fielding should be shown all relevant correspondence before he starts work.

Could the J.C.B. cope with the necessary drainage of the area?

To what extent must we provide pipes for the drainage and of what material are these pipes to be made? What I visualise is that certain drains inthe general airstrip area would be open drains and only those which cross the suggested runway would need to be piped.

/...

Pa

Access road to the air strip. The sort of work which is already being carried out by S.P.W. on the metalled track leading from Davis Street to Rookery Bay seems to me good enough for the present. He has already greatly improved this track and the work seems to have been done comparatively inexpensively. The opening up of more side drains may be necessary and of course the extension of repair work right through to the end of the road at the east end of the Canache. The last stretch of the road across Canopus Hill to the airfield site does not at present exist at all. We might be able to get away with merely attending to the very worst places because much of the ground is firm turf.

List of emergency landing grounds in both East and West Falkland to be provided.

Follow up Mr Gutteridge's suggestion at folio (4) regarding the diesel generating unit at Grytviken.

Make a list of the mechanical equipment available in Stanley which could work on the construction of the airfield if necessary.

18 November 1967

Cape Pembroke Airstrip

I thought that you would like to know that a surveyor of the British Antarctic Survey is at present engaged in making a contour survey of the site proposed for the airstrip.

This will be sent to you by the next mail opportunity.

C. [illegible]

A. St.J. Sugg Esq., C.M.G.

2408.

18. Lb
29/12

Yr.

Cairfield.

Do you wish to send the Richmie of the Runway to the Co or shall I do so? Yours please.

There is little to say at this point except that we are pricing drainage (South is not yet quite ready). As soon as SPW is ready, I should like a meeting please.

The deeper mystery of U.K. reaction & how to go about steering it up is still rather vague to me.

A helpful letter has come in from B.U.A. which will cf. Idc. It does not affect immediate issues.

W!.

29/12

Ref: 2403

19

3rd January, 1968.

Dear

Airfield 10

This follows up the Governor's letter of the 10th November, 1967 and his discussions in London.

I am enclosing two copies of the results of the contour survey carried out by a surveyor of the British Antarctic Survey. It covers an area lying East of Whalebone Cove: South of Mary Hill and North of Canopus Hill which will be found at approximately 57° 47' West and 51° 43' South on sheet 15 of D.O.S. 453 (series M791).

We are preparing and costing a drainage plan for a grass field and I will let you know more about this in due course.

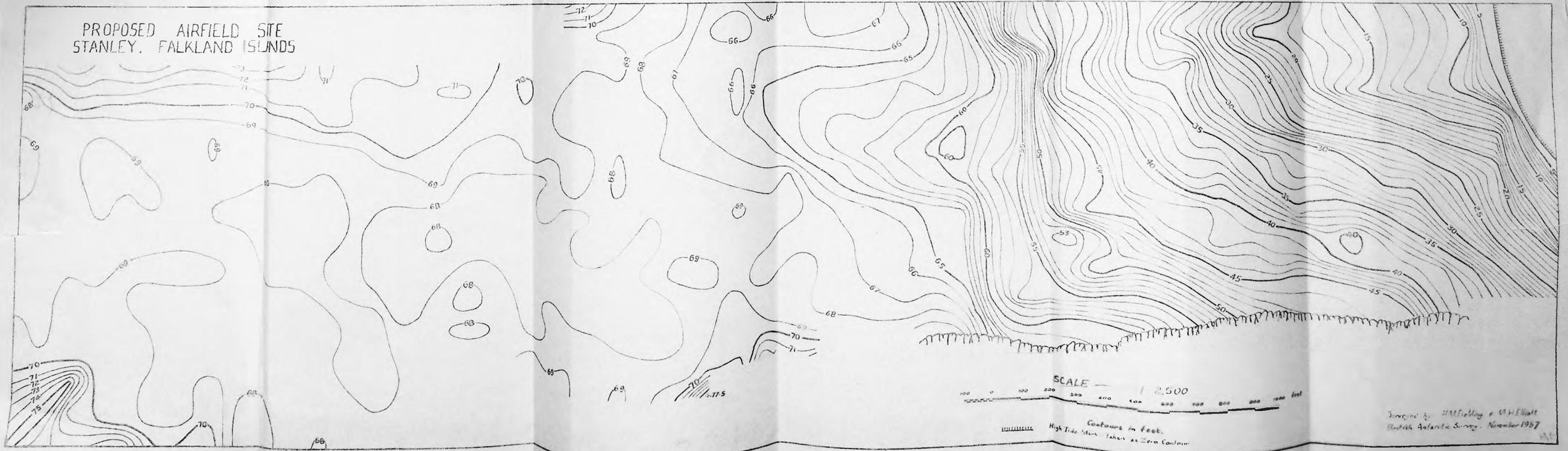
Quite where we go after this I am not sure and we would be grateful for any indication of the direction our next steps might take.

(W.H. THOMPSON)
COLONIAL SECRETARY

A. St.J. Sugg Esq., C.M.G.,
c/o Commonwealth Office.

ER

Copy to H.E.


PROPOSED AIRFIELD SITE
STANLEY. FALKLAND ISLANDS
SCALE — 1:2,500
100 0 100 200 300 400 500 600 700 800 900 1000 feet
Contours in feet.
High Tide Mark taken as Zero Contour
Surveyed by W.M.Fielding & M.H.Elliott
British Antarctic Survey. November 1957

MURRELL
SADDLEBACKS
The Saddleback
Beagle Ridge
Twelve O'clock Mt
Mt Low
871
KIDNEY ISLAND
KIDNEY COVE
DON CARLOS BAY
Black Point
GOVERNMENT RESERVE
BEATRICE COVE
Mengeary Point
HELL'S KITCHEN
SPARROW COVE
RABBIT COVE
High Rock
Charles Point
Sparrow Point
Arrow Point
HAMBLIN COVE
Doctor Point
Drunken Rock
Furze Bush Pass
Lower Pass
Murrell River
Islet Pt
WEIR CREEK
BLANCO BAY
MT LONGDON
Mt Longdon
WIRELESS RIDGE
PORT WILLIAM
PROPOSED AIRSTRIP
HEARNDEN WATER
Penarrow Point
WATT COVE
Clam Bed Pt
Cortley Hill
FAIRY COVE
Rose
Camber
Navy Pt
THE NARROWS
Tussac Pt
HADASSA BAY
Engineer Pt
Ordnance Point
GYPSY COVE
YORKE BAY
Yorke Point
KELLY ROCKS
TUSSAC ISLANDS
THE VIPER
BILLY ROCK
SEAL ROCKS
Cape Pembroke
FISH ROCK
Mary Hill
WHALEBONE COVE
Canopus Hill
CHRISTINA BAY
Wireless Ridge
Moody Valley
STANLEY HARBOUR
Jetty
Memorial
Dockyard Jetty
Town Hall
West Jetty
Public Jetty
East Jetty
Racecourse
Quarantine Sta
Band Rotunda
Wind Pump
The Murray Heights
Lookout Rocks
STANLEY
THE CANACHE
SURF BAY
Hookers Point
ROOKERY BAY
TUMBLEDOWN
Goat Ridge
Tumbledown Mt
Sapper Hill
453
Mt William
STANLEY COMMON AND GOVERNMENT LAND
Pumping Stations
MULLET CREEK
Pebbly Pond
Phillips Point
ELIZA COVE
Horse Point
APPROACH AND DEPARTURE SECTORS
Mile Pond
Goose Green
Round Pond
Lake Point
Pony's Pass
Ford
Moody Brook Stream
WEST END
SAND BAY
PORT HARRIET
Narrow Point
Seal Point
SEAL POINT
79
PORT HARRIET POINT
Beach Point
Rocky Pond
26/FI/15 073
26/FI/15 082
26/FI/22 083
26/FI/22 051
26/FI/36 134
26/FI/36 144
26/FI/2 136
26/FI/2 130
428000N
51°40'
58°00'
57°55' West of Greenwich
440000E
57°50'
57°45'
450000E

Minute on Airfield file.

Folio 95 on file 0104/11 is extremely important for it lays down Regulations which Governors are recommended to make in respect of technical facilities at aerodromes & which would certainly be applicable here.

WI 2/1.

See folio 20.

Aeroplanes flying for the purpose of public transport of passengers - Aerodrome facilities for approach to landing and landing.

13.-(1) This Regulation shall apply to every aeroplane registered in the United Kingdom engaging on a flight for the purpose of the public transport of passengers on a scheduled journey and to every aeroplane so registered whose maximum total weight authorised exceeds 12,500 lb. engaging on such a flight otherwise than on a scheduled journey.

(2) For the purposes of Article 23(1)(c) of the Order, the following manning and equipment are prescribed in relation to aerodromes intended to be used for landing or as an alternate aerodrome by aircraft to which this regulation applies:

(a) air traffic control service, including the reporting to aircraft of the current meteorological conditions at the aerodrome;

(b) very high frequency radiotelephony;

(c) at least one of the following radio navigation aids, either at the aerodrome or elsewhere, and in either case for the purpose of assisting the pilot in locating the aerodrome and in making an approach to landing there:

(i) radio-direction finding apparatus utilising emissions in the very high frequency band;

(ii) a non-directional radio beacon transmitting signals in the low or medium frequency bands;

(iii) very high frequency omni-directional radio range;

(iv) radio navigation land stations forming part of the Decca radio navigation system;

(v) radar equipment.

It shall be sufficient if the equipment specified in sub-paragraph (c) is provided, even if for the time being it is not in operation.

(3) An aircraft to which this Regulation applies shall not land or make an approach to landing at any aerodrome unless services and equipment according with paragraph (2) of this Regulation are provided and are in operation at that aerodrome, and can be made use of by that aircraft; and, in the case of the navigation aids specified in sub-paragraph (c), items (i) to (iv), instructions and procedures for the use of the aid are included in the operations manual. A person shall be deemed not to have contravened the provisions of this paragraph if he proves that -

/(a)

(a) for the time being use could not be made of the radio navigation aids provided under paragraph 2(c) whether by reason of those aids not being in operation or of the unserviceability of apparatus in the aircraft itself and

(b) the approach to landing was made in accordance with instructions and procedures appropriate to that circumstance and included in the operations manual.

(4) An aircraft to which this Regulation applies shall, without prejudice to the requirements of Regulation 12, be equipped with the apparatus necessary to enable use to be made of at least one of the navigation aids specified in paragraph 2(c) of this Regulation and in use for landing at the aerodrome, and in particular the equipment for use with the radio navigation land stations referred to in paragraph 2(c)(iv) of this Regulation shall include a flight log designed to operate with that equipment and to display on a chart to the pilot at the controls of the aeroplane a continuous and instantaneous pictorial plot of the path of the aircraft. Nothing in this paragraph shall require the duplication of any equipment carried in pursuance of any other provision of the Order or of any regulation made thereunder,

22.

COPY from file 2250

British United Airways, Ltd.,
Gatwick Airport - London,
Horley, Surrey

AP/BDC/47(A)

9th November, 1967.

W. H. Thompson Esq.,
Colonial Secretary,
Colonial Secretary's Office,
STANLEY, Falkland Islands.

Dear Mr, Thompson,

In connection with my letter of the 12th October, I have contacted certain members of the British United Airways organisation regarding the minimum requirements for the airfield at Stanley. The following is a list of items which we feel would be required to be installed before a scheduled service would be able to operate from the Falkland Islands.

1. A small terminal building to keep passengers, cargo and mail out of the elements and to enable the necessary documentation to be completed, to this end a set of scales would be required for weighing mail, cargo, baggage and where necessary passengers. The terminal would need a small counter, chairs, toilets etc. A small room in this building could be devoted to the airfield control and flight despatch of the aircraft, in this room could be installed all radio and communication equipment plus the facility for the Pilot to obtain the necessary information about weather and to make out his flight plan for his journey.

2. A concrete or tarmac parking area in front of the passenger terminal to ensure that whilst the aircraft is parked it does not sink into mud - a suggested bearing strength is LCN 15.

3. Ensure that no excessive slope exists on the runway and that when taking off or landing the far end is always visible from the Pilot's viewpoint.

4. Due to prevailing weather conditions Goose-neck lighting is thought to be advantageous although not essential. This lighting is cheap and relatively simple to install.

5. Wind direction indicator and temperature and barometric pressure gauges.

6. A small covered area to act as a hangar would certainly be a distinct advantage, both from the point of view of maintenance and also that with the excessively high winds in the area the aircraft could be damaged if it was left uncovered.

7. It is suggested that as one of the sectors being considered is over five hours, that refreshments should be available for the passengers in the air. To this end facilities for obtaining hot water, milk and possibly for heating meals would be an advantage.

The suggested radio installations to cover all eventualities, bearing in mind the position of the Falkland Islands and the type of weather experienced there, are as follows.

A) Firstly an NDB Beacon; this is a radio Beacon on which the aircraft receiver can home to enable it, along with the necessary navigation, to find the Falkland Islands. This equipment is relatively easy to install and requires little maintenance. The particular beacon which is thought to be sufficient is the Redifon MF Beacon which is 80 watts and has a range of 150 to 200 miles. The cost would be approximately £730.

B) Secondly, a VHF transmitter/receiver would be required; this radio would be used by the Pilot and the ground services for landings, takeoffs and initial approaches. The radio we would recommend would be a Pye VHF transmitter/receiver which would cost, including aerial, approximately £310;

C) The third piece of radio equipment required would be a HF transmitter/receiver. This item, although being the most expensive, is the most essential, especially bearing in mind the part of the world we are talking about. It has a very wide range and would be able to reach Montevideo with no trouble at all, thus the aircraft could be in radio contact all the time on it's journey. The unit which we consider suitable is the Racal 300 watt point- to-point ground-to-air communications system which would cost somewhere in the region of £2,000. inclusive of aerial.

I hope that this information is sufficient for your present requirements and if we can be of any further service please do not hesitate to contact us.

Yours sincerely,

(sgd) A. Pannell,

ASST. TO MANAGER - OVERSEAS DEPT.

AA

2408.

CONFIDENTIAL

5/6 £2.3

COMMONWEALTH OFFICE,
Curtis Green Building,
London, S.W.1.

YC 21/1

2nd January, 1967.

Dear James

Thank you for letting us have sight of British United Airways letter to you of the 9th November about airfield requirements.

2. We sent a copy of this letter to the Board of Trade and I thought you would be interested to know the substance of their comments.

3. The Board of Trade think that it would be desirable to relate the information given by the B.U.A. to the advise that they would offer as a Government department, as the airline may not always be in a position of knowing all the operational and other criteria that have to be applied in such matters.

4. The advise that the Board of Trade gave in their letter of the 12th July (acopy of which was sent to you) was based on a minimum requirement related to the use by aircraft such as the "Britten Norman Islander" and the D.H.C. Twin Otter. The latest B.U.A. letters however refer to the Hawker-Siddeley Heron and the Hadley-Page Jet-stream, both of which would require a longer runway under comparable operating conditions.

5. The Board of Trade go on to say that they did not understand the full implications of paragraph 3 of the B.U.A. letter, the remarks in ~~this paragraph~~ their letter, which are very much on a general basis apart from specifying actual types of radio equipment, are not basically in conflict with what was said in the Board of Trade letter. The danger however is that the B.U.A. letter does not go into any great detail and you may be mislead on the extent of the problems normally associated with aerodrome planning, even at this stage of possible development.

6. In the circumstances you may consider it preferable to restrict your enquiries about airfield problems to us so that we could refer the operational or technical problems to the Board of Trade who would as usual consult the Ministry of Public Building and Works on any engineering matters. It would be helpful of course if when making any other enquiries you could indicate your actual requirements. We are still thinking here in terms of a fairly simple landing ground to take small planes from Punta Areanas as described in Sir Cosmo's letter to John Bennet of 20th April last year.

7. Incidentally, I see from Sir Cosmo's letter to me of the 18th November that a contour survey is being carried out of the Cape Pembroke site and that you will send us a copy of this in due course.

Yours ever,
John.

A. St. J. Sugg.

W.H. Thompson Esq., M.B.E.,
Colonial Secretary,
Stanley,
Falkland Islands.

CONFIDENTIAL

COMMONWEALTH OFFICE,
Curtis Green Building,
London, S.W.1.

YC 21/1

4 January 1968

Dear Tommy.

