For electricity, it is also necessary to study the installation of an additional generator besides the emergency generator in order to supplement the insufficient electricity at Kathmandu.

(11) Landscaping

Landscaping of the terminal area and its surroundings as well as the whole airport area should be taken into account at the implementation of the project not only due to aesthetic reasons but also for the moderation of environmental impact of the influenced areas.

9.4.6 Airport Master Plan

Airport master plan "B-2" has been completed based on above studies by amending "ALT-B" which was previously selected in Chapter 9.4.4. Airport master plan "B-2" is shown by phase in Fig. 9.4.9 and Fig. 9.4.10.

In implementation of the master plan, it is most important to carry out the smooth and efficient conversion and transition of the airport facilities step by step without preventing of airport activities and total function.

Fig. 9.4.8 shows the practicable transition plan.

Master plan of the airport and relatred facilities should be reviewed in the future, because it is difficult to predict the future air traffic demand (especially cargo volume), possibility of land acquisition, and the future plans of the Royal Enclosure and Military base.

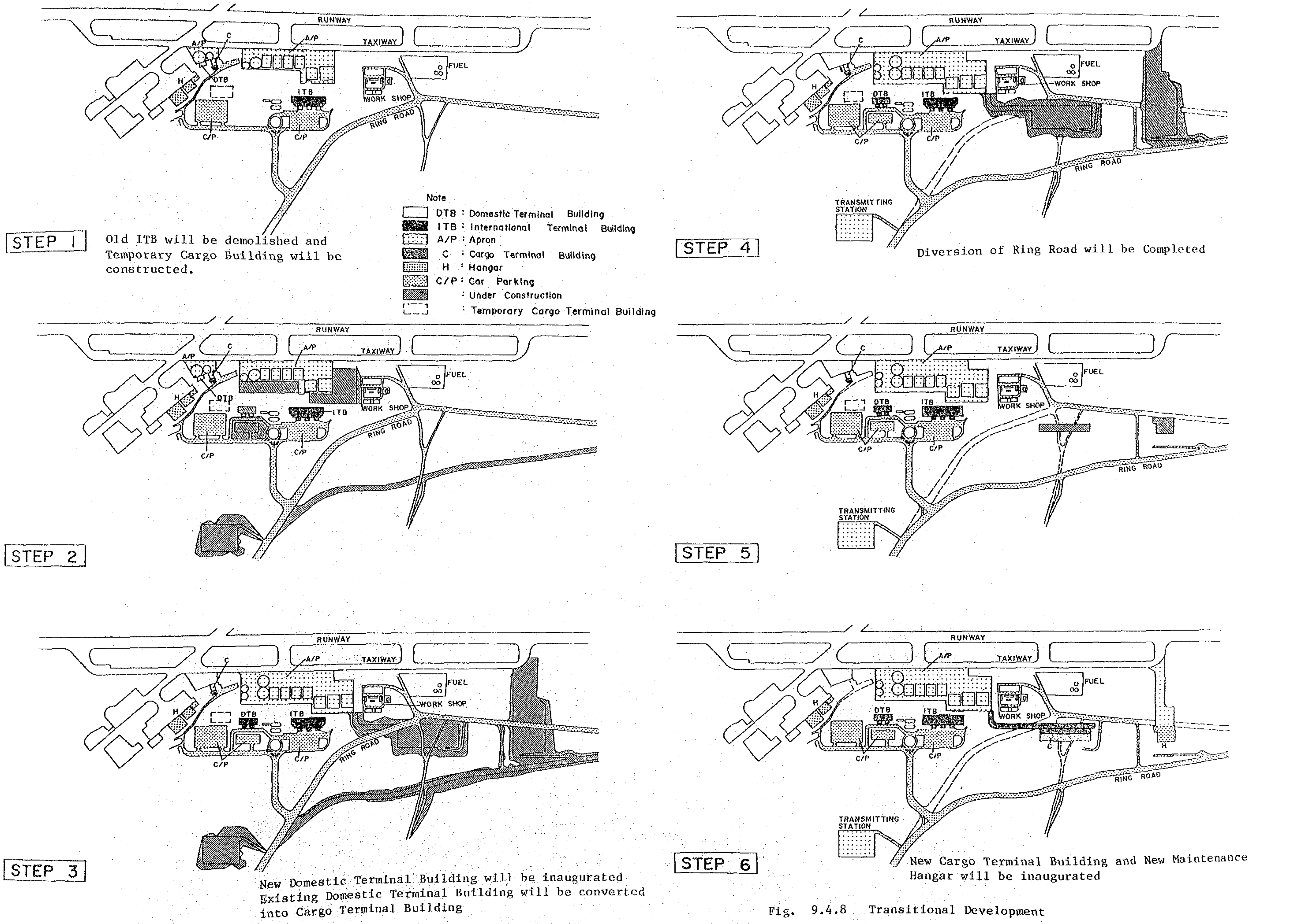
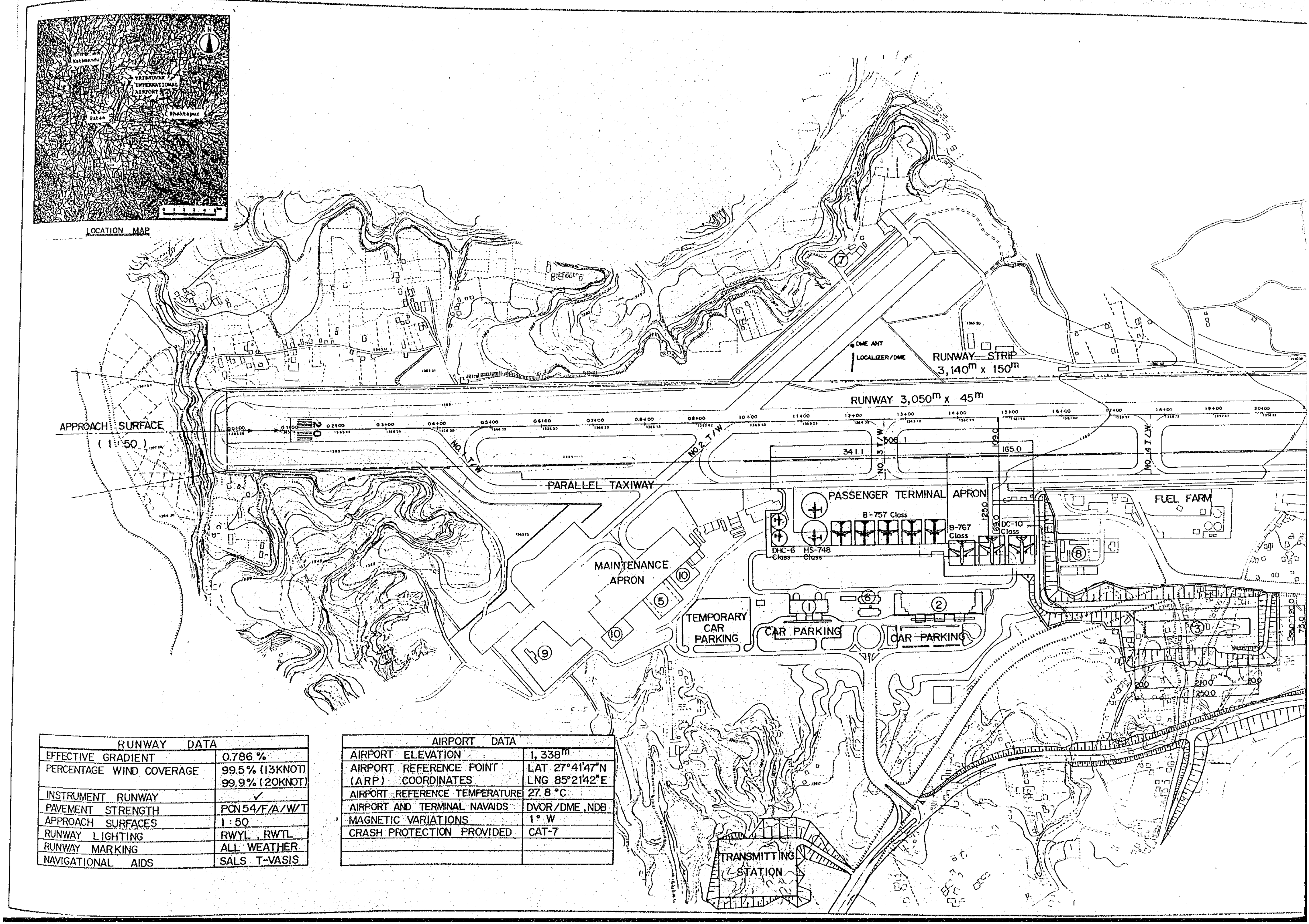
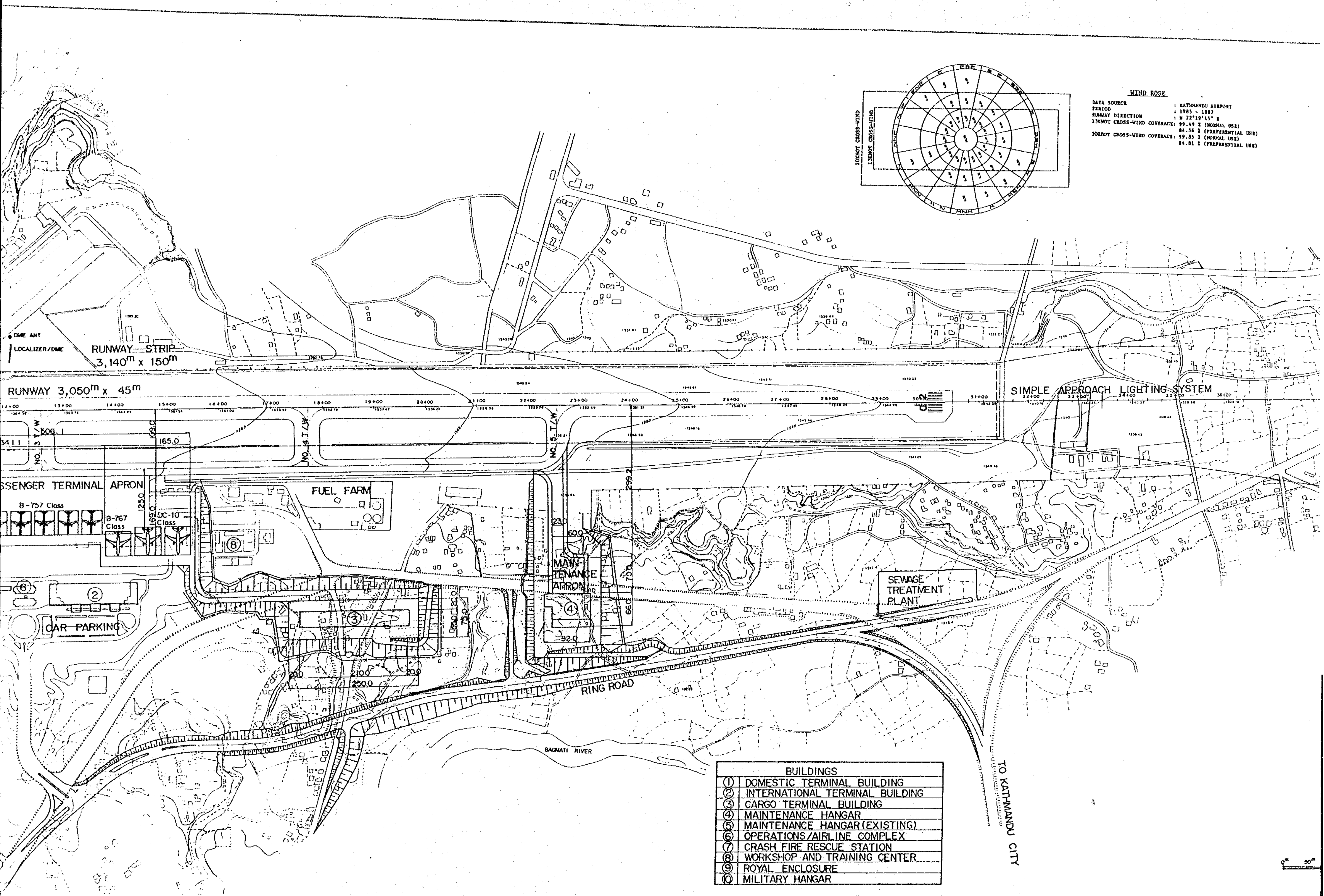


