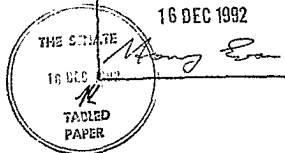




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*Parliamentary Standing Committee on Public Works*

## REPORT

relating to

# DEVELOPMENT OF A NEW INTERNATIONAL TERMINAL COMPLEX AT BRISBANE AIRPORT

(Nineteenth Report of 1992)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA  
1992

The Parliament of the Commonwealth of Australia  
Parliamentary Standing Committee on Public Works

Report Relating

to

# Development of a new International Terminal Complex at Brisbane Airport

(Nineteenth Report of 1992)

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**MEMBERS OF THE PARLIAMENTARY STANDING  
COMMITTEE ON PUBLIC WORKS**

(Thirtieth Committee)

Mr Colin Hollis MP (Chairman)  
Mr William Leonard Taylor MP (Vice-Chairman)

**Senate**

Senator Bryant Robert Burns  
Senator Paul Henry Calvert\*  
Senator John Robert Devereux

**House of Representatives**

Mr Ewen Colin Cameron MP  
Mr Lloyd Reginald O'Neil MP  
Mr Russell Neville Gorman MP  
Mr Bruce Craig Scott MP

\*Appointed on 24.8.90 following the retirement of Senator  
Dr Glenister Sheil

Committee Secretary:	Peter Roberts
Inquiry Secretary:	Michael Fetter
Secretarial Assistance:	Sophia Konti
Adviser:	Allen Arkey

EXTRACT FROM THE  
VOTES AND PROCEEDINGS OF  
THE HOUSE OF REPRESENTATIVES

No. 136 dated Thursday, 25 June 1992

- 15 PUBLIC WORKS - PARLIAMENTARY STANDING COMMITTEE  
- REFERENCE OF WORK - DEVELOPMENT OF A NEW  
INTERNATIONAL TERMINAL COMPLEX, BRISBANE  
AIRPORT: Mr Bilney (Minister for Defence Science and  
Personnel), for Mr Beddal (Minister representing the Minister  
for Administrative Services), pursuant to notice, moved - That,  
in accordance with the provisions of the provisions of the *Public  
Works Committee Act 1969*, the following proposed work be  
referred to the Parliamentary Standing Committee on Public  
Works for consideration and report: Development of a new  
international terminal complex for the Federal Airports  
Corporation at Brisbane Airport.

Mr Bilney presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

## PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

### DEVELOPMENT OF A NEW INTERNATIONAL TERMINAL COMPLEX AT BRISBANE AIRPORT

By resolution on 25 June the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposed construction of a new International Terminal Complex at Brisbane Airport.

#### THE REFERENCE

1. International passenger growth at Brisbane Airport has been particularly strong, requiring several expansions to the existing international terminal building (ITB). This building is now operating beyond its design capacity. To prevent passenger delays becoming a serious issue, the Federal Airports Corporation (FAC) proposes to construct a new International Terminal Complex (ITC).

2. The new ITC, which is to be located approximately two kilometres to the south of the domestic terminal, will be a modern, high technology facility. It will have three levels, an elevated entrance and associated roadways, car parking and apron areas. It will have seven international gates, four stand-off gates, three baggage reclaim units and three check-in stands.

3. The terminal design concept has a three-level configuration of 53 000 m<sup>2</sup> and will provide the following features:

- . seven aerobridge gates
- . four stand off positions
- . four baggage reclaim units
- . three check-in islands.

4. The main body of the proposed building will be designed to process 1500 passengers per hour. The capacity initially to process 1065 passengers per hour is driven by the seven aerobridge positions. Additional aerobridge positions could be added quickly to cater for 1500 passengers per hour. This could be carried out cheaply and without disrupting the activity of the terminal.

5. In response to the recent aviation policy initiatives, the design will be reviewed to provide a flexible terminal complex capable of being expanded progressively to accommodate a range of possible future airlines and passenger processing requirements.

6. The out-turn cost of the ITC when referred to the Committee was \$272m.

### THE COMMITTEE'S INVESTIGATION

7. The proposal was referred to the Committee on 25 June. The Committee's inquiry was advertised in the Brisbane *Courier Mail* on 11 July with submissions to the Committee from interested organisations and individuals closing on 4 September. On 1 October the Committee inspected the existing international terminal, the sandfill site and conducted a public hearing in Brisbane. The Committee received a written submission and drawings from the FAC and took evidence from representatives of the FAC at the hearing. In view of a number of issues requiring clarification which emerged at the public hearing, the Committee requested representatives of the FAC to appear at a private hearing which was held in Canberra on 12 November.

8. The following individuals and organisations also presented submissions and appeared at the public hearing:

- . Australian Customs Service
- . Qantas Airways Limited
- . Queensland Government
- . Ansett Airlines
- . Trades and Labour Council of Queensland



- . . Neighbours Against Aircraft Noise
  - . . Queensland Tourist and Travel Corporation
  - . . Brisbane Development Association.
9. Submissions and letters were also received from the following:
- . . Mr H Baker
  - . . National Trust
  - . . Australian Federal Police
  - . . Royal Australian Institute of Architects
  - . . Department of Immigration and Ethnic Affairs
  - . . Queensland Department of Environment and Heritage
  - . . Taxi Council of Queensland Incorporated
  - . . Childcare at Work
  - . . Australian Quarantine and Inspection Service
  - . . ACROD
  - . . Commonwealth Environment Protection Agency
  - . . Commonwealth Fire Board
  - . . Brisbane Visitors and Convention Bureau
  - . . Port of Brisbane Authority
  - . . Pacific Asia Travel Association.
10. Prior to the hearing the Committee inspected the existing ITB and the site proposed for the ITC.

11. A list of witnesses who gave evidence at the public hearing is at Appendix A.

12. The Committee's proceedings will be presented as Minutes of Evidence.

## **BACKGROUND**

13. Brisbane Airport was opened in March 1988 and is Australia's newest airport facility. It is located on a site of 2700 ha 13 km from the Brisbane Central Business District replacing the former airport at Eagle Farm. The development of Brisbane Airport has been the subject of reports from the Committee spanning more than a decade.

### **Committee's 1979 Report**

14. The Committee's Tenth Report of 1979 (Parliamentary Paper 343/1979) covered the initial works of Phase 1 of the airport redevelopment which comprised site reclamation, construction of a floodway channel, a new runway and associated taxiway system and engineering works. The Committee's report recommended deferment of a new airport until at least 1986 and that a new ITC should be included in Phase 1 of the airport development. The latter recommendation was based on evidence that taxiing distances for international aircraft from the existing ITB to the new runway would be excessive.

15. Of some significance for the purposes of this report is that the Committee's 1979 report indicated that the Master Plan for Brisbane Airport ultimately provides for a new ITB, estimated at the time to cost about \$32m, to be located on the western side of the main 02/20 runway.

### **Committee's 1981 Report**

16. In 1981 the Committee examined and reported on the proposed redevelopment of Brisbane International Airport - Further dredging and reclamation - (Ninth Report of 1981 - Parliamentary Paper 272/1981).

17. This report involved further reclamation associated with the construction of a cross runway and associated taxiways and general aviation facilities. The works were estimated to cost \$16m at February 1981 prices.

## **Committee's 1982 Reports**

18. In 1982 the Committee examined and presented two reports on the remainder of Phase 1 of the development of the airport.