I wrote a letter to you on 2nd January No. YC21/1 and now find that I have made a small error in it. The words at the end of the second and the beginning of the third line of the fifth paragraph should read "but the remarks in their letter" instead of "the remarks in this paragraph".

I am sorry about this mistake.

(A. St. J. Sugg)

W.H. Thompson Esq., M.B.E.,
Colonial Secretary,
Stanley,
Falkland Islands.

2408

No. PWD 075.

It is requested that, in any reference to this memorandum the above number and date should be quoted.

MEMORANDUM

17th January, 1968.

To: The Colonial Secretary, STANLEY.

From: Superintendent of Works, P.W.D.

Stanley, Falkland Islands.

SUBJECT :- Proposed Airfield.

Estimate for drainage amd small transit shed:-

4,400' / 1.6'	Excavate for 6" pitch fibre land drain. average 3' 6" deep.	£366. -. -d.
5,100' / 1.6'	Excavate for 4" pitch fibre land drain av. 3' dp.	424. -. -d.
3,000' / 1.6'	Excavate for 3" pitch fibre land drain. ov. 2' 6" dp.	250. -. -d.
4,400'	6" p.f. laid to falls	1,320. -. -d.
5,100'	4" p.f. - ditto -	1,105. -. -d.
3,000'	3" p.f. - ditto -	700. -. -d.
735T	Beach shingle delivered	735. -. -d.
850T	- ditto -	850. -. -d.
666T	- ditto -	666. -. -d.
735	Load and cart away surplus muck.	367. -. -d.
850		425. -. -d.
666	remainder refill and ram.	? 303. -. -d.
30.0' / 20.0'	Shed for transit of passengers & cargo.	2,400. -. -d.
48.0' / 30.0'	Hardstanding.	800. -. -d.
		? £10,651. -. -d.

Say £11,000. -. -d.

Supt. of Works.

Ref: 2408

26.

22nd January 1968.

Dear John,

23. Thank you for your letter of 2nd January (YC 21/1).

Our correspondence with B.U.A. arose out of a contact made by the Governor when he was last in the United Kingdom. You need have no fear that we shall act on their unsupported advice. We hardly know what an airfield looks like and as to planning one!

We too are thinking in terms of a very simple landing ground and we have not departed from the idea conveyed by Sir Cosmo last year.

25 Our Superintendent of Public Works has now come up with a first cost (which has yet to be studied). Overall he puts the price at £11,000. This takes no account of any homing or radio aids and is limited to excavation and drainage (£7,500) a transit shed (£2,500) and a hardstanding (£1,000).

We are about to put our heads together and I am sure it will not be very long before we are seeking advice from the Board of Trade.

As ever,

Tommy

(W.H.THOMPSON)

A. St.J. Sugg, Esq, C.M.G.,
c/o COMMONWEALTH OFFICE.

TB

Kir - 25.

2250

27

25th January, 68

Dear Sir,

As you know we are about to enter the lists for an airfield and we are presently gathering information from many quarters.

Have you any comment to offer on the following extract from a letter recently received from an operator. Your comments might only be to the effect that items are usually available and that the information appears to be good.

"The following is a list of items which we feel would be required to be installed before a scheduled service would be able to operate from the Falkland Islands:-

Wind direction indicator and temperature and barometric pressure gauges."

Yours faithfully,

(W.H. THOMPSON)
COLONIAL SECRETARY

The Chief Meteorological Officer,
STANLEY.

EG

2250

28.

25th January, 68

Dear Sir,

As you know we are about to enter the lists for an airfield and we are presently gathering information from many quarters.

Have you any comment to offer on the following extract from a letter recently received from an operator. Your comment might only be to the effect that items are usually available and that the information appears to be good:-

"Firstly an NDB Beacon; this is a radio Beacon on which the aircraft receiver can home to enable it, along with the necessary navigation, to find the Falkland Islands. This equipment is relatively easy to install and requires little maintenance. The particular beacon which is thought to be sufficient is the Redifon MF Beacon which is 80 watts and has a range of 150 to 200 miles. The cost would be approximately £730.

Secondly, a VHF transmitter/receiver would be required; this radio would be used by the Pilot and the ground services for landings, takeoffs and initial approaches. The radio we would recommend would be a Pye VHF transmitter/receiver which would cost, including aerial, approximately £310;

The third piece of radio equipment required would be a HF transmitter/receiver. This item although being the most expensive, is the most essential, especially bearing in mind the part of the world we are talking about. It has a very wide range and would be able to reach Montevideo with no trouble at all, thus the aircraft could be in radio contact all the time on its journey. The unit which we consider suitable is the Racal 300 watt point-to-point ground-to-air communications system which would cost somewhere in the region of £2,000, inclusive of aerial."

Yours faithfully,

Reply at ~~44-45~~ 29.

(W.H. THOMPSON)
COLONIAL SECRETARY

Mr. R.R. Thorogood,
STANLEY.

Bk. 2 2 68.

EG

29

P.O. BOX 179

CABLE AND WIRELESS LTD

[Incorporated in England]

PORT STANLEY, FALKLAND ISLANDS.

Please reply to the Company
quoting reference and date

L7/GM

31st. January, 1968.

The Colonial Secretary,
Stanley.

Dear Sir,

I refer to your letter 28 2250 dated 25th. January.

Although I am not familiar with the equipment mentioned I can confirm that the manufacturers named are usually reliable and the prices are approximately correct.

In view of the fact that staff from the Government Wireless Station (or perhaps even ourselves) may be responsible for maintenance I would recommend equipment standardisation and suggest that information be obtained on comparable Marconi equipment. In this way the spares and specialised test equipment may be interchangeable with the existing installations. Please let me know if you wish me to obtain type numbers and costs.

Presumably the NDB at the airfield is intended for instrument ADF approaches. You should note that the 536 kHz broadcast transmitter will also provide NDB facilities (and at a greater range) and in any case the frequency, geographical coordinates and times of operation of this transmitter should appear in the airfield data.

Yours faithfully,

R.R. [signature]

Company's Representative.

8.2.68

No. BAMS 540/47

It is requested that, in any reference to this memorandum the above number and date should be quoted.

MEMORANDUM.

8th February, 1968

From: Chief Meteorological Officer,
Stanley, Falkland Islands.

To: Hon. Col. Secretary,
STANLEY.

SUBJECT :-

AIRFIELD - METEOROLOGICAL SERVICES

Please refer to your file 2250 and the entry dated 25th January 1968.

2. In the International Civil Aviation Organisation (I.C.A.O.) publication Annex 3 - Meteorology, the meteorological authorities designated by contracting states to the I.C.A.O. are stated. The meteorological authorities are charged with the arrangement or provision of meteorological service for International Air Navigation. In our case the U.K. through Meteorological Office Bracknell, England, is the designted authority.

3. In accordance with this Annex 3, the meteorological office at Stanley is equipped to carry out this role and has the necessary instruments and equipment and even a small supply of the I.C.A.O. flight documentation papers.

4. However, in view of the landing strip being some distance from the existing meteorological station, we hold spare wind, temperature and pressure equipment for installation at the airstrip itself.

5. At the meteorological station are two 15KVA diesel electric generators which British Antarctic Survey wish to sell. These equipments weigh 4800 lbs., and are suitable for use at any airstrip and could provide power for chart records of wind direction etc.

C.M.O.

D19
33

PUBLIC NOTICE

Establishment of an Airfield

Tenders are invited for the excavation and laying of approximately 4,200 yards run of pitch fibre land drain in the Cape Pembroke Area.

The time at which the work will be required to be done has not yet been decided and, at this stage, Government cannot guarantee to enter into any commitment. It is realised that any undue delay might make a revision of tender necessary.

Details of the drainage scheme and plan may be seen at the office of the Superintendent Public Works by arrangement with Mr. Gough.

Tenders marked 'Airfield Drainage' should be sent to the Chairman of the Tender Board, Secretariat and must be received by the 11th April.

Colonial Secretary's Office,
Stanley, Falkland Islands.

13th March, 1968.

Ref: 2408

AA

Broadcast 6 times in
3 issues of two days,
two days apart.

Copy to SPW

35.

ROCK & ALLUVIUM ENGINEERS LIMITED

SPECIALIST CIVIL ENGINEERS

46 VICTORIA STREET · LONDON · SWI
TELEPHONE 222 1440

OUR REF. YOUR REF. DATE

GRL/VEMP/4(a)

The Colonial Secretary,
Stanley,

22nd March, 1968

Dear Sir,

Airport Drainage

Thank you for your letter No.2408 of 14th March 1968. A copy of the Bill of Quantities has been sent to our Head Office for their further action.

Before they can make any form of Tender for the job they will require a site plan and and idea of the grading required for the Beach Shingle. They will also want to know if the Falkland Islands Government are to supply equipment for dewatering the site suring the construction period.

Yours faithfully,
for Rock & Alluvium Engineers Ltd

(G.R. Lemon)
Site Agent

BC. 37

No. PWD 075

It is requested that, in any reference to this memorandum the above number and date should be quoted.

MEMORANDUM

28th March, 1968.

From: Superintendent of Works, P.W.D.

Stanley, Falkland Islands.

To: The Colonial Secretary,

STANLEY.

SUBJECT :- Airfield Drainage.

Re your Memo 2408 (36) dated 26th March, 1968.

I am unable to give prospective tenderers a site plan of the Proposed Airfield.

You allocated one copy of Fieldings' Survey to this Department, and retained the original and subsequent copies.

P. Lord

Supt. of Works.

2408

BYA 38

1st April, 68.

Dear Sir,

I enclose for your examination and eventual return to me, a copy of the contour survey for the Cape Pembroke airfield site.

Yours faithfully,

(Sgd.) W. H. Thompson.
Colonial Secretary.

G.R. Lemon, Esq.,
Rock & Alluvium Engineers Limited,
Stanley.

c.c. Superintendent P.W.D.

WHT/SC

Rec'd 29. 4. 68.

DECODE.

TELEGRAM.

From BAS HQ London

To Stanley Office

Despatched 29th April *19* 68 *Time* 1600

Received *19* *Time*

AS/66 For Governor from Fuchs. On this occasion it is not necessary to charge FIG for Bellars services or the airstrip survey

P/L : AA
Copies: 0797/X & 2408

(Acknowledged by HE. 1:5:68)

Mail ?

[KIV — 34] No mail.

DECODE.

TELEGRAM SENT.

From GOVERNOR to SECRETARY OF STATE

Despatched: 30/4/68 Time a.m. Received: Time:

No.88

CONFIDENTIAL

(23)

Your YC 21/1 of 2nd January and your telegram 118 paragraph 6.

Airfield.

2361/x/168

As an earnest of H.M.G.'s declared interest in these islands grateful you give favourable consideration to sending out an expert paid from technical assistance funds to make early report on feasibility of airfield construction.

2. Such action would indicate positive interest by H.M.G. and enable Colony to base application for funds on firm grounds.

Cypher

DECODE.

TELEGRAM SENT.

5/6

From **SECRETARY OF STATE** *to* **GOVERNOR**

Despatched : 5/6/68 *Time :* *Received :* *Time*

No. 153 of 4/6

CONFIDENTIAL

40

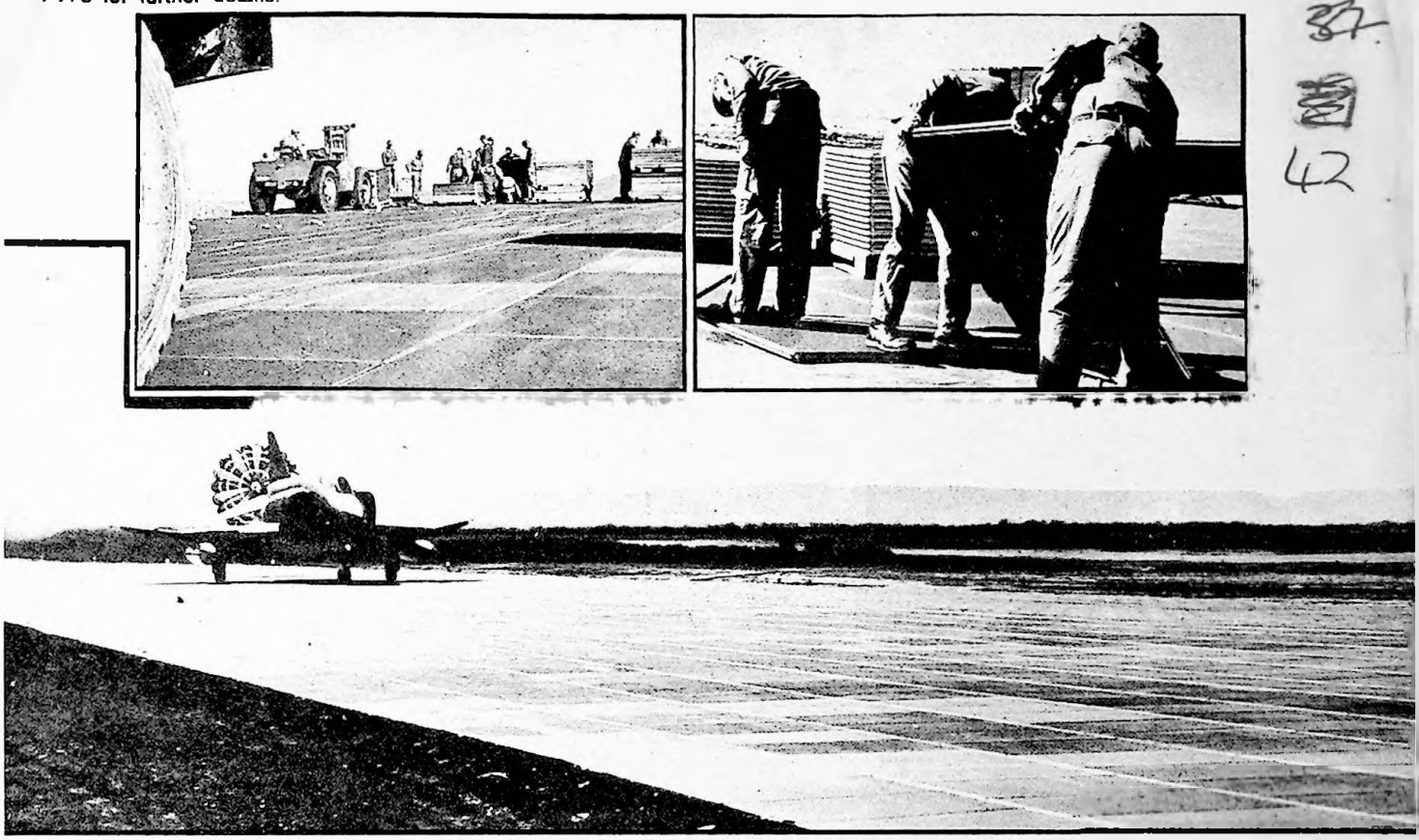
Your telegram 88.

Suggest you arrange for contour survey area to left of BAS drawing November 1967 (no north point drawn on drawing) to allow for runway 3,500 to 4,000 feet which appears minimum requirement. It would be helpful if this continuation sheet could give grid reference and north pointer.

2. Explanatory savingram follows in July Darwin.

Cypher

F/8 for further details.



YOUR INQUIRY IS INVITED:
NEW PORTABLE AIRFIELD MATTING AVAILABLE FOR THE FIRST TIME

Now, the lightest weight heavy-duty portable airfield landing mat system is available for U.S. export. Developed by Kaiser Aluminum for U.S. military use and designated XM19, the new mat system is fully tested and proven in performance. More than 5 million square feet have been produced.

The 4′ x 4′ x 1½″ configuration of the all-aluminum honeycomb-core mat contributes to ease of handling and speedy installation; and "bow-wave" problems, that can be experienced with other types of matting, have not occurred in XM19 installations. The mats are suitable for air transport and can readily be air dropped to the site. Should relocation of the field be desired, the mats can easily be moved and re-used.

An airfield constructed of XM19 mats has handled the heaviest military cargo and fighter aircraft on soils with very low bearing capacity. XM19 mats have been installed on crowned fields at 300 to 500 square feet per man hour.

Compared to other existing heavy-duty mat systems, XM19 offers these advantages:

- Up to 35% lighter weight (approximately 4 lbs. per square foot).
- 2 to 3 times faster installation has been achieved.
- 2 to 5 times longer potential life (based on roll tests).