Fig. 9.4.8 Transitional Development



RUNWAY DATA	
EFFECTIVE GRADIENT	0.786 %
PERCENTAGE WIND COVERAGE	99.5% (13KNOT) 99.9% (20KNOT)
INSTRUMENT RUNWAY	✓
PAVEMENT STRENGTH	PCN54/F/A/W/T
APPROACH SURFACES	1:50
RUNWAY LIGHTING	RWYL , RWTL
RUNWAY MARKING	ALL WEATHER
NAVIGATIONAL AIDS	SALS T-VASIS

AIRPORT DATA	
AIRPORT ELEVATION	1,338m
AIRPORT REFERENCE POINT (ARP) COORDINATES	LAT 27°41'47"N LNG 85°21'42"E
AIRPORT REFERENCE TEMPERATURE	27.8 °C
AIRPORT AND TERMINAL NAVAIDS	DVOR/DME, NDB
MAGNETIC VARIATIONS	1° W
CRASH PROTECTION PROVIDED	CAT-7


WIND ROSE
DATA SOURCE : KATHMANDU AIRPORT
PERIOD : 1985 - 1987
RUNWAY DIRECTION : N 22°19'45" E
13KNOT CROSS-WIND COVERAGE: 99.49 % (NORMAL USE)
84.36 % (PREFERENTIAL USE)
20KNOT CROSS-WIND COVERAGE: 99.85 % (NORMAL USE)
84.81 % (PREFERENTIAL USE)
20KNOT CROSS-WIND
13KNOT CROSS-WIND
DME ANT
LOCALIZER/DME
RUNWAY STRIP
3,140m x 150m
RUNWAY 3,050m x 45m
SIMPLE APPROACH LIGHTING SYSTEM
NO. 3 T/W
NO. 14 T/W
NO. 15 T/W
PASSENGER TERMINAL APRON
B-757 Class
B-767 Class
DC-10 Class
FUEL FARM
MAIN-TENANCE APRON
SEWAGE TREATMENT PLANT
CAR PARKING
RING ROAD
BAGMATI RIVER
TO KATHMANDU CITY
BUILDINGS
① DOMESTIC TERMINAL BUILDING
② INTERNATIONAL TERMINAL BUILDING
③ CARGO TERMINAL BUILDING
④ MAINTENANCE HANGAR
⑤ MAINTENANCE HANGAR (EXISTING)
⑥ OPERATIONS/AIRLINE COMPLEX
⑦ CRASH FIRE RESCUE STATION
⑧ WORKSHOP AND TRAINING CENTER
⑨ ROYAL ENCLOSURE
⑩ MILITARY HANGAR

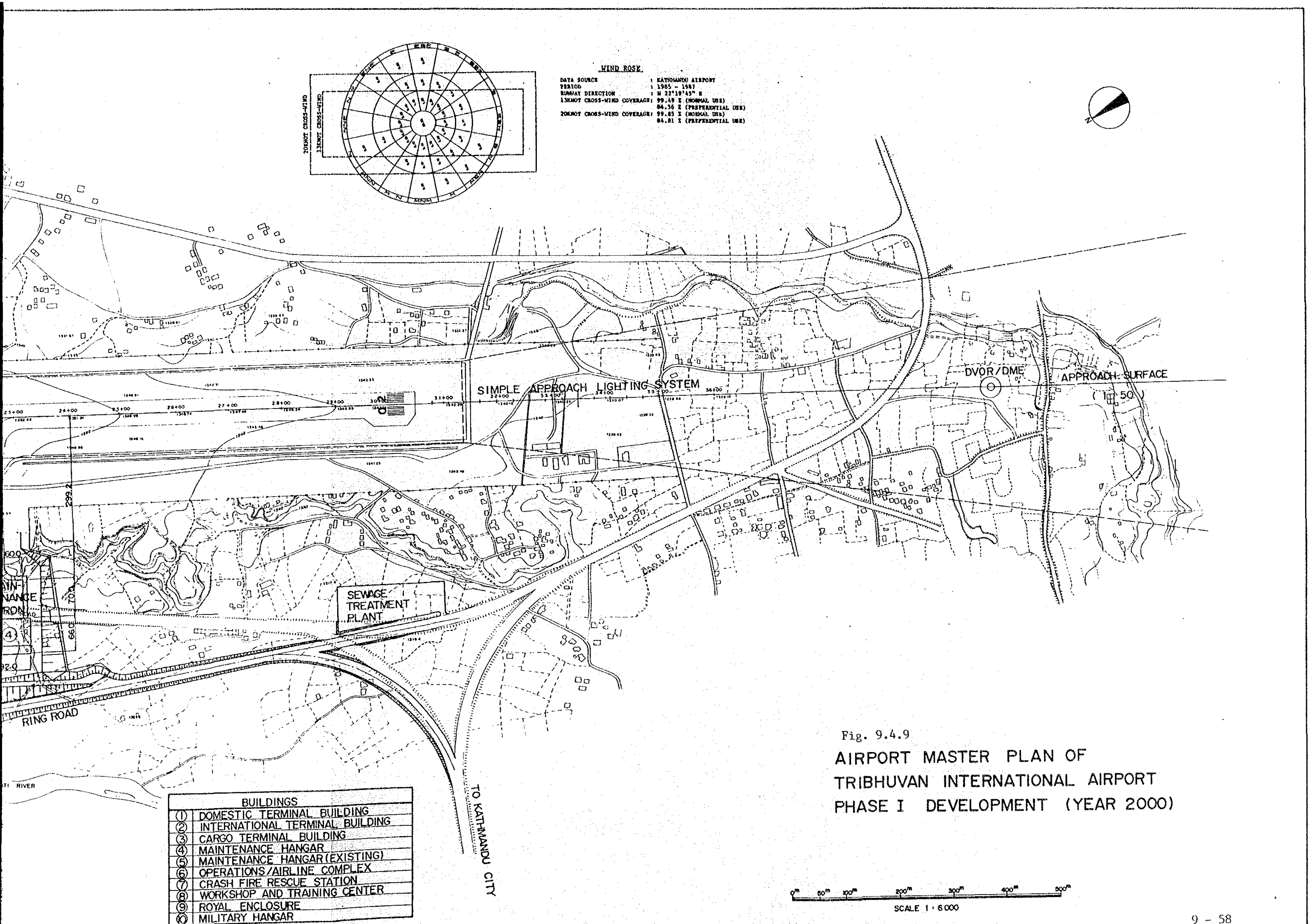
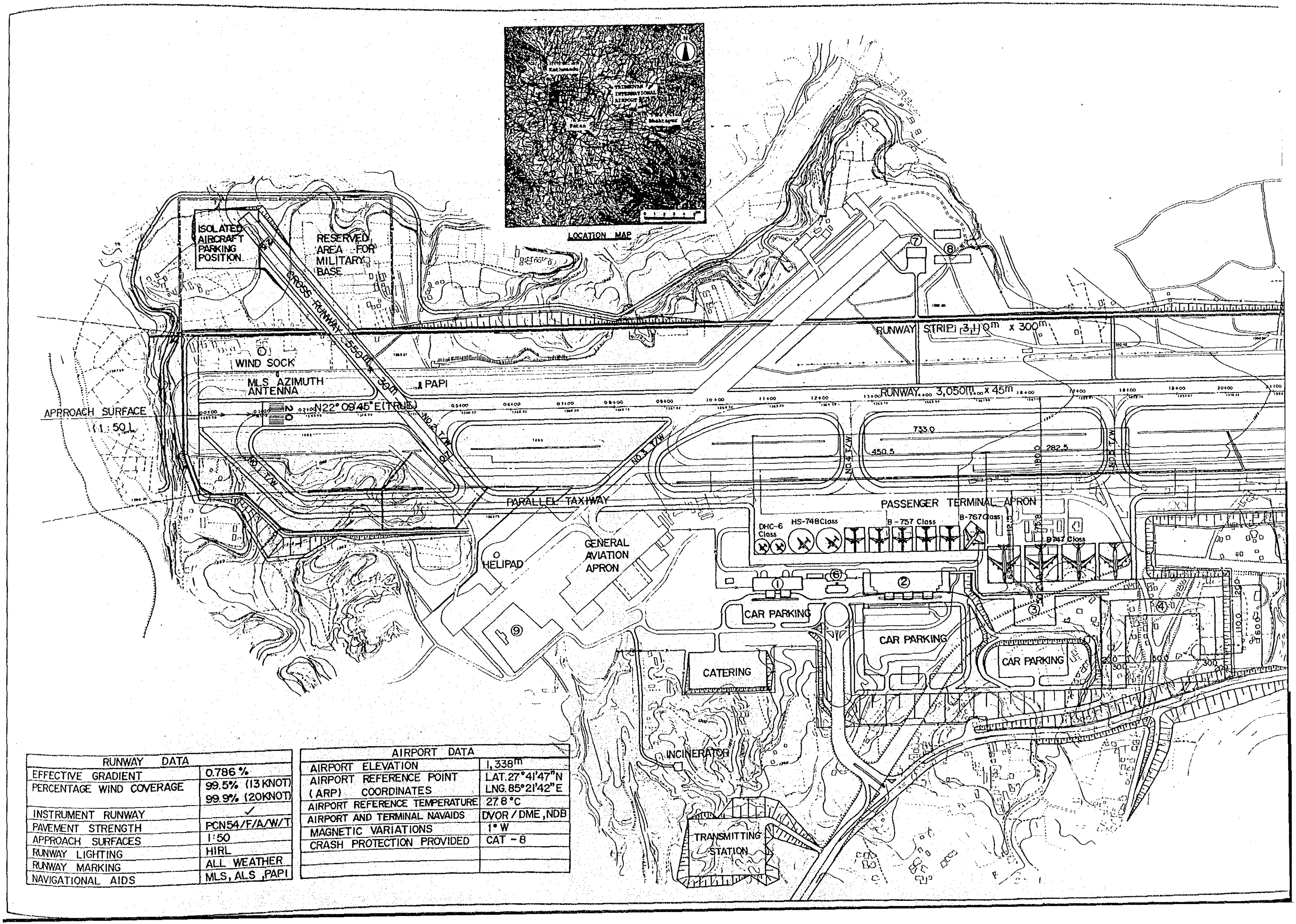