19. Although the proposal referred to the Committee included the construction of a common user domestic terminal, the Committee was unable to recommend its construction because one airline preferred a joint user facility - that is, one in which the airlines are housed in the same building but have dedicated passenger and baggage processing areas and facilities. The Committee's initial report (Sixth Report of 1982 - Parliamentary Paper 245/1982) did, however, recommend that construction of the following major elements proceed at a total cost of \$115.7m at January 1982 prices:

- . major aircraft apron
- . control tower
- . operations and administration building
- . other buildings and facilities required to support the airport complex
- . a general aviation runway and facilities
- . access roads and car parks.

20. The Committee's final report on the remainder of the works of Phase 1 (Seventh Report of 1982 - Parliamentary Paper 454/1982) covered the proposed new domestic joint user terminal and the Department of Aviation hangar. The Committee's report recommended the construction of the terminal.

## **Reports Relating to International Terminals**

21. In addition to examining and reporting on works related to the provision of new runways, taxiways and a domestic terminal, the Committee has also examined and reported on works relating to the existing and planned future international terminals at the airport. Indeed, it should be

pointed out that right from the outset (Committee's 1979 report) the Committee has taken the view that a new international terminal should have been included in the Phase 1 works.

22. The existing ITB at Brisbane was officially opened in December 1975. It was not referred to the Committee for consideration and report on the grounds of urgency. In 1981 the Committee examined and reported on the construction of extensions to the ITB (Committee's Sixth Report of 1981 - Parliamentary Paper 154/1981). These were estimated to cost \$2.8m. In 1981 the then Department of Transport planned to have a new ITB completed by 1991 with work commencing in 1988; neither plan eventuated.

23. In 1989 the Committee examined and reported on the proposed sandfilling of international terminal, operational and commercial sites at the airport (Committee's Twenty-fifth Report of 1989 - Parliamentary Paper 495/1989).

24. The proposal put to the Committee involved the preparation of reclaimed salt marsh and open grassland for the construction of a new international terminal, other aviation industry requirements and commercially lettable sites. As was the case with preparations for the other major works associated with the development of the airport, development areas needed to be filled with sand to avoid flooding and to minimise differential settlement.

25. At the public hearing into the reference a number of issues not directly related to the matter under investigation by the Committee, were raised by witnesses. These issues concerned:

- . orientation of runways
- . aircraft noise
- . the airport Master Plan.

26. The Committee's report concluded and recommended:

- . the present ITB is inadequate to cope with the expected increase in international passenger numbers and should be replaced

- . the sandfilling of sites selected for the international terminal, operational and commercial sites should proceed.
27. Senators Devereux and Burns dissented from the Committee's recommendations and recommended that:
- . the sandfilling not be proceeded with until such time as the Master Plan is revised. The revision to focus on the location of the ITC and the extension of the cross-wind runway
  - . while the review is in progress the centre satellite area of the domestic terminal could be developed as an interim international terminal
  - . this development could in the long term provide upgraded facilities for future domestic growth.

#### THE NEED

28. The basis of a need for a new ITC has already been covered by the Committee in previous reports which can be summarised as follows:

- . the existing ITB was constructed on a site which was the best available at the time and is some considerable distance from the new runway and taxiway system
- . the ITB has been upgraded and expanded on several occasions and some interim work is now being carried out to cater for traffic until 1995
- . growth in international traffic has and is expected to double every five to seven years and this increase will far outstrip attempts by the FAC to ease congested conditions by provided relatively minor but expensive modifications aimed at relieving pressure points
- . further expansion of the ITB beyond what has been carried out is not possible due to site constraints

- in comparative terms the building is about the same size as the international terminal in Cairns and it handles three times the annual traffic and twice the peak loading of Cairns
- the ITB has required the implementation of scheduling constraints on airlines wishing to use it. The ITB has six positions and is used by 21 airlines. During peak periods the ITB is more than over-utilised
- during the current scheduling period, which started in November, 74% of services planned by airlines had to be moved to different times, sometimes at great expense to the airlines.

#### **Committee's Conclusion**

**29. The inadequacy of the existing international terminal at Brisbane Airport reaffirms the need for a new terminal to be provided.**

#### **Reform of Australian Aviation**

30. The location of an ITC and associated aprons and taxiways was based on the Master Plan for the development of the new airport. The sand required as foundation material is now in place at the Master Planned site and natural compaction of it is expected to be completed by March 1993 when it will be possible for surcharge material to be removed and construction to commence.

31. Recent reforms of aviation policy, which will take a number of years to be fully implemented, have cast some doubts on the suitability of the Master Plan, particularly the siting of a new ITC at Brisbane.

32. Key elements of the aviation reforms which affect the location and design of a facility designed to cater for international traffic at Brisbane Airport, and elsewhere for that matter, are as follows:

- the merger of Australian Airlines and Qantas and the foreshadowed sale of Qantas

- the development of a single aviation market with New Zealand, including the right of Air New Zealand to use Brisbane as a hub for the transfer of trans-Tasman and in and out-bound terminating and transit passengers from Asia

- Qantas domestic carriage.

33. The Committee's approach to examining the concept of a new ITC at Brisbane airport therefore focused on whether it would be prudent to await the effects of the implementation of the entire aviation reforms to be felt before committing capital towards the provision of a new terminal. This would require deferment of construction during which it would be possible to examine and develop alternative arrangements based on the following options:

- the construction of an ITC adjacent to the domestic terminal - this could overcome the problem of transporting passengers between the two terminals

- using any excess capacity in the domestic terminal for some international services

- the replacement of traditional separate domestic and international terminals with two competitive terminals.

34. The FAC advised the Committee that when the aviation policy reforms were announced their effects on the proposed ITC were thoroughly reviewed. This review included separate studies, undertaken by Greiner International of siting options, and by Civil and Civic of the effects of the reforms on building designs.

#### Siting

35. The FAC, in consultation with the aviation industry, considered and rejected the siting of a new ITC adjacent to the domestic terminal. The primary reason for rejection is that such a location offers little benefit at considerable time and cost disadvantages when compared with locating the ITC at the sandfill site.

36. The FAC advised the Committee that the cost disadvantage associated with constructing an ITC adjacent to the domestic terminal is about \$73m. Such a location is not consistent with the Master Plan for the development of the airport, and construction there would involve relocating facilities already adjacent to the terminal and the provision of sewerage, power, roads and other airport infrastructure not originally intended for that part of the airport.

37. Whilst the FAC admitted that it is not inflexibly committed to the Master Plan, it recognises also that the Master Plan has influenced substantial capital investments which would need to be replaced or significantly modified to achieve the construction of an ITC adjacent to the domestic terminal. The replacement of substantial capital facilities and infrastructure would be difficult to justify unless it is associated with considerable benefits. The FAC believed the benefits relate mainly to a perception of simplified access between international and domestic terminals. From the FAC's standpoint, the liabilities significant and of sufficient magnitude, given the revenue expectations, to render this option a commercially unattractive investment.

38. The FAC estimated that currently only 3% of international passengers transfer between the ITB and domestic terminals at Brisbane. The FAC stated that the simplicity and convenience of transfer between the two terminals would be the issue which would make it either acceptable or a barely acceptable proposition for individual passengers. At Brisbane, the Committee was assured, acceptable transfer arrangements such as shuttle buses would be provided.