Kaiser Aluminum & Chemical Corporation, Oakland, California 94604, U.S.A.

For more information, cable KAISERALUM;
or write Hollis McLaughlin,
Kaiser Aluminum,
2130 Kaiser Center, Oakland, California 94604, U.S.A.

43.

DECODE.

CS for Secretariat file please
CM 7/6/68
DI 7/6

TELEGRAM SENT.

From GOVERNOR *to* SECRETARY OF STATE

Despatched: 6/6/68 *Time*: p.m. *Received*: *Time*:

RESTRICTED

No. 120

Your telegram 41 153. Airfield.

Regret surveyor omitted cardinal points. North is at foot of November 1967 sketch. High tide line at west end is Whalebone Cove (see 1:50,000 map 15).

2. As we have no trained surveyor available, some difficulty anticipated in producing additional survey until research ships arrive November. Area to east of sketch is relatively flat. From 60 foot contour to eastern edge of sketch measures approximately 3,600 feet which would seem adequate.

3. In view of information now provided grateful know whether absence of additional survey would hold up consideration of project.

Cypher

Reply at 44.

DECODE.

W 22/7 SI 23/7

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 19/7/68 *Time :* *Received :* 22/7/68 *Time :* a.m.

No 195

RESTRICTED

43.

Your telegram 120 of June 6th.

Airfield.

The additional survey mentioned in my saving despatch 37 and telegram 153 will not hold up consideration of project. The need for additional survey is under review.

2. I am sending in tomorrow's bag copy of letter of June 26th from Civil Aviation Department of Board of Trade about requirement and I should be glad to have your early views on this with particular reference to suggestion made in fourth penultimate paragraph and I will telegraph views of Airfield branch of MPBW on letter when they are received.

(45 A)

Cypher C. S.

Restricted

45/A.

BOARD OF TRADE
Civil Aviation Department
O.S.O.1
The Adelphi, John Adam Street, LONDON W.C.2
Telegrams: Avmin, London, Telex.
Telex No.: 22231
Telephone: 01-836 1207, ext.

Our reference: JS/23/04
reference:

Da 6/8/68

26th June, 1968

Dear Miss Scanes

FALKLAND ISLANDS
PROPOSED AIRSTRIP

Thank you for your AMT 8/2491/1 of 13th June and copy of the Governor of the Falkland Islands telegram No. 120 of 6th June, 1968. I have asked Joe Mitchell to advise whether the additional survey is required, and if so at what stage of planning he will need the information.

I note that you mention carrying out a 'full-scale feasibility survey'. Were you thinking of a general feasibility study or merely an engineering survey? I think we should undertake the former, even if on a reduced scale, as it would provide the basic information that we need to give a realistic assessment of the type of strip required and hence the expenditure involved.

The most important factor from our aspect is the field length requirements of the type of aircraft that would use the strip (it is of no value to construct a strip suitable for the B-N Islander if the local operators fly aircraft which are more demanding on runway length). Knowledge of the aircraft type however is only part of the answer. Foreign registered aircraft will not be operating in accordance with the British Civil Airworthiness Requirements and it might take us some considerable time to obtain their national regulations, and even these may be modified to a critical extent by the Company's operating instructions. The simplest way to obtain information on the field lengths actually required would probably be direct consultation with the operators who would be prepared to run a service to the Falkland Islands. We should also ask them the maximum crosswind in which they are prepared to operate.

The feasibility study should give a forecast of whether the volume of traffic, both passengers and freight, would be sufficient to support a scheduled service, or if all flights would be on a charter basis for some time to come. This will affect the airfield layout as we should aim at 95-97% cross wind usability for a scheduled service (which would probably demand two runways), whereas a lower figure would probably be acceptable for charter flights. We have heard of no plans for alternate airfields on the Falkland Islands and a forecast strong crosswind will mean cancellation of the flight unless the aircraft carries sufficient fuel to enable it to return to the mainland.

We have assumed that the service would be Punta Arenas direct to the Falkland Islands, overflying Argentina or cutting through Magellan's Straits. Would this be politically acceptable? It will add considerably to the distance if aircraft have to go round the cape to avoid Argentina. Could diversion airfields in Argentina be used?

/In

Miss A. M. Scanes (3 copies)
A.M & T Department,
Central Buildings,
Matthew Parker Street,
S.W.1.

In addition to the cost of the strip itself there will be expenditure involved in safety services, fuel storage, and various buildings and radio aids. All of these should be taken into account when deciding whether the proposal is economically sound. If the feasibility study showed that the operation of an airstrip could not hope to break even would the strip be constructed to run at a loss as a social service?

I believe the Falkland Island Government operates two Beaver float-planes. Do they intend to construct airstrips in other parts of the Islands and replace the present aircraft with land planes? No

A full airport survey by outside consultants would probably be too costly an undertaken in view of the relatively small sums we expect to spend in constructing the actual strip, but it would be very helpful if we had a paper on the subject from say, a local working group set up to study the requirement.

I am copying this letter to Mitchell and sending you two spares which you may wish to send to O.D.M. and G & S.A.D.

Yours ever

A Fernand

(A. H. FERNAND)

46

Our Ref: AMT 8/249/1

SAVING DESPATCH

CONFIDENTIAL

From the Secretary of State for Commonwealth Affairs.

To the Governor, Falkland Islands. No.: 37 Saving

Date: 10/6/68

Proposed Airfield

40 Your telegram No. 38 of 30 April, 1968.

2. The Board of Trade have now advised us as follows:-

> --"it would appear that many of the slower twin-engined aircraft in Performance Group A would be unable to meet the requirement to be within 90 minutes of a landing ground. The Britten-Norman Islander, which is classified as Performance Group C, does not have to meet this requirement and, allowing for overflying Argentina, it could in its developed form probably carry 5 passengers with sufficient fuel reserve to hold overhead for 90 minutes (whether or not this would be an adequate reserve would require a detailed Met. investigation). If the aircraft was not on the British register our Air Navigation General Regulations and BCARs would not apply.
>
> It has been our experience that once an air link is established there is a rapid increase in the use made of the facility and it would be prudent at this stage to plan for a runway of about 3,500 ft. with a possible extension to 4,000 ft. in case this is required by larger aircraft in the future.
>
> The survey drawing you sent was very useful, but if we are thinking of a strip of 3,500 ft. we will require additional survey coverage to the left of the section you sent (I cannot be sure this is west as the survey drawing did not have a north pointer). It would be helpful to us if this continuation sheet could give a grid reference and a north arrow."

3. It is suggested, therefore, that you should arrange for the contour survey of the area to be extended to allow for a runway of 3,500'-4,000' as suggested by the Board of Trade, if this is practical.

Reply at 71.

/When the

4. When the results of this survey are known and have been studied here, consideration could then be given to your request, in consultation with the Ministry of Overseas Development, for a full feasibility survey under Technical Assistance terms.

5. A copy of a letter from the Airfields Branch of the Ministry of Public Buildings and Works which contains some useful observations on the project is enclosed for your information.

CROSEC

(7) 46A

Mr Sage
We spoke about this — you may like to include the substance of Mr Mitchell's comments in the draft Saving (passed to you yesterday) from para. 6 — it seems that MPBW would also like an extension of the Contour Survey map. A. M. Scones 29/5

CA 6/8/68

PP.7794/185

27th May, 1968.

Board of Trade, C.S.O.1,
(Mr. A. H. Forward).

Copy to:- Commonwealth Office (Miss A. M. Scones). with 2 copies of drg.

Falkland Islands - Aerodrome Development

With reference to your letters JR/25/64 dated 24th April, 1968, and 3rd May respectively; it has been noted that the 1943 W.O. Geographical Section GS No. 4465 — 1:24,000 scale map shows the peninsula of land where it is proposed to build an aerodrome as consisting of:-

(a) Sand and gravel.

(b) Rough pasture.

(c) Stone run.

2. There is a warning note on this map that the areas shown as rough pasture are liable to become boggy and treacherous after rain.

3. The Director of Overseas Surveys 1:50,000 scale map of 1956 to 61 also indicates that there are large areas of sand on the site.

4. Flight Lt. Burgess's Report of the 18th April, 1967, refers to the site being flat and requiring minimal drainage. The top surface comprises a thin layer of soil supporting the growth of wild grass and other vegetation. The sub-strata has the appearance of peaty clay rather than sand and this would account for the extensive areas of surface water adjacent to the proposed strip.

5. A peaty clay soil would be a poor foundation for an airfield but much depends on the depth of this soil and the proportions of silt and organic matter in the soil.

6. The layout shown on Flight Lt. Burgess's drawing appears to be north of the area shown on the "Proposed airfield site" surveyed by the British Antarctic Survey in November 1967. It is difficult to locate this survey in relation to the larger scale maps and therefore it would be useful if additional survey sheets bordering on to the airfield site could be obtained.

7. For initial planning purposes only, a 3,500 ft long x 100 ft wide runway within a basic strip 4,000 ft x 500 ft, and including provision for a taxiway to a hardstanding suitable for two Islander type aircraft has been sketched on the British Antarctic Survey Drawing and two copies are enclosed herewith. This would give a runway in accordance with the proposed I.C.A.O. new standard for Category C1. Future development to Category A1 would be advisable.

not received here
See f. 61.

8. To serve aircraft similar to:-

(a) Islander - max. A.U.W. 5,300 lb, tyre pressure 29 p.s.i.

(b) Otter - max A.U.W., 8,000 lb, tyre pressure 26 p.s.i.

/a well

a well drained and graded turf surface is required to support in all weather conditions a lorry having a single wheel load of 6 tons and capable of being driven without serious discomfort at 20 m.p.h. over the entire area of the runway. There should be no loose or sharp stones on the surface capable of damaging tyres or being thrown up into the propellers and engine.

9. This type of surface is normally prepared by grading to levels, removing soft spots of soil and replacing with a non-plastic material such as a well graded gravel and sand mixture suitable for consolidation. Drainage, where necessary, would be by means of gravel filled trench drains. Re-turfing would be required over the bared areas. Rolling and grass cutting would then follow on as maintenance items.

10. Before recommendations are made for Aircraft similar to:-

(a) Nomad - max. A.U.W. 13,500 lb, tyre pressure 62 p.s.i.

(b) H.S. 748 - max. A.U.W. 44,500 lb, tyre pressure 72 p.s.i.

(c) F.27 Friendship Mark 500 - max. A.U.W. 45,500, tyre pressure 80 p.s.i.

it would be advisable for an Airfields Engineer to visit the site and prepare a Serviceability Report.

(J. MAUDUIT)
Airfields Branch
Directorate of Control Services
27th May, 1965.

DECODE.

48

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 1/8/68. *Time:* *Received:* 2/8/68. *Time:* a.m.

No. 200.

RESTRICTED

(44)

My telegram 195 of July 19th: Airfield.

Airfields branch of MPBW agree no requirement for immediate completion of survey although further review of survey situation may be necessary in light of information we are awaiting from you regarding Board of Trade letter of June 26th.

Cypher.

C.S. Have you received?

See 53 C/C

Where is this letter? C.O.

Letter at 45/A. D. 31/8

FOR FUCHS FROM HIGHCOMA: 13th August, 1968.

Last November you kindly allowed surveyor Fielding to survey site for Cape Pembroke airfield. Board of Trade Civil Aviation Department may require additional contour survey for limited area east of area done last November. Would you be agreeable one of your surveyors undertaking this while ship is in port. Estimate one week work. Sugg has full details and it would be helpful if surveyor called at Commonwealth Office before embarkation.

C.S. For your file
airfield CH 13/8

W.I.
13/8

50

EXTRACT FROM MINUTES OF A MEETING OF THE DEVELOPMENT COMMITTEE HELD ON 25TH JUNE 1968.

(d) Airfield - Members had visited the site of the proposed airfield shortly after the last meeting of the Committee. A resumé of the present position was given. Further information regarding developments in the matter was expected by Government in the mail.

1104/68 R 0917Z 16/9/68

S1

FROM LONDON HQ
TO STANLEY OFFICE

AS/182/1 X /848/68 FOR HIGHCOMA FROM FUCHS. ONLY ONE SURVEYOR GOING VIA STANLEY TWO OTHERS THROUGH MCMURDO TO HALLEY BAY. HAD INTENDED SEND BENTLEY IN BISCOE BUT THIS ENTAILS TWO MONTHS IN STANLEY WHICH CLEARLY TOO LONG AND ISOLATES HIM FROM OTHER NEW FIDS. WILL ENDEAVOUR SEND HIM IN SHACKLETON IF DOS TRAINING PERMITS WHICH WILL GIVE HIM FROM 5TH NOVEMBER TO 20TH NOVEMBER IN STANLEY. ASSUME GOVERNEMNT WILL PROVIDE ACCOMMODATION AND MESSING.

VEF/SAP

Cs This is helpful.
I presume we can accept last sentence
→ change to Development Estimates A. 4 ?
Yes. Yes. Ds
Cs 16/8

2408.

C.S. for Secretariat file 6.52
MH 24/8/68

X/ ... /68 AS/182/1

FOR FUCHS FROM HIGHCOMA. YOUR PROPOSAL TO TRY TO SEND SURVEYOR BENTLEY BY SHACKLETON VERY WELCOME. COLONY WILL BE RESPONSIBLE FOR ACCOMODATION AND MESSING.

RESTRICTED

53

C.S. please note
Ms 29/8 [illegible]
3014

29 August, 1968.

48

Would you please refer to Commonwealth Office telegram 200 dated 1st August about an airfield in the Cape Pembroke area.

I hope to send you the information you await by the next outward mail which leaves here on about 12th September. This is an unscheduled opportunity presented by the American ship FS 216, on which Major Nott-Bower will be a passenger.

Ms

A.St.J. Sugg, Esq., C.M.G.

RESTRICTED

C.S. Noted + action taken. MH 10/9/68

In file 2408 ← 54
Copies to 2250

Y.E.

I have had a long discussion with I. Campbell and M. Smith concerning the points raised in various letters and which are mainly at folio 45A.

Following the form set out by Y.E. we have the following comments:

Reduced scale general feasibility study.

We feel that nothing can happen until this has been carried out and we have no one here to do it.

What aircraft types will operate?

It is impossible to say, but Taxpa offer twin and single engine planes. "Cessna", "Aero-Commanders", "Beechcraft" and "Piper Aztecs".

B.U.A. talk of "Heron" and "Jetstream" and say that the "Heron" would require 3,700 feet to take off at maximum weight and "Jetstream" 3,300 feet. We think both these planes rather unlikely. They appear to carry rather too many people to make the service commercially worth while.

Mr Bidegaray Pons said that he wanted runways of 2,500 feet, 75 feet wide, in concrete or asphalt, with a cross strip in grass. I cannot trace anything where Bidegaray names a plane, but I remember him telling me that he would operate "Cessnas" and twin engined air-craft.

Folio 12 on file 2250 is interesting.

Aerea linea Tampa Ltd offer twin engine "Beechcraft" (seven passengers).

Maximum cross wind in which operators would be prepared to fly.

Only the operators can answer this. They take their own risk. We know nothing about operations on the South American coast and what their risk limits are. When we know what type of airstrip can be laid down we can ask the operators. We might be able to find out some detail from the operators mentioned above but we would have to be careful not to start too many hares.

Scheduled or Charter service.

We feel that a scheduled service is unlikely. It could not be made to pay immediately and, allowing for ever increasing operating costs, it might never pay. We have no figures to work on and even if we were to calculate the number of persons who might travel, we have no way of matching them to unknown fares for unknown planes on an unknown service.

Charter aircraft normally accept risks not allowed to regular service aircraft. Apparently, acceptance of risk is very much in the pilot's own hands. Charter aircraft would tend to fix their own rates in the light of flying experience to and from the Falklands, but what these rates would be it is impossible to say.

Alternative Airfields.

Campbell is sure there are no alternative air fields and points out that an alternative air field must be able to stand up to the same landing impact as a regular air field. The main difference is that it would have no services such as radio aids. There might be one or two flat areas which could be used in dire emergency. Campbell does not think the area west of Fox Bay would be good enough and he would hate to have to/...

to land even a Beaver in the area of Teal Inlet. However, until one knows what planes can be accepted on a feasible air strip it is very hard to say what sort of alternative landing grounds are required. When we know a simple survey could be made.

Political difficulties of flying from Punta Arenas.