Fig. 9.4.9
AIRPORT MASTER PLAN OF TRIBHUVAN INTERNATIONAL AIRPORT PHASE I DEVELOPMENT (YEAR 2000)



RUNWAY DATA	
EFFECTIVE GRADIENT	0.786 %
PERCENTAGE WIND COVERAGE	99.5% (13 KNOT) 99.9% (20KNOT)
INSTRUMENT RUNWAY	✓
PAVEMENT STRENGTH	PCN54/F/A/W/T
APPROACH SURFACES	1:50
RUNWAY LIGHTING	HIRL
RUNWAY MARKING	ALL WEATHER
NAVIGATIONAL AIDS	MLS, ALS, PAPI

AIRPORT DATA	
AIRPORT ELEVATION	1,338^{m}
AIRPORT REFERENCE POINT (ARP) COORDINATES	LAT.27°41'47"N LNG.85°21'42"E
AIRPORT REFERENCE TEMPERATURE	27.8°C
AIRPORT AND TERMINAL NAVAIDS	DVOR / DME, NDB
MAGNETIC VARIATIONS	1° W
CRASH PROTECTION PROVIDED	CAT - 8

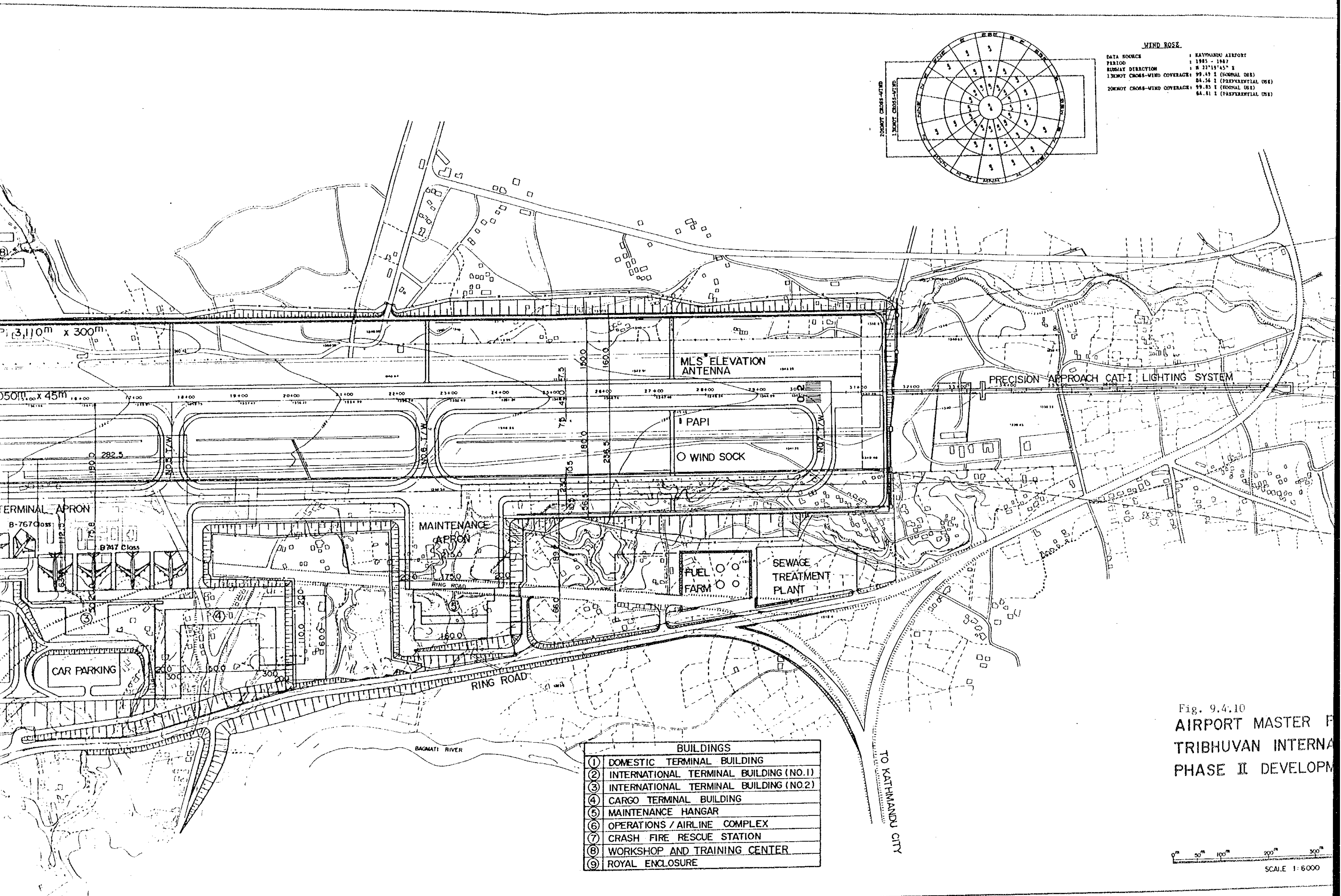


Fig. 9.4.10

AIRPORT MASTER P

TRIBHUVAN INTERNA

PHASE II DEVELOPM

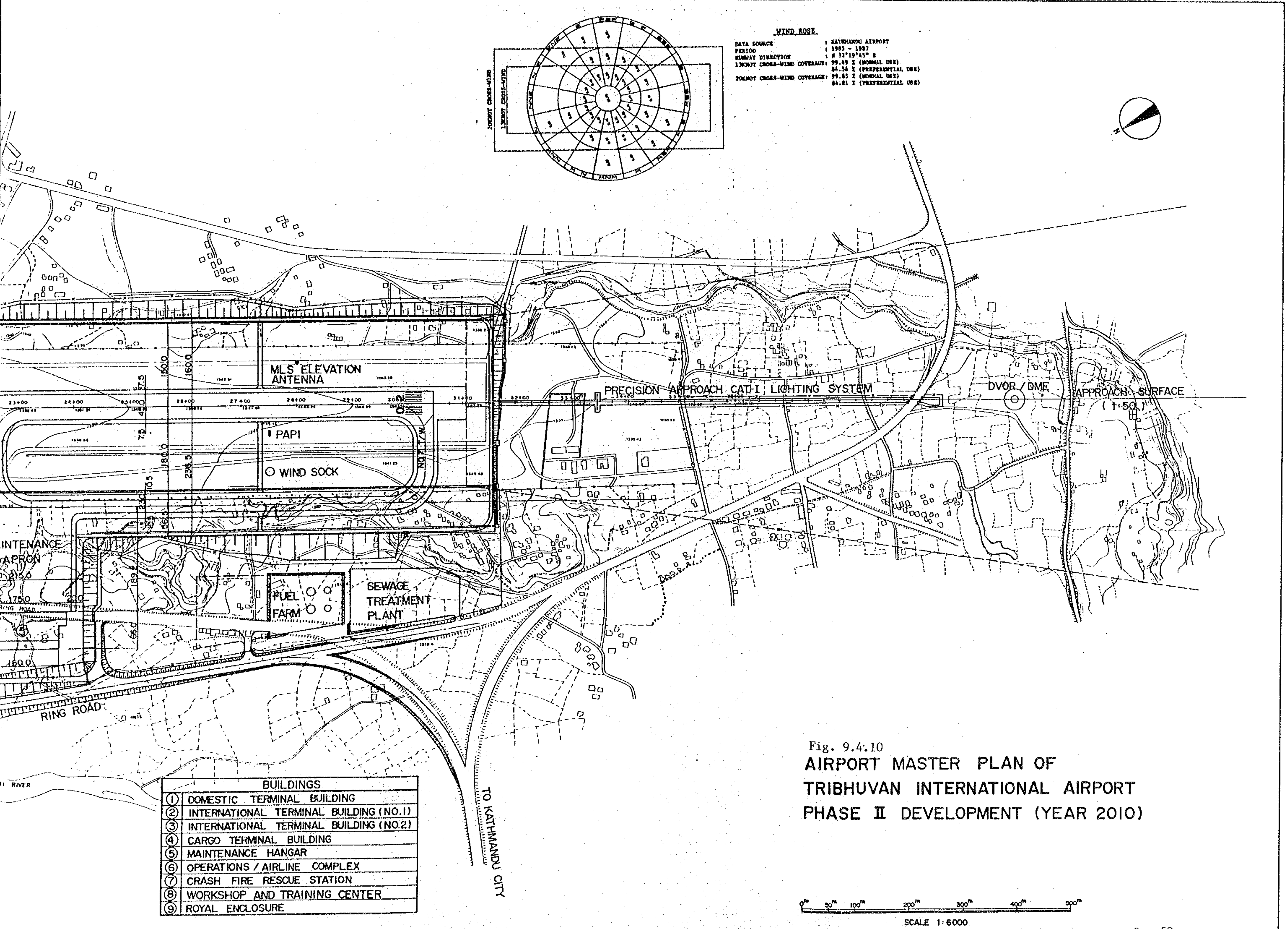


Fig. 9.4.10
AIRPORT MASTER PLAN OF
TRIBHUVAN INTERNATIONAL AIRPORT
PHASE II DEVELOPMENT (YEAR 2010)

9.4.7 Considerations of Air Navigation Systems for the Alternative Airport Master Plans

The following are the basic considerations for air navigation systems for the alternative airport master plans. The major facilities to be considered in alternative master plans are summarized in Table 9.4.3.

(1) The DVOR/DME and NDB must be replaced due to obsolescence as explained in sub-section 9.3.5. The new VOR/DME should remain in the same area as the replaced equipment. Since the development of new cargo terminal area and new maintenance area forces the relocation of transmitting station, the NDB should be relocated.

(2) A Microwave Landing System (MLS), which will replace ILS by 1998 in accordance with the ICAO transitional plan, has been considered in Phase II.

(3) Most of the air traffic control and aeronautical telecommunications systems for Tribhuvan International Airport are under renovation work by Australian grant aid. However, nationwide telecommunications networks such as AFTN, ATS direct speech circuits, etc., are not included in the above renovation work.

(4) All the existing aeronautical ground lights will have to be replaced because they are obsolete.

Table 9.4.3 Air Navigation Facility to be considered for Alternative Master Plans

Navigation Aids:

(1) Replacement of the DVOR/DME and NDB
(2) Installation of a microwave landing system

Air Traffic Control and Telecommunications System:

(1) Replacement of VHF air-ground communications for area control center and flight information center including UHF link (executed by Australian grant aid)
(2) Replacement of VHF air-ground communications for aerodrome control, surface movement control and emergency. (executed by Australian grant aid)
(3) Replacement of international AFTN and ATS direct speech circuits by a common carrier
(4) Provision of domestic AFTN circuits by a common carrier
(5) Replacement of control consoles and related facilities such as tape recorders, switching facilities, etc. (executed by Australian grant aid)
(6) Provision of ATIS equipment (executed by Australian grant aid)

Aeronautical Ground Lights:

(1) Replacement or provision of the following lights:

a) Precision approach Category I lighting system for runway 02
b) Sequenced flash lighting system for runway 02
c) Runway threshold identification lights
d) High intensity runway edge lights by dual series circuits
e) Runway threshold and end lights
f) Runway wingbar lights for runway 02
g) PAPI for both runways 02 and 20
h) Taxiway edge lights
i) Taxiing guidance system
j) Aerodrome beacon
k) Apron floodlights
l) Illuminated wind direction indicator lights
m) Constant current regulators and logical control system

Table 9.4.3 Continued

Meteorological System:

(1) Provision of the following equipment:

a) Automated weather data collecting, recording, and display system for aerodrome surface data observation including the following sensors:

- Anemometers
- Precepitation gauge
- Thermometers
- Dew point sensors
- Hygrometers
- Barometers
- Ceilometer
- Transmissiometer

(2) Provision of data transmission equipment from Weather Forecast Division to the operations and airline complex and display equipment.

CHAPTER 10 MASTER PLAN OF NEW POKHARA AIRPORT

CHAPTER 10 MASTER PLAN OF NEW POKHARA AIRPORT

10.1 Breakdown of Air Traffic Demand

10.1.1 General

Air traffic demand estimated in Chapter 2 is broken down for facility planning in the same way as already mentioned in Chapter 9.

10.1.2 Aircraft Classification

(1) Aircraft Classification and Seating Capacity

The classification and seating capacity of each aircraft are established as shown below:

Type of Aircraft	Seating Capacity
DHC-6 class	20
HS-748 class	50

(2) Load Factor

The load factor is set at 75% which is based on the actual load factor of the last several years.

