5-2-3 Overrun

No improvement is planned for the overrun for either of the development phases.

5-2-4 Security Fence

Security fence with a minimum height of 1.8 m is planned in Phase I.

5-3 Terminal Area Facilities

5-3-1 Passenger Terminal Building

The improvement work under Phase I primarily consists of remodelling of the existing terminal building to meet the design year demand by eliminating the existing imbalance in capacity among the passenger and baggage processing facilities, while under Phase II the facilities are both expanded and reorganized to increase the overall capacity.

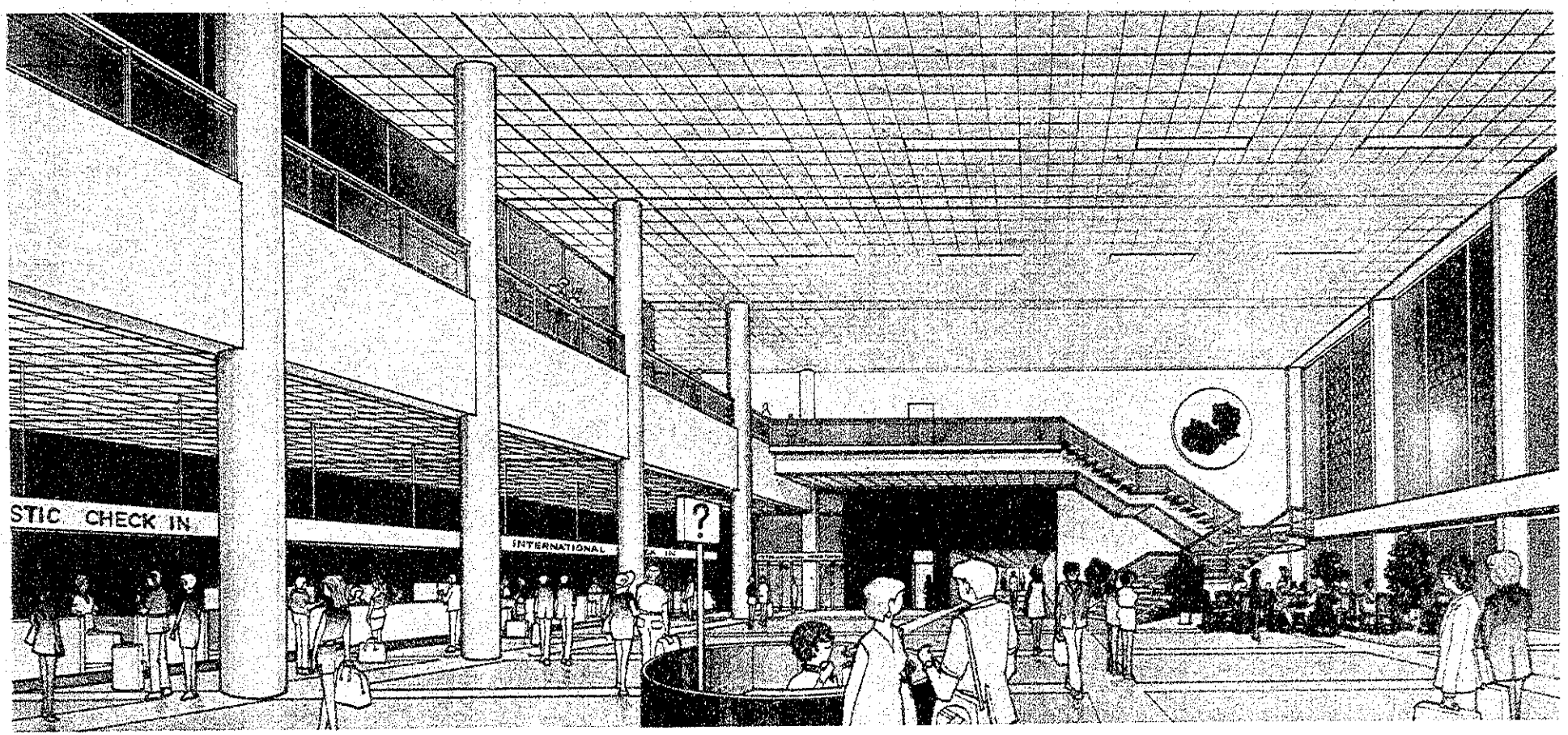
In Phase I, the VIP facility on the ground floor is relocated to a separate new building, and the vacated space is utilized for improving the immigration control and the baggage claim area where a baggage claim conveyor system is newly installed. The new VIP building is sited between the control

building and the fire station which is the only suitable space available to accommodate the VIP building complete with its exclusive car parking and apron.

To improve domestic passenger flow, new baggage conveyors are installed on the ground floor for the domestic departure and arrival services. The police office and the first-aid facility are relocated to the landside area on the ground floor of the building to accommodate this change as shown in Fig. 5-6A.

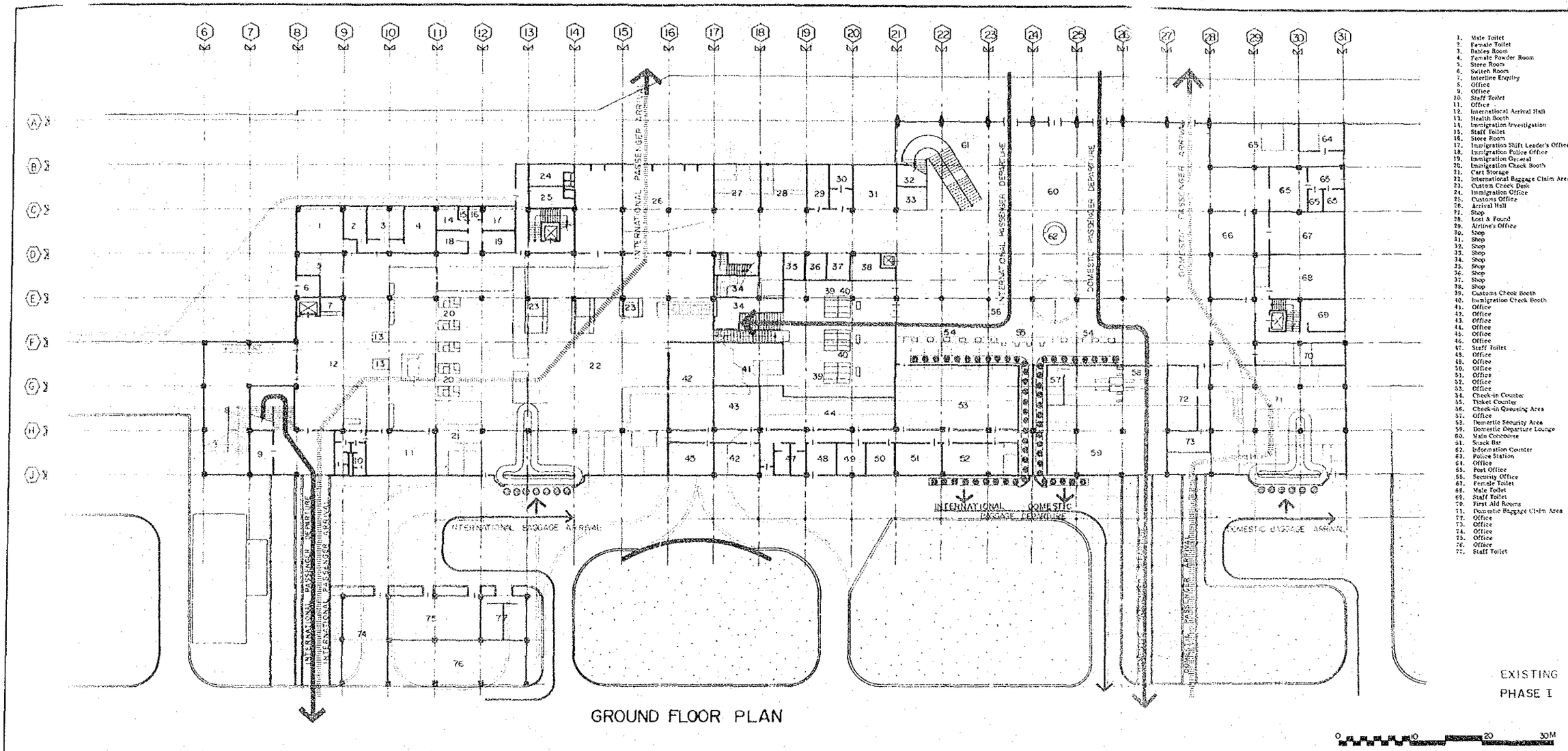
Also under Phase I, signs, flight information board and public address system are to be renewed and equipment relocated to appropriate locations to ensure efficient overall functioning of the terminal. The air-conditioning, water supply, sanitation and electric supply systems are renewed so as to restore the due functional performance expected of them.

In Phase II, passenger movement is to be facilitated with the addition of the boarding bridges and holding lounges in the airside area, where additional airline offices are also created. Figs. 5-7A and 5-7B show the reorganized layout plans of the building after expansion to meet the design year demand with utmost efficiency. To enhance passenger comfort in the building, air-conditioning is planned for the entire building.



INTERIOR VIEW OF MAIN CONCOURSE

INTERIOR VIEW OF CUSTOMS INSPECTION AREA

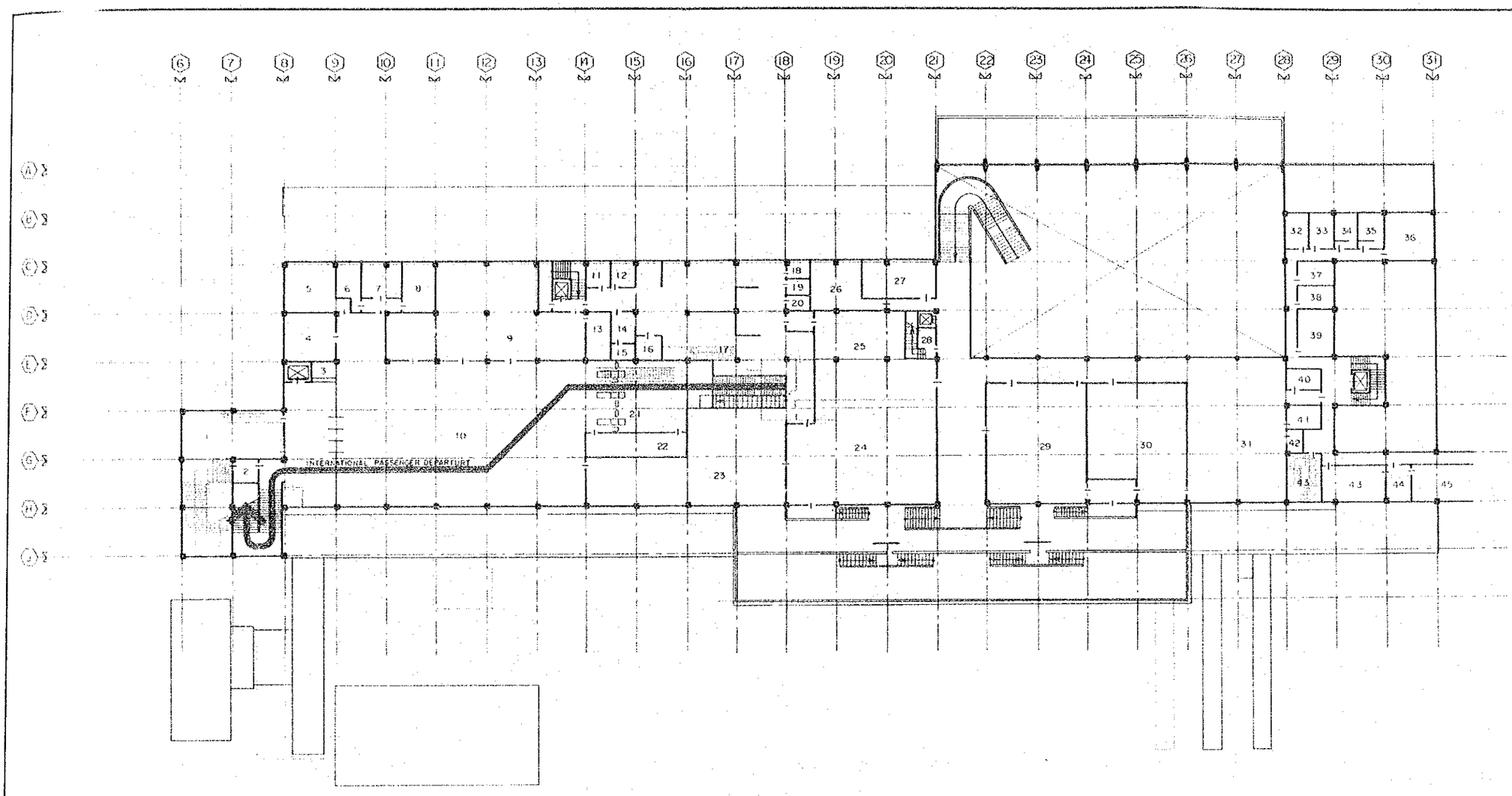


GROUND FLOOR PLAN

LUS A INTERNATIONAL AIRPORT DEVELOPMENT PROJECT
REPUB F ZAMBIA
FEASIBILITY STUDY, 1985

Fig. 5-6A
JAPAN INTERNATIONAL COOPERATION AGENCY

PASSENGER TERMINAL BUILDING		DWG
GROUND FLOOR PLAN	PHASE I	NO.



1. First Class Lounge
2. Store Room
3. Interline Enquiry
4. First Class Lounge
5. Male Toilet
6. Female Toilet
7. Babies room
8. Female Powder Room
9. Duty Free Shop
10. Departure Lounge
11. Foods Beverage Manager's Office
12. Excecutive Chefs Office
13. Change Room
14. Freezer
15. Freezer
16. Airline Equipment Store
17. Kitchen
18. Store
19. Store
20. Store
21. Security Check
22. Office
23. Airside Snack Bar
24. Public Restaurant
    (can be used as airside restaurant)
25. Public Restaurant
26. Female Toilet
27. Male Toilet
28. Access to Roof
29. Public Lounge
30. Bar Lounge
31. Public Bar
32. Security Permit Office
33. Airport Tax Office
34. Female Toilet
35. Male Toilet
36. Accounts Office
37. Accountants Office
38. RCASO
39. Registry
40. Store
41. Store
42. Store
43. Office
44. Office
45. Office

EXISTING

PHASE I

0 10 20 30M

SECOND FLOOR PLAN

LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT

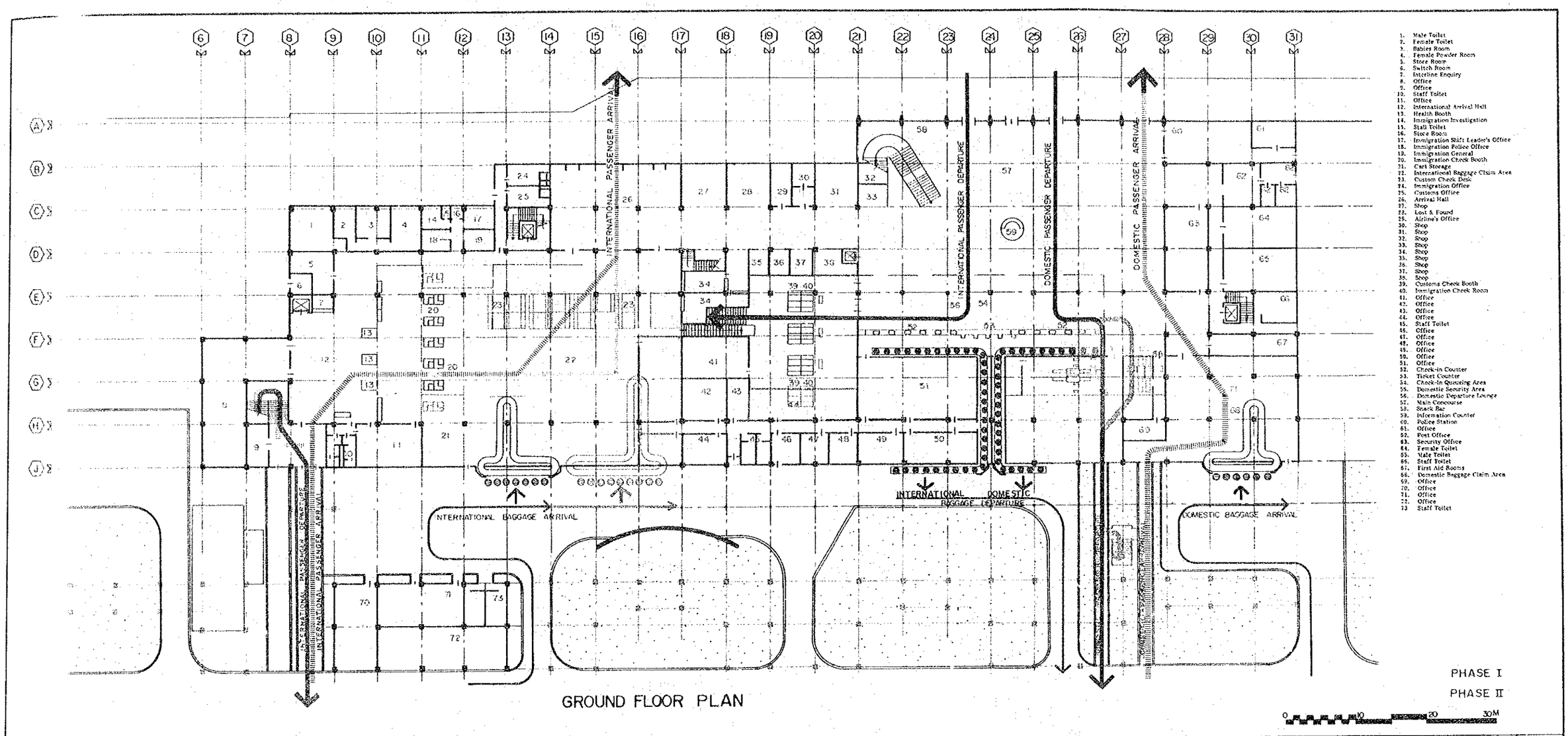
REPUBLIC OF ZAMBIA

FEASIBILITY STUDY, 1985

Fig. 5-68

JAPAN INTERNATIONAL COOPERATION AGENCY

PASSENGER TERMINAL BUILDING		D WG
SECOND FLOOR PLAN	PHASE I	NO.