We do not think too much should be made of this because both Tampa and Bidegaray have obviously taken it into account and it does not appear to have worried them when offering their services.

Snags of flying from Gallegos and availability of diversion airfields in Argentina.

We can offer no comment.

Expenditure on safety services: fuel storage: buildings and radio aids.

All this depends upon the feasibility survey and an expert must tell us what has to be provided. We think it a waste of time to attempt to plan for these when we do not know -

(a) whether there can be an air strip and

(b) what planes will use it.

Air strip to run at a loss or be accepted as a social service.

We think it would run at a loss but if it was only used by charter planes in the first instance we think acceptance of it as a social service would be within our powers, but again we warn that no one has the slightest idea of cost.

Suggestion of a paper from a local working group which might be the Development Committee plus "experts".

We dislike this idea and think it would only generate paper.

We want an air field and there is public support for it. What we can do is to continue the survey and emphasise to London that R.M.S. "Darwin's" life is running out fast. Let the expert come and tell us what to study.

Questions on folio 46.

We would have to take advice to find out whether British Air Navigation General Regulations could be waived. We do not know.

B.C.A.Rs.

This term stands for British Colonial Air Regulations.

We think additional survey is a basic necessity and it is quite obvious that if we do not get this done the Board of Trade and the Commonwealth Office will do nothing.

Questions at folio 46A.

We confirm that there is no stone run on the site. The site is not yet smooth enough for a test with a lorry at 40 miles an hour but our previous running around there with Land Rovers and early work all points to the fact that Cape Pembroke is the nearest thing we have to a suitable site.

Aircraft/...

Aircraft types.

We cannot comment. See above.

It is our view that we have gone just about as far as we can from our own resources and we are groping in the dark not knowing which way to go. Someone must come out and point the way. We have not a single qualified person. We can continue to build up items of interest on file but there is a danger that we shall have too many leads going in too many directions.

S.I.

(W.H. THOMPSON)
COLONIAL SECRETARY

15th August, 1968.

SC

11 September, 1968.

48

Would you please refer to Commonwealth Office telegram 200 of 1st August in which further information is asked for in connection with construction of an airstrip in the Cape Pembroke area. I now send my comments on the saving despatch and the two letters forwarded to me.

I note from saving despatch No 37 of 10th June (reference AIR 8/249/1) that, if aircraft operating to the Falkland Islands are not on the British register, British Air Navigation General Regulations and British Colonial Air Regulations would not apply.

I also note that it is considered prudent at this stage to plan for a runway of about 3,500 feet, with a possible extension to 4,000 feet in case this is required by larger aircraft in the future. Tentative arrangements have been made with Sir Vivian Fuchs for a surveyor of the British Antarctic Survey to extend eastwards the contour survey of the area which was covered in November 1967. This work is likely to be undertaken and completed in November this year.

Letter FP 7794/185 of 27th May from the Airfields Branch of the Directorate of Central Services to the Board of Trade (C.S.O.1) mentions that the 1943 War Office map GS 4465 on a scale of 1:24,000 indicates the existence of "stone run" in the Cape Pembroke peninsula. I confirm that in the area provisionally selected for the airstrip no obstacle of this nature exists.

The site is not smooth enough to test it with a lorry with a single wheel load of two tons being driven at 40 miles an hour. However, Land Rovers frequently cross the area in most directions and, while the going cannot be considered good, the area would appear to be a suitable site.

It would be appreciated if a copy of the planning sketch mentioned in paragraph 7 of letter FP 7794/185 could be provided please.

Taking now the Board of Trade (Civil Aviation Department C.S.O.1) letter JB/23/04 of 26th June, I see that preference is expressed for a

/general feasibility ...

A. St.J. Sugg, Esq., C.M.G.(3)
H.M. Ambassador, Buenos Aires

RESTRICTED

H.M. Ambassador, Montevideo
H.M. Ambassador, Santiago

C.S. to Secretariat file.
No copy retained in Q.H.

general feasibility study "on a reduced scale" as opposed to a purely engineering study. I am sure that this is right. Opinion here is that there is little more we can do at this end until such a study has been carried out. We have no one who is competent to undertake it.

The question is asked as to what types of aircraft will operate to the proposed airstrip. Unfortunately we are not in a position to answer with any degree of certainty.

British United Airways talked of Hawker Siddeley Jetstreams and Herons; the latter could apparently require 3,700 feet in order to take off at maximum weight, while the Jetstream is said to require 5,300 feet.

An aircraft operator in Uruguay, a Senor Ridgeway, of the firm of Van Schalen & Reid in Montevideo, visited the Falklands in 1966. He said that he would require a runway of 2,500 feet in length with a width of 75 feet, preferably surfaced, and with a grass strip in grass. He did not specify the make of aircraft he would propose to use, other than that it would be twin-engined.

A Chilean operating company named Tams, talked at one time of making use of Beechcraft 'planes which carry seven passengers.

Another Chilean company, Tarco, of Santiago has mentioned Cessnas, Aero-Commanders, Beechcraft and Piper Aztecs.

Other aircraft types which have been mentioned from time to time are Dehavilland Twin Otters and Short Skyvans.

We have not so far been able to engage in realistic correspondence with potential aircraft operators. We do now understand however that foreign registered aircraft would not necessarily be operating to the Falklands in accordance with British civil air worthiness requirements. Only the operators can really answer the question as to the maximum cross wind speed in which they are prepared to operate.

So far as can be foreseen a scheduled service is extremely unlikely. Although we have no figures on which to base our view, it is reasonable to suppose that a service could not possibly be made to pay for itself immediately and indeed, allowing for ever increasing operating costs, it might never pay. We have no realistic figures

/on which .....

on which to work and a calculation as to the number of persons who might travel by air to and from the Falklands must be very largely guesswork.

In order to put the matter in perspective I should mention that in 1966 the number of travellers to the Falklands was 421 and in 1967 it was 445. The numbers northbound were 5% and 30% respectively. (11) These figures do not include personnel of the Royal Marines or members of the British Antarctic Survey travelling to or from Antarctic bases. Many of these people would undoubtedly continue to travel by sea even if an air link existed and, with the completion of construction work for the European Space Research Organisation, the amount of traffic in and out connected with that body can be expected to decrease slightly.

No alternative airstrips exist in the Falklands. Our Beaver pilots have point out that an alternative airstrip must be able to stand up to the same landing impact as a regular airstrip. There are flat areas in various parts of the Colony which could be used in dire emergency but none of them could really be considered "alternative airstrips" in the proper sense of the term.

The Board of Trade letter of 26th June assumes that flights would be to and from Punta Arenas direct, overflying Argentine territory or passing over the Magellan Straits. I do not know whether it would be politically acceptable to fly over Argentine territory but I doubt whether real objection could be taken to making use of air space over the eastern entrance to the Straits. Ships such as R.M.S. Darwin or R.R.S. Shackleton make use of the eastern entrance to the Straits without let or hindrance. It may be that the Straits are regarded as international waters. Both the Chilean firms Tuna and Zagra and also the Uruguayan operator, Pidegray, have suggested flights from Punta Arenas and presumably took the political aspect into account. It did not seem to worry them unduly when offering their services.

As to the possibility of flights from Gallegos in Argentina or using diversion airfields in Argentina, I am not in a position to offer any useful comment.

I appreciate that in addition to the cost of the airstrip itself expenditure would have to be incurred on safety services, fuel storage, buildings and radio aids. That this expenditure is inevitable has to be accepted. Additional expenditure would need to be kept to the bare minimum, consonant with safety.

/It is correct ....

It is correct that the Falkland Islands Government Air Service operates two Beaver float 'planes. These were new in March 1967 and there is no intention of replacing them with land 'planes. When the local air service was started 20 years ago, a land 'plane was employed but it was found impractical to construct or maintain the necessary landing strips on the farm settlements. The float 'planes have the tremendous advantage of great versatility, since they can land not only on the sea but on many small inland waters as well. The Beaver float 'plane is considered ideal for the Falkland Islands internal air service.

I think it relevant to mention that R.M.S. Darwin, at present the Colony's only regular link with the mainland, was brought into service in 1957 and she may thus be considered as being about half way through her useful life. I find it difficult to believe that the Falkland Islands Company would be willing to go to the expense of finding a replacement for Darwin when she becomes no longer economic to run and this is another factor compelling us to investigate the possibility of alternative forms of transport.

To sum up, the work which can usefully be accomplished by laymen here has virtually come to an end. The Cape Pembroke site has been seen and approved by a variety of visitors, none of whom would claim to be an expert but all of whom have flying experience. We have a contour survey covering more than three quarters of the favoured area and by the end of November we expect to have the rest of the survey completed. Beyond this we can not really go without expert advice.

I ask therefore that a general feasibility study should now be made by a competent person sent out from the United Kingdom specifically for the purpose.

Since so much of this letter concerns the South American mainland, I am sending copies to H.M. Ambassadors in Buenos Aires, Montevideo and Santiago for information.

57

C.S. For your airfield file.
Shackleton due 5 November.
Clements is away — any idea
about work books & survey equip?

Ben 5.10.68

(Ask A.C.S. re above;
mail)

FFFF

1293/68 R 08252 24/9/68

FROM LONDON HQ
TO STANLEY OFFICE

AS/182/1 X/848/68 FOR HIGHCOMMA BENTLEY ARRIVING SHACKLETON TO CONTINUE FIELDING'S SURVEY OF AIR FIELD. HE WILL NEED FIELDING'S NOTE BOOKS. CAN YOU PLEASE CONFIRM THAT THESE ARE AVAILABLE IN STANLEY. PLEASE INFORM ALSO WHAT SURVEY EQUIPMENT AVAILABLE IN STANLEY.

WOS/JMA

FFFF

Ofan Lee
etc any clue?

56

58

59

C.S. to airfield file please
Ch 12/10/68
DI

O i/c

Would you please pass the following message to London before midday:-

REFERENCE REL 1293/68 FOLLOWING SURVEY EQUIPMENT AVAILABLE STANLEY, ONE THEODOLITE, ONE DUMPY LEVEL WITH STAFFS AND LEGS COMPLETE. AND ALL NECESSARY DRAWING EQUIPMENT. FIELDING'S FIELD BOOKS HAVE NOT YET BEEN TRACED BUT SEARCH CONTINUES.

~~57~~ 60

C.S.

56 discussed with Capt. O'Connell.

Fielding had the notes with him at Stanmore while relaying them to Brig. Stanley by radio so that Bentley will be able to consult them on arrival. I understand the finalised plan was handed direct to S.H.Q. (Mr Gough) before Fielding went to Stanmore.

S.H.Q. Commodore a Rhodesia, dumpy level, drawing equipment, range rods.

J. 30.10.68.

W.
S/W.

Bu 24.10.68.

~~58~~ 61

2406.

(AMT 8/249/1)

SAVING DESPATCH

RESTRICTED

From: Secretary of State for Commonwealth Affairs

To: Governor, Falkland Islands

No. 56

1st October

~~30 September~~, 1968.

COLONIAL SECRETARY'S OFFICE
13 OCT 1968
FALKLAND ISLANDS

Proposed Airfield

55 Your letter of 11 September, 1968.

As requested we enclose a copy of the planning sketch mentioned in paragraph 7 of Ministry of Public Buildings and Works' letter PP 7794/185 of 27 May.

EXTRACT FROM MINUTES OF MEETING OF EXECUTIVE COUNCIL NO.9/68 HELD ON THE 14TH & 15TH OCTOBER 1968

2408

16. PROPOSED AIR STRIP

Council noted that arrangements were being made for an engineer employed by the British Antarctic Survey to make an additional survey of the area selected for the proposed air strip. An application could then be made to the Commonwealth Office to provide an officer to carry out a feasibility study of the area.

Clerk of Council

PA

DECODE.

Ms 17/10 62

TELEGRAM SENT.

From GOVERNOR *to* SECRETARY OF STATE

Despatched : 17/10/68 *Time :* *Received :* *Time :*

No. 202

RESTRICTED

Airfield. Sugg's letter ATC 8/249/1 of 25th July, 1967. (10)

Rumour current here from reasonable source that Royal Engineer Officer has been designated to supervise construction. Grateful any information.

Cypher

Bu 24.10.68.

(to KW - account 52, etc)

2408

63

24th October 68

To: The Harbour Master,

From: The Colonial Secretary, STANLEY

Airfield

Mr Bentley a BAS Surveyor will be arriving by SHACKLETON.

Please see that he has the support and help of the Agricultural gang and their landrover.

Please arrange for survey stores to be drawn from SPW in advance.

(W. H. THOMPSON)
COLONIAL SECRETARY

Copy to SPW - you will be providing certain equipment.

FA

By 2.11.68. (E KJV)

Your Excellency.

In view of the interest in the airfield that was made public at the recent Legislative Council I have had a look at the wind statistics here with reference to the likely layout of any strip for aircraft.

The site of the meteorological station is unobstructed and there are continuous records from 1951, and from the tabulated frequencies of wind at the observations I constructed the diagram. There have been 44,677 observations during this period which is a fair sample of the wind distribution. There are also mean wind directions for every hour of the day but 24 x 365 x 15 plus leap years is too much to attack without some aid. It may be argued that the winds down at the strip will differ from those up on the ridge at the meteorological site but we have a distribution of winds observed in 1903 at Cape Pembroke when the observations were made every four hours; these have a distribution rather similar to our diagram. (Report on Scientific Results of the Voyage of the S.Y. 'Scotia' VolII).

To determine usability on any selected heading it is only necessary to turn the tracing paper to the selected heading and count up the numbers between the parallel lines. Interpolation will be needed in determining the total but the numbers only give three decimal places so no great accuracy is needed in the interpolation.

I aplogise for the home made diagram but polar diagram paper is not available here.

W Blackie

C.M.O.

24 October 1968.

65

CS Blackie has made an ingenious toy which you must see. He is going to show me how it works. We should send something to London about this subject on 15th November. Please BU at convenience.

G. 30/10

C/c b.u on airfield file 28/10

G. 29/10

64A

DESIGN OF AIRFIELDS.

An aerodrome runway is considered to be unsafe for use by aircraft when the wind component at right angles to it exceeds a certain critical value depending upon the type of aircraft. In Fig.1. if AOB is the direction of the runway and if PO represents the direction and V the speed of the surface wind, then the cross component if represented by PL or V $\sin\alpha$. If the critical value is U (i.e. the cross component) then the critical speed for a wind inclined to the runway is given by

$$V \sin\alpha = U.$$

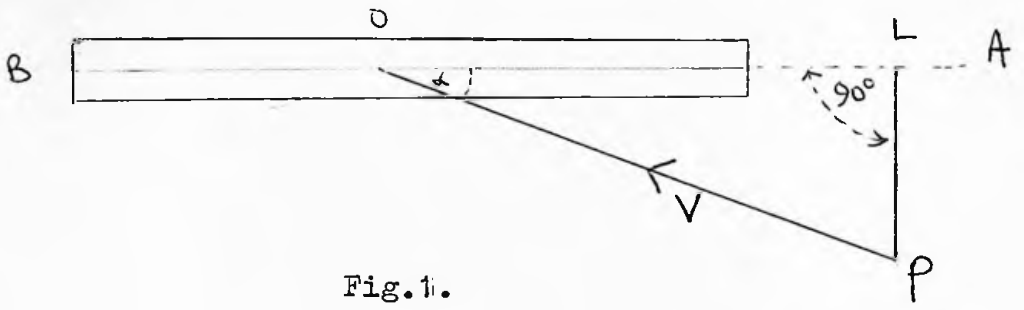


Fig.1.

The usability of a runway in relation to wind is the percentage of time during which the cross component is equal to or less than the critical value. In order to determine usability, surface wind data for a number of years is needed. At Stanley there are wind observations covering the years 1951-1965 in a form that lend themselves to the construction of a diagram from which usability figures could be obtained. There are also other data but at present there are not computing facilities of the necessary magnitude in Stanley.