10.1.3 Peak Air Passengers and Aircraft Movements

(1) Peak Month and Peak Day Coefficient

Peak month and peak day coefficients for domestic air traffic are set as follows as already explained in Chapter 9.

Description	Passengers	Aircraft Movements
Peak month coefficient	1/8.3	1/8.3
Peak day coefficient	1/250	1/250

(2) Peak Hour Coefficient

The peak hour coefficient is calculated by the following formula:

$Y = 2.10/X + 0.134$ (X = aircraft movement)

(3) Heavy Direction Ratio

The heavy direction ratio is defined as the ratio of aircraft movement of the heavier direction divided by total peak hour movements. It is estimated to be about 0.6.

10.1.4 Summary of Air Traffic Demand

Air traffic demand at Pokhara is summarized as shown in Table 10.1.1.

Table 10.1.1 Summary of Air Traffic Demand

Year	Item / Period	Passenger Embarked/ Disembarked	Cargo (Ton)	Number of Aircraft Movements HS-748 Class	DHC-6 Class	Total
1995	Annual	66,900	270	1,270	1,470	2,740
	Peak Month	8,100		153	177	330
	Design Day	270		4	6	10
	Peak Hour	90		1.4	2.1	3.5
	Heavy Direction Peak Hour	54				2
2000	Annual	79,900	330	1,550	1,640	3,190
	Peak Month	9,600		187	198	385
	Design Day	320		6	6	12
	Peak Hour	90		1.9	1.9	3.8
	Heavy Direction Peak Hour	54				2
2005	Annual	94,000	390	1,860	1,830	3,690
	Peak Month	11,300		224	220	444
	Design Day	380		8	6	14
	Peak Hour	100		2.3	1.7	4.0
	Heavy Direction Peak Hour	60				2
2010	Annual	107,600	440	2,150	2,030	4,180
	Peak Month	13,000		260	206	466
	Design Day	430		8	6	14
	Peak Hour	110		2.3	1.7	4.0
	Heavy Direction Peak Hour	66				2

10.2 Airport Facility Requirements Analysis

10.2.1 General

The construction of new Pokhara Airport seriously is desirable because of the faults of the existing airport and important in terms of contribution to tourism development as described before.

From these reasons, the development is urgent and minimum facilities to start the operation should be provided in initial stage.

According to demand forecast, HS-748 class aircraft can be introduced in terms of economical operation at new Pokhara Airport.

However, considering the fact that TIA is the only airport with a long runway where large aircraft operate in Nepal, one more long runway, which can accommodate B-757 at least, should be prepared for transportation of relief goods and rescue party in case of an emergency.

Therefore, Phase I development aims to serve HS-748 class aircraft and in Phase II it will be developed to accommodate B-757 class jet aircraft in order to avoid the too much concentration of investment cost.

Table 10.2.1 shows the airport facility requirements which should be used as the bases for subsequent planning and design.

10.2.2 Aerodrome Reference Code

The aerodrome reference code is as shown below in accordance with the maximum size of aircraft anticipated.

Year	Code Number	Code Letter
1995	3	C
2000	3	C
2005	4	D
2010	4	D

Table 10.2.1 Air Traffic Demand vs.Airport Facility Requirements of New Pokhara Airport

	Item \ Year	Present Condition (as of 1987)	1995	2000	2005	2010
Air Traffic Forecast	1.Annual Passenger	46,500	66,900	79,900	94,000	107,600
	2.Annual Cargo (ton)	195	270	330	390	440
	3.Annual Aircraft Movement (operation)	N.A	2,500	2,900	3,400	3,900
	4.Peak Hour Passenger	N.A	90	100	110	120
	5.Peak Hour Aircraft Movement (operation)	4.0	3.5	3.8	4.0	4.0
	6.Largest Aircraft	HS-748	do	do	B-757 class	do
Facility Requirements	7.Runway (m x m)	1433 X 30	1900 X 30	do	2500 x 45	do
	8.Runway Strip (m x m)	1570 X 150	2020 X 150	do	2620 x 300	do
	9.Taxiway (m x m)	-	179 X 15	do	165 x 18	do
	10.Passenger Terminal Apron (gate position)	HS-748 X 1 DHC-6 X 1	HS 2 DH 1	HS 2 DH 1	B757 1 HS 1 DH 1	do do do
	11.Passenger Terminal Building (sq.meter)		700	800	900	1,000
	12.Cargo Terminal Building (sq.meter)	-	20	30	30	40
	13.Administration Building (sq.meter)	-	200	200	200	200
	14.Air Navigation Systems	Non Precision, Instrument	Non Precision, Instrument			
	15.Car Parks (cars) (sq.meter)	-	30 1,100	30 1,400	40 1,400	50 1,800
	16.Access Road (lane)	1	2	2	2	2
	17.Fuel Supply (Fuel Tank) (Kl/Week)	-	30 Kl 18 Kl	do 21 Kl	40 Kl 25 Kl	50 Kl 29 Kl
	18.Rescue and Fire-Fighting (Category) (Cars) (Fire Station,sq.m)	-	3 2 300	3 2 300	3 2 300	4 3 400
	19.Utilities — Electricity (KVA)	N.A	70	80	90	90
	19.Utilities — Water (Ton/Month)	N.A	390	420	470	500
	19.Utilities — Waste Deposit (Ton/Month)	N.A	2.0	2.1	2.6	2.7
	19.Utilities — Sewage (Ton/Month)	N.A	280	310	340	370

10.2.3 Facility Requirements

The requirements of major facilities for each target year are summarized as follows:

(1) Runway

The runway length for HS-748 for domestic service is required to be 1900 m (RNAC's figure).