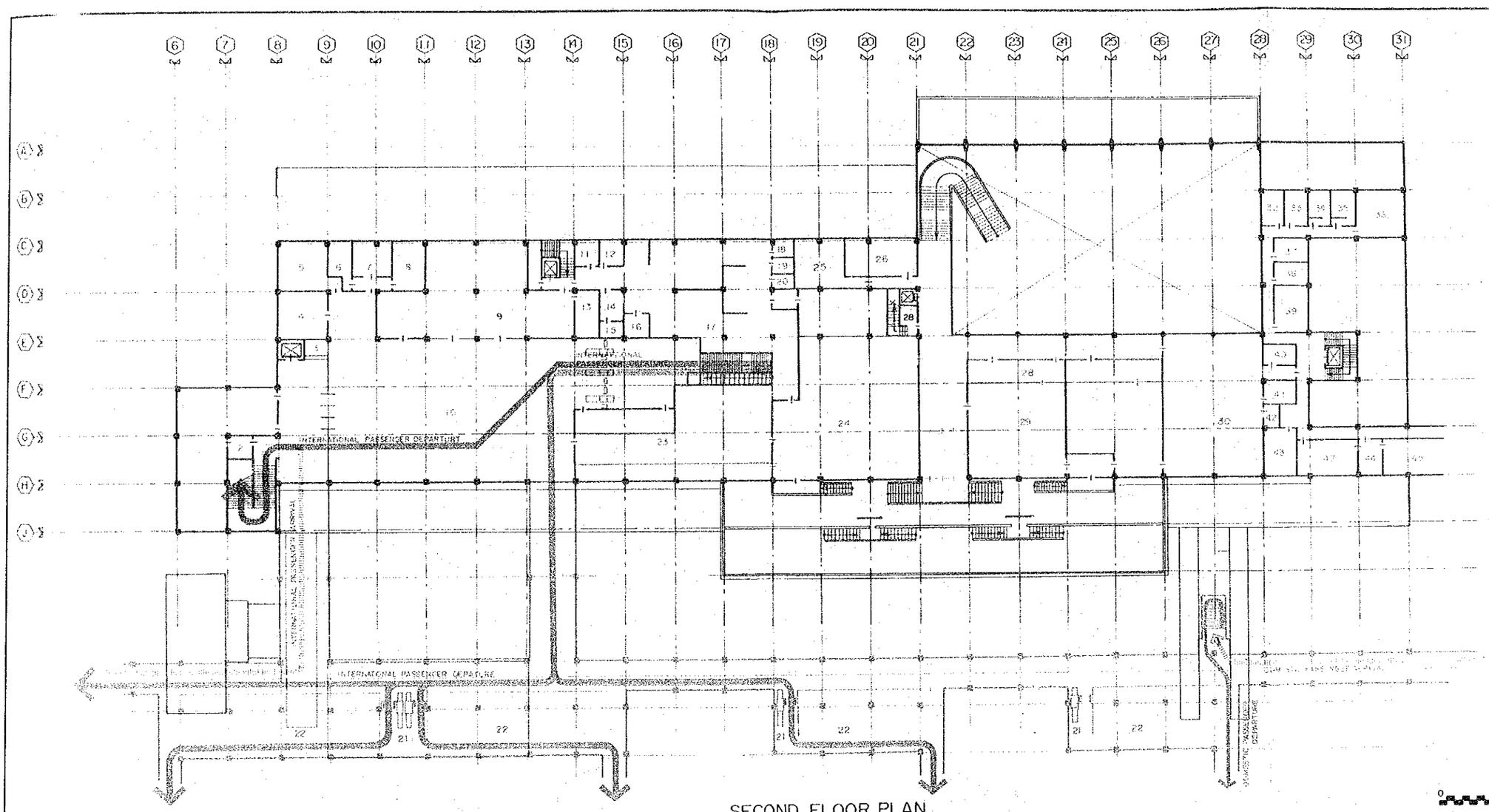


GROUND FLOOR PLAN

LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT
REPUBLIC OF ZAMBIA
FEASIBILITY STUDY, 1985

Fig. 5-7A
JAPAN INTERNATIONAL COOPERATION AGENCY

PASSENGER TERMINAL BUILDING		DWG
GROUND FLOOR PLAN	PHASE II	NO.



1. First Class Lounge
2. Store Room
3. Interline Enquiry
4. First Class Lounge
5. Male Toilet
6. Female Toilet
7. Babies room
8. Female Powder Room
9. Duty Free Shop
10. Departure Lounge
11. Foods Beverage Manager's Office
12. Excecutive Chefs Office
13. Change Room
14. Freezer
15. Freezer
16. Airline Equipment Store
17. Kitchen
18. Store
19. Store
20. Store
21. Security Check
22. Office
23. Airside Snack Bar
24. Public Restaurant
    (can be used as airside restaurant)
25. Public Restaurant
26. Female Toilet
27. Male Toilet
28. Access to Roof
29. Public Lounge
30. Bar Lounge
31. Public Bar
32. Security Permit Office
33. Airport Tax Office
34. Female Toilet
35. Male Toilet
36. Accounts Office
37. Accountants Office
38. RCASO
39. Registry
40. Store
41. Store
42. Store
43. Office
44. Office
45. Office

PHASE I
PHASE II

0 10 20 30M

SECOND FLOOR PLAN

LU AKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT
REP IC OF ZAMBIA
FEASIBILITY STUDY, 1985

Fig.5--7B
JAPAN INTERNATIONAL COOPERATION AGENCY

PASSENGER TERMINAL BUILDING		D WG
SECOND FLOOR PLAN	PHASE II	NO.

5-3-2 Control Building

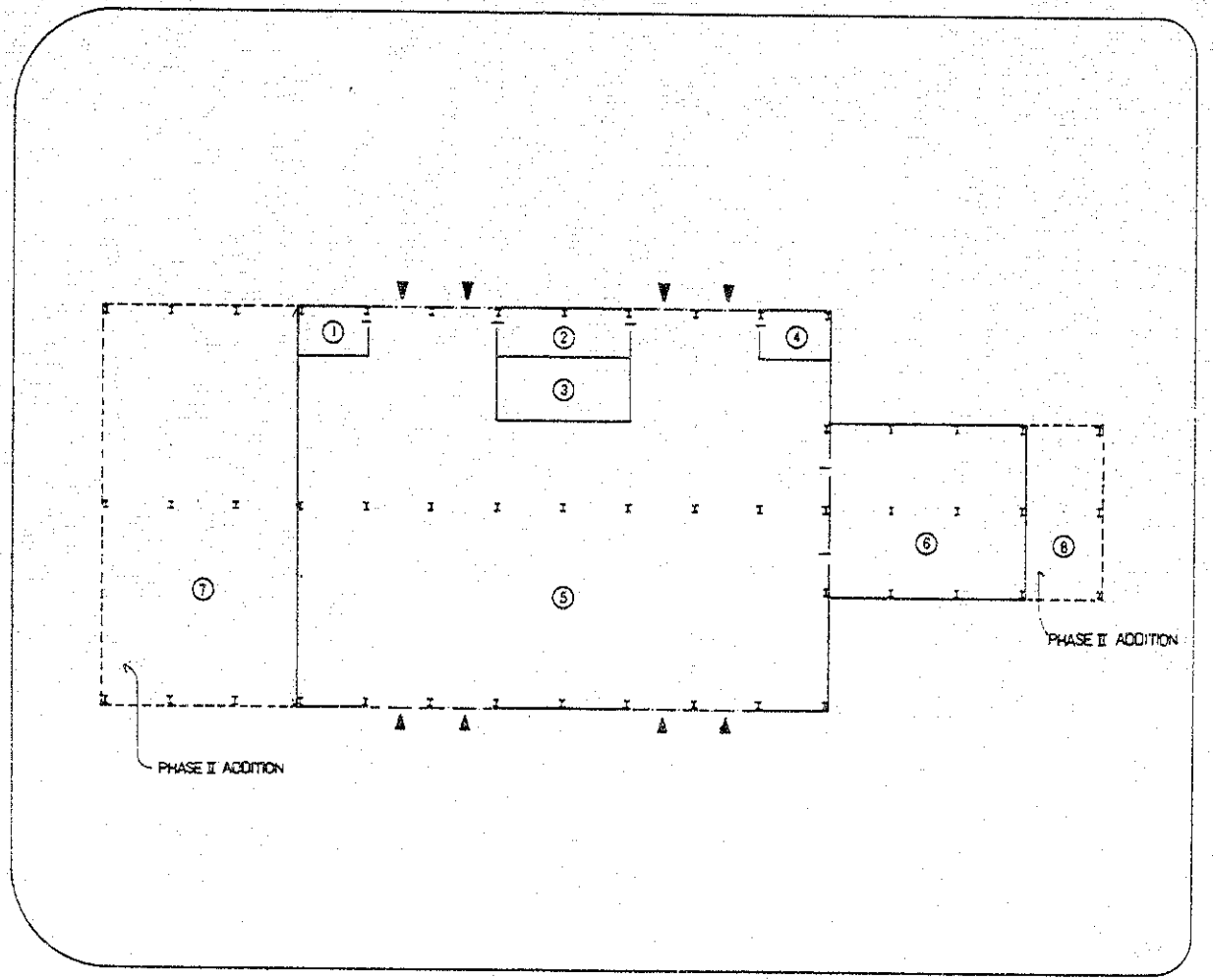
In Phase I water-proofing of the building and the facilities and equipment installed in the building are renewed, and the overall interior layout is reorganized to accommodate the renewal.

No improvement is planned for Phase II.

5-3-3 Cargo Terminal Building

The existing cargo terminal building is completely replaced by a new building in Phase I, and is expanded in Phase II as shown in Fig. 5-8.

In the new cargo terminal building, the cargo handling area and the office area are clearly separated to improve the work environment, as well as to facilitate the planned expansion in Phase II.



1. OFFICE
2. OFFICE
3. SPECIAL ISSUE STORAGE
4. OFFICE
5. BOND STORAGE
6. OFFICE
7. BOND STORAGE
8. OFFICE

GROUND FLOOR PLAN

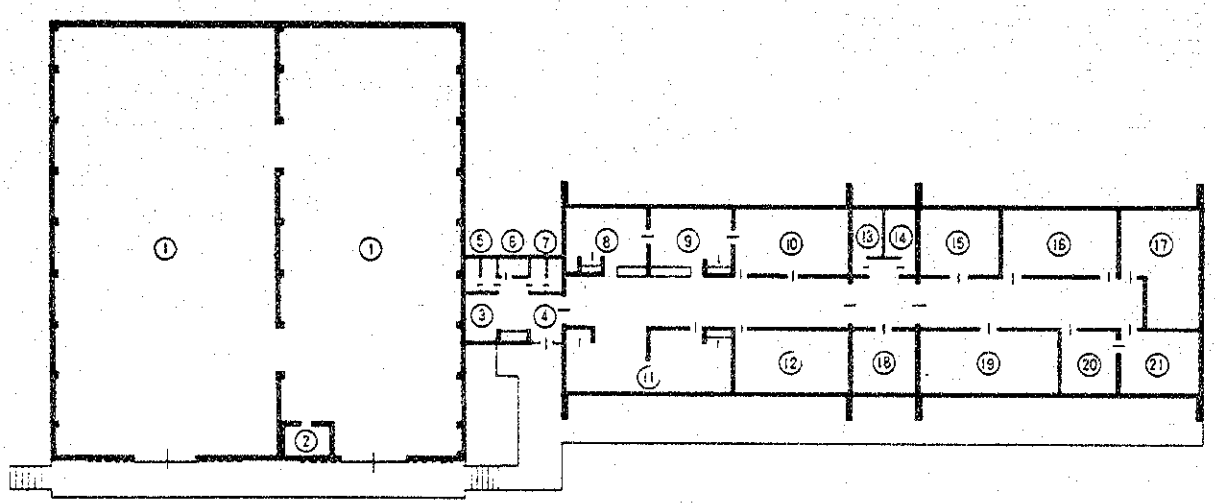
0 20 40 60M

LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT
REPUBLIC OF ZAMBIA
FEASIBILITY STUDY, 1985
Fig. 5 - 8
JAPAN INTERNATIONAL COOPERATION AGENCY

FREIGHT SHED	DWG
GROUND FLOOR PLAN	PHASE I-II NO.

5-3-4 Customs Office and Bonded Warehouse

Keeping the relative position of the existing two buildings as is, either building is expanded under Phase I to the opposite direction away from each other. In Phase II, first floor is added to the Customs office building, and the bonded warehouse is given an added storage capacity by introducing a new rack system, etc. as shown in Figs. 5-9A and 5-9B.