#### **Capacity of Domestic Terminal**

39. The capacity of the domestic terminal to handle international flights would require considerable additional processing depth which is not available. If passenger processing paths were bent, as has been done at the existing ITB, many of the problems which the FAC is trying to overcome there would be created. This option would be suitable for terminals with small passenger flows, such as Darwin. Likewise, the reduced dimensions of the dual processing level adopted for Darwin international terminal is suited only to low flows of passengers who are terminating their flights. In the case of Darwin it is 140 passengers per hour. In summary, limitations in dimensions and flow capacities would make use of the domestic terminal building impractical.



## Two Competitive Terminals

40. This option could involve Ansett, one of the major airlines operating out of the domestic terminal, undertaking the development of a new international terminal in the domestic terminal and Australian Airlines combining with Qantas in a new ITC. The FAC advised the Committee that the possibility of Ansett undertaking this option in the immediate future can be discounted. First, Ansett must gain access to a number of international routes; secondly, it must be granted sufficient routes and sufficient frequency to give it some chance of operating in a very competitive international aviation environment; thirdly, even with these prerequisites in place, Ansett would need to purchase new aircraft and establish a marketing presence of reservation offices and ground handling arrangements through the various route structures.

41. A witness representing Ansett at the public hearing stated:

It is always a possibility that Qantas will one day bring under one roof in the proposed building both domestic and international operations. Equally, it may one day be possible - although I have my doubts - that we might be able to bring some international operations into the building that we currently occupy ...

At the moment we would very much be assuming that we would go to the proposed terminal - the subject of the reference of this Committee. Given the way things work out, it may one day be that we will be able to look at putting international operations into what is currently the domestic terminal. But I think to go further than just hazarding that as a possibility would be very speculative.

## Views of the Aviation and Tourism Industry

42. Qantas indicated support for the need for a new ITC to be located at the Master Planned site. It recommended to the Committee that detailed planning of any ITC provide the flexibility necessary to permit combined international and domestic operations at some time in the future.

43. Qantas examined the efficacy of abandoning the Master Planned site and locating an international terminal at both ends of the domestic terminal. The capital write-offs, associated with this option would be substantial.

44. Ansett indicated general support for the location and advised the Committee that the decision to locate the ITC at the Master Planned site presents the least cost outcome from the point of view of the aviation industry and the FAC. Ansett also indicated that any new ITC would need to be inherently flexible to cater for changes in demand.

45. The Queensland Tourist and Travel Corporation indicated strong support for the provision of a new ITC without delay.

46. The Brisbane Development Association indicated that it did not believe the separation of the domestic and international terminals to be a problem.

47. The Pacific Asia Travel Association indicated support for the construction of a new ITC as quickly as possible.

#### **Committee's Conclusions**

48. Recent aviation policy reforms have not eliminated the need for international terminal facilities at Brisbane Airport.

49. Extending the existing domestic terminal at Brisbane Airport to provide facilities adequate for an International Terminal Complex would result in substantial cost penalties which would not be incurred if a separate terminal were constructed at the Master Planned site.

50. Most potential occupiers and organisations involved in the aviation industry support the siting of a new International Terminal Complex at the Master Planned site.

## THE PROPOSAL

### Passenger Forecasts

51. The design and sizing of any new ITC would need to reflect both forecasts of passengers and aircraft to use the terminal with flexibility to provide additional processing and aircraft parking positions when the need arises.

52. The FAC advised the Committee that Brisbane has experienced a relatively high growth in international passenger numbers in the past eight years with an average growth of 14.1%. A number of organisations have produced international passenger forecasts and there is a wide spectrum of ranges between them. The forecasts which the FAC used as the basis for planning were prepared by the British Airports Authority (BAA). The range of forecasts made by the BAA cover low, central and planning scenarios. The FAC adopted the central forecasts for its planning.

53. The BAA central forecasts over five year intervals are as follows:

**Table 1 - Brisbane Airport International Passenger Forecasts  
Arrival/Departure (including domestic on-carriage)**

Years	Passenger Forecasts (000)	Growth Rate % pa
1996-7	2625	6.9
2001-2	3365	5.7
2006-7	4040	4.2
2011-12	4780	3.8

54. Other organisations who appeared before the Committee submitted variations on these forecasts at the higher end of the BAA range and above. The FAC has adopted the BAA central forecasts but in so doing

has also recognised the need to provide a terminal design with a expansion capability to ensure that higher growth can be readily accommodated if it occurs.

### **Design Implications of Aviation Policy Reforms**

55. The implications of the aviation policy reforms will require changes to the operation of all international and domestic terminals. Of relevance to the design of a new ITC at Brisbane, the following factors would need to be considered:

- . some revision to passenger processing requirements by Customs, Immigration, Quarantine and Security
- . possible changes in the dedicated use of terminals with a likely outcome being combined international/domestic facilities
- . some changes to forecast international terminal demand.

56. Again the design of an ITC would need to contain the flexibility to accommodate any changes in practices.

### **Design Concept**

57. The design concept is for a modern, phased terminal development providing initial capacity for 1065 passengers per hour (excluding transit passengers). The concept will enable the FAC, with relatively minor further work being carried out, to progressively expand the ITC to eventually cater for 2000 passengers per hour.

58. The terminal design concept has a three-level configuration of 53 000 m<sup>2</sup> and will provide the following features:

- . seven aerobridge gates
- . four stand off positions
- . four baggage reclaim units
- . three check-in islands.

59. The FAC indicated that the detailed design and ongoing refinement may vary the sizing of elements of the building.

#### **Description of Works**

60. Works to be undertaken include siteworks, the provision of infrastructure, the terminal building, concourse, aprons and taxiways. The main terminal building will be a steel-framed structure with suspended concrete floors and roof. The external walls will be laminated glass and aluminium panels with fluorocarbon finish to acoustic and thermal specifications.

61. Internal finishes will be tiled floors in the arrivals and check-in hall and carpet in the departure lounge and arrivals concourse. Wall finishes will be fibreboard and ceilings will be of curved perforated metal finish and acoustic perforated panels.

62. The public car park will have a capacity of 770 vehicles plus car rental space. Associated roads, bus parking, taxi store areas will also be provided to the building.

#### **Capacity for Expansion**

63. The FAC advised the Committee that the main body of the proposed building will be designed to process 1500 passengers per hour. The capacity initially to process 1065 passengers per hour is driven by the seven aerobridge positions. The FAC assured the Committee that additional aerobridge positions could be added quickly to cater for 1500 passengers per hour. This could be carried out cheaply and without disrupting the activity of the terminal.

#### **Impact of Aviation Policy Reforms**

64. The FAC advised the Committee that the aviation policy reforms may eventually require by 1996 that the processing of domestic, international and pre-cleared international passengers be physically separated in the terminal. The FAC believes that during the next six months it is highly likely that much of such requirements will be known. It would therefore be possible for any changes to be accommodated within

the next phases of design development - that is, the Proving and Confirmation phases. Internal design developments could be accommodated once the project is under construction.

65. The FAC also engaged the services of an Australian aviation industry forecasting firm, Tourism Futures, which has considerable expertise in the area of traffic analysis and modelling, to consider a range of likely traffic demand scenarios based on the expected outcome of the aviation policy reforms and restructuring. The range of passenger volumes would vary from 80%-100% with more likely outcomes in the high end of this range.