The runway of 2370 m long is estimated to accommodate B-757's with Maximum Take-Off Weight (MTOW) of 221,000 lbs. currently in RNAC's fleet.

In this study, the runway length of 1900 m and 2500 m were planned for HS-748 class for Phase I and B-757 class jet aircraft for Phase II respectively.

Phase	Year	Length (m)	Width (m)
I	- 2000	1900	30
II	2001 -	2500	45

(2) Runway Strip

Phase	Year	Length (m)	Width (m)
I	- 2000	2020	150 *
II	2001 -	2620	300

Remarks: Runway strip with non-precision approach runway is 300 m wide in accordance with ICAO standards. However, it is more important to open the new airport as soon as possible and for that reason minimum facilities shall be prepared without being binded by standard as far as air safety is not sacrificed.

(3) Taxiway

Parallel Taxiway: Not justified
Remarks: Peak hour aircraft movements will not exceed 8.

(4) Apron

	Required Number of Aircraft Stands			
Year	B-757 Class	HS-748 Class	DHC-6 Class	Total*
1995	-	2	1	3
2000	-	2	1	3
2005	1	1	1	3
2010	1	1	1	3

*) including one extra stand

(5) Passenger Terminal Building

The floor area has been calculated by multiplying the number of peak hour passengers by the unit floor area per peak hour passenger. Unit floor area per peak hour passenger is set at 8 sq.m.

Year	Peak Hour Passenger	Required Floor Area (sq.m)
1995	90	700
2000	100	800
2005	110	900
2010	120	1000

(6) Cargo Terminal Building

The floor area of the cargo terminal building has been calculated based on the forecast annual cargo volume and the handling capacity per unit floor area.

Year	Annual Cargo Volume (ton) (A)	Unit Cargo Handling Capacity (ton/sq.m) (B)	Required Floor Area (sq.m) (A)/(B)
1995	270	12	20
2000	330	12	30
2005	390	12	30
2000	440	12	40

(7) Car Parking

Year	Peak Hour Passenger (A)	Parking Cars per Peak Hour Passenger (B)	Required Number of Parking Spaces (A)x(B)
1995	90	0.3	30
2000	100	0.3	30
2005	110	0.4	40
2010	120	0.4	50

(8) Air Navigation Systems

Pokhara Airport has been classified as a Cat-B airport in this study, thus the operational requirements should be "Instrument, Non-Precision."

The necessary facilities for air navigation for a Cat-B airport are listed in Table 6.2.3 in sub-section 6.2.2.

10.2.4 Obstacle Limitation Requirements

The requirements of the obstacle limitation surfaces for a non-precision approach runway are summarized in Fig. 10.2.1 and Tables 10.2.2 and 10.2.3 for the aerodrome reference code number 3.

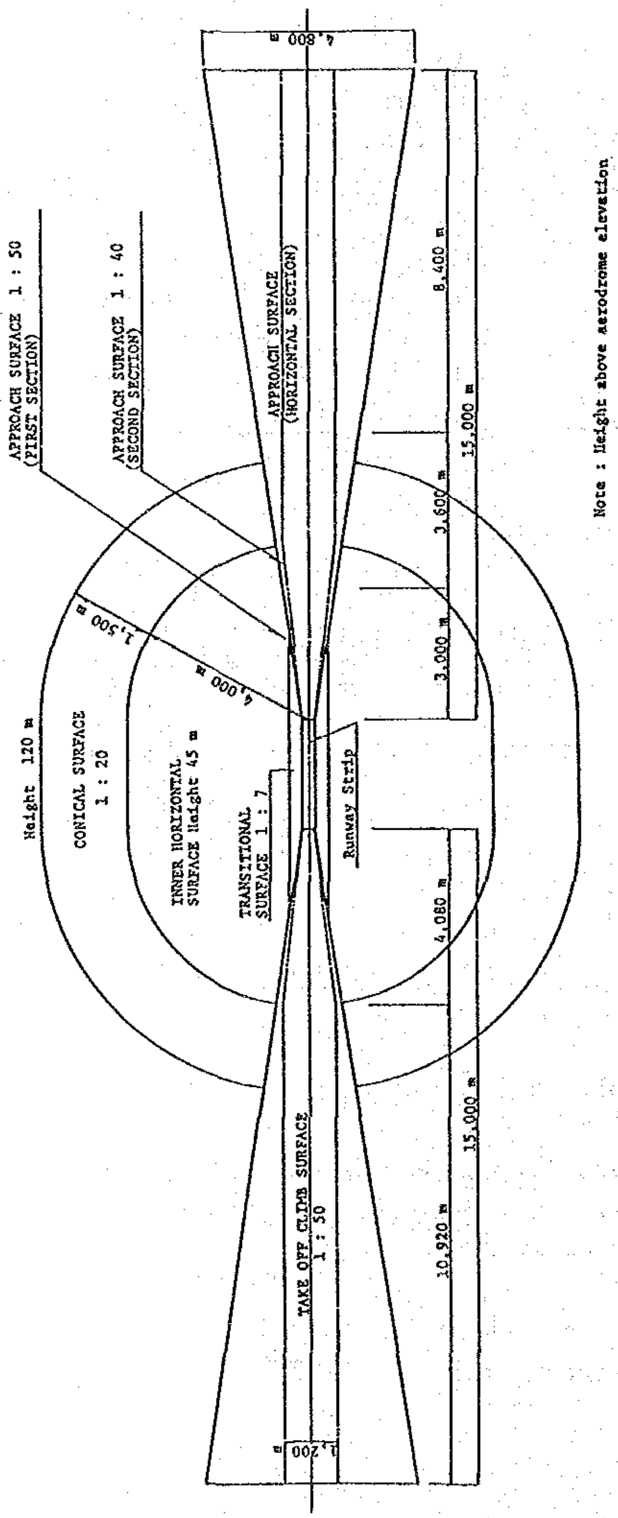


Fig.10.2.1. Obstacle Limitation Surfaces

Table.10.2.2. Approach Runways

Surface and dimensions[a]	Runway classification									
	Non-instrument				Non-precision approach			Precision approach category		
								I		II or III
	Code number				Code number			Code number		Code number
	1	2	3	4	1,2	3	4	1,2	3,4	3,4
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
CONICAL										
Slope	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Height	35 m	55 m	75 m	100 m	60 m	75 m	100 m	60 m	100 m	100 m
INNER HORIZONTAL										
Height	45 m	45 m	45 m	45 m	45 m	45 m	45 m	45 m	45 m	45 m
Radius	2 000 m	2 500 m	4 000 m	4 000 m	3 500 m	4 000 m	4 000 m	3 500 m	4 000 m	4 000 m
INNER APPROACH										
Width	-	-	-	-	-	-	-	90 m	120 m	120 m
Distance from threshold	-	-	-	-	-	-	-	60 m	60 m	60 m
Length	-	-	-	-	-	-	-	900 m	900 m	900 m
Slope								2.5%	2%	2%
APPROACH										
Length of inner edge	60 m	80 m	150 m	150 m	150 m	300 m	300 m	150 m	300 m	300 m
Distance from threshold	30 m	60 m	60 m	60 m	60 m	60 m	60 m	60 m	60 m	60 m
Divergence (each side)	10%	10%	10%	10%	15%	15%	15%	15%	15%	15%
First section										
Length	1 600 m	2 500 m	3 000 m	3 000 m	2 500 m	3 000 m	3 000 m	3 000 m	3 000 m	3 000 m
Slope	5%	4%	3.33%	2.5%	3.33%	2%	2%	2.5%	2%	2%
Second section										
Length	-	-	-	-	-	3 600 m[b]	3 600 m[b]	12 000 m	3 600 m[b]	3 600 m[b]
Slope	-	-	-	-	-	2.5%	2.5%	3%	2.5%	2.5%
Horizontal section										
Length	-	-	-	-	-	8 400 m[b]	8 400 m[b]	-	8 400 m[b]	8 400 m[b]
Total length	-	-	-	-	-	15 000 m	15 000 m	15 000 m	15 000 m	15 000 m
TRANSITIONAL										
Slope	20%	20%	14.3%	14.3%	20%	14.3%	14.3%	14.3%	14.3%	14.3%
INNER TRANSITIONAL										
Slope	-	-	-	-	-	-	-	40%	33.3%	33.3%
BALKED LANDING SURFACE										
Length of inner edge	-	-	-	-	-	-	-	90 m	120 m	120 m
Distance from threshold	-	-	-	-	-	-	-	d	1 800 m[c]	1 800 m[c]
Divergence (each side)	-	-	-	-	-	-	-	10%	10%	10%
Slope	-	-	-	-	-	-	-	4%	3.33%	3.33%

a. All dimensions are measured horizontally unless specified otherwise.
b. Variable length (see 4.2.9 or 4.2.17).
c. Or end of runway whichever is less.
d. Distance to the end of strip.

Table.10.2.3. Take-Off Runways

Surface and dimensions[a]	Code number		
	1	2	3 or 4
(1)	(2)	(3)	(4)
TAKE-OFF CLIMB			
Length of inner edge	60 m	80 m	180 m
Distance from runway end[b]	30 m	60 m	60 m
Divergence (each side)	10%	10%	12.5%
Final width	380 m	580 m	1 200 m 1 800 m[c]
Length	1 600 m	2 500 m	15 000 m
Slope	5%	4%	2%[d]

a. All dimensions are measured horizontally unless specified otherwise.
b. The take-off climb surface starts at the end of the clearway if the clearway length exceeds the specified distance.
c. 1 800 m when the intended track includes changes of heading greater than 15° for operations conducted in IMC, VMC by night.
d. See 4.2.24 and 4.2.26.