GROUND FLOOR PLAN

1. WARE HOUSE
2. STRONG ROOM
3. WAITING
4. ENTRANCE
5. WC
6. TEA
7. WC
8. CASH OFFICE
9. CASH OFFICE
10. GENERAL OFFICE
11. EXAMINING
12. EXAMINING
13. WC
14. WC
15. RECORD
16. BOARD ROOM
17. FILING
18. STORE
19. GENERAL
20. SECRETARY OFFICE
21. SENIOR EXAMINING OFFICER

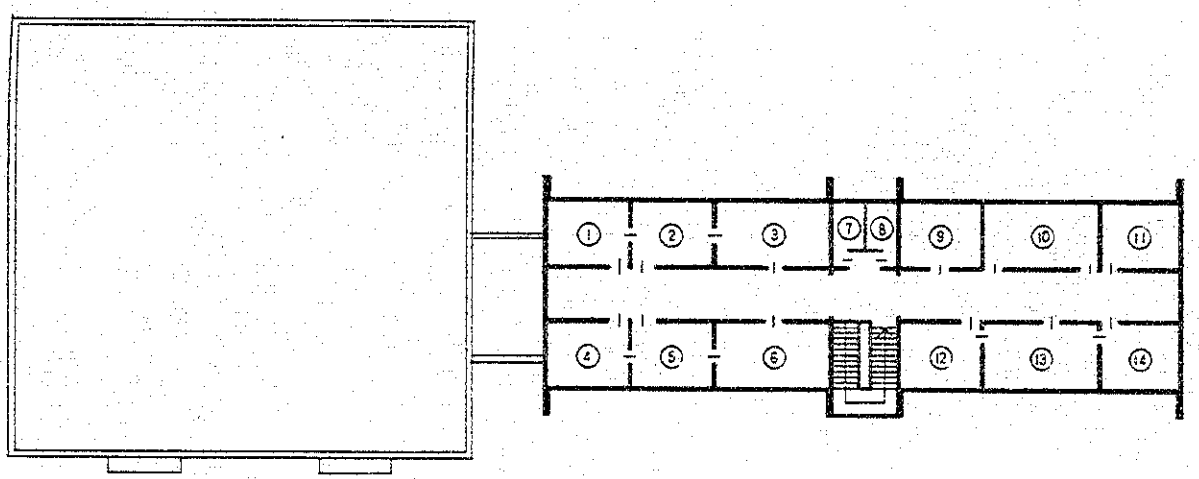
0 5 10 20 25M

LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT
REPUBLIC OF ZAMBIA
FEASIBILITY STUDY, 1985

Fig. 5-9 A
JAPAN INTERNATIONAL COOPERATION AGENCY

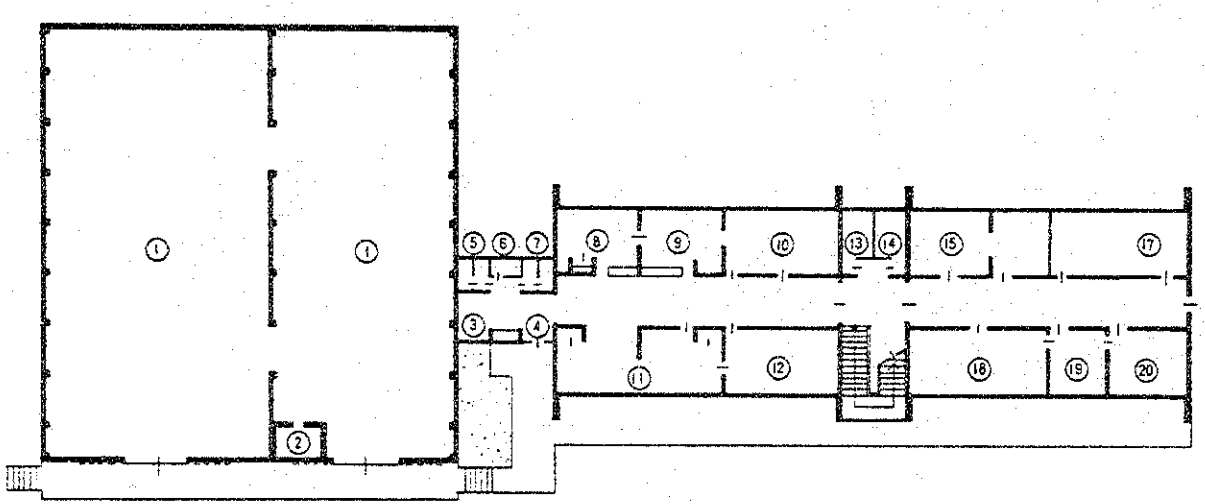
CUSTOMS BUILDING
GROUND FLOOR PLAN PHASE I

D W G NO



FIRST FLOOR PLAN

1. GENERAL OFFICE
2. GENERAL OFFICE
3. GENERAL OFFICE
4. GENERAL OFFICE
5. GENERAL OFFICE
6. GENERAL OFFICE
7. WC
8. WC
9. RECORD
10. BOARD ROOM
11. BOARD ROOM
12. ASSISTANT EXAMINING OFFICER
13. SECRETARY
14. SENIOR EXAMINING OFFICER



GROUND FLOOR PLAN

1. WARE HOUSE
2. STRONG ROOM
3. WAITING
4. ENTRANCE
5. WC
6. TEA
7. WC
8. EXAMINING
9. EXAMINING
10. CASH OFFICE --- CASH COUNTER
11. EXAMINING
12. EXAMINING
13. WC
14. WC
15. FILING
16. FILING
17. CONFERENCE ROOM
18. GENERAL OFFICE
19. GENERAL OFFICE
20. GENERAL OFFICE

0 25M

LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT

REPUBLIC OF ZAMBIA

FEASIBILITY STUDY, 1985

Fig. 5-9 B

JAPAN INTERNATIONAL COOPERATION AGENCY

CUSTOMS BUILDING

G·FLOOR PLAN, 1. FLOOR PLAN | PHASE II

D W G

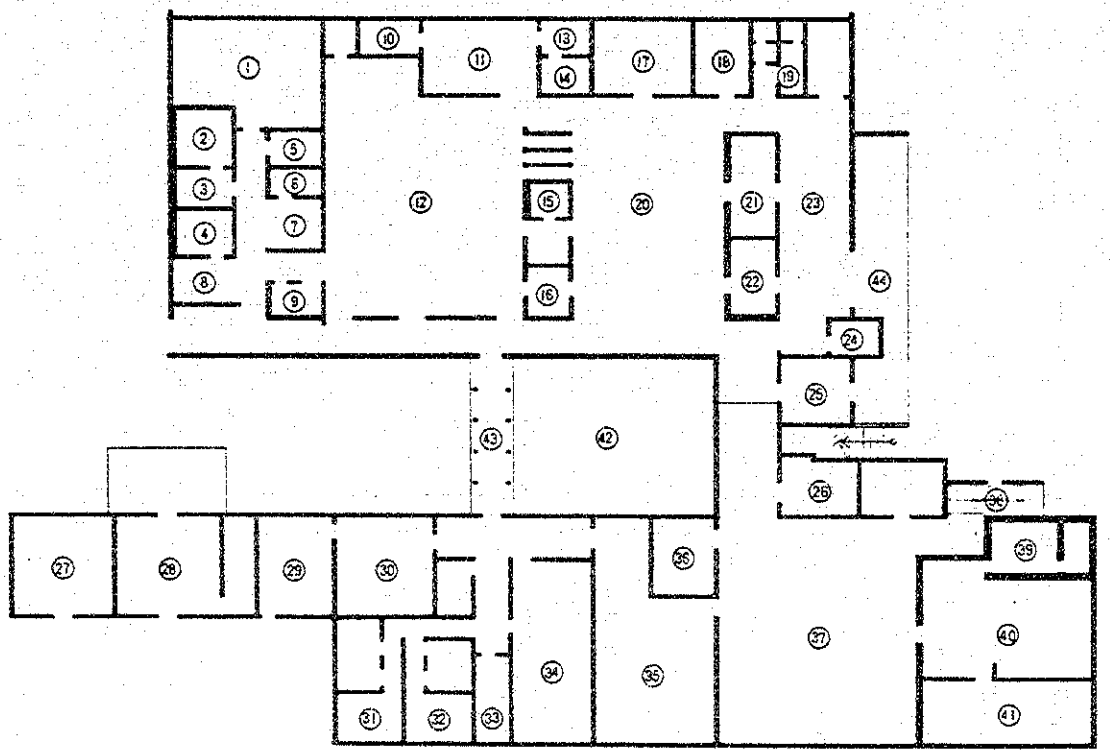
5-3-5 Fire Station

Hose-drying yard, doors, window panes, ladders etc. of the fire station are repaired or replaced as necessary, but no remodelling of the building structure is planned for the whole project life. As in the case of other terminal area facilities, the water supply, sanitary and other utility facilities are renewed in Phase I. No particular improvement is planned for Phase II.

5-3-6 Catering Facility

In Phase I the catering building is expanded northward where ample space is available, while maintaining the convenient position for access to the ICS restaurant of the same management located in the terminal building. The Phase I improvement also includes relocation of the kitchen to the expanded area of the catering building, and provision of elevated floor to permit easy loading/unloading on and off the transportation trucks as shown in Fig. 5-10A.

In Phase II, another extension of the catering building is planned further northward as shown in Fig. 5-10B.



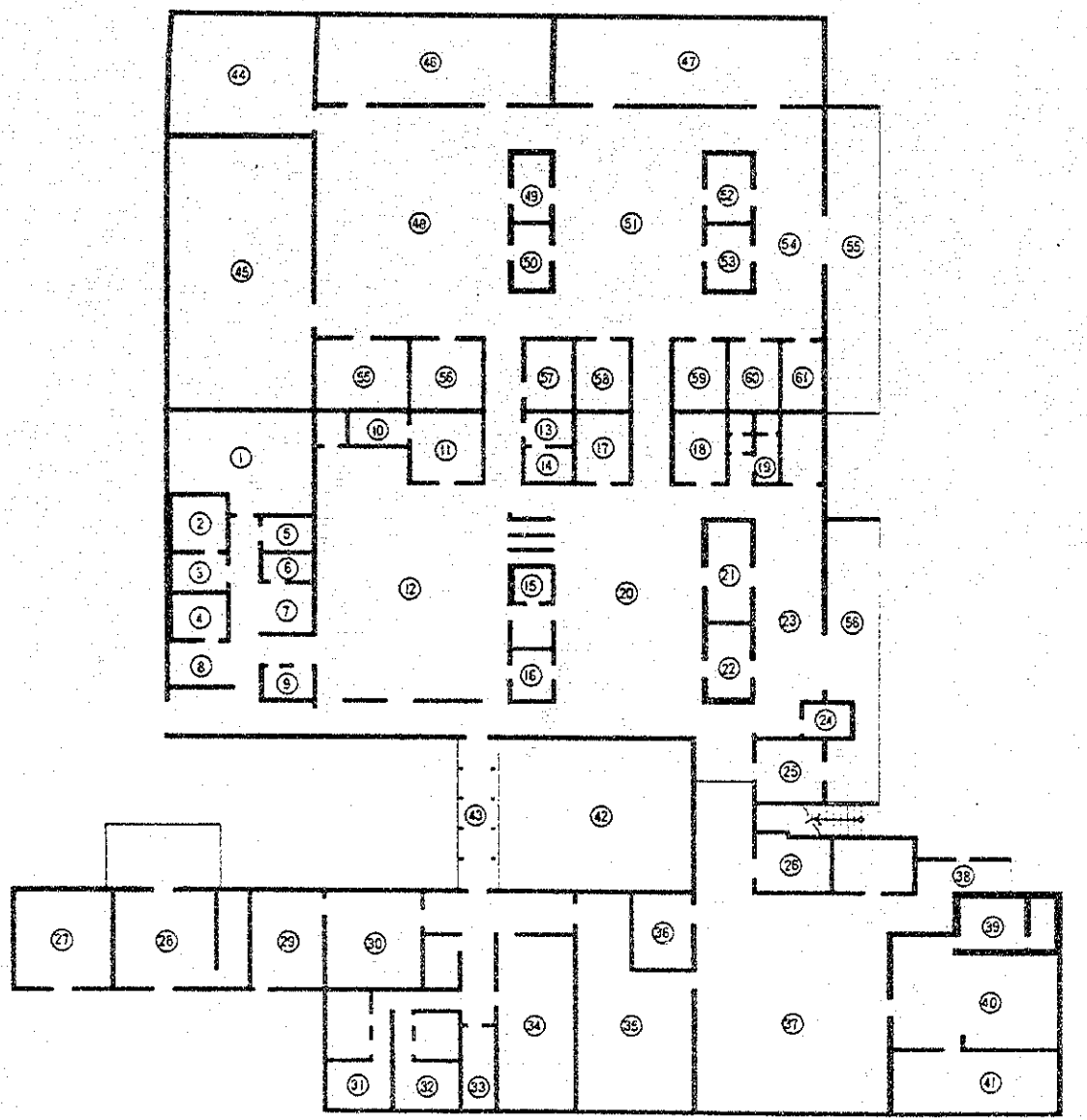
GROUND FLOOR PLAN

1. BULK STORE
2. FREEZER
3. COOLER
4. COOLER
5. COOLER
6. COOLER
7. MEAT PREP.
8. VEG. PREP.
9. STORE KEEPER
10. FLOUR STORE
11. PASTRY/BAKERY
12. KITCHEN
13. COOLER
14. FREEZER
15. COOLER
16. OFFICE
17. AIRLINE TABLEWARE
18. COFFEE PREP.
19. TOILET
20. SET UP
21. COOLER
22. COOLER
23. DISPATCH AREA
24. OFFICE
25. MOLDING AREA FOR CARRIERS
26. CARRIERS
27. STORE
28. STORE
29. WORK SHOP
30. YARD
31. MALE
32. FEMALE
33. LINEN
34. STAFF DINING
35. LAUNDRY
36. TABLEWARE
37. WASH UP
38. GARBAGE
39. COOLER
40. BULK STORE
41. BONDED STORE
42. OPEN COURT YARD
43. LINK
44. RAMP

0 5 10 25M

LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT
REPUBLIC OF ZAMBIA
FEASIBILITY STUDY, 1985
Fig. 5 - 10A
JAPAN INTERNATIONAL COOPERATION AGENCY

UPLIFT MEALS KITCHEN		D W G
GROUND FLOOR PLAN	PHASE I	NO



1. BULK STORE
2. FREEZER
3. COOLER
4. COOLER
5. COOLER
6. COOLER
7. MEAT PREP.
8. VEG. PREP.
9. STORE KEEPER
10. FLOUR STORE
11. STORE
12. COLD KITCHEN
13. COOLER
14. FREEZER
15. COOLER
16. OFFICE
17. STORE
18. COFFEE PREP.
19. TOILET
20. SET UP
21. COOLER
22. COOLER
23. DISPATCH AREA
24. OFFICE
25. HOLDING AREA FOR CARRIERS
26. CARRIERS
27. STORE
28. STORE
29. WORK SHOP
30. YARD
31. MALE
32. FEMALE
33. LINEN
34. STAFF DINING
35. LAUNDRY
36. TABLEWARE
37. WASH UP
38. GARBAGE
39. COOLER
40. BULK STORE
41. BONDED STORE
42. OPEN COURT YARD
43. LINK
44. OFFICE
45. COOLER BULK STORE
46. PASTRY
47. LAUNDRY LINEN
48. HOT KITCHEN
49. COOLER
50. COOLER
51. SET UP
52. COOLER
53. COOLER
54. DISPATCH AREA
55. RAMP
56. RAMP

GROUND FLOOR PLAN

0 5 10 75M

LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT
REPUBLIC OF ZAMBIA
FEASIBILITY STUDY, 1985

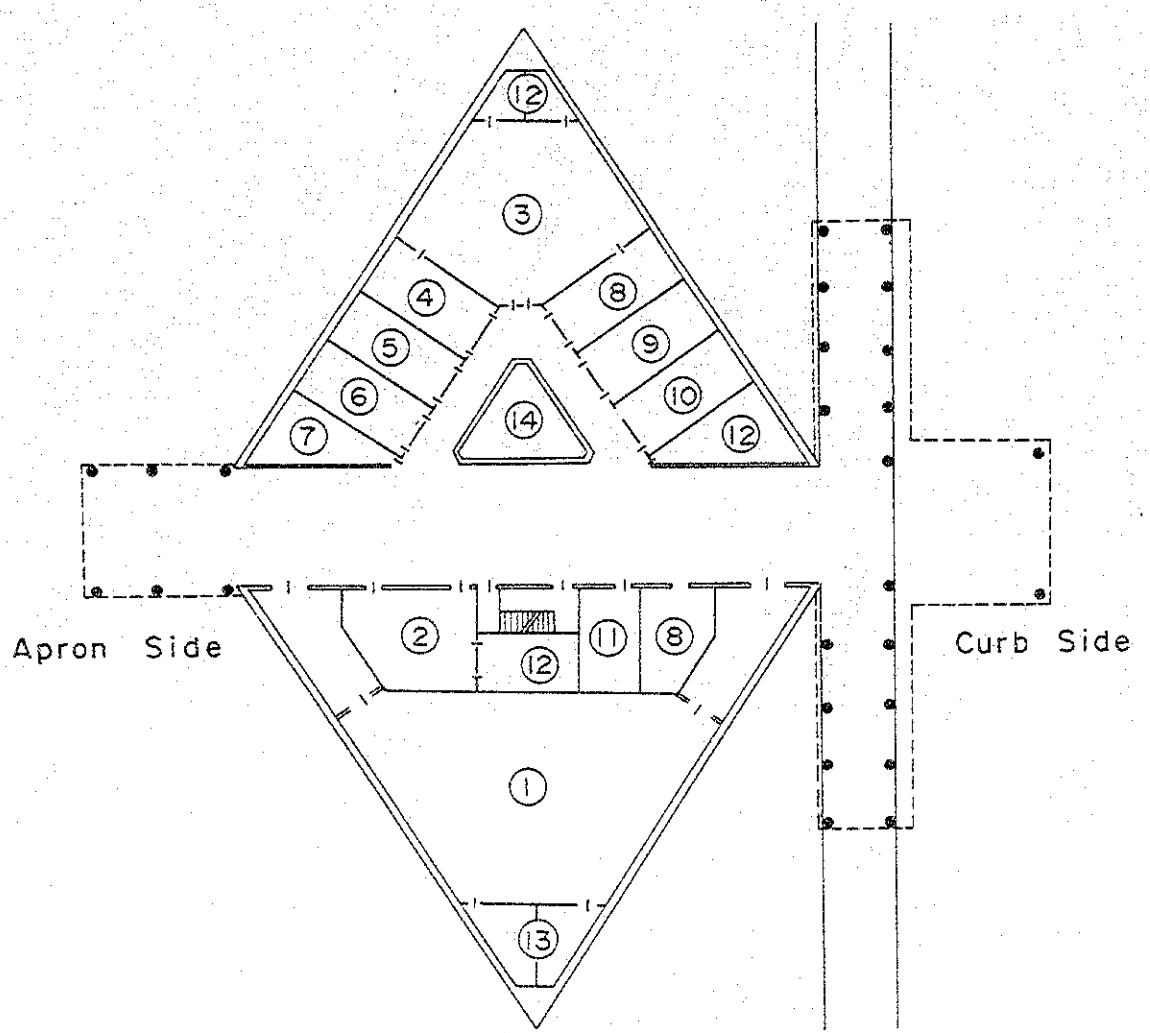
Fig. 5 - 10 B
JAPAN INTERNATIONAL COOPERATION AGENCY

UPLIFT MEALS KITCHEN
GROUND FLOOR PLAN
PHASE II

D W G
NO

5-3-7 VIP Building

To ensure smooth flow of passengers of wide-body aircraft the existing VIP room in the passenger terminal building is replaced entirely by a new VIP building on the east side of the control building as shown in Fig. 5-11.