66. The FAC also advised the Committee that the airport management had extensive discussions with Air New Zealand regarding the commencement of hubbing activities. This hubbing means that flights which previously overflew Australia will now converge on Brisbane where they will either continue on flights or transfer to northbound (to Asia) or southbound (to New Zealand) flights. The first flights started in November and initially two and later four aircraft will be involved in one hubbing operation on the apron at one time. Air New Zealand has introduced eight additional flights per week this year and it is planned to increase this to 44 flights per week by November 1994. Taking this hubbing into consideration, possible scenarios would generate 96%-99% of passenger volume which would immediately require a terminal configuration as proposed.

#### Stages in Design and Construction

67. The design and construction process for the terminal will be undertaken in a number of stages:

- . proving phase - schematic design
- . confirmation phase - design, precommitment and costing
- . commitment phase - construction and final design.

68. Main building construction is planned to start on 1 July 1993. The staged approach will enable the FAC to proceed with refinements of the design and a confirmation of the requirements of each industry group. Most of the design and confirmation can be carried out without incurring

the largest elements of expenditure. This will occur during the construction period by which time commitments and agreements on the sizes of specific areas will have been reached.

### **Committee's Conclusion**

69. The staged approach in the design and design testing of the terminal before substantial funds are committed will enable the Federal Airports Corporation to incorporate changes resulting from the effects of the aviation policy reforms.

### **Views of Qantas**

70. Qantas supports the need for a new ITC at the Master Planned site. Qantas indicated the changes required in the plans for a new terminal which would need to be implemented as a result of the aviation policy reforms mainly relate to:

- the processing of Qantas pure domestic passengers who may arrive or depart on aircraft with other categories of passengers
- the need to accommodate both domestic and international aircraft and passengers through integrated aircraft gates at a single terminal.

71. The FAC advised the Committee that the ITC has been designed to be capable of catering for these different procedures.

72. Qantas also stressed the limitations of available scheduling windows as a key determinant the demand for gate positions.

73. The FAC advised the Committee that it will continue to monitor traffic growth and revise projections. Should the proposed terminal building size be inadequate for such projections, additional gates could be provided ahead of the need for them materialising.

### **Views of Ansett**

74. Ansett also supports the ITC concept and design flexibility and believes that between now and March 1992, when it will be necessary to agree on some detailed design features, it is likely that uncertainties arising

from the aviation policy reforms will be resolved. Ansett did, however, question the number of gates proposed, believing this number somewhat modest in the light of hubbing. Ansett did acknowledge that the decision on the number of gates to cater for possible future demand need not be made until March 1992.

#### **Committee's Conclusion**

75. The major Australian airlines support the design concept and are satisfied that operational contingencies resulting from the aviation policy reforms can be provided.

#### **Views of Australian Customs Service (ACS)**

76. ACS fully supports the construction of the terminal building and recognises that the design is at the concept stage and will require fine tuning. The design concept of 1065 passengers per hour for 1995 is supported by ACS on the basis of the implementation of the aviation policy reforms, especially the concept of a common border between Australia and New Zealand being implemented no later than 1994.

77. ACS also highlighted some of the requirements stemming from the aviation policy reforms such as differing processing requirements. The FAC indicated that ACS requirements can be accommodated as adjustments to the design concept and the design will be progressively refined to provide for identified needs. The FAC assured the Committee that the various future categories of international, international pre-cleared, trans-Tasman, domestic and transit passengers will be catered for in design alternatives. As the change of mix of such passenger types varies with time, the facilities to process them will be capable of variation to cater for changing requirements. Design alternatives have and will continue to be tested in consultation with regulatory agencies such as ACS.

#### **Views of the Queensland Government**

78. The Queensland Government advised the Committee that it:

- endorses the planning processes which the FAC has adopted to cater for the differing operational requirements as they are defined and the flexibility which the FAC proposes to build into the design



rejects any suggestion that the approval of the project be delayed pending clearer definition of new operating requirements

requests that the project be approved on the basis that the design be progressively refined as operating requirements are defined and that the complex incorporates a flexibility into the design which will permit changes in operating requirements, both those currently mooted and any future changes, to be incorporated.

79. The Queensland Government drew attention to the need for a system for the movement of passengers and the public between the domestic and international terminal. From the State's perspective, this requirement will form part of the overall planning for access to the airport generally and to individual facilities in particular. The State will, as a result, seek to have this matter addressed at a later date and in the context of total access needs. Regardless of this the Committee sees it as essential for a non-polluting rapid transport link to be provided between the domestic terminal and the ITC as part of the project.

#### **Committee's Recommendations**

80. A non-polluting rapid transport link should be provided between the domestic terminal and the International Terminal Complex.

81. In the longer term the Queensland Government and the Federal Airports Corporation should study and agree on funding for a rapid transport link between the Brisbane Central Business District and the Airport.

#### **Other Organisations**

82. The Queensland Tourist and Travel Corporation (QTTC), in a written submission, supported the provision of an ITC at the shortest possible time with an expansion capability. The FAC has stated that the new ITC can be completed quickly and with a expansion capability. The QTTC projected average annual growth of international passengers at 16%. The FAC's projected growth rate is less but the terminal will nevertheless be able to cater for both forecasts; future growth, at whatever rate, will be provided for by means of a progressive expansion of gates and

terminal facilities in accordance with demand. The QTTC also believes that 16 gates will be necessary by 2000. The design concept's fundamental premise is flexibility and the number of gates required can be provided.

83. At the public hearing a representative of the QTTC advised the Committee that the QTTC Board had further considered the siting of the terminal and prefers the domestic and international terminals to be collocated. This would delay the opening of the terminal by 18 months and would incur additional cost penalties. The QTTC argued that from the point of view of the longer term additional costs and delays in completion due to collocation would be outweighed by the convenience to airlines and passengers. Following the public hearing the Committee was advised that the QTTC, having been briefed further by the FAC, now agrees that the most pragmatic course of action would be to construct the new ITC at the sandfill site. The QTTC also called for the provision of efficient means for transporting baggage and passengers between the domestic terminal and the ITC. This is addressed by the Committee at paragraph 80.

84. The Brisbane Development Association and the Pacific Asia Travel Association expressed support for the design concept.

#### **Convenience of Passengers and the Non-travelling Public**

85. The Committee focused some attention on the need to provide facilities within the terminal for the convenience of passengers and the non-travelling public. In focusing on this, the Committee is mindful of the inconvenience to passengers and the non-travelling public caused by delays in arrivals and departure. Any design features which would reduce, if not eliminate, this inconvenience - such as adequate and comfortable seating in public areas and departure lounges, and food and beverage outlets with prices to match incomes - should be provided.

86. The FAC advised the Committee that in terms of retail outlets, there will be a choice and range of food and beverage outlets available in the building. As well, there will be space for retailing activity. A survey was carried out two and a half years ago and this has been used in the progression of the design. The survey results will now be updated in order to provide more information on what is required by passengers and the non-travelling public which will provide a commercial return to the FAC.

87. The Committee also raised the question of the distances which passengers would need to walk from the kerbside to aerobridge positions and vice versa. With the seven aerobridge positions, the walking distances will be fairly short. In the expansion stages when additional concourse lengths and aerobridges are added, however, walking distances will exceed current standards. The concourses will therefore be designed for the post-installation of moving walkways flush with the floor.