Fig.2. is a polar diagram divided radially into 12 sectors and by circles into zones of Beaufort force 1 to 9. Frequencies of wind direction and speed have been entered as the number of observat-ions per hundred thousand. This enables the percentage frequency to be read directly from the diagram. For example the number 1042 in the south west corner of the diagram indicated that winds of force 8 or more occur between directions 195 and 225 degrees on 1.042% of the time. On this diagram a sheet of tracing paper is attached and this can be rotated into the direction of any proposed runway. The two lines drawn parallel to the runway are at a distanc either side of the centre corresponding to the speed of the critical crosswind component. The radius vector of any point on the diagram represents a wind in direction and magnitude and if the numbers lie between the parallel lines, the component at right angles is less than the nominated cross component. Hence the usability of a runway of this heading will be given by the total of the wind frequencies included within the parallel lines, expressed as a percentage. The sheet of paper on this diagram is ruled to cover cross components of 10kt and 15kt.

C.M.O.

Meteorological Office, Stanley.

24 October.

Re (64)

Mr Blackie today showed me how to use his diagram, which I shall have delivered to you on his first windless day – it is too large for his box.

DCA may be interested.

Roughly speaking, it seems that Cape Pembroke airstrip could be unfit to use because of wind on 24% of the year, i.e. one day in four. This presupposes that a cross wind of 15 knots is sufficient to deter an aircraft from landing. It also supposes that the runway is more or less due east and west.

LA
21/10

P.S. As far as London is concerned, I think all we need to say is that there have been continuous observations from the met station since 1951, a total of over 44,000 observations, and that the distribution of winds observed at 4-hourly intervals in 1903 by Dr Bruce's Scotia expedition from Cape Pembroke show a rather similar distribution pattern. We can say that all this information is available here.

Yrs
Julie Rehmeyer
21/10

F. I. ref: 2408

SECTEC. ref:

67

SAVING ~~TELEGRAM~~ DESPATCH

From: The Officer Administering the Government of the Falkland Islands.

To: The Secretary ~~for Technical Co-operation~~ of State for Commonwealth Affairs

Date: 5th November, 1968.

No. 119 SAVING. COLONY

Proposed Air Field.

You might find it useful to know that there have been continuous observations from the Meteorological station here in Stanley since 1951, a total of over 44,000 observations, and that the distribution of winds observed at four hourly intervals in 1903 by Dr. Bruce's Scotia Expedition from Cape Pembroke show a rather similar distribution pattern to that of to-day. Pre-supposing that a cross wind of 15 knots is sufficient to deter an aircraft from landing on a strip running more or less due east and west, it seems that the Cape Pembroke area could be unfit for use because of wind in one day in every four.

This is very rough information and full details are on record here for future study should any feasibility survey come about.

GOVERNOR

SC

Fielding's Notes relayed by Radio October 1968
(Copy supplied to SPRI)

NOTE CLEM

REF AIRFIELD SURVEY . WORK WAS IN THE FORM OF A RECTANGULAR GRID WITH 100 FOOT SIDES . LINES RUNNING APPROXIMATELY EAST WEST WERE GIVE LETTERS , BB , AA , A , B , C, D ETC. TO N . SIXTEEN LINES IN ALL . LINES RUNNING APPROXIMATELY SOUTH NORTH WERE GIVEN NUMBERS , 1, 2, 3, 4 ETC TO 56 . NOTE DIRECTIONS , THE SOUTH EAST CORNER IS THE ORIGIN . WHILST DOING THIS WORK I LEFT A NUMBER OF MARKER POLES ON THE SITE IN STRATEGIC POSITIONS . IE . CORNERS , KINKS IN SIDES , AND VARIOUS POINTS ALONG SIDES AND ALONG LINE F . WHEN I LAST SAW GOUGH , HE WAS INTENDING TO PLACE CEMENT GROUND MARKS AT SOME OF THESE POINTS , AND I ASSUME THIS HAS BEEN DONE . THE MOST USEFUL POINTS IN MY OPINION WERE A 1, A 21, BB 21 AND BB 53 . I DO NOT KNOW HOWEVER , WHICH HE FINALLY DECIDED ON , ALTHOUGH A 1 MUST HAVE BEEN INCLUDED . FOLLOWING ARE HEIGHTS OF INTERSECTIONS OF ABOVE MENTIONED LINES IN FEET , ABOVE APPROXIMATE MEAN SEA LEVEL IN WHALEBONE COVE . HAVE CUT DOWN TO A SERIES OF THREE FIGURE GROUPS , IN ALL GROUPS A DECIMAL POINT SHOULD BE INSERTED AFTER THE SECOND FIGURE . UNDER THE HEADING OF EACH LINE LIST NUMBERS RUN CONSECUTIVELY FROM 1 EXCEPT IN THE CASE OF LINES BB AND AA WHERE NUMBERING COMMENCES AT 21 AND IN LINE L WHERE NUMBERS 17 , 18 AND 19 ARE MISSING .

LINE J 694 685 698 693 693 684 683 684 685 674 680 686
679 678 681 688 692 689 679 680 682 682 678 677 679 689
696 692 690 684 686 681 688 692 699 634 600 575 621 642

line K 691 691 694 690 690 690 682 682 685 680 687 681
679 678 681 680 682 688 692 688 687 689 685 686 683 694
685 729 713 726 =

line J 711 720 754 697 693 685 683 698 682 683 686 682
680 677 686 681 694 696 694 674 688 703 =

line H 737 759 710 700 692 687 685 691 676 676 686 688
681 681 682 690 =

line G 753 739 726 732 740 701 703 702 679 673 688 691
682 684 685 688 =

line D 698 718 689 694 690 683 681 691 681 680 686 684
682 696 702 697 689 685 696 695 696 692 660 663 676 673
669 666 652 638 628 618 607 599 607 572 548 483 465 443
406 379 361 365 340 338 315 294 293 284 250 223 196 190
076 =

line E 696 687 687 694 694 690 683 682 686 680 684 679
681 682 686 693 679 678 677 678 696 690 678 685 684 681
675 674 685 682 644 632 617 608 593 572 544 486 465 451
410 401 382 390 360 337 339 334 317 293 199 268 241 213
117 =

LINE F 688 691 681 694 685 690 686 680 674 675 673 678
680 680 677 698 678 676 676 688 678 680 682 680 689 681
691 686 684 676 667 664 656 641 648 584 563 457 457 442
445 426 425 417 393 380 351 358 366 352 325 289 259 212
186 103 =

LINE G 681 685 683 683 685 685 688 682 687 677 675 676
681 678 678 682 678 676 676 673 677 690 682 678 688 684
688 685 677 678 671 666 665 649 646 586 564 529 533 504
472 437 426 416 415 414 408 394 404 385 364 340 280 245
201 133 =

line h 683 687 689 684 691 694 694 693 685 678 675 680
684 677 676 677 681 680 677 679 675 675 672 684 696 692
683 675 682 680 675 664 654 653 647 593 568 548 518 494
510 484 468 444 444 427 433 408 398 394 392 381 359 295
251 218 =

line I 683 684 695 695 690 685 687 686 685 683 688 679
680 681 678 682 676 686 674 680 677 675 676 675 681 689
691 684 682 679 675 674 669 678 664 593 558 555 556 541
567 550 512 448 474 473 502 496 493 466 424 390 371 331
304 258 =

LINE BB 736 720 698 686 683 668 662 655 664 673 678 678
657 644 553 537 472 439 419 390 343 331 306 282 248 219
196 171 148 137 116 113 073 000 =

line aa 697 691 688 684 680 680 656 663 669 672 670 669
663 649 629 568 468 450 423 408 346 309 286 257 201 196
185 175 160 142 127 112 102 023 =

line a 728 726 735 726 734 734 722 725 736 732 726 708
714 713 712 704 704 700 698 701 698 691 700 672 670 670
669 658 658 651 653 651 651 637 629 568 468 450 423 408
343 327 340 274 253 224 204 185 172 144 127 111 090 048
=

line b 676 700 710 716 714 706 704 702 702 714 716 714
710 708 709 700 712 696 702 694 690 686 687 679 669 661
674 650 647 640 640 636 628 632 622 602 569 427 406 398
355 357 334 292 279 259 222 189 157 134 116 105 088 055=

c 683 684 684 684 683 682 682 688 690 695 695 711 710
709 709 708 698 694 698 693 686 685 680 684 678 667 661
653 644 635 626 630 619 607 599 588 561 467 444 428 392
372 349 321 286 265 246 234 263 198 187 149 138 102 000
=

tor 16/1445Z AC

RESTRICTED

69

13 November 1968.

W. 13/11

Airfield

Would you please refer to paragraph 4 of your letter ATC 8/249/1 of 25th July 1967 and to my telegram 202 of 17th October this year and your telegram 244 of 30th October in reply.

The rumour that an officer of the Royal Engineers had been designated to supervise airfield construction here originated with a local resident, well known to me and not given to exaggeration, who received a letter from a friend in the United Kingdom who had met a Sapper officer anxious to have knowledge of Falkland Islands conditions as he was coming out here to do the job in question.

As you can imagine, great interest is taken locally in the possibility of having an airfield and indeed the Falkland Islands Government is widely thought to be dragging its feet in this matter.

Ms

Reply at 72.

A.St.J. Sugg, Esq., C.M.G.

C.S. for Secretariat file.
No copy retained at FIG.

RESTRICTED

PC

10A

MINISTRY OF
PUBLIC BUILDING AND WORKS (Airfields Branch)
Lacon House, Theobald's Road, LONDON W.C.1
Telephone: HOLborn 8700, *ext.*

Our reference: PP 7794
Your reference:

20th September, 1968

Dear Mr. Bentley,

Falkland Islands - Airfield Development

As we discussed today, the survey carried out in 1967 gave insufficient coverage to site an airstrip of 4,000 feet length and an extension of a further 1,500 feet to the East of the 1967 survey is required, the new survey covering the same width of ground as the original.

I should therefore be obliged if you would survey this additional area and produce a contoured plan of the extension to the same scale as the original survey, incorporating the necessary join lines between old and new surveys.

As I mentioned, the presence of deep beds of peat on the line of the proposed runway will increase the cost of runway construction and any information you can obtain by probing about depths of peat beds (if any) on the runway centre line would be useful.

Yours sincerely,

A. McLAREN
Airfields Branch

Mr. Bentley,
British Antarctic Survey,

COPY

PP.7794/185

To 6

27th May, 1968

Board of Trade, O.S.O.1,
(Mr. A.H. Fernand)) with 2 copies of dwg. to each.

Copy to: Commonwealth Office (Miss A. M. Scanes)

Falkland Islands - Aerodrome Development

With reference to your letter JS/23/04 dated 24th April, 1968, and 3rd May respectively; it has been noted that the 1943 W.O. Geographical Section GS No.4465 - 1:24,000 scale map shows the peninsula of land where it is proposed to build an aerodrome as consisting of:-

(a) Sand and gravel

(b) Rough pasture

(c) Stone run.

2. There is a warning note on this map that the areas shown as rough pasture are liable to become boggey and treacherous after rain.

3. The Director of Overseas Surveys 1-50,000 scale map of 1956 to 61 also indicates that there are large areas of sand on the site.

4. Flight Lt. Burgess's Report of the 18th April, 1967, refers to the site being flat and requiring minimal drainage. The top surface comprises a thin layer of soil supporting the growth of wild grass and other vegetation. The substrata has the appearance of peaty clay rather than sand and this would account for the extensive areas of surface water adjacent to the proposed strip.

5. A peaty clay soil could be a poor foundation for an airfield but much depends on the depth of this and the proportions of silt and organic matter in the soil.

6. The layout shown on Flight Lt. Burgess's drawing appears to be north of the area shown on the "Proposed airfield site" surveyed by the British Antartic Survey in November 1967. It is difficult to locate this survey in relation to the larger scale maps and therefore it would be useful if additional survey sheets bordering on to the airfield site could be obtained.

7. For initial planning purposes only, a 3,500 ft. long x 100 ft wide runway within a basic strip 4,000 ft. x 500 ft. and including provision for a taxiway to a hardstanding suitable for two Islander type aircraft has been sketched on the British Antartic Survey Drawing and two copies are enclosed herewith. This would give a runway in accordance with the proposed I.C.A.O. new standard for Category C1. Future development to Category A1 would be advisable.

8. To serve aircraft similar to:-

(a) Islander - max. A.U.W. 5,500 lb, tyre pressure 29 p.s.i.

(b) Otter - max A.U.W., 8,000 lb, tyre pressure 28 p.s.i.

/a well

a well drained and graded turf surface is required to support in all weather conditions a lorry having a single wheel load of 2 tons and capable of being driven without marked discomfort at 40 m.p.h. over the entire area of the runway. There should be no loose or sharp stones on the surface capable of damaging tyres or being thrown up into the propellers and engine.

9. This type of surface is normally prepared by grading to levels, removing soft areas of soil and replacing with a non-plastic material such as a well graded gravel and sand mixture suitable for compaction. Drainage, where necessary, would be by means of gravel filled French drains. Re-turfing would be required over the bared areas. Rolling and grass cutting would then follow on as maintenance items.

10. Before recommendations are made for aircraft similar to:-

(a) Heron - max. A.U.W. 13,500 lb. tyre pressure 62 p.s.i.

(b) H.S. 748 - max. A.U.W. 44,500 lb, tyre pressure 73 p.s.i.

(c) F.27 Friendship Mark 500 - max. A.U.W. 43,500, tyre pressure 80 p.s.i.

it would be advisable for an Airfields Engineer to visit the site and prepare a Feasibility Report.

(J. MITCHELL)
Airfields Branch
Directorate of Central Services

27th May, 1968.

COPY

BOARD OF TRADE
O.S.O.1,
The Adelphi, John Adam Street, London, WC2
Telephone 01-836 1207 etc.

To C

Our Ref. JS/23/04

23rd April, 1968

Dear Mr. Mitchell,

Falkland Islands - Aerodrome Development

You will have heard mention of provision of a simple landing strip on the Falkland Islands. Unfortunately, because of the fairly long sea crossing involved, such aircraft as the B-N Islander cannot be used and we are faced to think in terms of Heron or Jetstream which will require a runway length of about 3,500 ft. It would obviously be prudent to allow for some future extension up to say 4,000 ft.

I have attached:

(a) a copy of an appreciation by Flt. Lt. Burgess

(b) a survey drawing of the area.

(c) copies of letters from the Commonwealth Office dated 6th and 22nd February

I have asked Miss Scanes to obtain, if she can, additional survey coverage to the left of the attached sheet.

The criteria for the sort of strip we have in mind are:-

Length:	about 3,500 ft.	
Width:	cleared and graded over 500 ft.	
Surface:	Natural, reinforced as necessary to give LCN.10.	
Slopes:	Graded to give reasonable riding qualities	
Taxiway:	50 ft.	(natural surface reinforced as
Parking Area:	100 ft.	(necessary to give LCN.10.

Using the information attached as the best available at the time do the estimates of the Falkland Islands Superintendent of Public Works seem reasonable? What additional information, do you require before proceeding with this proposal?

Yours sincerely

A. H. FERNAND

Mr. J. Mitchell
CE6
MPBW
Lacon House
Theobalds Road
London.

BRITISH ANTARCTIC SURVEY

in reply .....

PORT STANLEY,
FALKLAND ISLANDS

.....22Nd. November,.....19..68..

Ms
3/12/68

A. McLaren, Esq.,
Airfields Branch,
Public Building and Works,
Lacon House,
Theobald's Road,
London. W.C.1.

Dear Mr. McLaren,

I enclose a contour map of the site of the proposed airstrip here, covering an area 1200 feet wide and extending 2000 feet beyond the 1967 Survey. It has been drawn to the same scale as the 1967 Survey and levels have been reduced to the same datum i.e. high water mark in Whalebone Cove. I have drawn a line marking the extent of the 1967 Survey.

In the north west corner of the 1967 Survey drawing a feature has been marked 'Yorke Bay'. This is incorrect, the feature being Mary Hill, an outcrop of rocks. This may account for the difficulty in locating this survey in relation to larger scale maps.

On my survey I have shown, to the east of the runway extension, there is a large area of sand dunes about 5 to 10 feet high. At the east and south edge of these dunes the rock outcrops. I have also shown a pond, which is no more than a few feet deep, and in the summer it dries out completely.

I did some probing for peat along the centre line of the runway, probing at 500 feet intervals (eight probes in all) to a depth of about 4 feet. The water table appeared to be between 1 and 2 feet below the surface and the soil was sand from the surface to at least 4 feet. There was no evidence of peat here, except the first couple of inches at the surface.

Yours sincerely,
P.I. Bentley
P.I. Bentley.

DECODE.