10.3 Obstacle Limitation Surfaces

Fig. 10.3.1 shows the obstacle limitation surfaces of the planned new Pokhara Airport. The obstacle limitation surfaces are based on the ICAO requirements for a non-precision runway (code No. 3C). 3000 to 4000-foot-high hills project through the extended approach surfaces for Runway 12 and 30 respectively. A 2800-foot-high hill projects through the first section of the approach surface for Runway 30. 2600 to 4000-foot-high hills project through the inner horizontal and conical surfaces on the north and south side of airport.

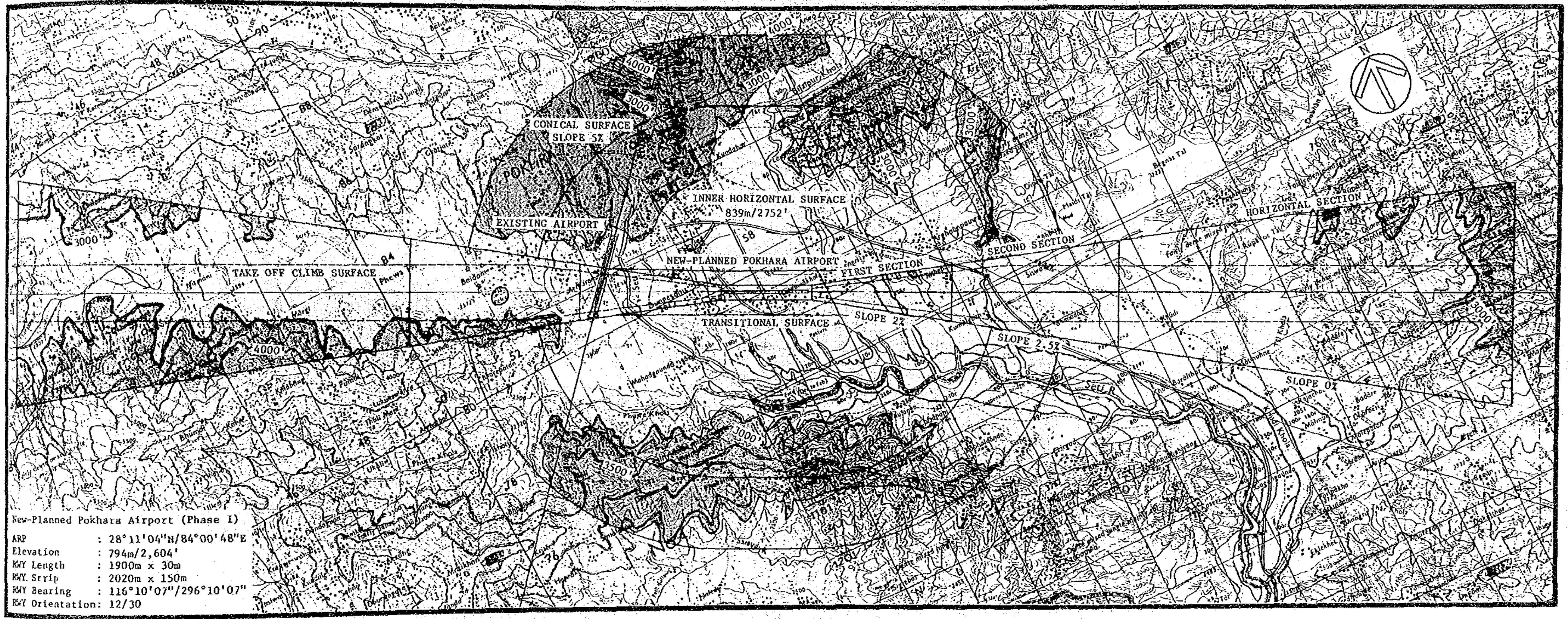


Fig. 10.3.1 Obstacle Limitation Surfaces of New-Planned Pokhara Airport (Phase I)

10.4 Airport Master Plan

10.4.1 Meteorological Analysis

(1) Wind Coverage

The wind coverage for the new Pokhara Airport has been analyzed based on the recent three years observation data (1985 through 1987) at the existing Pokhara Airport.

Fig. 10.4.1 and Table 10.4.1 summarize the cross-wind coverage. According to the result of the analysis, the new runway has an excellent cross-wind coverage of more than 99.8% even with a cross-wind component of less than 13kt.

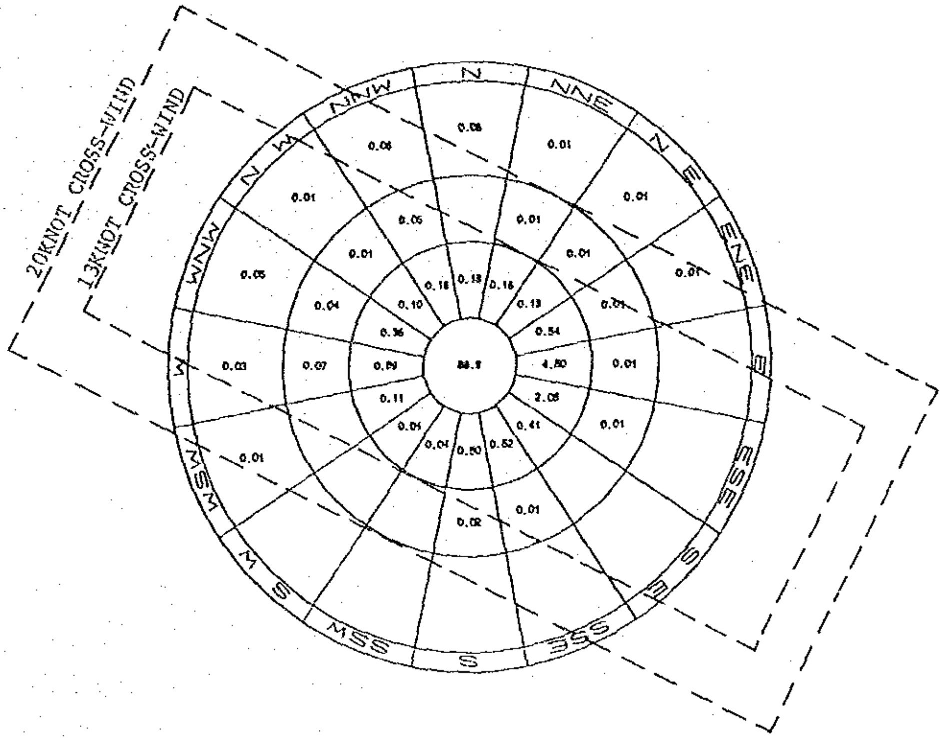


Fig. 10.4.1 Cross-wind Coverage at Pokhara Airport

Table 10.4.1 Cross-wind Coverage of the New Runway

Cross-wind Coverage	Runway 12/30
Cross-wind component of less than 10 kt	99.33%
Cross-wind component of less than 13 kt	99.78%
Cross-wind component of less than 20 kt	99.91%

(2) Visibility and Ceiling

The visibility and cloud height has been also analyzed based on the three years observation data from 1985 to 1987 as shown in Table 10.4.2.

The airport operating minima for instrument approach procedure using VOR/DME is studied as follows:

Ceiling 716 ft
Visibility 2400 m

The usability factor of the airport under the above operating minima and wind coverage is summarized as shown in Table 10.4.3. Although average usability factor is high, it should be noted that Pokhara is located in the heaviest rainfall district of Nepal.

Table 10.4.2 Co-relation between Visibility and Ceiling at Pokhara Airport

CEILING (FT)	VISIBILITY (M) 0-400	-800	-1200	-1400	-1500	-1600	-2400	-3200	3200-	TOTAL
0-100	26	2	2	0	0	0	7	3	6	46
-200	0	0	0	0	0	0	0	0	0	0
-300	0	0	0	0	0	0	0	0	0	0
-400	0	0	0	0	0	0	0	0	1	1
-500	0	0	0	0	0	0	0	0	1	1
-600	0	0	0	0	0	0	1	3	0	4
-700	0	0	0	0	0	0	0	0	0	0
-800	0	0	0	0	0	0	0	0	0	0
-900	0	0	0	0	0	0	1	0	5	6
-1000	0	0	0	0	0	0	0	0	0	0
-1100	0	0	0	0	0	0	3	0	8	11
-1200	0	0	0	0	0	0	0	0	0	0
-1300	0	0	0	0	0	0	0	0	0	0
-1400	0	0	0	0	0	0	0	0	0	0
-1500	0	0	0	0	0	0	0	0	0	0
1500-	2	3	62	0	8	9	100	203	3312	3699
<5/8 *	26	12	27	0	1	2	27	65	7584	7744
TOTAL	54	17	91	0	9	11	139	274	10917	11512