#### **Committee's Recommendation**

88. The Federal Airports Corporation undertake a survey of the needs of passengers and the non-travelling public about the nature and standard of facilities and processes required to reduce inconvenience, especially during peak periods.

#### **Public Viewing Area**

89. The Committee questioned the FAC about the lack of a public viewing area to be provided in the terminal. This question resulted from much criticism of the lack of such a facility in the ITB.

90. The FAC advised the Committee that all outward-bound passengers will have views of the aircraft apron from the forward lounge area. The FAC is also examining ways in which it would be possible to provide the same viewing area for other passengers and the non-travelling public. This would be examined during the detailed design stage. In the end, however, the provision of a public viewing area would need to be examined in terms of the additional capital cost. Nevertheless, the FAC undertook to examine ways to provide some degree of public viewing.

#### **Committee's Recommendation**

91. A public viewing area should be provided in the terminal building.

#### **Childcare**

92. In a written submission to the Committee, Childcare at Work Ltd submitted that for human resource and marketing reasons, and as a useful public relations consideration, it would be in the interests of the FAC to provide a long day care centre for children aged 0-5 years as part of the terminal. The submission suggested that the centre could be for the

exclusive use of personnel employed in the terminal or as a joint venture with other employers and their employees at the airport.

93. The FAC advised the Committee that it is looking at facilities for its staff and other employee groups, as well as public use, at the airport. The new ITC is considered by the FAC to be an unlikely location, given the cost of building space, parking facilities and ease of access. Therefore, given the extent of the airport site, the FAC expects that any future childcare facilities would need to be located in a more accessible and lower cost location closer to the major areas of work for all airport employees. The FAC is currently considering the concept of a joint venture with other employers as well as commercial facilities offering childcare services to the public at large.

#### **ACROD Access Committee**

94. The design of the ITC has not reached the staged to assess the suitability of design features for disabled or handicapped people. The ACROD Access Committee Brisbane requested that the Committee's report recommend that appropriate consultation between ACROD and the designers of the ITC be established and maintained throughout the design and documentation process.

95. The FAC assured the Committee that it will ensure that full consultation will occur with the ACROD Access Committee and would welcome the Access Committee's input to the design development and detailing of the project.

#### **Fire Safety and Protection Measures**

96. The Commonwealth Fire Board (CFB) indicated that all terminal buildings should be fully sprinklered because of their very large open spaces which facilitate rapid fire spread and the large number of people who could be affected by fire.

97. The FAC assured the Committee that the terminal will be fully sprinklered. The CFB's requirements will be progressively addressed as design is advanced. The CFB will be asked by the FAC to examine the building and its fire safety and protection measures as the design is advanced.

## Energy Efficiency

98. The FAC advised the Committee that the achievement of operating efficiencies in the design through a range of energy management and conservation measures will be a high priority. Although many of these measures are being analysed and developed, the FAC assured the Committee that the design will include features such as:

- maximum use of daylight to reduce dependence on artificial lighting
- a sophisticated building management system to control lighting, power and airconditioning in accordance with building usage to optimise energy performance
- maximum use of outside 'free cooling' for airconditioning.

99. In addition, traditional approaches of roof overhang shading, high energy efficiency lighting units, centralised airconditioning plant and variable speed drives in escalators will be incorporated and provided.

## ENVIRONMENTAL CONSIDERATIONS

### Statutory Requirements

100. The sandfill project, previously examined by the Committee, investigated in detail the environmental aspects of the proposed site and associated effects. The FAC assessed the environmental implications of the construction and determined that no further impact is expected from building on the sandfill site.

101. The FAC notified the Department of the Arts, Sport, the Environment and Territories of its findings. The FAC believes that additional impact from construction traffic, pile driving, crane movement and construction noise and dust are not considered to be significant given the isolation of the site from residential areas.

102. The Commonwealth Environment Protection Agency (CEPA) advised the Committee that as the FAC had determined that the proposal is not environmentally significant, it falls outside the ambit of the *Environment Protection (Impact of Proposals) Act 1974*.

## Aircraft Noise

103. A representative of Neighbours Against Aircraft Noise (NAAN) stated that improved noise abatement procedures should be implemented for Brisbane Airport. The question of aircraft noise, resulting from the orientation of the main and cross-wind runways in relation to arrival and departure tracks over residential areas was extensively covered in the Committee's Twenty-fifth Report of 1989 (Parliamentary Paper 495/1989). At the time, the Committee noted the measures being taken to minimise the impact of aircraft noise and welcomed the establishment of the Task Force to review the planning and operation of the airport. The Task Force commenced the review in June 1989 and its report was endorsed by the Minister for Aviation in June 1991. NAAN asserted it had been unable to play an effective role in the deliberations of the Task Force, especially in relation to the question of aircraft flight paths. NAAN indicated that in future it would welcome more consultation with the FAC.

104. The FAC advised that a subcommittee of the Brisbane Airport Consultative Committee (BACC) is being established which will focus particularly on the management of environmental issues. The subcommittee will have six people representing community interests and three from the aviation industry. Community representation will be from northern and southern suburbs and will comprise the three levels of government; the elected representatives of the three levels would nominate community representatives. The FAC intends that the subcommittee look more aggressively at noise abatement issues.

### Committee's Recommendation

105. Membership of the subcommittee of the Brisbane Airport Consultative Committee which will focus on environmental issues should include representatives of community groups which have emerged as a result of the problem of aircraft noise.

### CONSULTATIONS

106. The concept for the ITC was produced by Civil & Civic, the FAC's design consultants. Key design assistance was provided by the following:

- International Air Transport Association (IATA)

- . Airline Operators Committee.

107. Consultation and contributions to the concept plan were also received from:

- . Terminal consultative groups - airlines and Government agencies
- . Qantas Airways Limited
- . Australian Customs Service
- . Department of Immigration, Local Government and Ethnic Affairs
- . Queensland Department of Primary Industries, Quarantine Branch
- . Department of Transport and Communications
- . Civil Aviation Authority
- . Australian Federal Police
- . Australian Protective Services
- . Queensland Tourist and Travel Corporation
- . British Airport Services
- . Joint user hydrant installation, Brisbane.

108. The Brisbane Airport Consultative Committee has representation from the community, three levels of government, the airline industry, the FAC and the Civil Aviation Authority and meets quarterly to discuss all airport issues including plans for the new ITC.

109. The ongoing program of consultation will continue to include IATA, the Airline Operators Committee and the BACC together with meetings with any special interest groups. Press releases will be issued regularly.

## PROGRAM

110. The FAC plans to commence foundation construction in the second quarter of 1993 with completion in the last quarter of 1995. The scheduled completion time is January 1996. The Committee questioned the cost implications of completing the ITC by 1995 instead of 1996. The FAC confirmed that there would be cost penalties associated by adopting three options:

- flying start for which it would be necessary to commit piling and obtain structural steel earlier than the construction start date - this would reduce construction time by two months, but would not incur a cost penalty although it would require a commitment risk of about \$5m two months earlier than the commitment to construction of the whole project

- acceleration of construction by changing work sequences, putting more labour on the site - this would incur a cost penalty of \$8m and is expected to reduce construction time by two months

- if work commences on schedule on 1 July, it would be possible to reduce the construction contingency by 2 months at no cost.