1. PRESIDENCIAL ROOM
2. VVIP ROOM
3. VIP ROOM
4. DCA
5. CUSTOMS & IMMIGRATION OFFICE
6. PRESS & TV
7. STORAGE
8. PANTRY
9. SECURITY OFFICE
10. POLICE OFFICE
11. ATTENDANT'S
12. TOILET
13. DRESSING ROOM
14. POND

LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT	Fig 5 – 11	VIP BUILDING	DWG
REPUBLIC OF ZAMBIA — FEASIBILITY STUDY, 1985 — JAPAN INTERNATIONAL COOPERATION AGENCY		GROUND FLOOR PLAN	No.

5-3-8 Water Supply Facility

In Phase I, piping system is partially repaired or replaced as necessary, and a receiving tank is newly installed near the passenger terminal to secure stable supply of city water. Renewal of the elevated tank is also planned in Phase I as shown in Fig. 5-12.

In Phase II overall expansion of the water supply system is planned in order to accommodate the demand increase resulting from the overall facility expansion of the Airport planned for Phase II.

DEVICE	SPECIFICATIONS	Nos
Ⓐ water reservoir tank	200m³	1
Ⓑ supply pump	1.1KW	2
Ⓒ elevated strage tank	30 m³	1
	15 m³	1
Ⓓ fire pump	2.2KW	1

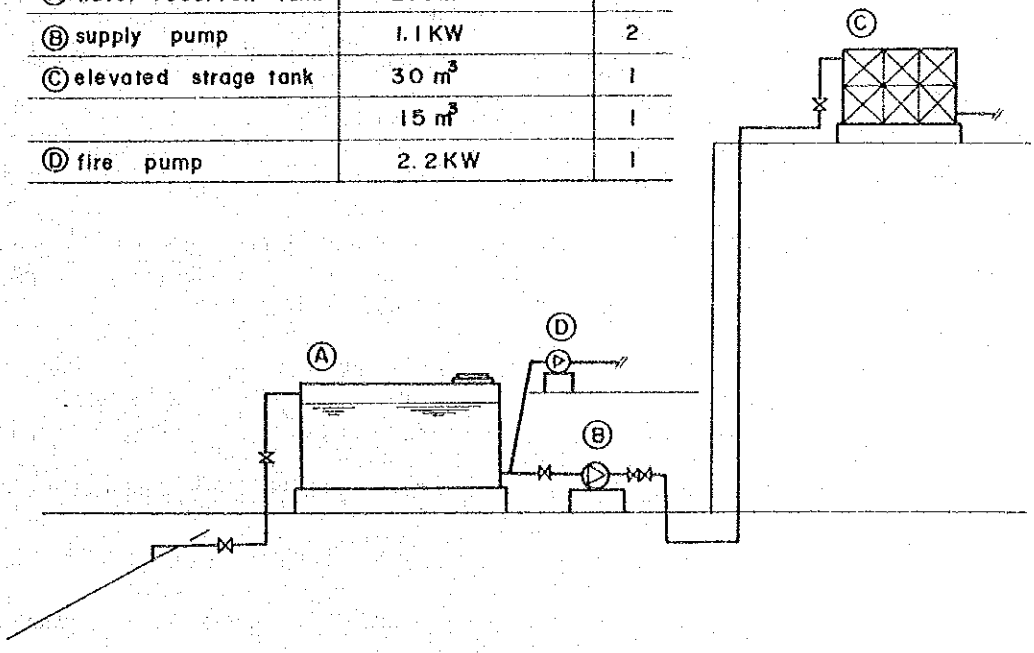


Fig. 5-12 Flow Chart of Water Supply System

5-3-9 Sewage Disposal Facility

Besides partial repairs and replacements on the plumbing system, the elevated tank and its accessories in the sanitary building are to be renewed in Phase I. No improvement is planned for Phase II.

5-3-10 Roads

No improvement is planned either for Phase I or Phase II.

5-3-11 Car Park

As for the private car parking, pavement repair is planned only on such area as is necessary to accommodate the design year traffic both in Phase I and in Phase II. Provision of adequate security measures is also planned in Phase I.

Taxi parking area is expanded to meet the design year demands both in Phase I and Phase II by converting part of the adjacent turfed area.

5-4 Air Navigation Facilities

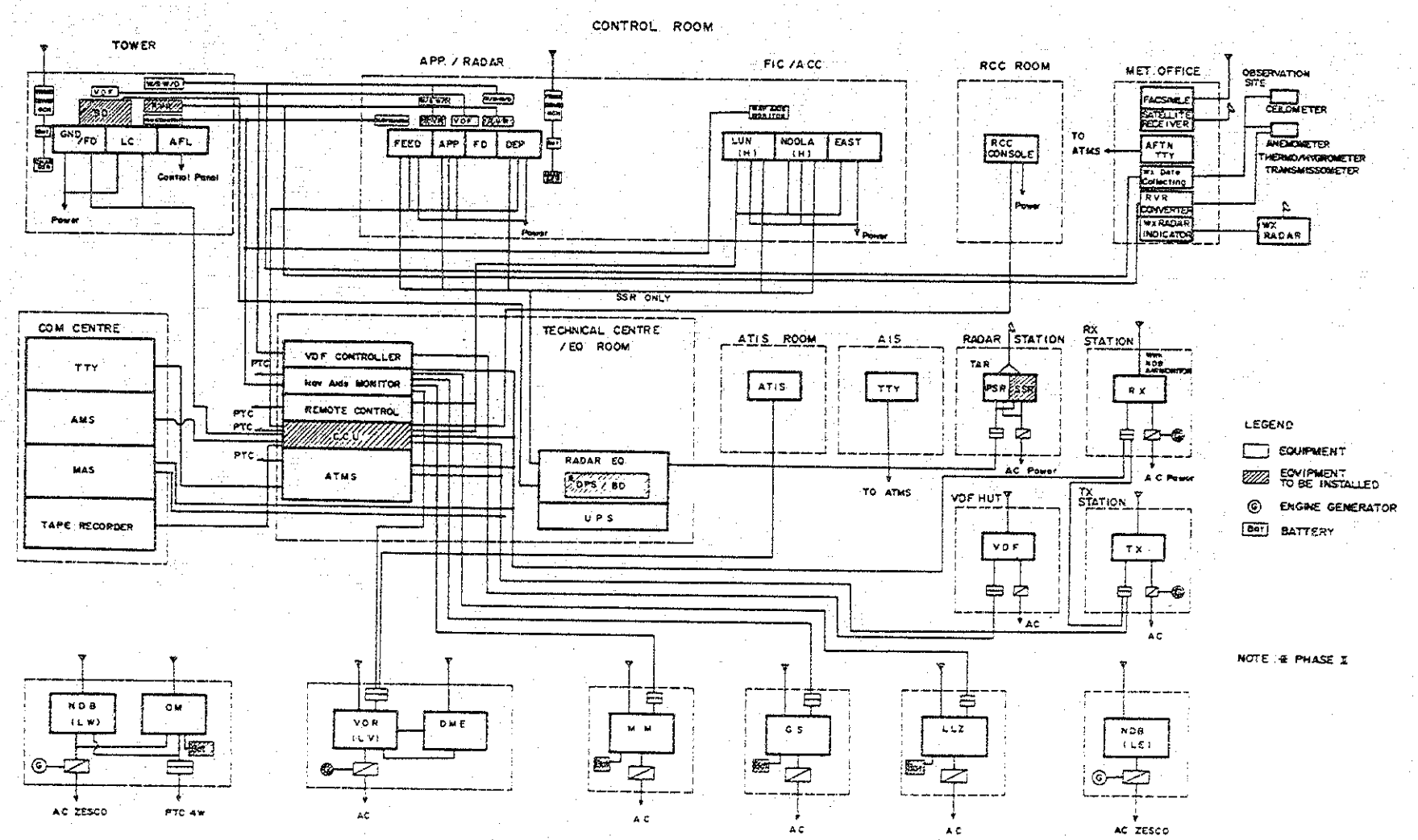
The improvement plan of the Air Navigation Facilities is outlined hereunder. Fig. 5-13 presents the block diagram of the improvement plan for the radio navigational aids, ATS, telecommunications and meteorological facilities, and Fig. 5-14 presents the power distribution system diagram.

5-4-1 Radio Navigational Aids

The improvement is made by renewing VOR/DME, ILS, NDB, etc. under Phase I, as well as by providing a new back-up power system for exclusive use of the navigational aids. MLS is planned to be introduced under Phase II.

5-4-2 Visual Aids

The improvement in Phase I includes the replacement of the approach, runway edge, runway centre line, taxiway edge, taxiway centre line lights and related power supply system including back-up power which is necessitated subsequent to the overlay of the runway and taxiway. Subsequent to the apron expansion, apron flood lights and taxiway edge lights are to be increased. Under Phase II taxiway centre line lights and taxiway edge lights are increased corresponding to the planned taxiway extension, and the airfield lights installed in Phase I are reinstalled after the relevant overlay work planned under Phase II as shown in Figs. 5-15A and 5-15B.



LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT

REPUBLIC OF ZAMBIA

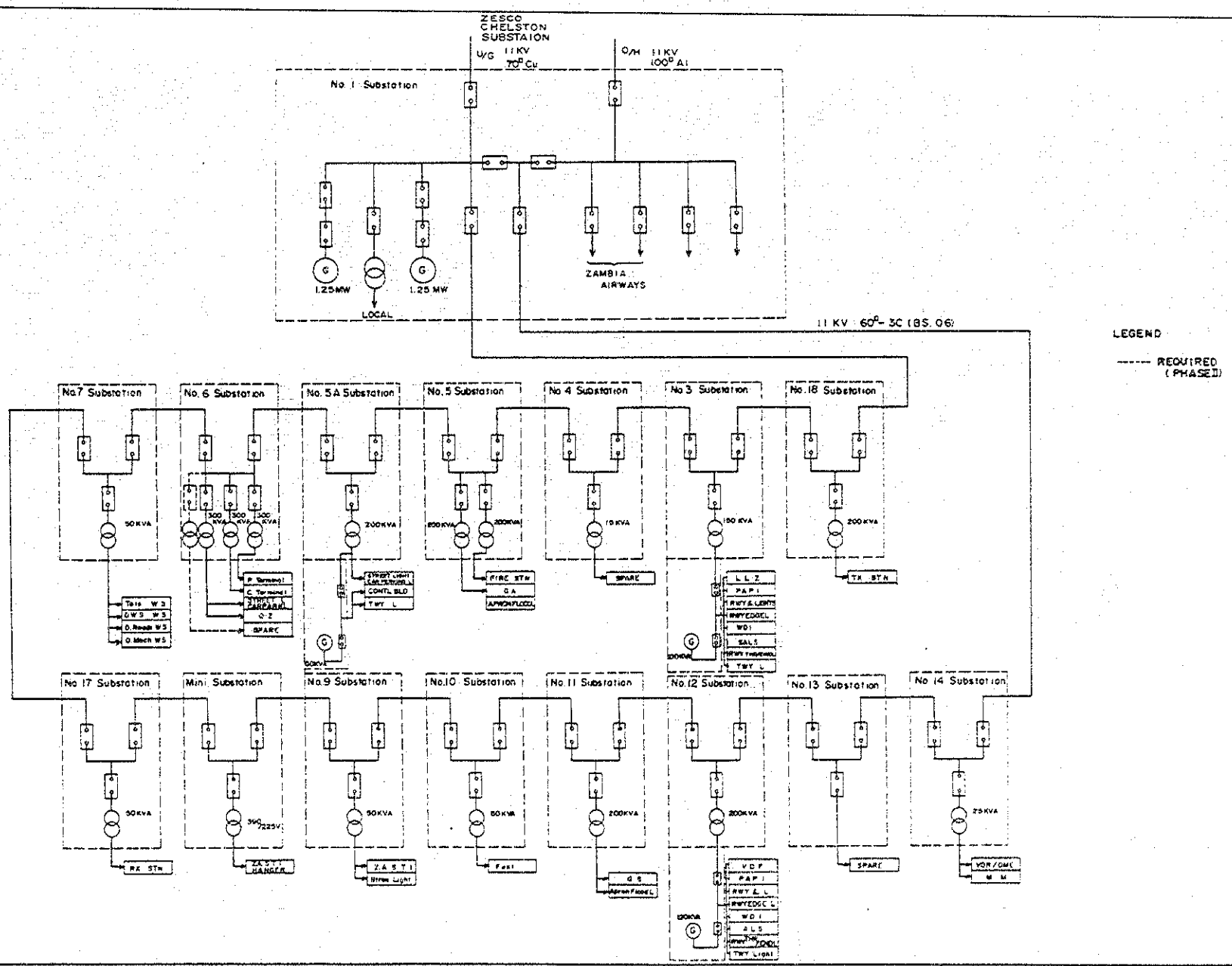
FEASIBILITY STUDY 1985

Fig 5-13

JAPAN INTERNATIONAL COOPERATION AGENCY

AIR NAVIGATION SYSTEM DIAGRAM

(PHASE I, II)