* : Cloud amount < 5/8

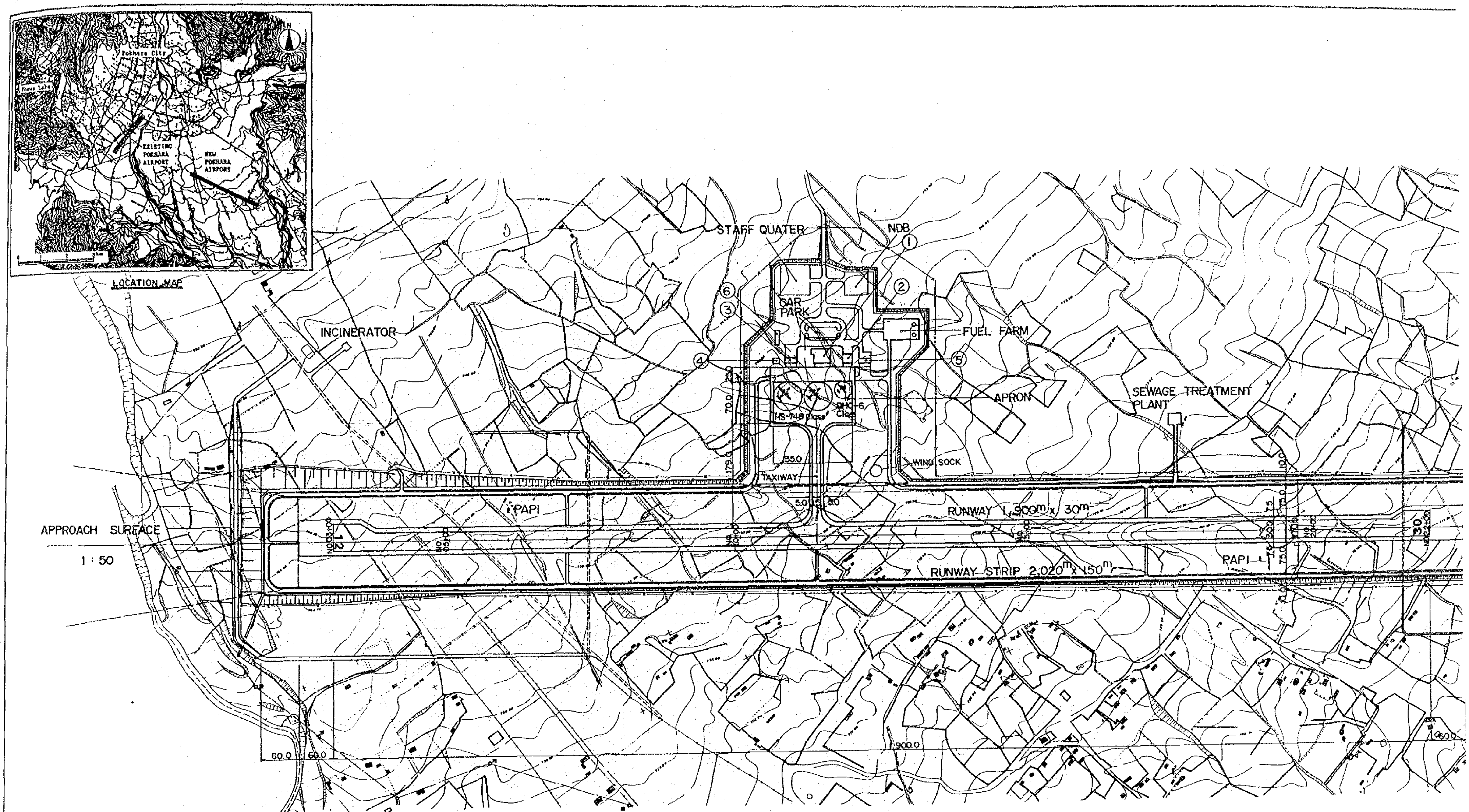
Table 10.4.3 Usability Factor of Pokhara Airport

(Unit=%)

Average through the year	96.87
Spring	97.80
Summer	93.57
Autumn	96.92
Winter	98.80

10.4.2 Airport Layout Planning

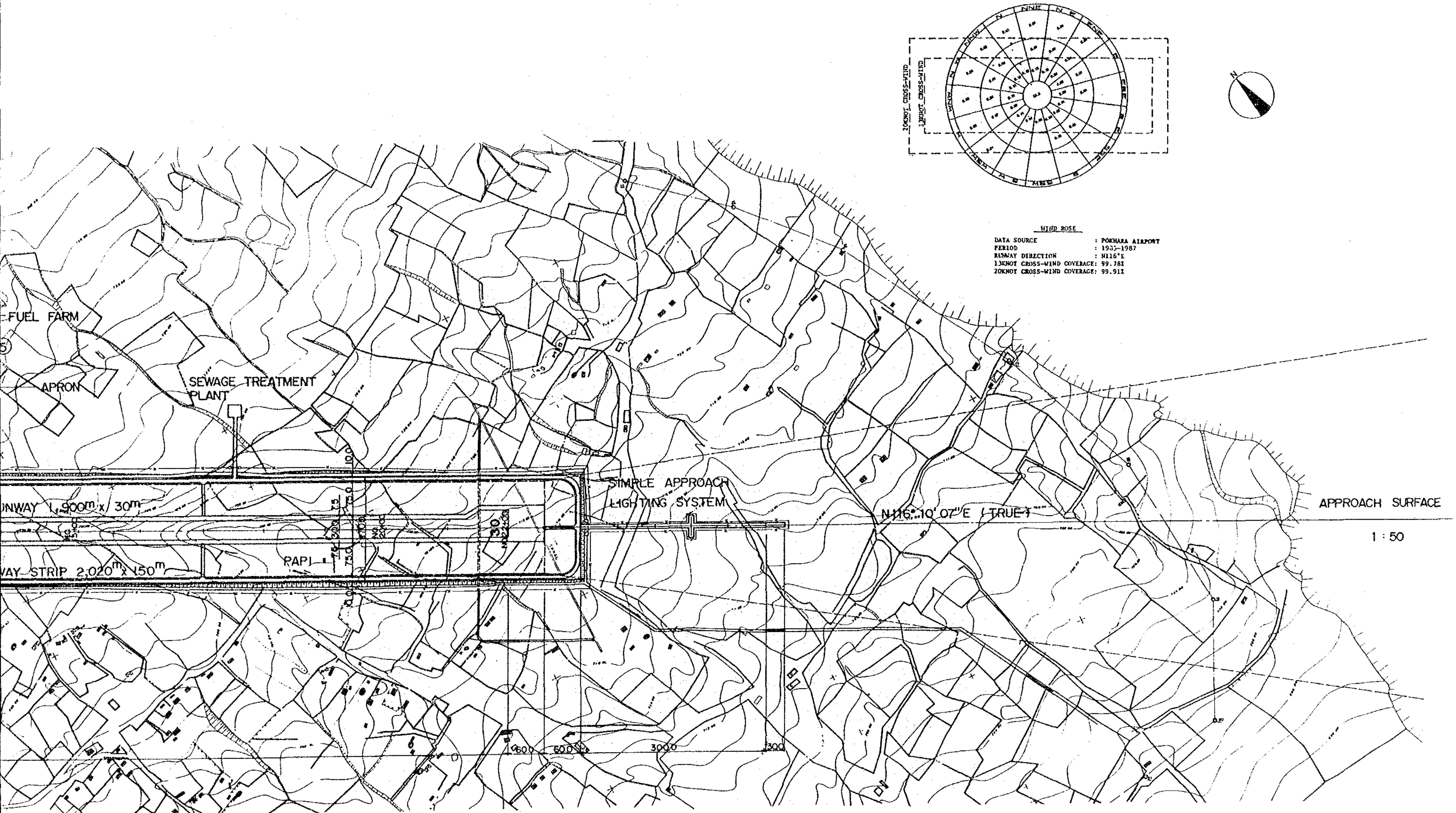
Based on the airport facility requirements mentioned in Section 10.2, the airport layout plan for Phase I and II were prepared as shown in Figs. 10.4.2 and 3. The location of the new runway which has been established in the previous studies was examined based on the result of the obstruction survey at the new airport site.



RUNWAY DATA	
EFFECTIVE GRADIENT	0.99 %
PERCENTAGE WIND COVERAGE	99.8 %(13KNOT) 99.9 %(20KNOT)
INSTRUMENT RUNWAY	✓
PAVEMENT STRENGTH	PCN 8/F/A/W/T
APPROACH SURFACES	1 : 50
RUNWAY LIGHTING	HIRL
RUNWAY MARKING	ALL WEATHER
NAVIGATIONAL AIDS	SALS, PAPI

AIRPORT DATA	
AIRPORT ELEVATION	737m
AIRPORT REFERENCE POINT (ARP)	LAT 28°11'04"N LNG 84°00'48"E
AIRPORT REFERENCE TEMPERATURE	27.8 °C
AIRPORT AND TERMINAL NAVAIDS	DVOR/DME, NDB
MAGNETIC VARIATIONS	1° W
CRASH PROTECTION PROVIDED	CAT-3

BUILDING	
①	PASSENGER TERMINAL BUILDING
②	CARGO TERMINAL BUILDING
③	ADMINISTRATION OFFICE AND CONTROL TOWER
④	METEOROLOGICAL OFFICE
⑤	FIRE STATION
⑥	GENERATOR HOUSE

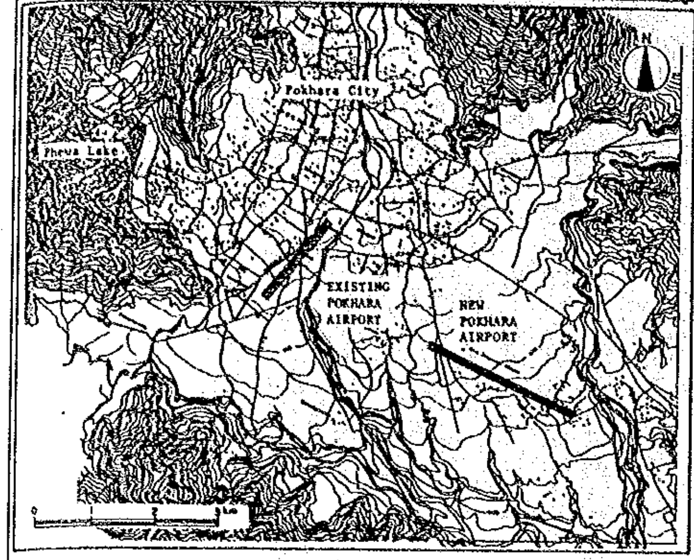


BUILDING
PASSENGER TERMINAL BUILDING
CARGO TERMINAL BUILDING
ADMINISTRATION OFFICE AND CONTROL TOWER
METEOROLOGICAL OFFICE
FIRE STATION
GENERATOR HOUSE

