

**REPORT AND PROPOSITION REGARDING THE APPROACH  
LIGHTING SYSTEM TO RUNWAY 27 AT THE AIRPORT**

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*Lodged au Greffe on 27th April, 1976 by the Harbours and  
Airport Committee.*

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**STATES OF JERSEY**

**STATES GREFFE**

1976.

*Price : 5p.*

250

P-39

## REPORT

The existing non-standard approach lighting system for Runway 27 was installed in 1959, and consists of a line of lights 200 feet apart for a distance of 3,000 feet along the extended runway centre line, with crossbars at 1,000 and 2,000 feet from the threshold. In addition to their function as an approach aid for aircraft, the lights also act as a warning of obstructions in the area.

The cables serving these lights are reaching the end of their effective life and because of subsequent filling and airfield development, are now buried deeper than desirable, in some cases as much as 22 feet, and owing to age and water penetration insulation is below standard.

It is intended to install a Category I High Intensity Approach Lighting System consisting of a line of lights 100 feet apart along the extended runway centre line for a distance of 3,000 feet, with five crossbars at 500 feet intervals from the threshold. These crossbars become progressively wider the further they are away from the threshold, and the function of these centre line and crossbar lights is to enable the pilot to:-

- (a) hold the vertical plane through the centre line of the runway by reference to the centre line lights;
- (b) judge the altitude of the aircraft with respect to the ground plane by reference to the crossbars; and
- (c) determine how far he is from the threshold within acceptable limits by reference to both centre line and crossbar lights.

Runway 27 is a precision approach runway Category I, in that it is a runway intended for the operation of aircraft using visual and non-visual aids providing guidance in both pitch and azimuth for a straight-in approach and intended for operations down to approximately 200 feet decision height and down to a runway visual range of 800 metres.

To install the Approach Lighting System proposed, it will be necessary to construct an eastern sub-station with transformers, switch gear and standby power plant, and reorganise the runway and taxiway lighting circuits to ensure that half of the runway and taxiway load will be carried by each of the eastern and western sub-stations. The standby plant in the central sub-station is more than 15 years old and spare parts are already difficult to obtain, and it will therefore be phased out of service as the new eastern standby plant becomes available. The standby plant is also required in the new eastern sub-station to meet the Category I specification for lighting installations, in that it should have a maximum 15 second switchover time.

The existing cables serving the approach lights will also need to be renewed to provide adequate capacity for the new installations, and the existing poles will have to be replaced with new ones, not only to conform to the proposed system, but also owing to the fact that the present fibreglass lighting poles have deteriorated with age and are now considered dangerous and unsafe to climb for maintenance work on the fittings.

The inspection and maintenance of the existing system is made difficult because access to the poles is across cultivated fields and through farmyards and with poles up to 72 feet high, it is an expensive and laborious task getting ladders and equipment in to service the fittings, especially in wet weather.

In order to assist maintenance and reduce labour costs on the new installation, "Versatowers" will be used for all lights which are more than 20 feet above ground level and fibreglass poles will be used where the light is less than 20 feet above ground level. The lights in the first 1,000 feet from the runway threshold will be fixed at ground level.

The Versatower System basic component is a galvanised telescopic triangular lattice mast which gives a high strength/low weight/low surface area ratio, enabling the tower to be easily erected by two men. The tilt-over feature of the Versatower enables the maintenance of lamps to be carried out at ground level, a very simple procedure compared with the existing method where the poles have to be climbed, particularly in sites close to buildings and trees. The design of the tower is such that either one, two or three lights can be mounted on each tower.

It is also intended to replace the existing Visual Approach Slope Indicator lights with up-to-date equipment and an allowance has been made for the cost of this equipment and associated cabling. The existing units are in a very poor condition and are now more than 14 years old and need to be replaced.

The estimated cost of the installation is approximately £180,000 at today's prices, but with contingencies and allowances for possible price increases during the period of time until 1977, the budget figure is £225,000.