111. In summary, the effects of a four to six month earlier completion would require at \$5m earlier commitment, incur an \$8m cost penalty, but it would also result in earlier commencement of operations from the new terminal.

## COST AND FINANCING

112. The FAC indicated that the project cost based on the concept plans is \$217m, with a 1996 out-turn cost of \$272m. The cost components are:



	\$m
Sandfill handling	6
Civil Works - foundations, structure, building finishes, building services	164
Contingency	13
Project Management Fees	9
Design Fees	20
Pre-opening costs and art works	5
Total	217
Outturn Cost 1996	272

113. The FAC anticipates that the project will be funded over the next three years from its global commercial borrowings. The debt servicing costs are expected to be met from project revenue, based on current rents, charges and operational conditions.

#### **Committee's Recommendation**

114. The Committee recommends construction of a new International Terminal Complex at Brisbane Airport at an out-turn cost of \$272m.

## CONCLUSIONS AND RECOMMENDATIONS

115. The conclusions and recommendations of the Committee and the paragraph in the report to which each refers are set out below:

	Paragraph
1. The inadequacy of the existing international terminal at Brisbane Airport reaffirms the need for a new terminal to be provided.	29
2. Recent aviation policy reforms have not eliminated the need for international terminal facilities at Brisbane Airport.	48
3. Extending the existing domestic terminal at Brisbane Airport to provide facilities adequate for an International Terminal Complex would result in substantial cost penalties which would not be incurred if a separate terminal were constructed at the Master Planned site.	49
4. Most potential occupiers and organisations involved in the aviation industry support the siting of a new International Terminal Complex at the Master Planned site.	50
5. The staged approach in the design and design testing of the terminal before substantial funds are committed will enable the Federal Airports Corporation to incorporate changes resulting from the effects of the aviation policy reforms.	69
6. The major Australian airlines support the design concept and are satisfied that operational contingencies resulting from the aviation policy reforms can be provided.	75

		Paragraph
7.	A non-polluting rapid transport link should be provided between the domestic terminal and the International Terminal Complex.	80
8.	In the longer term the Queensland Government and the Federal Airports Corporation should study and agree on funding for a rapid transport link between the Brisbane Central Business District and the Airport.	81
9.	The Federal Airports Corporation undertake a survey of the needs of passengers and the non-travelling public about the nature and standard of facilities and processes required to reduce inconvenience, especially during peak periods.	88
10.	A public viewing area should be provided in the terminal building.	91
11.	Membership of the subcommittee of the Brisbane Airport Consultative Committee which will focus on environmental issues should include representatives of community groups which have emerged as a result of the problem of aircraft noise.	105
12.	The Committee recommends construction of a new International Terminal Complex at Brisbane Airport at an out-turn cost of \$272m.	114



Colin Hollis  
Chairman

7 December 1992

## APPENDIX A

### WITNESSES

**COX**, Mr Michael, Group Property Director, Qantas, Qantas Jet Base, Sydney (Kingsford Smith) Airport, Mascot, New South Wales 2020.

**CURTIN**, Mr Daniel Michael, Regional Manager, Passenger Processing, Australian Customs Service, Brisbane International Airport, Brisbane, Queensland 4009.

**CUTTLE**, Mr Terrance, Engineer, Federal Airports Corporation, Banksia Place, Brisbane Airport, Queensland 4007.

**JONES**, Mr Leslie George, National Manager, Passenger Processing, Australian Customs Service, Customs House, 5 Constitution Avenue, Canberra, Australian Capital Territory 2600.

**JONES**, Mr Peter Vincent, Principle Project Manager, Economic Development Division, Department of the Premier, 100 George Street, Brisbane, Queensland 4000.

**KIMPTON**, Mr James Victor, Manger, Aviation Policy, Ansett Australia, 501 Swanston Street, Melbourne, Victoria 3001.

**KROLKE**, Mr Ernst Juergen, Manager, Seasonal Schedules and Coordination, Qantas, Qantas Jet Base, Sydney (Kingsford Smith) Airport, Mascot, New South Wales 2020.

**LADE**, Mr John William, General Manager, Technical and standards, Head Office, Federal Airports Corporation, 2/2A Lord Street, Botany, New South Wales 2019.

**LANGFORD**, Mr John Richard, Manager, Airport Development and Policy, Ansett Australia, 21 Bouverie Street, Carlton, Victoria 3053.

**LAWSON**, Mr Neil, Executive Director, Economic Development Division, Department of the Premier, 100 George Street, Brisbane, Queensland 4000.

**LEE**, Mr Fredrick John, Project Manager, Civil and Civic Pty Ltd,  
Level 7, Riverside Centre, 123 Eagle Street, Brisbane,  
Queensland 4000.

**PETIE**, Mr Robert Dawson, Assistant General Secretary, Trades and  
Labor Council of Queensland, Level 5, TLC Building, 16 Peel  
Street, South Brisbane, Queensland 4134.

**POOK**, Mrs Suzanne, Spokesperson, Neighbours Against Aircraft  
Noise, 471 Grassdale road, Gumdale, Queensland 4134.

**ROSEBERY**, Mr Kenneth Vivian, General Manager, Queensland  
Tourist and Travel Corporation, Level 36, Riverside Centre, 123  
Eagle Street, Brisbane, Queensland 4000.

**SHARP**, Mr Derek, Manager, Planning, Qantas, Qantas Jet Base,  
Sydney (Kingsford Smith) Airport, Mascot, New South Wales  
2020.

**STEWART**, Mr Edward Alexander, President, Brisbane Development  
Association, GPO Box 3008, Brisbane, Queensland 4001.

**TABART**, Mr John Edward, Development Director, New Terminal  
Complex, Federal Airports Corporation, Banksia Place, Brisbane  
Airport, Queensland 4007

**VALENTINE**, Mr Noel Robert, Principal Civil Engineer, Australian  
Construction Services, 8th Floor, 313 Adelaide Street, Brisbane,  
Queensland 4000.

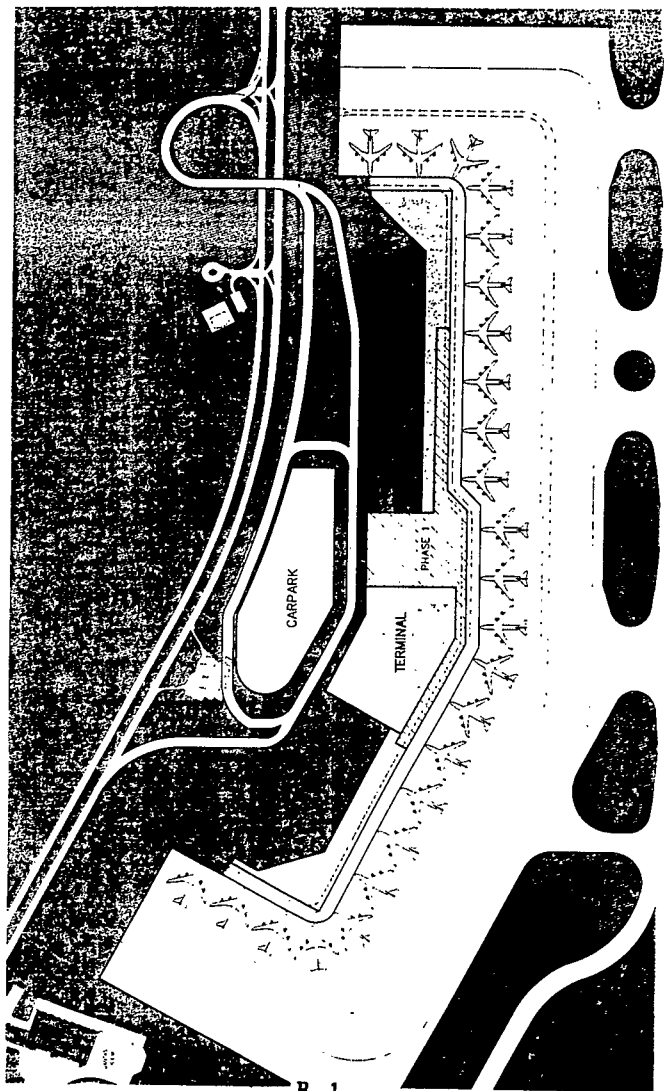
**WALKER**, Mr Phillip James, General Manager, Brisbane Airport,  
Federal Airports Corporation, Banksia Place, Queensland 4007.