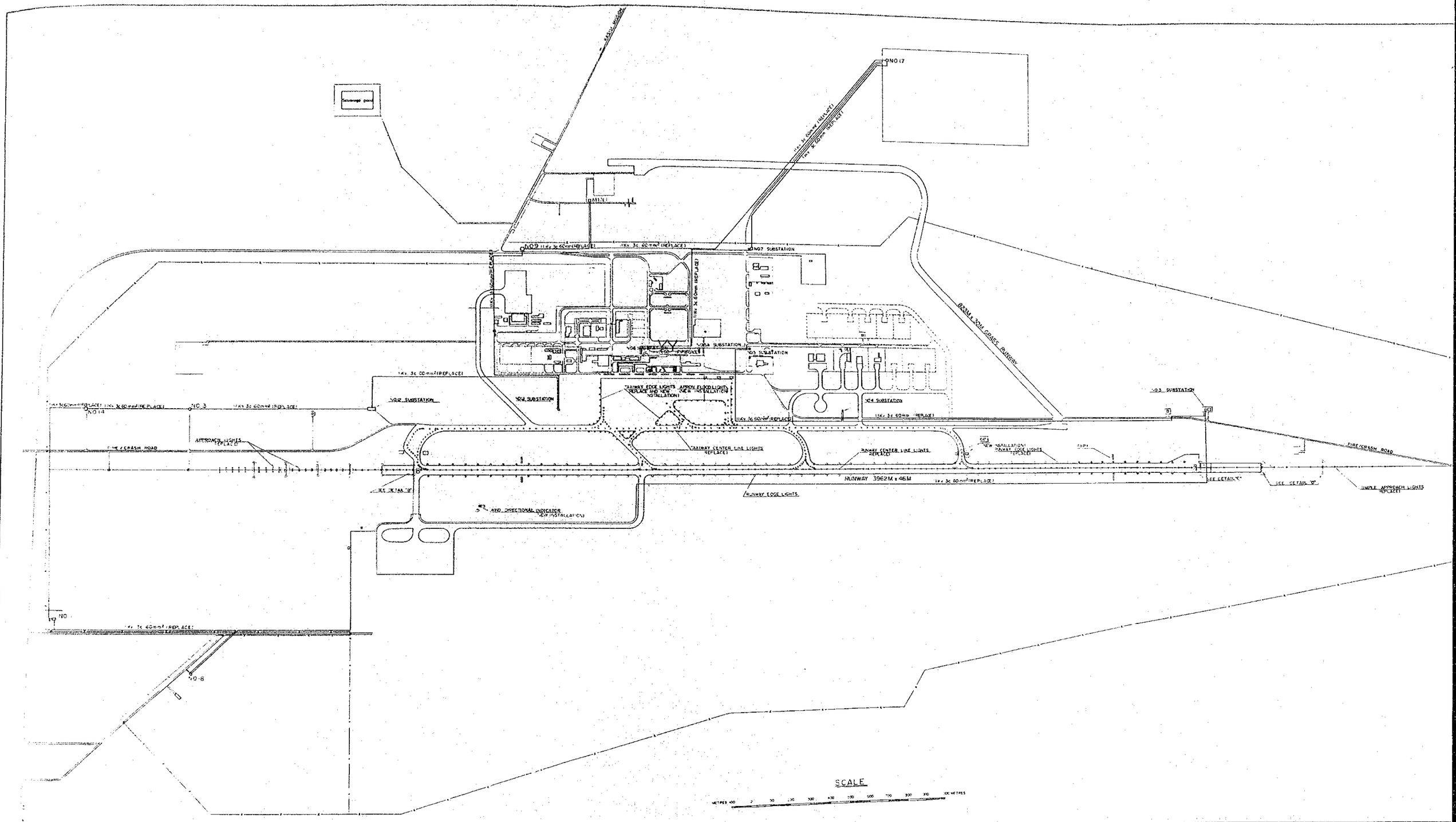


LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT

REPUBLIC OF ZAMBIA — FEASIBILITY STUDY 1985 — JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 5-14 POWER DISTRIBUTION DIAGRAM

PHASE I, II



LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT

REPUBLIC OF ZAMBIA

FEASIBILITY STUDY. 1985

Fig. 5 – 15A

JAPAN INTERNATIONAL COOPERATION AGENCY

AIR FIELD LIGHTING

LAYOUT OF LIGHTIN

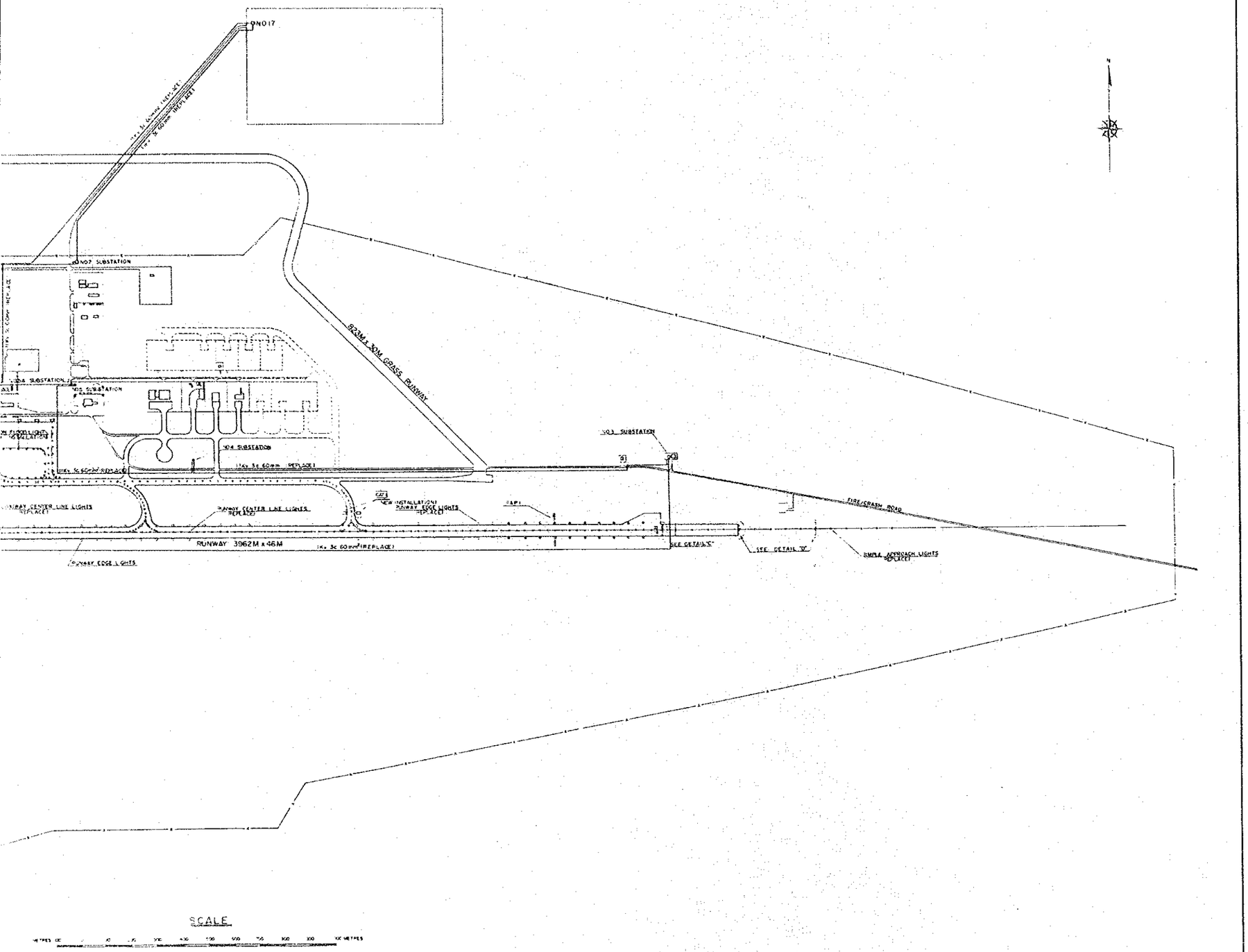
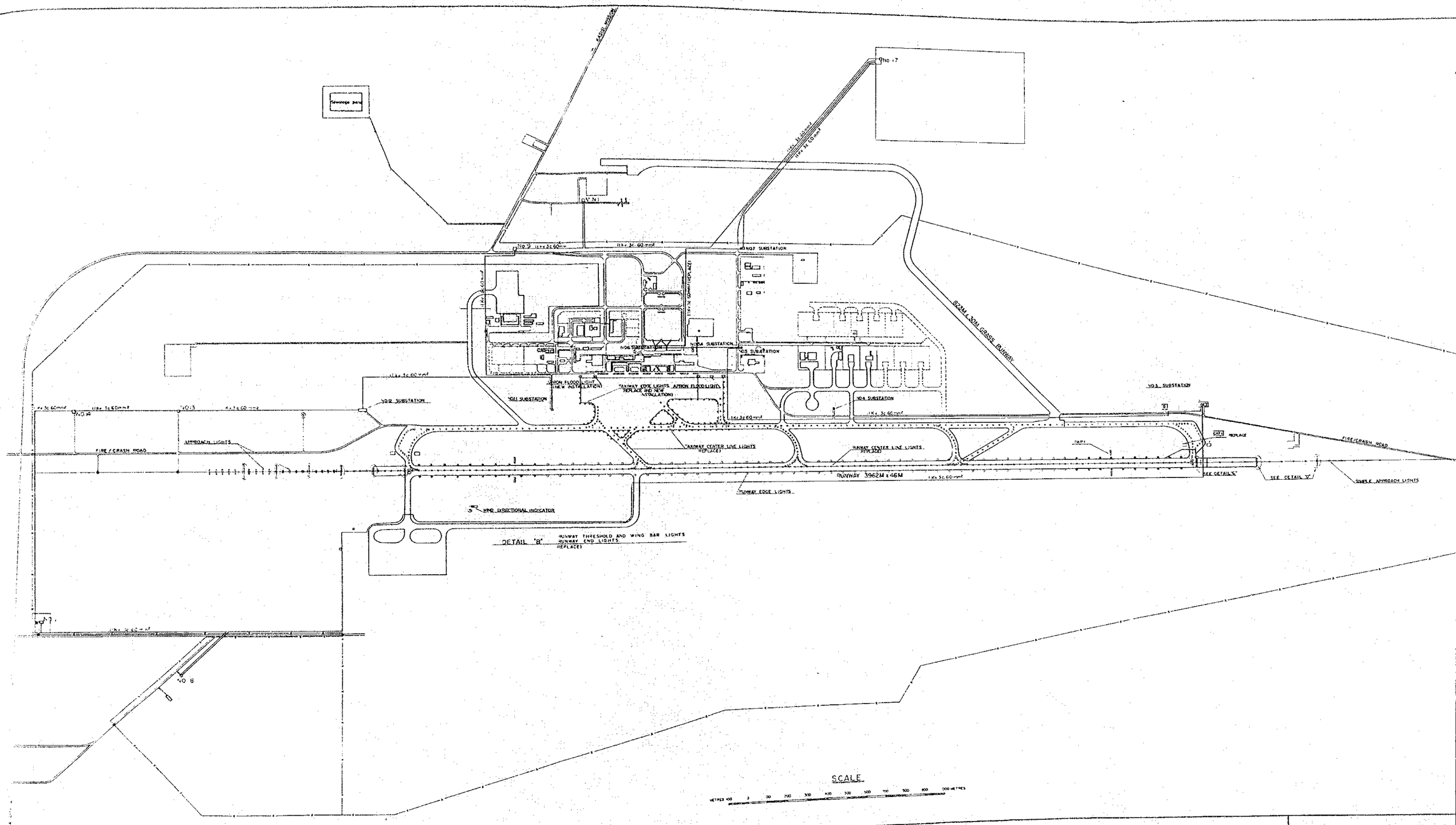


Fig. 5 – 15A	AIR FIELD LIGHTING	
JAPAN INTERNATIONAL COOPERATION AGENCY	LAYOUT OF LIGHTING SYSTEM	PHASE I



LUSAKA INTERNATIONAL AIRPORT DEVELOPMENT PROJECT

REPUBLIC OF ZAMBIA

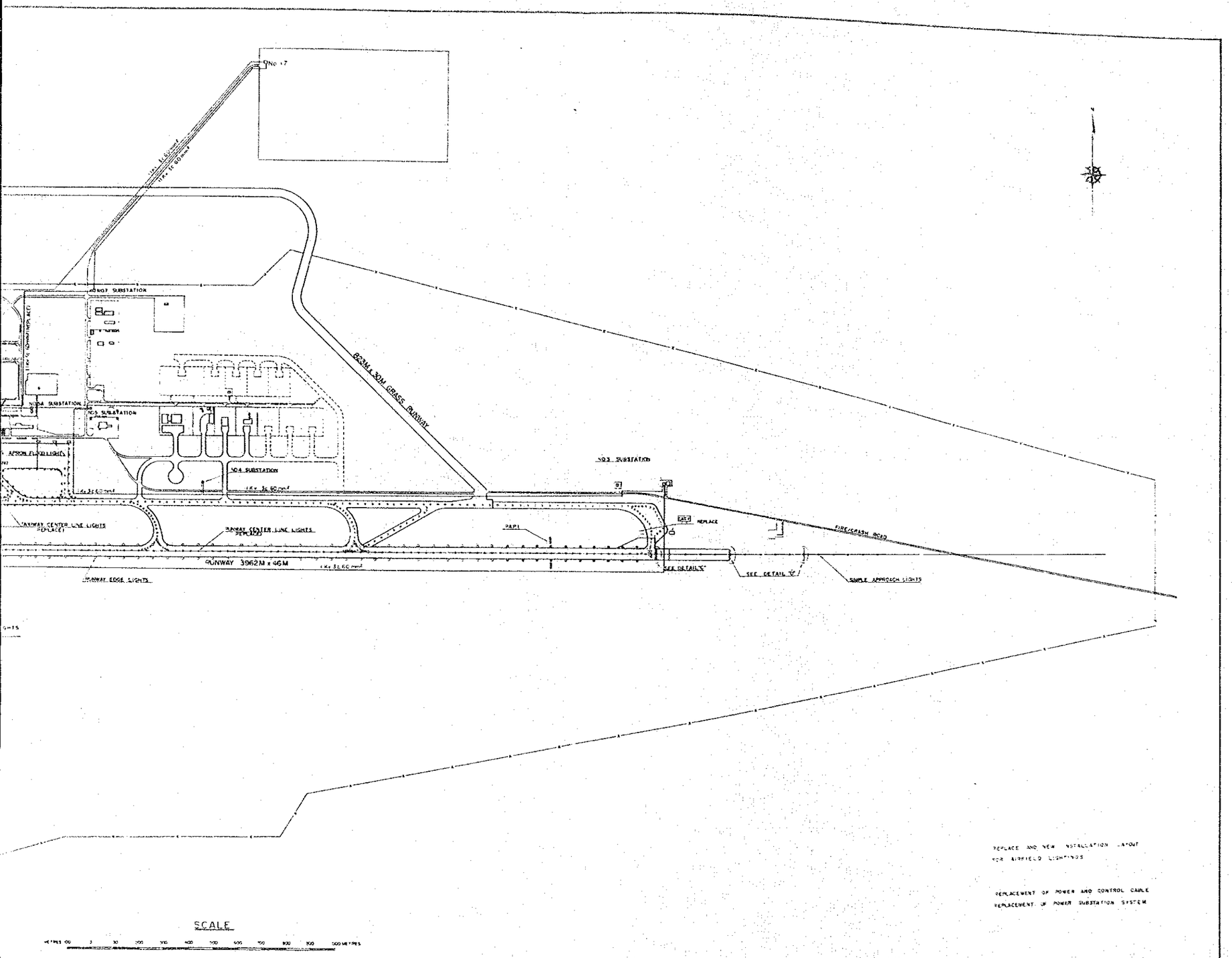
FEASIBILITY STUDY, 1985

Fig. 5 - 158

JAPAN INTERNATIONAL COOPERATION AGENCY

AIR FIELD LIGHTING

LAYOUT OF LIGHTING



REPLACE AND NEW INSTALLATION LAYOUT FOR AIRFIELD LIGHTINGS

REPLACEMENT OF POWER AND CONTROL CABLE

REPLACEMENT OF POWER SUBSTATION SYSTEM

Fig. 5 - 15B

JAPAN INTERNATIONAL COOPERATION AGENCY

AIR FIELD LIGHTING

LAYOUT OF LIGHTING SYSTEM | PHASE II

5-4-3 ATS Facilities

Phase I improvement includes installation of a new communication control unit (CCU) to beef up the communication function between the air traffic control units and the control positions.

All exsiting PSR system is to be completely renewed and a new Terminal Area Surveillance Radar (TAR) system comprising PSR and SSR is planned, with its antenna site to be carefully selected in Phase I. Under Phase I the Approach Control and Radar Control facility is planned for collocation in the existing Flight Information Centre room to facilitate operation and maintenance of both facilities. It is also planned to have the SSR video data within the 200 nautical-mile range displayed on the Flight Information Centre consoles.

Improvement of the air traffic radar control system is planned in Phase II with the addition of the alpha-numeric display system.

5-4-4 Telecommunications Facilities

AFTN Message Switching System is renewed to enhance its reliability. Fig. 5-16 shows the floor layout plan of the Communication Centre, and of the Flight Information Centre with the Approach Control/Radar Control facility collocated therein.

5-4-5 Meteorological Facilities

The meteorological observation instruments and related communication equipment such as part of TTY and Facsimile etc., are to be updated in Phase I. No improvement is planned for Phase II.