**PROPOSITION**

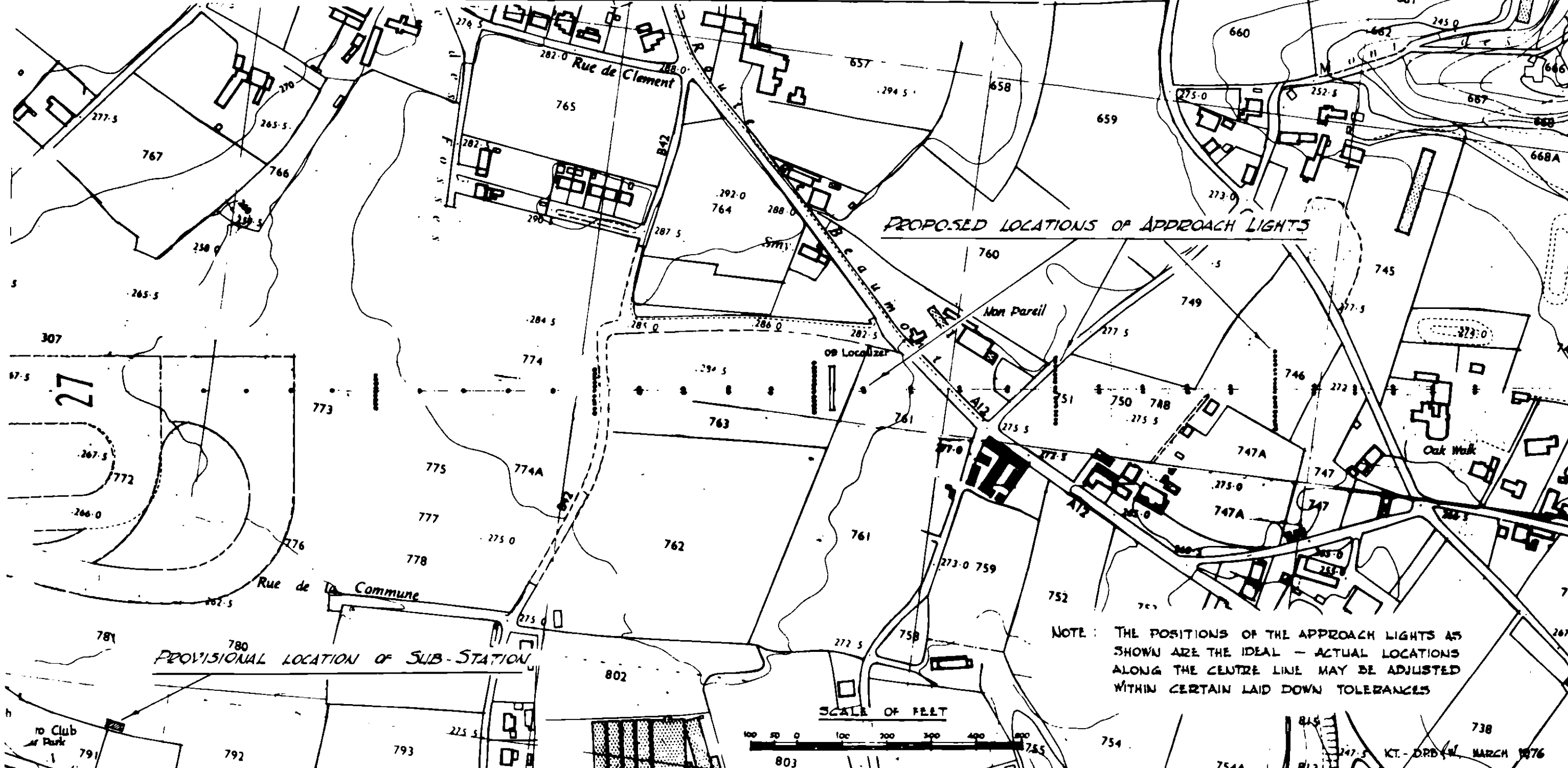
**THE STATES are asked to decide whether they are of opinion –**

to approve the installation of a Category I High Intensity Approach Lighting System for Runway 27 at the Airport as detailed in the accompanying report and as shown on Drawing Nos. 247/1 and 247/2.

**NOTE:** The Finance and Economics Committee supports this Proposition but reserves its position with regard to availability of finance which will be dealt with during consideration of the Budget.

**HARBOURS AND AIRPORT COMMITTEE.**

649 JERSEY AIRPORT - PROPOSED REVISION OF 27 APPROACH LIGHTING



PROPOSED LOCATIONS OF APPROACH LIGHTS

PROVISIONAL LOCATION OF SUB-STATION

NOTE: THE POSITIONS OF THE APPROACH LIGHTS AS SHOWN ARE THE IDEAL - ACTUAL LOCATIONS ALONG THE CENTRE LINE MAY BE ADJUSTED WITHIN CERTAIN LAID DOWN TOLERANCES

SCALE OF FEET