T2

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 13/12/68 *Time:* *Received:* 14/12/68 *Time:*

No. 287

CONFIDENTIAL

69 Your letter of 13th November.

Airfield.

We are completely baffled by details given of rumour regarding Sappers and airfield.

Ministry of Defence equally surprised and state emphatically that no Sapper officer has been designated to supervise airfield construction in the Falkland Islands.

2. The proposed airfield project, still in the embryo stage, has never at any time to my knowledge been specifically put to the Ministry of Defence or discussed with them and it would seem likely that there must have been a misunderstanding between the local resident in question and his friend in the United Kingdom who came by this information by chance apparently.

3. This has certainly not been considered officially here in a Sapper context.

Cypher : SJS

O i/c

I should be glad if the following message could be passed to surveyor Bentley:-

"Following from Governor for Bentley:

I am sorry that I did not manage to see you before you left Stanley but I should like to thank you very much indeed for the contour survey which you carried out on the Cape Pembroke airfield site. Your work in the area will, I know, be valuable when the feasibility study is made."

C.S. for airfield file

WO1 — BH

11/1/69

DECODE.

64
207

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 16/1/69 *Time :* *Received :* 16/1/69 *Time :* 2pm

No. 4

RESTRICTED

Airfield feasibility survey.

Your letter of 11th September. The Board of Trade are now in a position to send out two officers to do this survey but the earliest they could travel is in February Darwin and they would much prefer March sailing. In either case they would wish to ensure that they could get passages on next returning ship, this would allow them time to complete the job.

2. The estimate of the cost of this survey is £1,050 but CDO have said that they would find it difficult on economic grounds to provide this money from technical assistance funds.

3. We should be grateful to know;
(i) you wish Board of Trade to carry out survey as soon as possible and are willing to pay for it if necessary.
(ii) if you believe H.M.G. should pay you could let us have the argument to support this.
(iii) Return passages are available in March and April Darwins.

Cypher : SJS

74
75

1564/XVI

17th January, 69

Dear Sir,

I refer to our telephone conversation of this morning and confirm that the following passage reservations should be made for two Government engineers -

ex Montevideo 28th February returning on 21st March and ex Montevideo 28th March returning via Punta Arenas 12th April.

It is requested that all passages be reserved premium grade but I understand this may not be possible at this stage, in which case they should be wait listed premium.

I will confirm dates when these become available.

Yours faithfully,

(SGD.) H. L. BOUND.

for COLONIAL SECRETARY

The Manager,
Darwin Shipping Limited,
STANLEY

Copy to 2408

AA.

DECODE.

TELEGRAM SENT.

From GOVERNOR *to* SECRETARY OF STATE

Despatched: 17/1/69 *Time:* *Received:* *Time:* 22/1

No. 12

RESTRICTED

Your telegram 4 of 16th January. Airfield.

Your paragraph 1. Provisional bookings made

(a) depart Montevideo 28th February depart Stanley 21st March arrive Montevideo 25th March.

(b) depart Montevideo 28th March depart Stanley 12th April arrive Punta Arenas repeat Punta Arenas 14th April.

2. Grateful you indicate choice.

Cypher : SJS

C. Please note that this telegram to London was sent in order to get it off before the strike started. We had not at that stage deciphered the rest of S of S's telegram 4 and that is why this telegram only refers to his para 1.

20/1

Airfield Feasibility Survey

1. £1050 seems a fair sum of money but I am sure that, whoever pays, we must have this survey done.

2. Mrs Swanwick will do her best to provide words missing in 3(i) but the intention is reasonably clear.

3. We have £2200 available in approved estimates for 1968/69, so money is available if need be, although we should check against wording in saving despatch sent to SofS by latest mail, in which we specifically referred to airfield & we don't want to contradict ourselves.

4. If we can think up adequate arguments for 3(ii), we might get them to pay, viz. UK payment is token of their continued interest in & support for Falkland Islands; CDW allocation of £40,000 unlikely to be fully committed this financial year; construction of airfield would materially aid development of colony...

5. Please BU for discussion this afternoon.

20/1

JE. There is no contradiction in the despatch. DI 21/1

21/1

BU 31.1.69.
(CKIV)

3

DECODE.

CS for Secretariat file 78
Ltr 28/1/69

TELEGRAM SENT.

From GOVERNOR *to* SECRETARY OF STATE

Despatched: 21/1/69 *Time:* *Received:* *Time:*

No. 14

RESTRICTED

Your telegram 4 of 16th January and my telegram 12. Airfield.

Your paragraph 3. We wish survey as soon as possible and will pay if necessary. However as indication of H.M.G.'s interest in future of Colony I strongly recommend survey should qualify for 80% CDW grant under airfield construction stage one page 31 of Colony estimates.

Cypher : SJS

EXTRACT FROM MINUTES OF MEETING NO. 1/69 OF EXECUTIVE COUNCIL HELD ON 27TH AND 28TH JANUARY 1969.

2408 17. AIRFIELD FEASIBILITY SURVEY

Council noted that the Board of Trade were now in a position to send out two officers to carry out a feasibility survey of the proposed airfield. The estimated cost of the survey was £1,050. Although provision for such expenditure has been made in the Colony estimates for 1968/69, it is hoped that a contribution will be forthcoming from the Colonial Development and Welfare Fund.

Clerk of Council

Pa

80

DECODE.

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 14/2/69 *Time :* *Received :* 17/2/69 *Time :*

No. 24

RESTRICTED

S1 19/2

Airfield.

76. 78.

Your telegrams 12 and 14.

(a) Board of Trade prefer March/April sailings, mainly because of opportunity to visit Punta Arenas and are planning on that basis.

(b) We have now been informed survey may cost 50% more than originally estimated.

(c) ODM say cost of survey can not be met from CD and W fund as it is clearly in the field of technical assistance. We are still considering this question but grateful early confirmation you will pay extra cost if necessary.

(d) ODM have suggested that a market survey is necessary to test demand for a new service but believe this can be cafried out together with survey and hope to arrange.

Cypher : SJS

C.S. These difficulties! Please discuss

See 81

MS 17/2

DECODE.

2408

81

TELEGRAM SENT.

From GOVERNOR *to* SECRETARY OF STATE

Despatched: 19/2/69 *Time:* *Received:* *Time:*

No. 39.

RESTRICTED

80 Your telegram 24. Airfield.

It seems we have but little option to pay extra cost if it should be necessary and therefore agree.

Cypher : SJS

Note: One copy passed to Mr Thompson 3/3/69.

DECODE.

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched : 24/2/69 *Time :* *Received :* 25/2/69 *Time :*

No. 40

RESTRICTED

Addressed Santiago telegram number 40 of 24th February and to Montevideo repeated Buenos Aires and Falkland Islands.

Airfield survey, Falkland Islands.

Reference Falkland Islands Governor's letter dated 11th September to Sugg FCO copied to you.

2. Board of Trade/MPBW carrying out airfield feasibility study on Falkland Islands March/April.

3. Could air attaches informally contact operators referred to in Governor's letter (Chilean operators Tama and Taxpa and Uruguayan operators Van Bokkelen and Rohr) for following details, assuming Falkland Islands airfield possible:-

(a) What aircraft type and mark would they use for unscheduled operation to Falkland Islands.

(b) What major lengths would they need at Falkland Islands.

(c) What maximum cross-wind components would be acceptable.

4. Any information or other potential unscheduled operators would be useful.

5. Enquiries should be made on basis that operations into Falkland Islands depend on eventuality of agreement with Argentinians.

6. Information required by March 10th if possible.

Cypher : SJS

Replies at 87

DECODE.

TELEGRAM SENT.

D 114/3

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 6/3/69 *Time:* *Received:* 7/3/69 *Time:*

No. 30

CONFIDENTIAL.

Airfield survey.

Following are terms of reference we propose: "to carry out air and ground inspections of Cape Pembroke area of the Falkland Islands to report upon feasibility of constructing an airfield in the Cape Pembroke area, taking into account all technical flight operations and airfield engineering considerations and having regard to probably development pattern of air operations between the Falkland Islands and South America including a market survey to test demand for any new service and its likely expansion".

2. Grateful for any comments.

Cypher : SJS

G. Seems comprehensive. If you have no comments we can signal that terms of reference are agreed DAS 7/3

83

DECODE.

CS 10/3 CS 11/3

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 7/3/69 *Time :* *Received :* 7/3/69 *Time :*

No. 32

PRIORITY RESTRICTED

76 Your telegram 12 of 17th January.

Airfield feasibility study.

Complications have arisen over return bookings for Board of Trade team of two from Stanley to Punta Arenas on 12th April. Board of Trade say that according to the Falkland Islands Company only one passage has been booked and that both survey officers are ----- at ------ on next leg of journey.

2. Unless both officers can be booked on to ship departing 12th April for Punta Arenas then Board of Trade will postpone their visit until later in the year.

3. We would be grateful for an urgent approach to steamship company at your end to sort out this mistake.

Cypher : SJS

DECODE.

TELEGRAM SENT.

From GOVERNOR *to* SECRETARY OF STATE

Despatched: 8/3/69 *Time:* p.m. *Received:* *Time:*

UNNUMBERED

PRIORITY RESTRICTED

Your telegram 32 Airfield feasibility study.

Steamship Company here confirm two passages definitely available Stanley Punta Arenas 12th April for Board of Trade Survey officers.

Cypher : SJS

86

24th February, 69

Colonial Secretary

Superintendent Public Works
A.C.S.
Harbour Master

c.c. H.E. for information.

Airfield Survey

The Board of Trade surveyors will be arriving by H.M.S. "Darwin" on April 1st and leaving by H.M.S. "Darwin" for Punta Arenas on April 12th.

During this short stay they have to complete the entire physical and feasibility survey.

S.F.D. will arrange transport and every possible aid.

The Harbour Master will make available the Agricultural gang and land rover to assist.

A.C.S. will please arrange accommodation.

By 17.3.69. (& KIR)

(W.H. THOMPSON)
COLONIAL SECRETARY

DECODE.

82
86

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 10.3.69 *Time:* 1712 *Received:* 10.3.69 *Time:* 1600

PRIORITY

84

No. 33. Your unnumbered telegram of 8th March 1968.

Airfield feasibility study BOT are grateful for your reply please book two passages for 12th April in names of Wainright and Botham.

Stewart

PL : TB

DECODE.

87

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 11/3/69 *Time:* *Received:* 13/3/69 *Time:* 14/3

No. 61 (SANTIAGO)

RESTRICTED

Following from Santiago addressed Foreign Office telegram 61 of 11th March repeated Montevideo, Buenos Aires and the Falkland Islands.

Your telegrams 40 and 46.

Answer to questions in your first telegram under reference are as follows:-

2. Taxpa operate Aero Commander 680 aircraft in Magallanes area (cited for comparison purposes). Latter requires runway of 750 metres and maximum cross wind conditions of 20 knots at 45 degrees.

3. Tama (based in Punta Arenas) operate only one aircraft a Beechcraft C45H. There is only one other commercial operator based in Punta Arenas (from where the operations envisaged could presumably best be serviced) and this is Senor Cacao Martinez who operates a Cessna 180 A.

Cypher : SJS

87

14th March 69

Dear Sir,

This letter is to confirm that the following passages are requested on R.M.S. Darwin:-

Messrs. Wainwright & Botham (airfield engineers)	M.7 Stanley/Punta Arenas sailing 12.4.69.
Mr Brian Lamn	M.11 Montevideo/Stanley sailing 6.6.69.
Mr David Bull	M.15 Montevideo/Stanley sailing 17.9.69.

Yours faithfully,

(H.L. BOUND)
for COLONIAL SECRETARY

The Manager,
Darwin Shipping Ltd.,
STANLEY.

RRB.

89

DARWIN SHIPPING LIMITED

Directors: A. Sloggie

Telegrams "Freeswing Port Stanley"

STANLEY,
FALKLAND ISLANDS.

17th March, 1969.

The Colonial Secretary,
The Secretariat,
Stanley.

/BOB.

Dear Sir,

Thank you for your letter 2408 dated 14th March.

All the reservations requested are confirmed. Mr. Wainwright will be travelling basic on the 'Darwin' and Mr. Botham premium. If it should be the other way round on grounds of seniority please let us know. There is only one Premium berth available on 'Darwin' M. 7 to Punta Arenas.

The two Camp teachers will be travelling basic.

Yours faithfully,

R. Barnes.

for Darwin Shipping Ltd.

DECODE.

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 21.3.69 *Time:* 2005 *Received:* 22.3.69 *Time:*

PRIORITY

Addressed to Santiago telegram No. 58 21st March repeated for information to Belize and Montevideo Falkland Isles.

Airfield study please cancel previous telegrams on this subject Mr Wainwright (BOT) and Mr Botham (MPBW) will be travelling as follows:- 2 Montevideo arrive 0920 hrs 26 March Air France flight 089 please reserve hotel accommodation for nights 26 and 27 March 3 Punta Arenas arrive on RMS Darwin 14 April please book hotel accommodation for nights 14 and 15 April 3 Belize arrive approximately 0900 hrs 17 April please book hotel accommodation for nights 17 to 23 April inclusive.

Stewart.

PL : TB

C.S. Two copies for you. 91

DECODE.

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 28/3/69 *Time:* *Received:* 1/4/69 *Time:*

No. 28 (16/19) 21Z March

CONFIDENTIAL

Following from MPBW London telegram DIT 28 (16/19) 21Z March to you from airfields branch MPBW Lacon House. Please pass to Botham of visiting airfield team from McLaren. Sappers have interest in air strip you are investigating. In addition to normal engineering information you are collecting investigate

A. possible camp site for 150 men including water electric supplies

B. availability local labour and labour rates

C. general basic foodstuff costs

D. shipping costs to mainland

E. brief report on all findings required signal before you leave.

Cypher : SJS

GOVERNMENT TELEGRAPH SERVICE

FALKLAND ISLANDS

SENT

P2538 P4776/32/401381 500 11/66 R Ward 843

Number	Office of Origin	Words	Handed in at	Date
	STANLEY			8.4.69

To

LEP BRITAIN PUNTA ARENAS HOA/C

Grateful you arrange with TAMA for Wainwright (civil aviation operations officer) arriving Darwin to meet their operations manager on April 15th

Governor

Time AA

2408

DECODE.

C.S. 11/4

TELEGRAM SENT.

From GOVERNOR *to* SECRETARY OF STATE

Despatched: 11/4/69 *Time:* *Received:* *Time:*

No. 63

CONFIDENTIAL

Your telegram RTT 28 March.

Following for MPBW London. Please pass to McLaren from Botham of visiting airfield team.

A. Site of old Army camp west side of Stanley with existing concrete foundations water and electricity available. Possible use proposed airfield site but three miles very rough beach gravel road no water or electricity.

B. Local labour extremely scarce and not available in any quantity. Hourly labour rates vary 4/11 to 6/1 minimum.

C. Foodstuff costs available from 1966/67 Biennial Report obtainable from H.M.S.O.

D. Shipping costs to and from mainland complicated. Direct charter vessel from United Kingdom advisable. Rates available from Falkland Islands Trading Company, 120 Pallmall, S.W.1.

Cypher : SJS

AIRFIELD FEASIBILITY SURVEY

Notes taken at a meeting held at Government House of 8th April 1969.

Present: His Excellency; Mr Wainwright; Mr Botham,; D.C.A. and A.C.S.

Goose Green does not lend itself as an alternative.

Cape Pembroke has possibilities but there is a major drainage problem. Water table at 18" is considered very high for dry season. Offers E W runway of 3000 ft. which could be extended to 3500 by drainage of pond at east end. Very maximum might reach 4000 ft. Large peat deposits would make it prohibitive to extend further east. Cross run of 2500 ft. might be possible at east end. Subsoil is sound, but to provide adequate drainage surface would need to be elevated some 2 ft. above water table. Piped drainage would need to be provided below the elevated surface. 3" to 4" porus pipes in closed drains to prevent sand silting. Whole question of drainage would need careful consideration when team returned to England.

Prevailing winds would give 75% useability of runway.

Approach road would require renovation.

Flying Boat with adequate range for Punta Arenas should be considered. This craft could supplement present camp service. Handling and maintenance problems would arise. Mallard at £25000 with extended seating to 16 or 17 could offer possibility.

TB

Rv on f/u please

16/4/69

CONFIDENTIAL

94

16 April, 1969.

I think that you would like to know that the visit of Wainwright and Botham to Stanley this month seems to have been well worthwhile.