**WYETH**, Mr Elwyn David Fraser, Immediate Past President, Brisbane  
Development Association, GPO Box 3008, Brisbane,  
Queensland 4001.

## APPENDIX B

### CONCEPT PLANS

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Views from apron and Airport Drive	B - 5
East-west section	B - 6
North-south section	B - 7
Level 1 - offices and plant	B - 8
Level 2 - arrivals	B - 9
Level 3 - departures	B - 10



B - 1

BUILDING SHAPE REDUCES  
OVERALL MASSING OF  
BUILDING BY BREAKING IT  
INTO SEPARATE ELEMENTS

LOW EAST & WEST  
BUILDING HEIGHTS RESPOND  
TO LOW SUN ANGLES

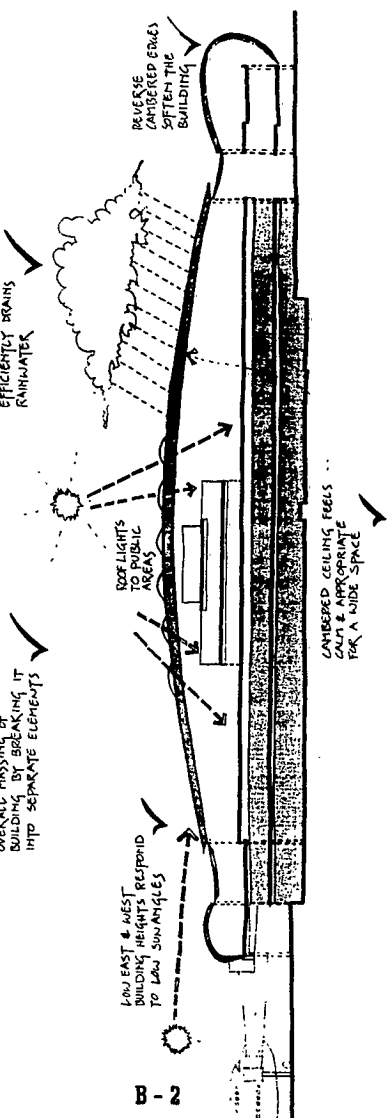
CAMBERED PROFILE MOST  
EFFICIENTLY DRAINS  
RAINFALL