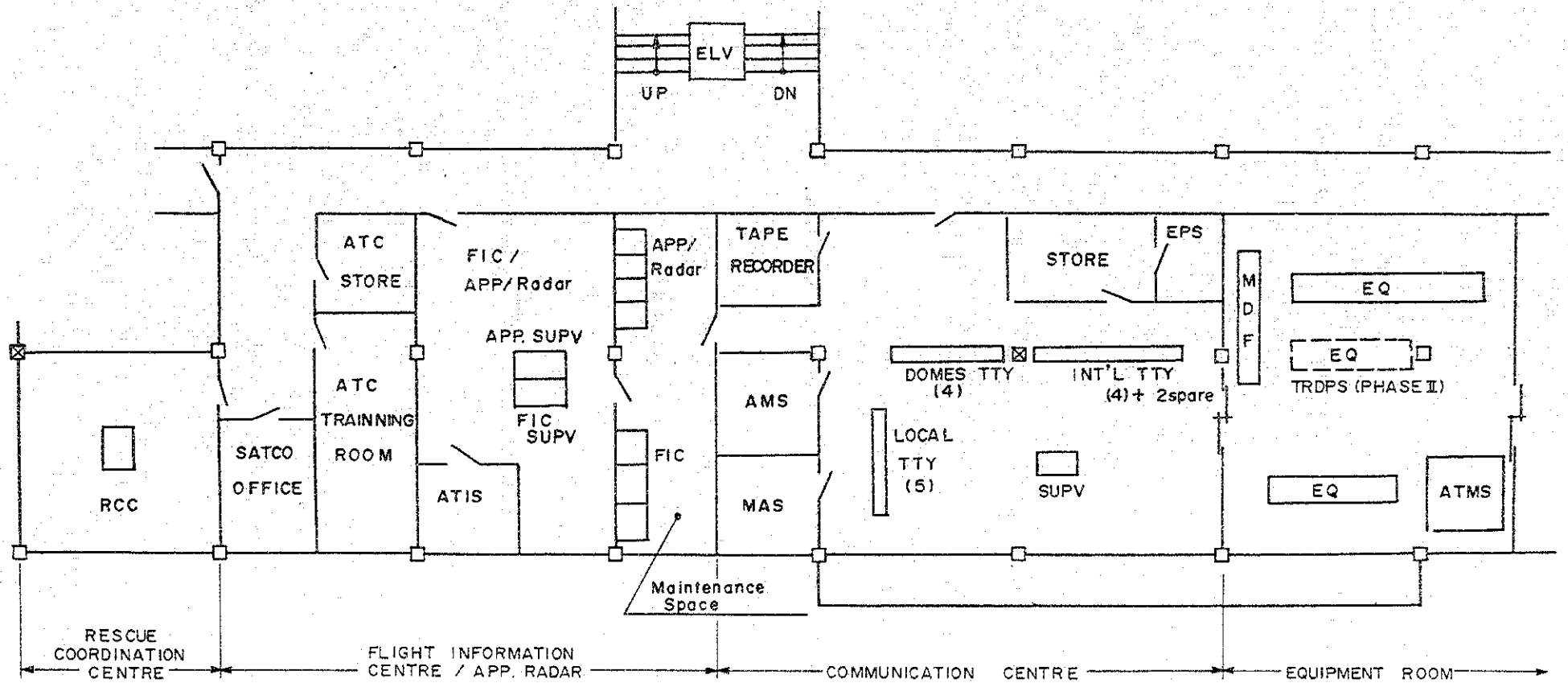


Fig. 5-16 Floor Layout Plan of Flight Information Centre and Communication Centre, etc. (2nd Floor of Control Building)

5-5 Summary of Improvement Plan

Table 5-3 presents the entire improvement measures to be taken under Phase I and Phase II of the Project, complete with a brief description of the work to be done for each facility in each of the development phases.

Major features of the improvement under Phase I are:

1) Replacement of cracked concrete slabs of Runway and Apron;
2) Overlay of Runway and Taxiway;
3) Extension of Taxiway and Expansion of Apron;
4) Construction of VIP Building and related Roads and Car Park;
5) Interior remodelling of Passenger Terminal Building;
6) Construction of Cargo Terminal Building;
7) Modification of Car Park;
8) Expansion of Catering Building;
9) Replacement/installation of Air Navigation Facilities and related equipment; and
10) Replacement/installation of Utility Facilities and related equipment.

Figs. 5-17 and 5-18 show the Facility Improvement Plan Phase I of the Lusaka International Airport Development Project.

Major features of the improvement under Phase II are:

1) Overlay of Runway and Taxiway;
2) Expansion of Apron;
3) Extention of Parallel Taxiway
4) Construction of Rapid Exit Taxiway
5) Expansion of Passenger Terminal Building;
6) Expansion of Cargo Terminal Building;
7) Modification of Car Park;
8) Expansion of Catering Building; and
9) Installation of MLS and Terminal Radar Data Processing System.

Figs. 5-19 and 5-20 show the Facility Improvement Plan Phase II of the Lusaka International Airport Development Project.

Table 5-3 Improvement Plan by Facility and by Phase

DESIGN YEAR / FACILITIES	PHASE I		PHASE II	REMARKS
	MINIMUM REQUIREMENTS	DESIGN YEAR 2000	DESIGN YEAR 2010	
Runway	- Repair cracks of concrete slabs	- Overlay - Replace cracked concrete slabs	- Overlay - Replace cracked concrete slabs, if any	
Taxiway	-	- Overlay - Extend for VIP apron	- Overlay - Extend parallel and construct rapid exit	
Apron	- Repair cracks of concrete slabs	- Replace cracked concrete slabs - Extend main apron	- Extend main apron - Replace cracked concrete slabs, if any	
Shoulder	-	- Overlay	-	Runway only
Drainage	-	- Repair grating of main apron - Construct open ditch for new main apron	- Extend open ditch for new main apron	
Perimeter Road	-	- Pave with gravel	- Pave with bituminous concrete	
Security Fence	-	- Fence with wire net	-	
Passenger Terminal Building	- Repair waterproofing of concrete slab roofing	- Repair and modernize sanitary fixtures - Upgrade plumbing - Renew and repair air conditioning and ventilation equipments - Renew escalators and elevators - Modernize flight indicator, public address system and sign board - Relocate Customs, Immigration and Health control area in the arrival hall	- Construct holding lounge - Install passenger boarding bridges - Install Customs, Immigration and Health control counters - Rearrange restaurants and coffee shop - Rearrange public lounge and public restaurant - Remove unutilized fingers	

Table 5-3 Cont'd Improvement Plan by Facility and by Phase

DESIGN YEAR / FACILITIES	PHASE I		PHASE II	REMARKS
	MINIMUM REQUIREMENTS	DESIGN YEAR 2000	DESIGN YEAR 2010	
Passenger Terminal Building (Cont'd)		- Install baggage claim conveyor - Remove and relocate VIP lounge - Expand Customs, Immigration and Health Control offices - Relocate bank offices - Relocate check-in counters - Install outbound baggage conveyors - Relocate Customs, Emigration control area for int'l departing passengers - Rearrange restaurants for transit passengers - Relocate and minimize information counter - Provide first class lounge - Relocate domestic baggage claim area - Relocate public bar, police office and first aid facilities	- Install baggage claim conveyor	
Control Building	- Repair waterproofing of concrete slab roofing	- Repair and modernize sanitary fixtures - Upgrade plumbing - Renew and repair air-conditioning - Modify to install new Nav. Com. equipments		
Fire Station	-	- Increase the number of fire engines - Repair and modernize sanitary fixtures - Upgrade plumbing - Renew and repair ventilation equipment - Demolish substation		

Table 5-3 Cont'd Improvement Plan by Facility and by Phase

DESIGN YEAR / FACILITIES	PHASE I: MINIMUM REQUIREMENTS	PHASE I: DESIGN YEAR 2000	PHASE II: DESIGN YEAR 2010	REMARKS
Cargo Terminal Building	- Install ventilation fan	- Replace existing building with new building - Demolish old cargo agents' building	- Expand building	
Customs Office & Bonded Warehouse	- Repair water proofing of concrete slab roofing - Repair damaged ceiling	- Expand building	- Expand building	
VIP Building		- Construct new building		
Road	-	- Provide access road to VIP area		
Car Park		- Provide taxi standing area - Fence part of the existing car park - Provide guard house - Repair paving	- Expand fencing - Expand carpark area and taxi standing area - Relocate guard house - Repair paving	
Elec. Power Supply Facility		- Expand #1 & #6 Substation	- Expand #6 Substation	
Water Supply Facility	- Repair fire fighting reservoir - Provide boreholes	- Renew elevated tanks - Install water reservoir for passenger terminal building & control building - Relocate piping	- Extend piping	
Sewage Disposal Facility	-	- Renew elevated water tank for sanitary building - Repair sanitary building		
Refuse Disposal Facility			- Install incinerator with related facilities	

Table 5-3 Cont'd Improvement Plan by Facility and by Phase

DESIGN YEAR / FACILITIES	PHASE I		PHASE II	REMARKS
	MINIMUM REQUIREMENTS	DESIGN YEAR 2000	DESIGN YEAR 2010	
VOR/DME		- Renew equipment, building and cables - Install secondary power supply system and air-conditioning unit	-	- ATIS to be broadcast on VOR
ILS (MLS)		- Renew equipment, building (except for OM) and cables	- Introduce MLS	
NDB (LW)		- Install air-conditioning unit and remote control - Overhaul engine generator	-	
NDB (LE)		- Renew equipment, air-monitors and aerial - Install air-conditioning unit - Overhaul engine generator	-	
VDF			- Renew equipment	
ALS (RWY10) SALS (RWY28)	- Supply spare lamps	- Renew light fittings, cables, insulated transformers and CCRs	-	
RWY Threshold/ End Lights	- Repair some light fittings	- Renew light fittings, cables, insulated transformers and CCRs	- Modify light fittings consequent to pavement overlay	
RWY Edge Lights	- Repair some light fittings - Supply spare lamps	- Renew light fittings, cables, insulated transformers & CCRs	- Modify light fittings consequent to pavement overlay	
RWY Centreline Lights	-	- Renew light fittings cables, insulated transformers & CCRs	- Modify light fittings consequent to pavement overlay	
PAPI	-	- Renew cable, insulated transformers & CCRs	- Adjust the height of PAPI consequent to pavement overlay	

Table 5-3 Cont'd Improvement Plan by Facility and by Phase

DESIGN YEAR / FACILITIES	PHASE I		PHASE II	REMARKS
	MINIMUM REQUIREMENTS	DESIGN YEAR 2000	DESIGN YEAR 2010	
TWY Centreline Lights	- Repair some light fittings - Supply spare lamps	- Renew light fittings, cables, insulated transformers and CCR and install light fittings consequent to taxiway expansion	- Modify and install light fittings consequent to pavement overly and taxiway expansion	
TWY Edge Lights (Apron)	- Repair some light fittings - Supply spare lamps	- Renew light fittings, cables, insulated transformers and CCR and install light fittings consequent to VIP apron expansion	- Modify and install lighting fittings consequent to apron expansion	
Illuminated WDI	-	- Install WDI at RWY 10 and RWY 28	-	
Apron Flood Lights	-	- Renew cable and install light fittings and flood light tower consequent to VIP apron expansion	- Install light fittings consequent to apron expansion	
AFL Remote Controls	-	- Renew equipment and cables	-	
Power Supply System for AFL	- Renew secondary power supply system at #3, #5A and #12 substation		-	
ATC Console	- Renew equipment at Tower, App and FIC room - Renew SELCALs and emergency TRCVs	- Renew equipment and relocate App/ Radar control room to the 2nd floor - Renew SELCALs and emergency TRCVs	-	
CCU	- Install equipment with minimal channels	- Install integrated CCU	-	
Radar	-	- Install primary and secondary radar - Install radar indicators at App/ Radar control room and FIC	- Install bright display system equipment - Modify indicators consequent to DPS installation	At FIC, secondary radar information only
Terminal Radar DPS	-	-	- Install TRDPS equipment	

Table 5-3 Cont'd Improvement Plan by Facility and by Phase

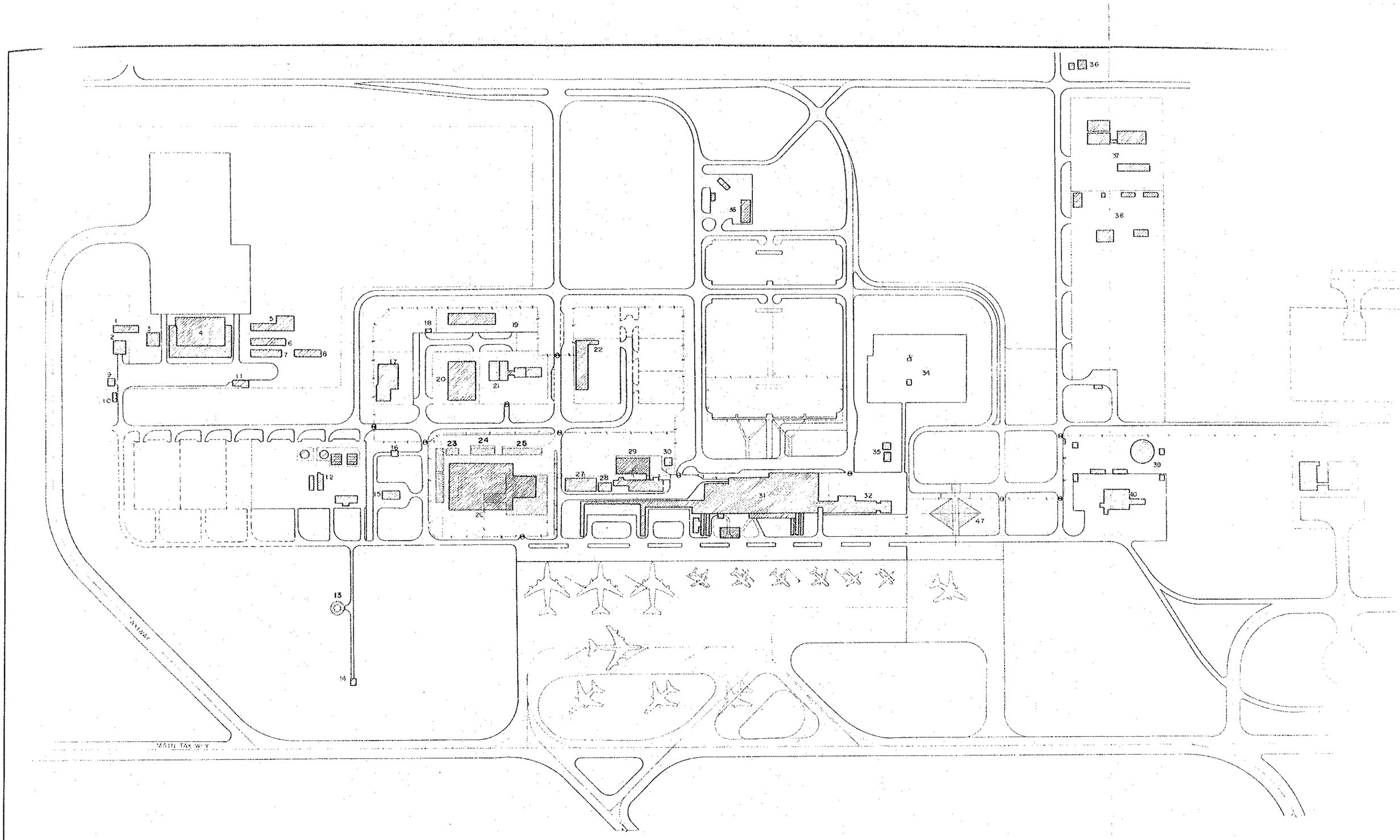
DESIGN YEAR / FACILITIES	PHASE I MINIMUM REQUIREMENTS	PHASE I DESIGN YEAR 2000	PHASE II DESIGN YEAR 2010	REMARKS
AFTN Message Switching System		- Renew equipment to AIMS (25 - 30 ch)	-	
AFTN TTY		- Renew ASRs and ROs	- Install ASRs for new channels	
AMS Console		- Renew equipment	-	
MAS System		- Renew equipment	-	
TX Station		- Renew A/G VHF transmitters Tower 10W 2 set APP 50W 2 set Radar 50W 2 set FIC 200W 2 set Emergency 50W 2 set - Renew ATC Direct Speech Circuits transmitters (HF) Lilongwe 1KW 1 set NATS 1KW 1 set S/By 1KW 1 set - Renew RTT transmitters (HF) Kinshasa 5KW 2 set Dar-es-salaam 5KW 1 set Lilongwe 1KW 2 set Harare 1KW 1 set Out Station 500W 2 set Ndola 500W 1 set MAS transmitters 500W 2 set - Install aerial for Kinshasa and secondary power supply system with building - Renew com-cable and air-conditioning unit	-	
RX Station		- Renew A/G VHF receivers Tower 2 set APP 2 set Radar 2 set FIC 2 set Emergency 2 set City AP Monitor 1 set		