They will be producing their report as soon as may be but I think it can be said that they regard the Cape Pembroke site, which we had provisionally selected ourselves, as being the most suitable area for an airfield. They were, however, somewhat concerned at the height of the water table and it looks as though even a grass covered airfield might be quite an expensive job.

We therefore discussed with them the alternative of using Stanley harbour for amphibian aircraft and this is a line of thought which we shall be following up.

At this stage it would be wrong to attempt to anticipate the report which our recent visitors will be making but I thought that you would like to know that they, personally, went down well here and that Members of Councils had full opportunity to discuss possible developments with them.

A. St.J. Sugg, Esq., C.M.G.

CONFIDENTIAL

CS 22/4

CS Please BU file with box — CC

CS 16/4

2408.

C.S. We should reply "Botham left 11th April but replies to your questions are ....". Ltr 17/4 95

DECODE.

6.6

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched : 16/4/69 *Time :* *Received :* 16/4/69 *Time :*

No. 51

CONFIDENTIAL

For visiting MPBW civil ----- ----- to Botham MPBW from Wacon. Purely for record purposes require information on following points.

1. Food. Would enough supplies be available for approximately 250 men for few months.

2. Accommodation. Any suitable barrack/hut empty.

3. Water. Could Islands provide 10,000 gallon/day for men.

4. Electricity. How much available and at what voltage.

5. Labour, how many local labour on tap.

6. Costs. What are labour rates and unit costs of materials needed for airfield construction.

7. Any other local information you consider relevant.

There is no repeat no existing proposal to build airfield. These queries really are exploratory only so please make appropriate enquiries discreetly.

Cypher : SJS

2408.

95

28th April, 69

Director Civil Aviation

Colonial Secretary

Please let the Governor have details of amphibian aircraft. You were in on the discussions with the airfield feasability survey engineers and know of the type of aircraft discussed.

(W.H. THOMPSON)
COLONIAL SECRETARY

SC

96

No. 2408

It is requested that, in any reference to this memorandum the above number and date should be quoted.

MEMORANDUM

30th. April, 1969.

To: Colonial Secretary,
PORT STANLEY.

From: Director of Civil Aviation,
Stanley, Falkland Islands.

SUBJECT :- Amphibian Aircraft.

With reference to your memo of 28th. inst. enclosed please find correspondence received by me on Gruman Mallard amphibian aircraft.

2. You will note that no performance figures have been provided and without payload/range statistics the correspondence is of little value in trying to asses the useability in this area.

3. I regret I have no other literature on amphibian aircraft.

(J.KERR.)
Director of Civio Aviation.

Ref: 2408

Colonial Secretary's Office,
Stanley.

9th May, 1969.

TO - ALL MEMBERS EXECUTIVE AND LEGISLATIVE COUNCILS

Grumman Mallard Amphibian Aircraft

During the recent discussions on the feasability of providing an airfield in the Cape Pembroke Peninsula, attention was drawn to the existence of an amphibian aircraft which is offered second hand at £25,000 sterling.

The attached particulars of this aircraft are copied from the specifications received from Dismore Aviation Ltd. of London and are circulated to members purely for information.

(H.L. BOUND)
ASSISTANT COLONIAL SECRETARY

SC

COPY SC

A brief description of the GRUMMAN MALLARD with more details of the equipment fitted to G-ASCS

The Grumman Mallard Amphibian Model G.73 is a twin engined high wing monoplane of extremely robust construction using the well known 'Davis' design slotted mainplane, it is approved for use for both fresh water and salt water operation. The power plants consist of two air cooled radial, single row nine cylinder Pratt and Whitney Wasp Type 1340 - S1H1 direct drive engines fitted with TYPE NA-YOH-1 twin barrel carburettors, driving Hamilton Standard Hydromatic fully feathering three bladed propellers, each engine produces at 'take-off' condition a B.H.P. of 600 at sea level using 2250 R.P.M. at 36.5" H.G. manifold pressure.

The aircraft hull consists of four, below cabin floor level, water-tight compartments equipped with two large capacity, fully automatic electrically operated bilge pumps.

For land use the alighting gear consists of steerable nose wheel and two main wheels, all three components are fully retractable and the main wheels are equipped with hydraulic operated 'Goodyear' spot brake system, when the aircraft is on the water it is permissible, and provision is made for individual lowering of either main wheel which gives increased manoeuverability in conditions of crosswind or tide. The aircraft is equipped with pylon mounted wing-tip floats.

The interior of the aircraft consists of a bow compartment which is accessible both in flight and on the water through a curtained door in the cockpit, the bow compartment besides containing the mounting racks for the extensive radio equipment also gives access to the forward mooring hatch and the main nose mooring cleat, and provides stowage for the telescopic boat hook and the emergency use shank type drag anchor.

The cockpit is divided from the cabin by a bulkhead with centre door, full dual control is provided and both the captain's and co-pilot's seats are fully adjustable, parachutes are provided for both pilots, besides the usual flight and engine instrumentation the captain's panel contains a full blind flying panel and the co-pilot's panel contains a second artificial horizon and a directional gyro. The cockpit is equipped with full lighting for night flying conditions and is provided with both heated air and cold air under individual control.

The passenger cabin is equipped to carry ten people in executive comfort, the forward section of the cabin is fitted with two semi-circular couches and a centre table providing seating for six passengers, the centre of the cabin contains two small tables with cupboard storage beneath and a built-in cocktail cabinet, a telephone for communicating with the crew and a thermostatic control for regulating the cabin temperature, the rear of the cabin contains four large armchairs, each one fitted with a built-in parachute, all passengers have under their control an individual supply of filtered and moisture removed fresh air, the cabin floor is covered with pile carpet throughout.

At the rear of the main cabin and accessible through a sliding door, is the toilet compartment containing the usual fixtures and the entrance lobby, the passenger entrance is approximately 5 feet above ground level and is fitted with built-in "Airstairs", provision is made to jettison the main entrance door and the Airstairs should it be desirous to evacuate the aircraft quickly.

Aft of the entrance lobby, and separated from it by a bulkhead and door, is the baggage stowage compartment of approximately 85 cubic feet, a further door at the rear of the baggage compartment provides access to the fuselage tail/...

tail cone which contains the "Janatrol" type cabin heater. All these compartments are accessible to the crew in flight, the baggage compartment is also the stowage position for the main anchor and also contains the stand-by hand operated bilge pump system.

A dual pump engine driven hydraulic system provides the power necessary to operate the landing gear, wing flaps, cowl gill, windscreen and wheel brake systems, a second and separately energised service is provided for emergency operation of all these systems.

Electrical power for the operation of the 28-volt system is provided by 100-amp generators, one coupled to each engine, a 24-volt 34 ampere hour battery supplying power when the engines are inoperative, one generator can maintain the electrical load during flight.

FUEL SYSTEM the main system in most Mallard aircraft consists of an integral "wet wing" system, this aircraft is fitted with the later system consisting of 14 bag tank fuel cells inter-connected, the total capacity of the main fuel tanks being 380 gallons, this aircraft is also fitted with an auxilliary fuel tank system allowing a further 55 gallons to be carried in each float and transferred by electric pumps to the main system as required thus giving a total tankage of 490 U.S. gallons.

The oil system provides for 10 gallons of oil for each engine.

DE-ICER SYSTEM the aircraft is one of only two Mallards to be equipped with a full de-icing system including aerofoil de-icing. The aerofoil de-icing system consists of "Goodrich" rubber boots being inflated in sequence by electronic timing supplying low pressure air to the boots, the air pressure being supplied by pumps driven from each engine. The propellers and windscreens are de-iced by the supply of alcohol solution drawn from a $7\frac{1}{2}$ gallon tank by an electric pump, the rate of flow being controlled by a calibrated rheostat switch, carburettor de-icing is accomplished by a heater control valve drawing hot air through intensifier tubes preheated by an exhaust system, each engine being equipped with an independent calibrated control assembly. The "Goodrich" de-icer system, which is an approved Grumman modification, was installed in March 1964 at the cost of £17,000.

GENERAL: The aircraft serial number J.55 is one of the last batchof Mallard aircraft to be manufactured and as such has many improved features not incorporated on the earlier models, besides the fuel systems and aerofoil de-icer modifications already mentioned, this aircraft's hull is fitted with spray rails considerably reducing the wash from the hull during water take-off, the cabin heater system is also equipped with an electric blower motor allowing use of the cabin heater when the aircraft is stationary with engines stopped, this modification allows the passenger cabin to be heated to the desired temperature before passengers board the aircraft. Both engine nacelles and heater compartment are equipped with remote controlled fire extinguisher systems, the baggage compartment is equipped with smoke detector system operating a warning system in the cockpit. This aircraft is one of only four to be equipped with the later type increased capacity constant speed units giving a greatly reduced time for emergency propeller feathering, the aircraft is equipped with navigation lights and flashing anti-collision beacons and "at anchor" riding lights complying with both airborne and nautical requirements. A Sperry C.2 compass installation is fitted and operating satisfactorily.

RESTRICTED

99

Foreign and Commonwealth Office
London S.W.1

24 March, 1969.

Dear Sir Cosmo (82)

In our telegram to you number 30 of 6 March we gave the proposed Terms of Reference for the air field survey and invited your comments. We have not so far heard anything from you about this and so presume that these Terms were satisfactory to you. ? I'm sure we replied.

2. Since then, however, the Board of Trade have said that they do not consider a market survey, mentioned in the last sentence of the Terms of Reference should have been included and we have of course had to agree to omit this.

3. You did in your letter of 11 September 1968 (65), give some idea of the numbers of passengers who normally travel by ship each year and it is thought that you might attempt to assess the upper and lower limits of the potential air traffic if a regular service were established. A calculation of this sort should not be impracticable, it was I think done in some detail in the early 1950s when a scheme for an air service to Montevideo and Punta Arenas was under consideration. It is of course always difficult to make a reasonably accurate assessment of this sort of thing and it is even more difficult in the case of the Falklands when future relations with Argentina are very much a matter of speculation. My own experience of small European communities in Central Africa points to a very rapid increase in passenger traffic as soon as a regular air service started and one could presumably expect this sort of thing to happen in the Falklands.

4. The Ministry of Overseas Development are at present unwilling to commit themselves to help over the air field through technical assistance funds or otherwise on the grounds that no facts and figures have yet been produced about possible aircraft operations from an air field, if constructed. It seems difficult to contest this argument without some kind of estimate and we hope that you will be able to produce something in due course.

Yours ever,
John

100

A. St. J. Sugg

CS Thus it a very clear indication to us that if we want technical assistance funds we have to produce the potential air traffic figures — so let them be produced! ACS will have pretty clear idea. [illegible] 14/5

Sir Cosmo Haskard, K.C.M.G., M.B.E.,
Stanley,
Falkland Islands.

RESTRICTED

C.S.

101

H.C.'s rate at 100.

I am advised that during 1968 the F.I.C. vessels (Darwin + A.E.S.) carried 412 passengers inward + 438 out. To this can be added perhaps 10 each way travelling by B.A.S. or naval vessels.

I agree that if the opportunity to travel by air came about, these figures and rise sharply, perhaps 100%.

17.5.69

DECODE.

102

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 22/5/69 *Time :* *Received :* 22/5/69 *Time :*

No. 70

CONFIDENTIAL

Your letter of 16th April to Sugg and previous correspondence about airfield feasibility survey.

Letter of 5th May in mail which appears to have missed Darwin and apparently can not now reach you until about 10th June.

Cypher : SJS

CS

Please RV on file

CS 22/5-

RESTRICTED

103

29 May, 1969.

Thank you for your letter of 24th March regarding the airfield survey.

Due to an error here, I regret that we did not comment on the contents of your telegram 30 of 6th March. We were in fact content with the comprehensive terms of reference proposed; equally the deletion of mention of a market survey was acceptable to us.

As regards assessing the upper and lower limits of potential air traffic, I agree that a rapid increase in traffic could be expected if a regular air service were to be started.

During 1968 R.M.S. Darwin and m.v. A.E.S. carried 412 passengers inward and 438 outward. In addition H.M. Ships and Royal Research ships carried some 15 people each way, over and above their ships complements and "Tids".

Air traffic would tend to be seasonal to start with and an exercise is being carried out to see what the pattern might look like. The results of this we hope to send you by the June Darwin. / Action

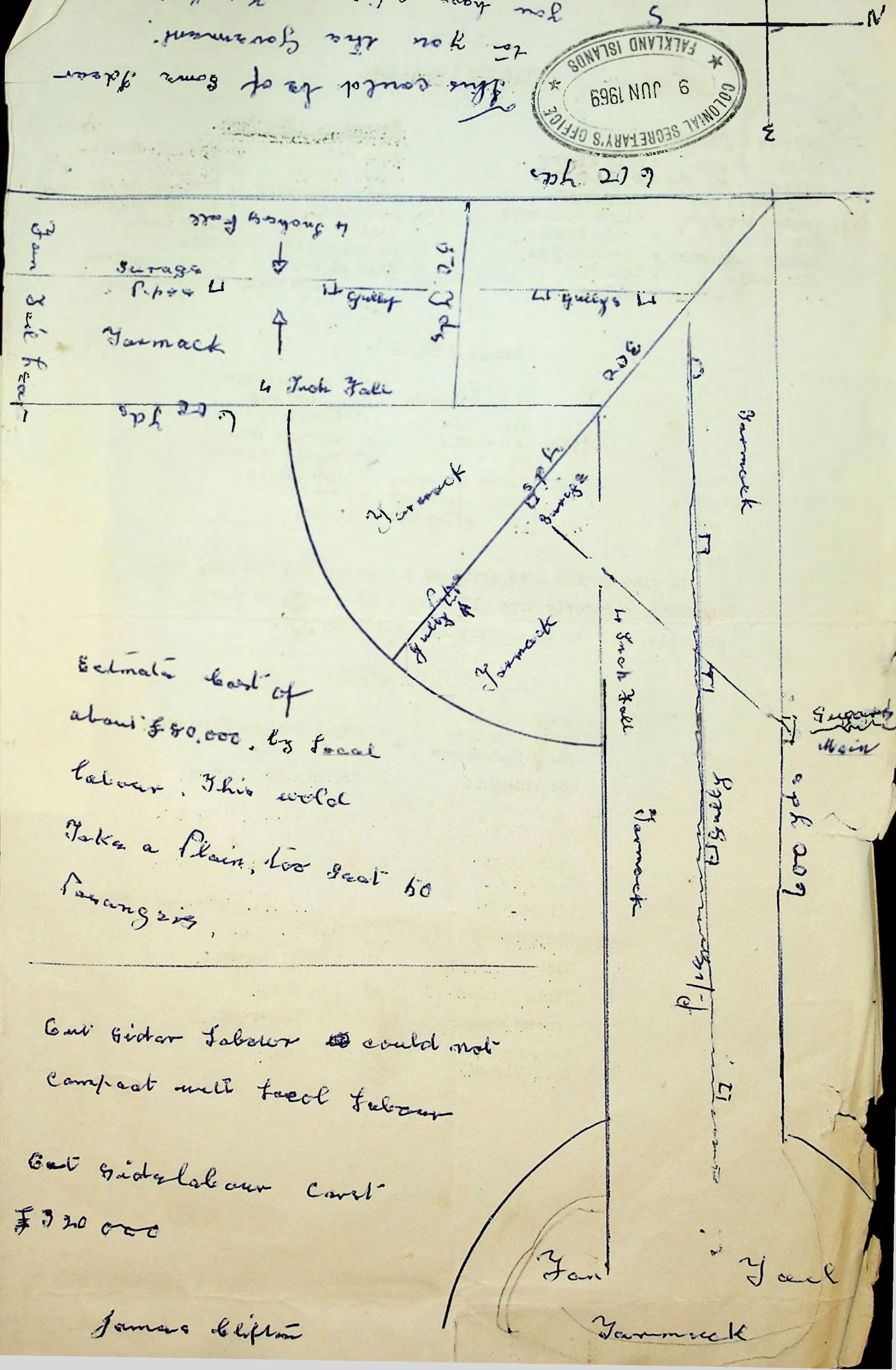
A. St.J. Sugg, Esq., C.M.G.