ROOF LIGHTS  
TO PUBLIC  
AREAS

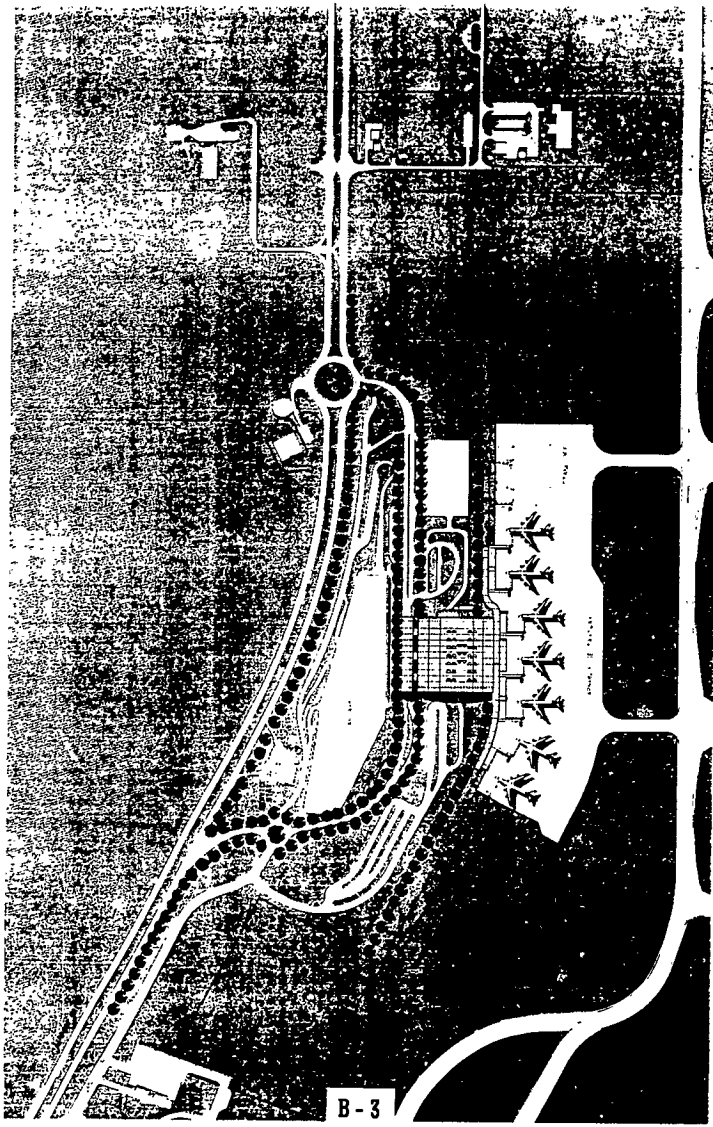
REVERSE  
CAMBERED EDGES  
SOFTEN THE  
BUILDING

CAMBERED CEILING FEELS  
LOW & APPROPRIATE  
FOR A WIDE SPACE

B - 2







B - 3



NORTH ELEVATION

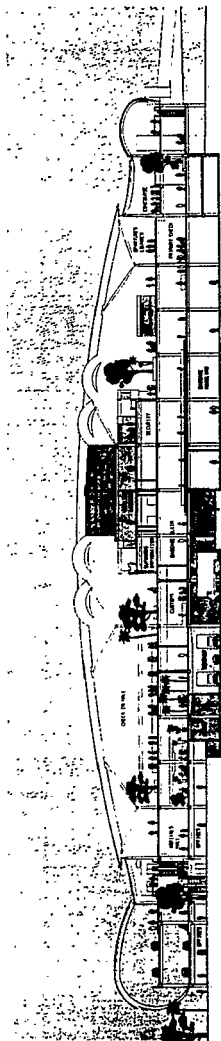




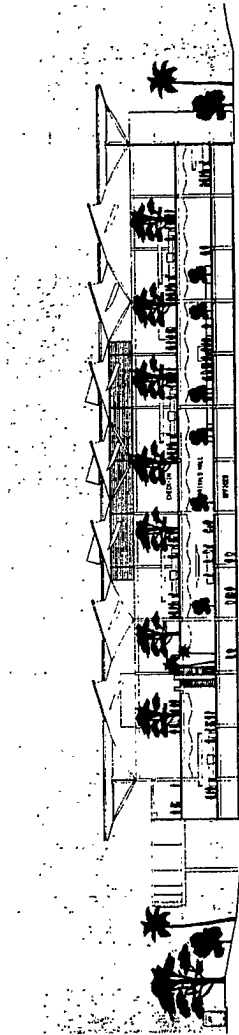
VIEW FROM AIRPORT APRON



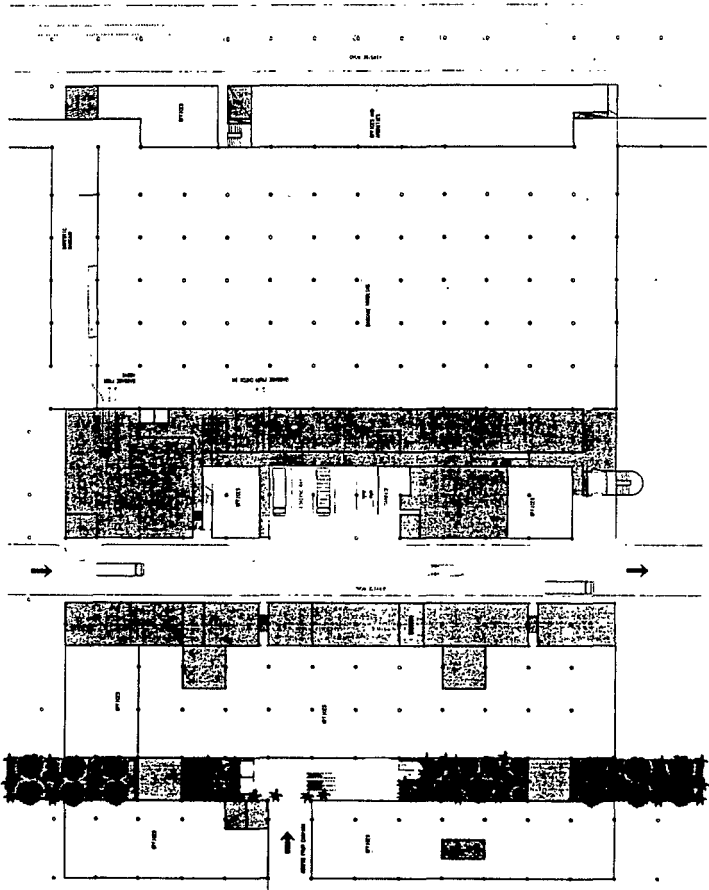
VIEW FROM AIRPORT DRIVE



EAST-WEST SECTION

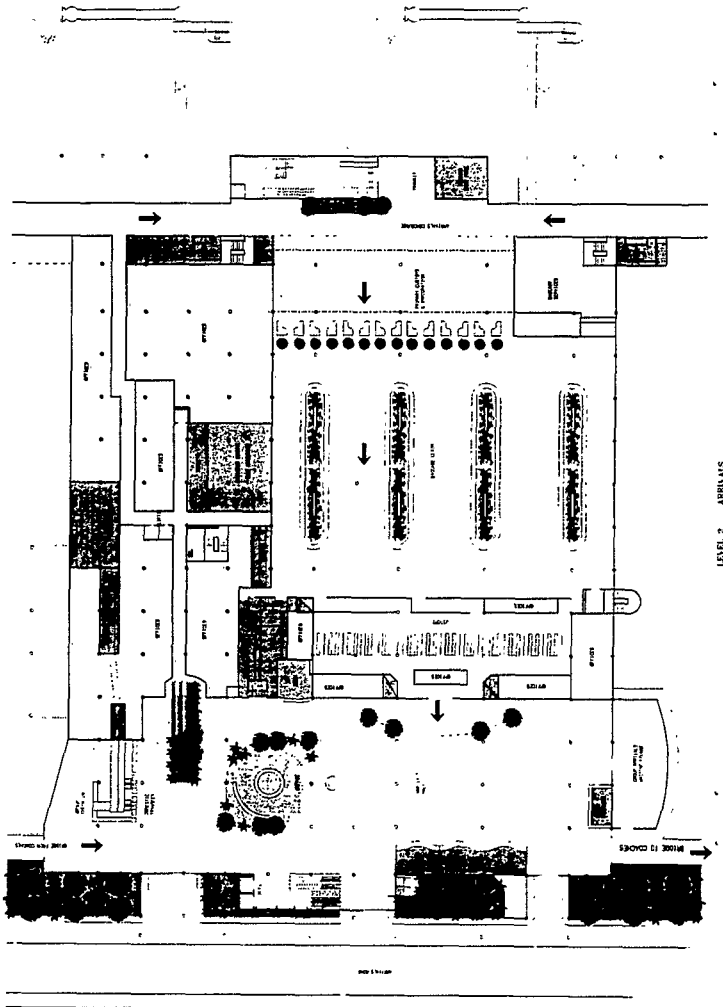


NORTH-SOUTH SECTION

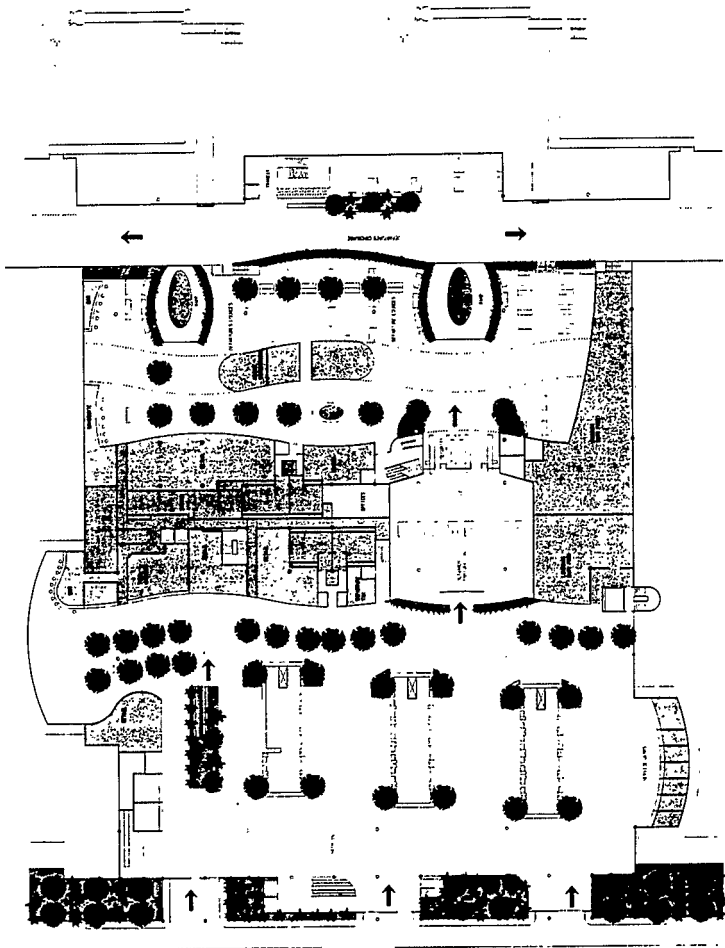


LEVEL 1 OFFICES AND PLANT

B - 8



LEVEL 2 ARRIVALS



LEVEL 3 DEPARTURES

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