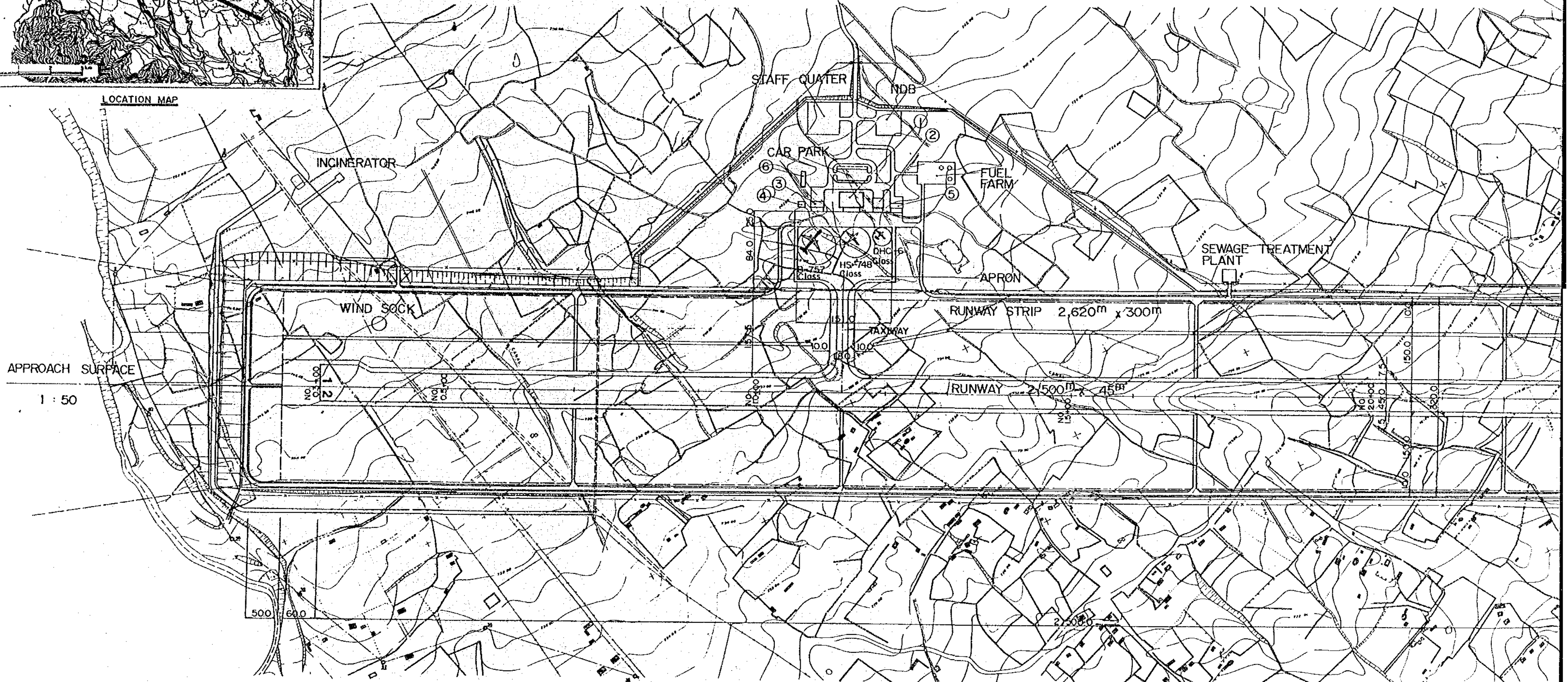
Fig. 10.4.2

AIRPORT MASTER PLAN OF NEW POKHARA AIRPORT PHASE I DEVELOPMENT (YEAR 2000)

0 50 100 200 300
SCALE IN METERS



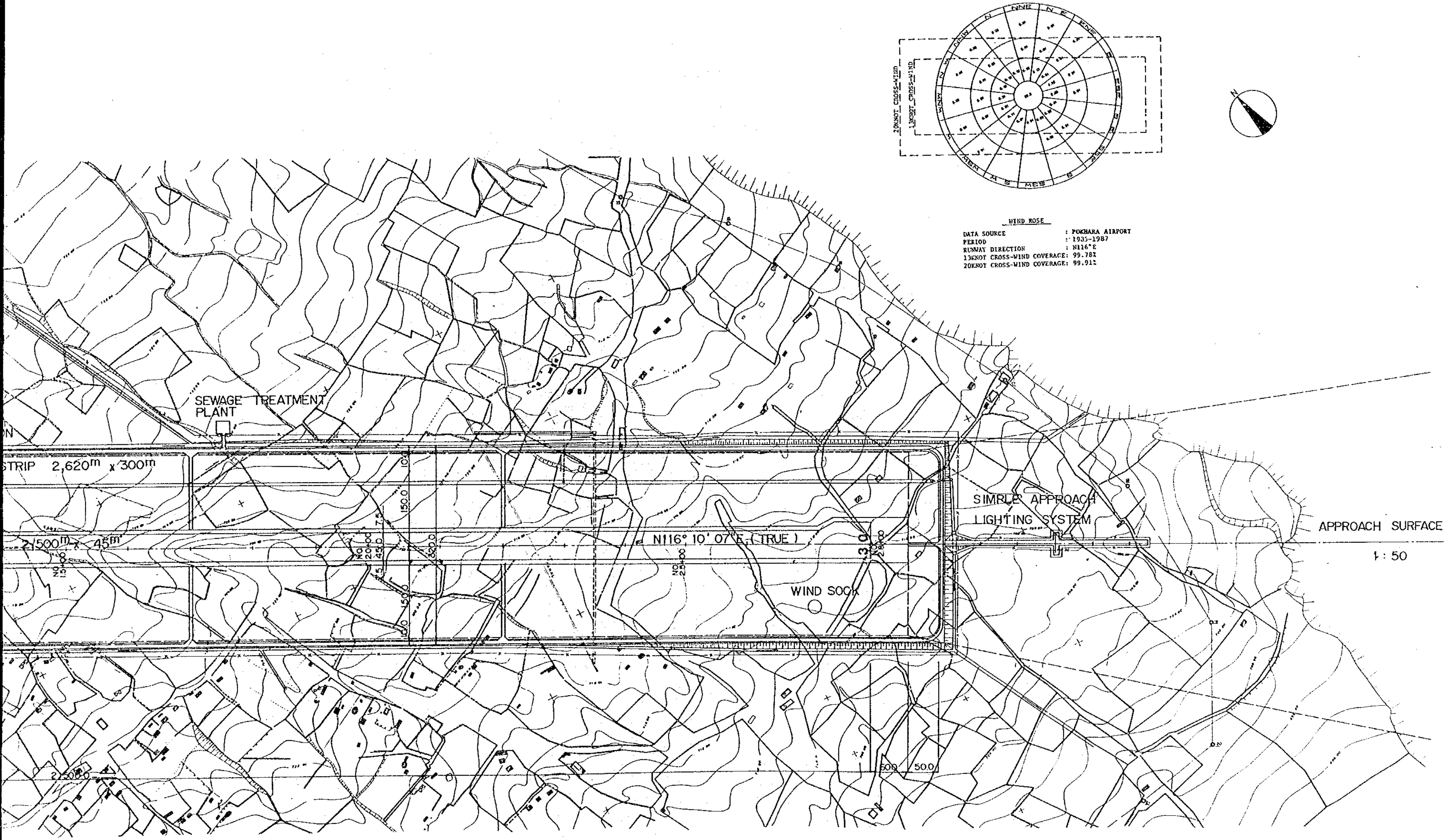
LOCATION MAP



RUNWAY DATA	
EFFECTIVE GRADIENT	0.975 %
PERCENTAGE WIND COVERAGE	99.8 % (13KNOT) 99.9 % (20KNOT)
INSTRUMENT RUNWAY	
PAVEMENT STRENGTH	PCN48/F/B/W/T
APPROACH SURFACES	1 : 50
RUNWAY LIGHTING	HIRL
RUNWAY MARKING	ALL WEATHER
NAVIGATIONAL AIDS	SALS , PAPI

AIRPORT DATA	
AIRPORT ELEVATION	737 m
AIRPORT REFERENCE POINT (ARP)	LAT 28°11' 04" N LNG 84°00' 48" E
AIRPORT REFERENCE TEMPERATURE	27.8 °C
AIRPORT AND TERMNAL NAVAIDS	DVOR/DME , NDB
MAGNETIC VARIATIONS	1° W
CRASH PROTECTION PROVIDED	CAT-4

BUILDING	
①	PASSENGER TERMINAL BUILDING
②	CARGO TERMINAL BUILDING
③	ADMINISTRATION OFFICE AND CONTROL TOWER
④	METEOROLOGICAL OFFICE
⑤	FIRE STATION
⑥	GENERATOR HOUSE



BUILDING
PASSENGER TERMINAL BUILDING
CARGO TERMINAL BUILDING
ADMINISTRATION OFFICE AND CONTROL TOWER
METEOROLOGICAL OFFICE
FIRE STATION
GENERATOR HOUSE

Fig. 10.4.3

AIRPORT MASTER PLAN OF
NEW POKHARA AIRPORT
PHASE II DEVELOPMENT (YEAR 2010)

0 50 100 200 300
SCALE IN METERS

CHAPTER 11 MASTER PLAN OF STOL AIRPORTS

CHAPTER 11 MASTER PLAN OF STOL AIRPORTS

11.1 General

Nine STOL airports have been selected as key airports for master planning as outlined in Chapter 8. They are;

Dolpa, Jomsom, Jumla, Lukla, Sanfebagar, Simikot, Phaplu, Syangboche, and Mugu.

These airports need development work as listed in Table 11.1.1.

Three of these, Jomsom Airport, Simikot Airport, and Lukla Airport have been investigated in detail after carrying out a topographical survey and CBR test in this study. Syangboche Airport and Mugu Airport have been reviewed in a Feasibility Study previously prepared by DCA. The other four airports have been summarized referring to above five airports as model airports.

Table 11.1.1 Development Works at Key Airports

Name of Airport	Runway		Buil-dings	Navaids	Other Works
	Exten-tion	paving			
Dolpa	-	o			High speed turn off (See Fig. 11.7.1)
Jomsom	o	o			Protection works for river erosion
Jumla	-	o	*		* Under construction
Lukla	-	o			Additional apron
Sanfebagar	o	o			Protection works for river erosion
Simikot	o	o			New apron Paving is difficult due to freezing
Phaplu	-	o	o	o	
Syangboche	*	o	o		* DCA plans to expand to introduce DHC-6
Mugu	*	o	o	o	* DCA plans newly to construct

Note: Symbol of o indicates necessary works.