C.S. for discussion please. 30/5

RESTRICTED

This could be of some Assistance to you the Government. You have got a map. For checking up at already - getting neglected

J. Clifton



Estimate cost of about £80.000. by Local labour. This would Take a Plain, to seat 50 Passangers,

---

Out side Labour could not compeat with Local Labour

Out side labour cost £320 000

James Clifton

)8

105A

June, 69

Director of Civil Aviation

Colonial Secretary

It is of some importance in connection with the general exercise relating to the possibility of establishing an air field here, to endeavour to establish the passenger traffic potential between the Falkland Islands and South America in the event an external air service was inaugurated.

As basic figures towards this exercise, we can point to the fact that R.M.S. "Darwin" and M.V. "A.E.S." last calendar year carried 412 passengers inward and 438 outward, while, in addition, other ships carried some additional 15 people each way.

Thus, on a straight mathematical basis, one could reach the conclusion that provision of carrying capacity for 9 people on a return flight once a week throughout the year would be adequate. There is, however, the additional factor that air traffic would tend to be seasonal. My own view is that whether such traffic were seasonal or not this would not really affect a decision about the type of aircraft to be used since the load factor to be aimed at is one averaged out over the year. I would be grateful for your advice on this point.

(J. A. JONES)

SC

Acc 109

P Y

CS 2 copies for your files 106

MUA 11/492/1 Falkland Islands 27/6/69

FOREIGN & COMMONWEALTH OFFICE,
LONDON, S.W.1.

5 May, 1969.

106

Dear Cosmo,

Airfield Survey

I understand that the team from the Board of Trade Civil Aviation Department who went out to conduct the feasibility survey will now have left the Falkland Islands, although they have another overseas assignment before returning to London. I assume therefore that their report may be expected shortly, if indeed they did not serve it up to you in outline before they left the Islands. The Board of Trade were, of course, told that the report should be presented to the Governor in accordance with usual practice, rather than to anyone in London; I am sorry that by inadvertence this was not mentioned in our telegram No. 30 of 6 March setting out the proposed terms of reference. If the report is not presented until the team return to London, we shall of course sent it straight out to you to consider in the first instance. I am taking the opportunity of this mail to suggest some preliminary thoughts on what the next steps might be, with a view to saving time after the report is presented, especially if any points should arise (e.g. P.Qs) calling for consultation by telegraph.

2. Unless the result of the feasibility study is very discouraging (in which case you would no doubt want to rethink the whole project, including any possibility of alternative sites) your next steps would presumably be to look into the practical implications both in terms of finance and of actual construction. If you need any further technical advice, please let us know, but it seems primarily something which can best be assessed on the spot.

3. When you have had time to size up the situation, I take it that you would then let us know the lines on which you would have it in mind to proceed before any further commitment or announcement was made. We would obviously be interested at this end from the point of view of implications in the fields of international relations, finance, and possible defence. Please forgive if this sounds like a statement of the obvious, but we were a little puzzled by a passage at the end of your saving despatch No. 21 of 16 January on the estimates which speaks of Government being committed to the principle of constructing an airfield. I take it that this referred simply to the feasibility study, since it hardly seems practicable to take any definite decision about the project, even in principle, until you and we have been able to look at the whole question together in the wider context after the results of the feasibility study are available.

4. From the point of view of international relations there seem to be two factors: general obligations flowing from British membership of ICAO, and the particular relationship of this project to the Anglo-Argentine dispute. I assume that the first of these will be taken into account in the feasibility study itself, so far as concerns technical requirements like navigational aids and so on.

.....

/5. .....

.....

5. On the financial side, you will be receiving by this mail a confidential circular despatch dated 14 April (MF 23/1) about procedure for development aid to dependent territories after the expiry of the C.D.W. Acts next year. The Appendix to that despatch illustrates the sort of information that would be looked for to accompany any application you might have in mind for United Kingdom capital aid towards constructing an airfield. If, on the other hand, you were to envisage financing it locally without recourse to United Kingdom aid, the present trend of the Colony's finances would evidently necessitate careful consideration not only of the capital costs but of the future burden of annual recurrent charges for maintenance.

6. The defence aspect was touched on in the course of correspondence two years ago (ending with your letter No. 2341 of 20 April 1967), and you may recall that at the meeting which you attended with us at the Ministry of Defence in September 1967, the Ministry, though initially favourable, thought that they would need to consult the Defence Planning Staff. I hope you will agree therefore that it would be advisable for us to let them have a sight of of any project you may have in mind before final decisions are taken. It would no doubt help if the views of the O.C. Royal Marine detachment in the Islands could be available. I expect that in any case before finalising your own views on the project you would want to satisfy yourself (in consultation with him) about the protection of an airstrip from possible further Condor raids if it were constructed in advance of a political settlement.

7. The preceding three paragraphs of this letter are simply a preliminary shot at sketching some of the factors to be taken into account at the next stage if the results of the feasibility study turn out auspiciously. No doubt others will have occurred to you. Obviously some of them would taken time to weigh up and not all of them could be tackled at once. But it would be helpful to know how you see the project within this sort of broad general framework when the stage comes for you to let us know your views on the results of the feasibility study.

78

8. One final point of detail. I realise from your telegram No. 14 of 21 January that you would have preferred the cost of the feasibility study itself to have been shared, but this would have entailed holding it up pending further examination of the future of air communciations with the Islands as a whole, and in the circumstances I hope you will see no difficulty about accepting the cost as a charge on the Falkland Islands Government. We are of course assuming that you will carry the whole cost of the study, not just the "extra" cost (your telegram No. 39 of 19 February) in excess of the original estimate.

(signed) J.S. Bennett)

2408

105 ~~104~~

16th June 69

Dear Sir,

104

This is to acknowledge receipt of your notes and drawings which you kindly submitted in connection with the proposed construction of an airstrip.

As you know a feasibility survey was recently carried out in the Canopus area and the results of this survey are now awaited.

Yours faithfully,

(H.L. BOUND)
for COLONIAL SECRETARY

Mr James Clifton,
STANLEY.

RRB.

~~BH 26.6.69 (105)~~

C.S. Would you like a reminder sent to D.C.a re 105 pc? AGS Yes pl. 28/6 27.6.69

DECODE.

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched: 30.6.69 *Time:* 1415 *Received:* 30.6.69 *Time:*

PRIORITY

No. 87 Airfield survey M.P.B.W. wish to have samples tested at a cost of not more than £200 though it is expected to be much less grateful your agreement to meet cost

Stewart

P/L : AA
Intld H.L.B.

DECODE.

C.S. for Secretariat filing please 109

TELEGRAM SENT.

7/7

From GOVERNOR *to* SECRETARY OF STATE

Despatched: 2/7/69 *Time:* *Received:* *Time*

101

RESTRICTED

Your telegram 87 of 30th June. No report yet received. Survey is proving somewhat expensive. Latest information we have is paragraph 8 of Bennett's letter MUA 11/492/1 of 5th May.

2. Further Falkland Islands expenditure seems justified only if failure to test materials would seriously impair value of report, bearing in mind possibility that amphibian using Stanley harbour might prove preferable to land airfield.

3. Grateful your consideration of this aspect.

Cypher : SJS

110

General Office

C.T. To see & return the docs. pl.

8/7

9/7

11/7/69

112

No.

It is requested that, in any reference to this memorandum the above number and date should be quoted.

MEMORANDUM

1st July, 1969.

From: Director of Civil Aviation,
Stanley, Falkland Islands.

To; Colonial Secretary,
PORT STANLEY.

SUBJECT :-

105 108

I refer to your Memorandum 2408 of 30th. June 1969 and earlier memorandum on the subject of air passenger potential between the Falkland Ilsands and S.A. mainland.

We can only base assumptions on the already known surface traffic to and from the mainland with a reduction for persons who, even if given the opportunity of flying they would not do so, bearing this in mind, I would suggest a figure of 7 passages each way in the first instance, but I am sure this would increase in a very short time.

It is normal practice to increase the number of flights to accomodate seasonal fluctuations.

Director of Civil Aviation.

C.S. Please BU for mention at EXCO on 14/7. [illegible] 11/7

113

DECODE.

TELEGRAM SENT.

From SECRETARY OF STATE *to* GOVERNOR

Despatched : 10/7/69 *Time :* *Received :* 10/7/69 *Time :*

No. 95

PRIORITY RESTRICTED

Your telegram 101.

Airfield survey.

MPBW confirm report would be of little value without these tests. We would therefore advise that you agree to meet this cost.

2. The financial position has not changed from that outlined in paragraph 8 of Bennett's letter of 5th May.

Replyat 115.

Cypher : SJS

Sadie. You have the file. If the this & pass file to ACS to brief for Exco Meeting. My memo. to DCA can go on file.

DECODE.

114

TELEGRAM SENT.

From SECRETARY OF STATE to GOVERNOR

Despatched : 15/7/69 Time : Received : 15/7/69 Time :

No. 97

PRIORITY RESTRICTED

Your letter of 19th June to Bennett. Airfield Survey.

We regret that due to change in sailing times it is impossible to get a copy of the report to you before 25th July.

2. The report is now with the printers and a copy will be available on your arrival in the United Kingdom.

Cypher : SJS

NB. Exco. agreed to proposal at p. 107.

15/7

DECODE.

115.

TELEGRAM SENT.

From GOVERNOR *to* SECRETARY OF STATE

Despatched: 19.7.69 *Time:* *Received:* *Time:*

113.

No. 108 Your telegram 95. Airfield Survey agree meet cost

Haskard

P/L : AA

fa

RESTRICTED

August, 1969. 116

Ha 21/10/69

99

Please recall paragraph 3 of your letter of the 24th March about potential air traffic in the context of the airfield survey exercise, and the last three paragraphs of Sir Cosmo's reply to you of the 29th of May.

I must apologise for having taken longer than expected to produce material showing the pattern of current sea passenger traffic. Figures alone do not give a particularly good picture. By the same token a graph which only gave monthly figures would need to be looked at critically since the picture it gave would be distorted, as a look at the figures will show. For example, while the month of September, 1968, contained two ~~out~~ward sailings, thus giving a peak of 86 ~~out~~ward passengers for that month, a consequence was that the ~~in~~ward figures for ~~the~~ following month were nil. So I have provided you with a schedule of monthly inward and outward passenger traffic figures and average quarterly figures for the same traffic; and incorporated these on the graph with the averaged figures appearing as 'plateaus'. In this way the seasonal nature of passenger traffic, and the difference in timing of the apogee and perigee of inward and outward traffic, is indicated.

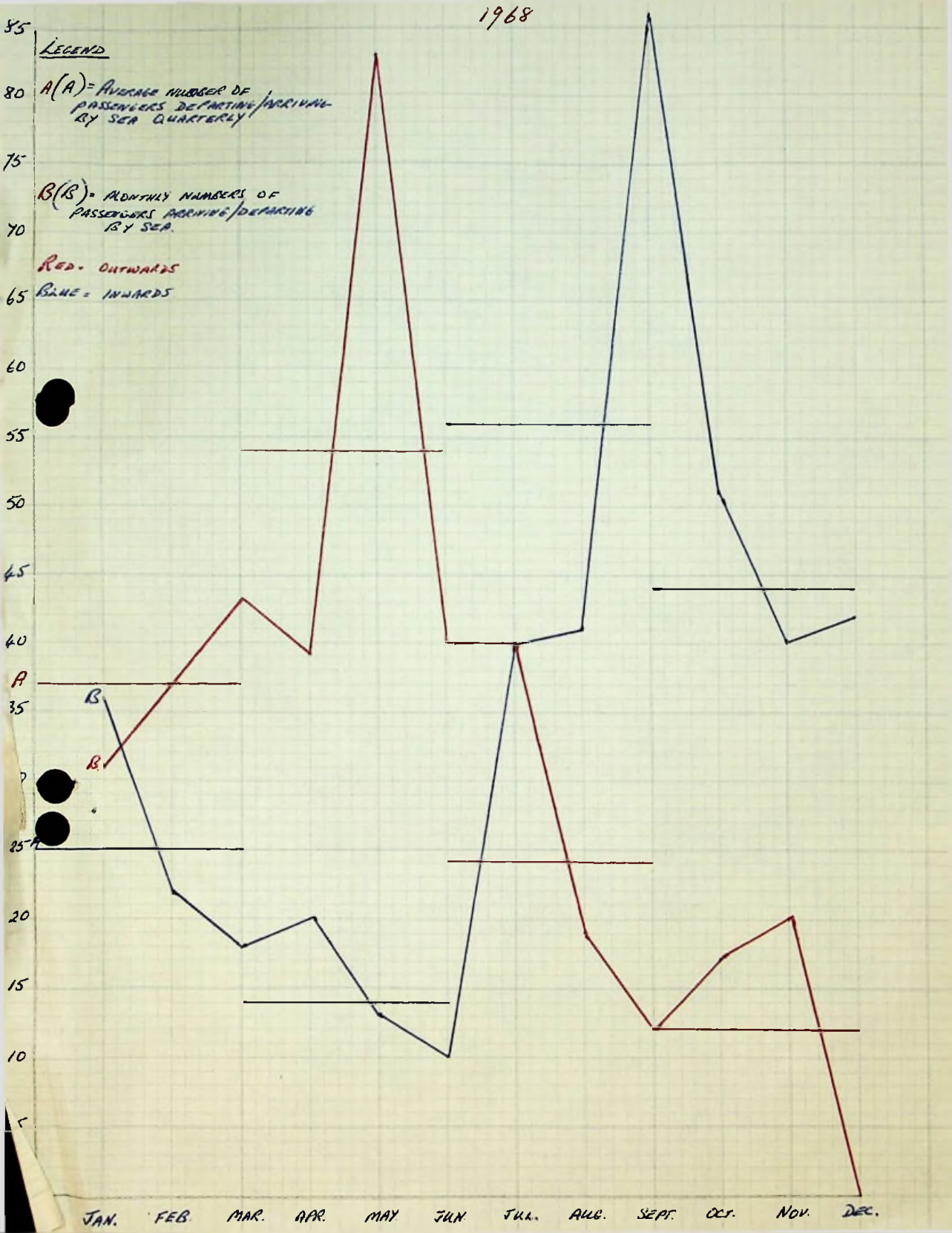
(J.A. JONES)

A. St.J. Sugg, Esq., C.M.G.

Closed Set
Vol. 2

RESTRICTED

1968


LEGEND
A(A) = AVERAGE NUMBER OF PASSENGERS DEPARTING/ARRIVING BY SEA QUARTERLY
B(B) = MONTHLY NUMBERS OF PASSENGERS ARRIVING/DEPARTING BY SEA.
RED - OUTWARDS
BLUE = INWARDS
85
80
75
70
65
60
55
50
45
40
A
35
B
B
25
A
20
15
10
JAN.
FEB.
MAR.
APR.
MAY
JUN.
JUL.
AUG.
SEPT.
OCT.
NOV.
DEC.

IN				OUT			
DAY	MONTH	PASS.	TOTAL MTH.	DAY	MONTH	PASS.	TOTAL MTH.
16th	JAN.	34		5th	JAN.	29	
18th	JAN.	2	36	?	JAN.	2	31
21st	FEB.	1		16th	FEB.	37	37
23rd	FEB.	18					
26th	FEB.	3	22				
14th	MAR.	1		8th	MAR.	43	43
15th	MAR.	17	18				
5th	APR.	1		7th	APR.	39	39
16th	APR.	19	20				
8th	MAY	13	13	10th	MAY	43	
				31st	MAY	40	83
7th	JUNE	10	10	7th	JUNE	40	40
20th	JULY	40	40	25th	JULY	40	40
7th	AUG.	41	41	19th	AUG.	19	19
6th	SEPT.	44		20th	SEPT.	12	12
27th	SEPT.	42	86				
4th	OCT.	10		3rd	OCT.	15	
9th	OCT.	41	51	25th	OCT.	2	17
2nd	NOV.	40	40	15th	NOV.	20	20
13th	DEC.	42	42		DEC.	NIL	

The average figures are as follows :-

IN		OUT	
1st quarter	25 per month	1st quarter	37 per month
2nd quarter	14 per month	2nd quarter	54 per month
3rd quarter	56 per month	3rd quarter	24 per month
4th quarter	44 per month	4th quarter	12 per month

Proposed Air Service Lee – mentioned in R.O.A. letter.

Proposed Air Service Lee – mentioned in ROA? letter.