Table 5-3 Cont'd Improvement Plan by Facility and by Phase

DESIGN YEAR / FACILITIES	PHASE I		PHASE II	REMARKS
	MINIMUM REQUIREMENTS	DESIGN YEAR 2000	DESIGN YEAR 2010	
RX Station (Cont'd)		- Renew ATC Direct Speech Circuits receivers (HF) Lilongwe 2 set NATS 2 set Spare 1 set - Renew RTT receivers (HF) Kinshasa 2 set Dar-es-salaam 1 set Lilongwe 2 set Harare 1 set Ndola 1 set Living Stone 1 set Mongu 1 set Kasama 1 set - Renew MAS receivers 2 set Install aerial for Kinshasa and secondary power supply system - Renew com-cable and air-conditioning unit		
RCAG (Kaloko Hill)		- Renew transmitters, receivers and remote control Tx Omni 200W 2 set ER 200W 2 set Rx Omni 2 set ER 2 set - Install air-conditioning unit - Overhaul engine generator	-	
RVR		- Renew equipment - Install 3 indicators	-	
Weather Observation Instruments		- Renew equipment	-	- Ceilometer - Anemometer - Barometer - Thermo-Hygrometer
Weather Radar	-	- Renew equipment, cable and building	-	

Table 5-3 Cont'd Improvement Plan by Facility and by Phase

DESIGN YEAR / FACILITIES	PHASE I		PHASE II	REMARKS
	MINIMUM REQUIREMENTS	DESIGN YEAR 2000	DESIGN YEAR 2010	
Weather TTY	-	- Renew equipment, cables and building	-	
Facsimile	-	- Renew equipment	-	
Satellite Receiver	-	- Renew equipment	-	



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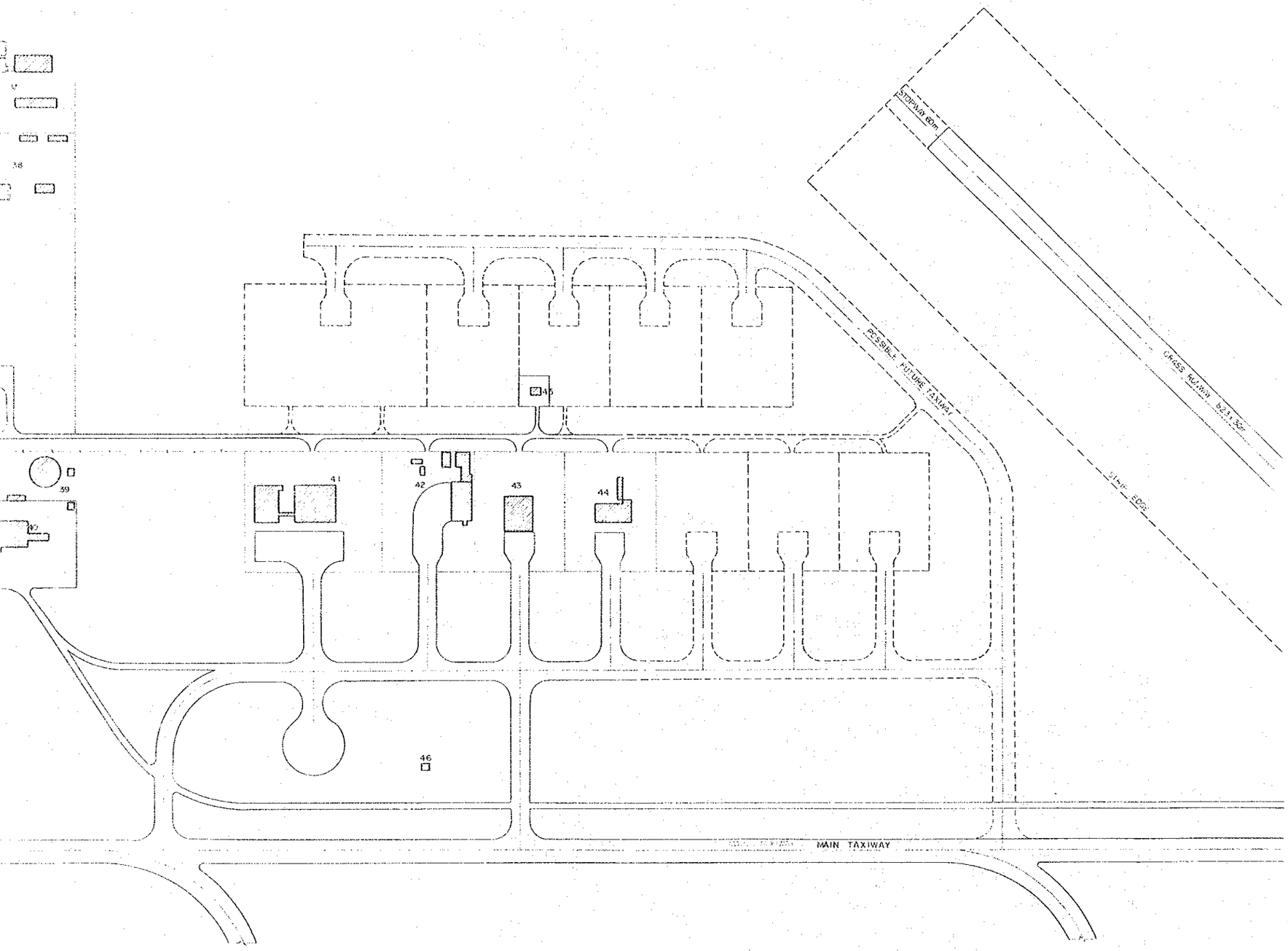

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EXISTING

PHASE I

LEGEND

1. Spray Shop
2. Ramp Equipment Workshop
3. Carpenters Shop
4. Hangar
5. Workshop Block
6. Administration Block
7. Flight Crew Training Centre
8. Ground Engineering Training School
9. Substation NO. 10
10. Guard House
11. 500 KVA Sataion
12. Fuel Site
13. Radar Site
14. Substation NO. 11
15. Engineer's Workshop & Store
16. Sanitary Building
17. Freight Village Site (A.M.I.)
18. Freight Village Site (KARIBA Freight)
19. Freight Village Site (ZNCF)
20. Freight Village Site (Leopold Walford, Hill & Delamain)
21. Customs Building
22. Freight Village Site (Manica Freight Service)
23. Former Leopold Walford Freight Building
24. ZNCF Freight Building
25. ZNCF Freight Building
26. Freight Shed
27. Aircraft Services Store
28. Apron Stores (Catering)
29. Uplift Meals Kitchen
30. Substation NO. 6
31. Passenger Terminal Building
32. Control Building
33. Service Station
34. Meteorological Reserve
35. Substation NO. 5
36. Substation NO. 7
37. Telecommunications Reserve
38. P.W.D. Site
39. Water Reservoir
40. Fire Station
41. Government Flight Hangar
42. Operator Site (Mine Air Services)
43. Operator Site (Safari Air Services)
44. Operator Site (Jointair)
45. Operator Site (International Aeradio)
46. Substation NO. 4
47. VIP Building

50 40 30 20 10 0 50 100 150m

Fig. 5 - 17

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TERMINAL AREA		DWG
LAYOUT PLAN	PHASE I	NO.

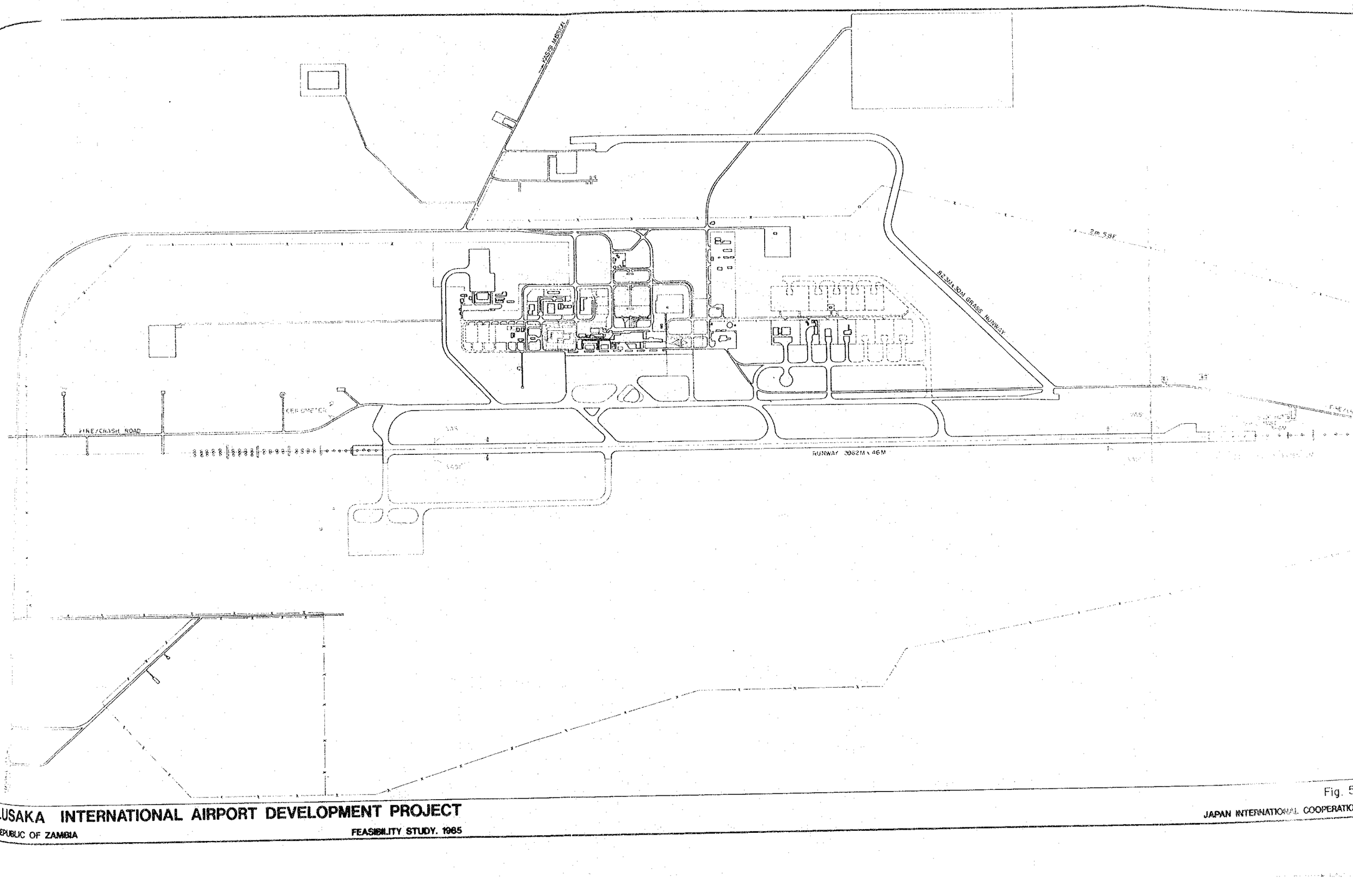

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Fig. 5

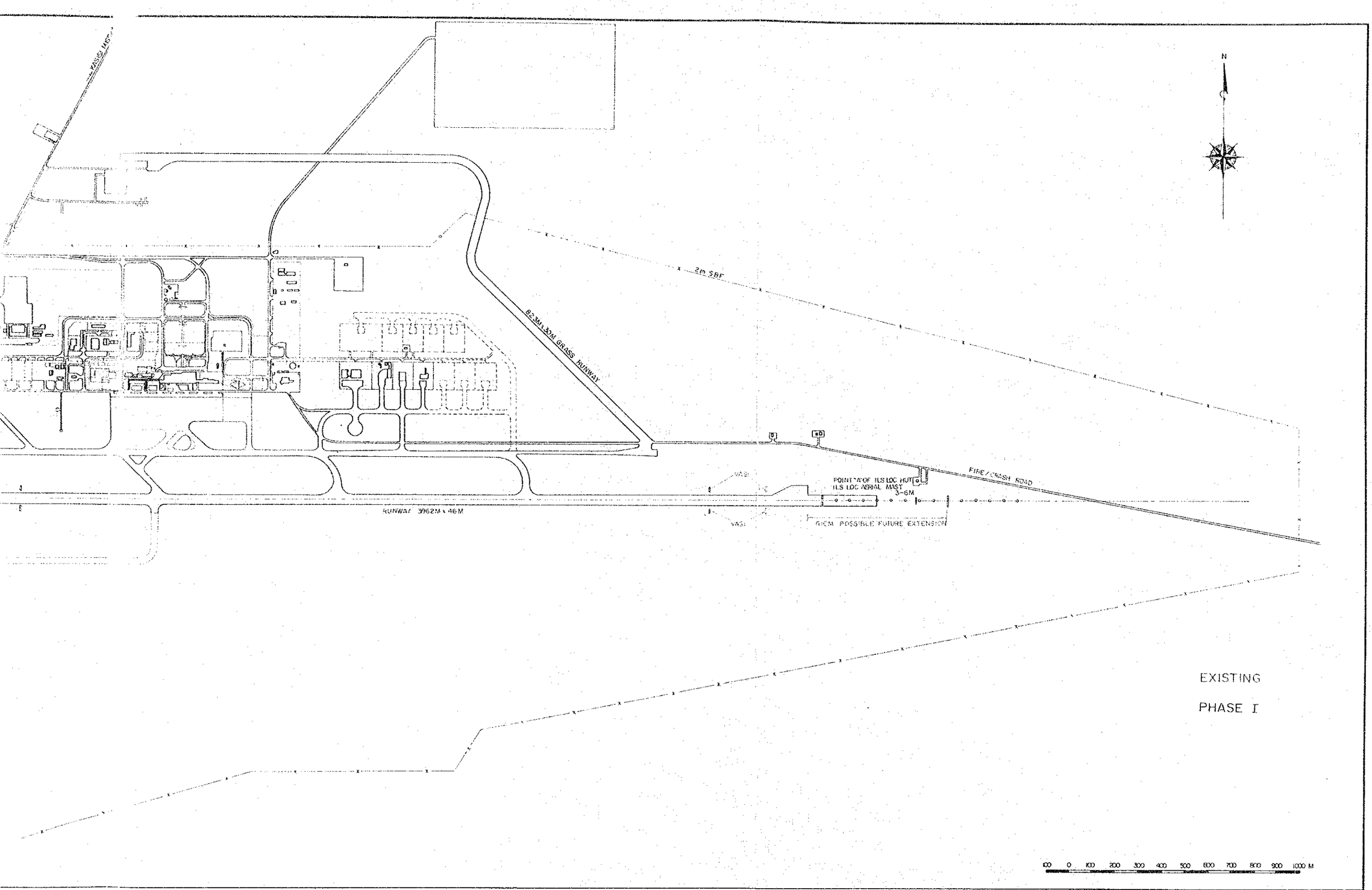
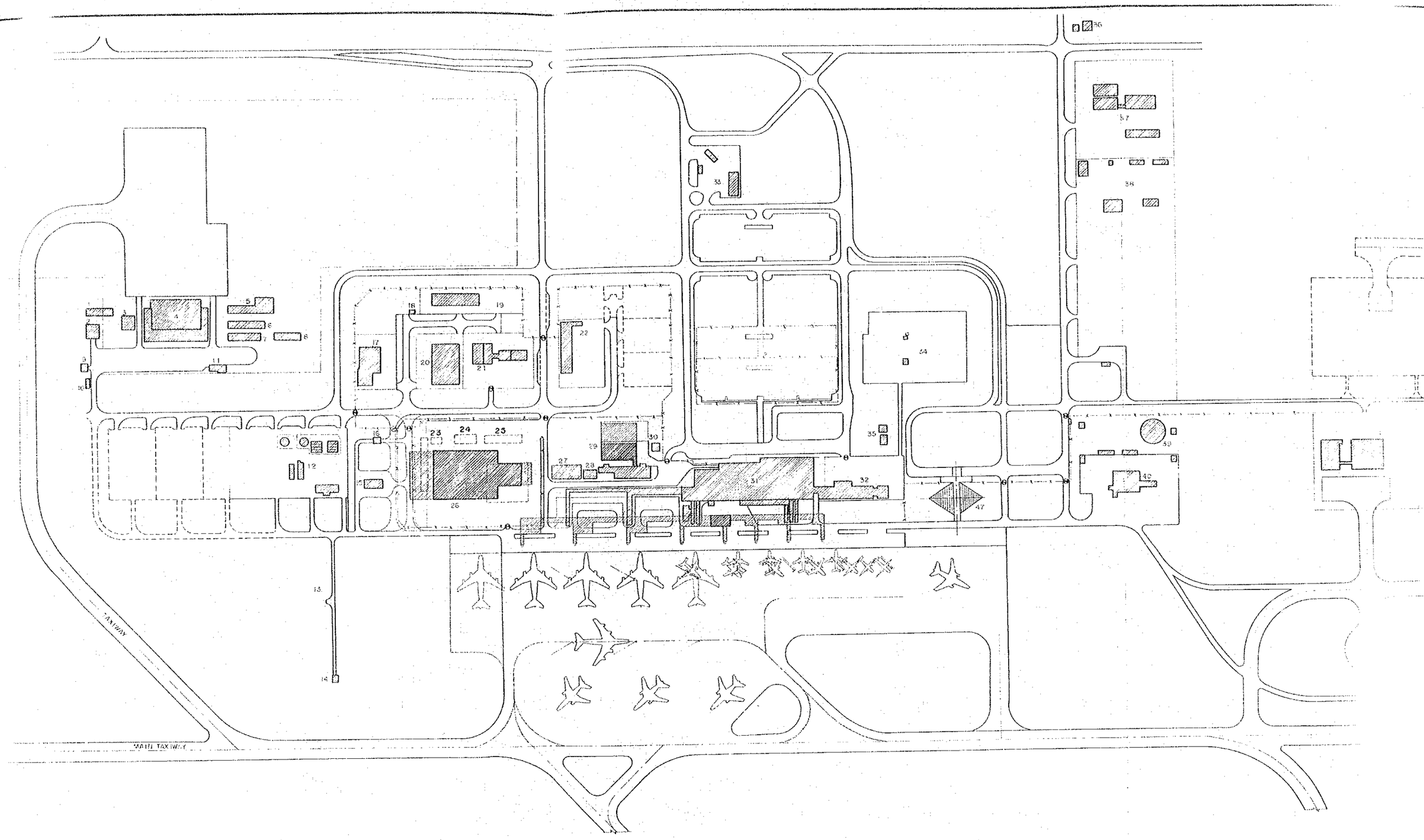


Fig. 5 - 18

JAPAN INTERNATIONAL COOPERATION AGENCY

AIRPORT		DWG
LAYOUT PLAN	PHASE I	NO.



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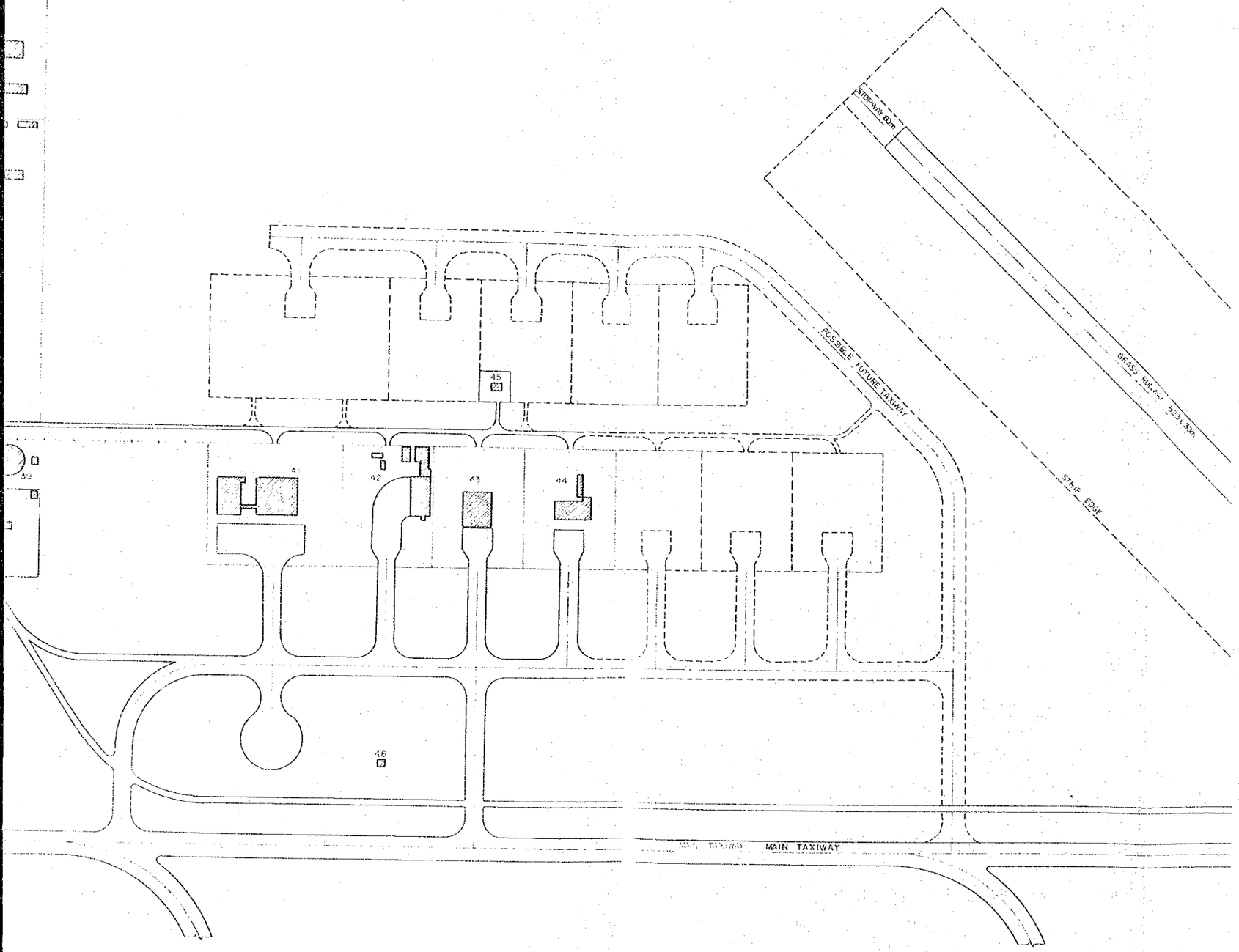

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PHASE I

PHASE II

LEGEND

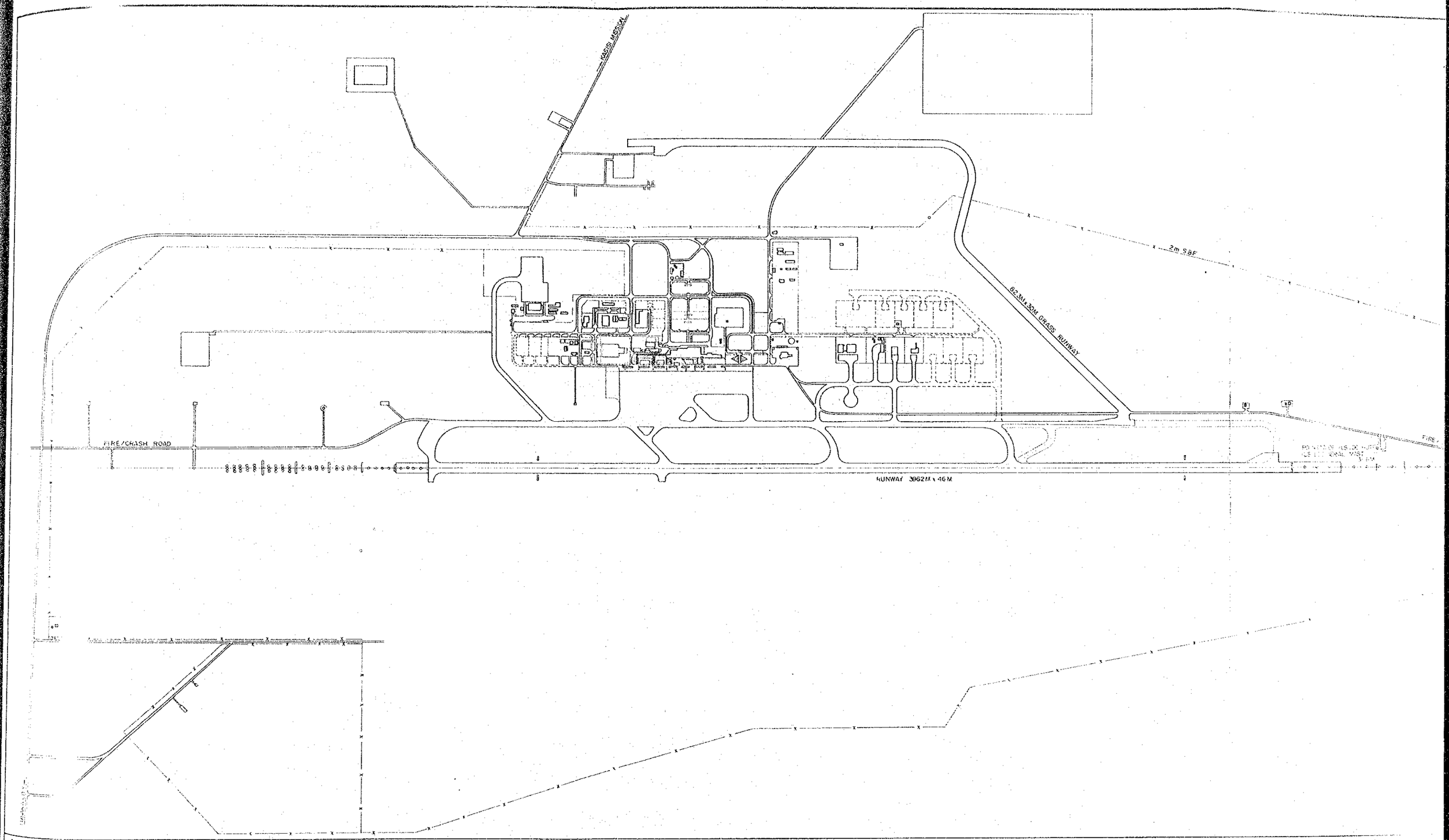
1. Spray Shop
2. Ramp Equipment Workshop
3. Carpenters Shop
4. Hangar
5. Workshop Block
6. Administration Block
7. Flight Crew Training Centre
8. Ground Engineering Training School
9. Substation NO. 10
10. Guard House
11. 500 KVA Sataion
12. Fuel Site
13. Demolished (Former Radar Site)
14. Substation NO. 11
15. Engineer's Workshop & Store
16. Sanitary Building
17. Freight Village Site (A.M.I.)
18. Freight Village Site (KARIBA Freight)
19. Freight Village Site (ZNCF)
20. Freight Village Site (Leopold Walford, Hill & Delamain)
21. Customs Building
22. Freight Village Site (Manica Freight Service)
23. Demolished (Former Leopold Walford Freight Building)
24. Demolished (ZNCF Freight Building)
25. Demolished (ZNCF Freight Building)
26. Freight Shed
27. Demolished (Aircraft Services Store)
28. Demolished (Apron Stores (Catering))
29. Uplift Meals Kitchen
30. Substation NO. 6
31. Passenger Terminal Building
32. Control Building
33. Service Station
34. Meteorological Reserve
35. Substation NO. 5
36. Substation NO. 7
37. Telecommunications Reserve
38. P.W.D. Site
39. Water Reservoir
40. Fire Station
41. Government Flight Hangar
42. Operator Site (Mine Air Services)
43. Operator Site (Safari Air Services)
44. Operator Site (Jointair)
45. Operator Site (International Aeradio)
46. Sub-station NO. 4
47. VIP Building

50 40 30 20 10 0 50 100 150m

Fig. 5 - 19

JAPAN INTERNATIONAL COOPERATION AGENCY

TERMINAL AREA		DWG
LAYOUT PLAN	PHASE II	NO.



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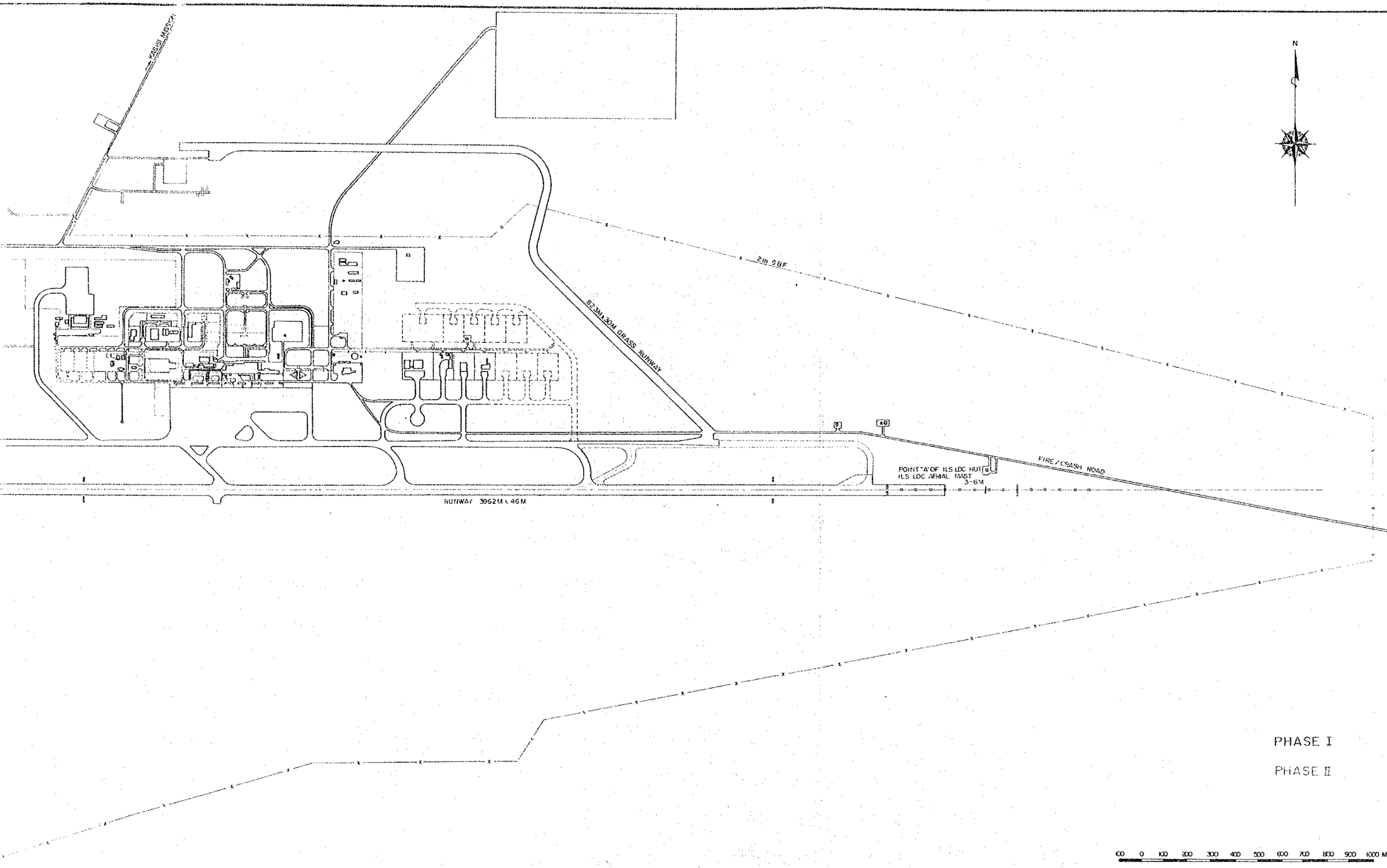

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Fig. 5 - 20

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AIRPORT		DWG
LAYOUT PLAN	PHASE II	NO.