THE STUDY FOR
MARITIME TRAFFIC SAFETY SYSTEM DEVELOPMENT PLAN
IN THE REPUBLIC OF INDONESIA

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

2ND CLASS DISTRICT NAVIGATION AREA (17)
TARAKAN

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

2nd Class District Navigation Area (17)

Tarakan

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

2nd Class District Navigation Office (Area-17)
Tarakan

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Note :
- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF DISNAV

SITE	TARAKAN		
CLASS	2nd	NO.	17

1. LOCATION

Address	Tel.	Fax	Longitude	Latitude
Jl. Yos Sudarso No. 6, Tarakan	0551-22866	0551-31333	117° 35′ 44″ E	03° 17′ 40″ N

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Balik Papan [Taking time 1:30 hr]	☐ Highway	☐ Heavy	☑ Hotel	57,000
By Air to Tarakan [Taking time 1:30 hr.]	☑ Paved	☑ Medium	☐ Motel	
By Car to Location [Taking time. 0.45 hr.]	☐ Unpaved road	☐ Light		
		☐ None		

3. CONDITIONS OF DISNAV OFFICE

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☐ ☑ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☐ ☑ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☐ ☑ Grounding system
☐ Valley	☑ Sandy			☑ ☐ Lightning system
Altitude	5 m		Telephone Lines	☐ ☑ Feeder Cable Way
Land area	2,550 m²		☑ 2 Lines	☐ ☑ City water

3.2 Building Conditions

Constructions	
Num. of story	Two
Structure	Concrete
Type of roof	Roof-Tile
Type of ceiling	Plywood
Type of wall	Brick
Wall finish	PC
Flooring	Ceramic

Room Area (m²)	
Operation room	750
E / G room	
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	V
Phase	3	
Wire	4	
kVA	3	

Quality of PLN source		
Fluctuations	V ± 15 %	
Availability of power per day	24 Hours	
Power interruption /month	5 Times	
Total interpt. hours /month	11 Hours	
Max. interpt. hours at once	6 Hours	

Existing Power Conditions	
Good Bad	
☐ ☑ Power Supply System	
☐ ☑ Operations of E/G	
☐ ☑ Operations of AVR	

Capacity of fuel for engine	
Day tank	Liter
Main tank	k Liter

E/G Stand-by System
☐ Single System
☐ Dual System

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	
Examples of major failure	
Sufficiency of spares	

Records of damages	Environmental Conditions		
	Good	Bad	
☐ Heavy rainfall			
☐ Storm	☑	☐	External noises
☐ Lightning	☑	☐	Air pollution
☐ Other calamity			

Institutional and Human Statuses			
1 Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2 Spares	☐ Enough	☐ Reasonable	☑ Not enough
3 Measuring eqpt /tools	☐ Enough	☐ Reasonable	☐ Not enough
4 Number of Operator	☐ Enough	☑ Reasonable	☐ Not enough
5 Number of Technician	☐ Enough	☑ Reasonable	☐ Not enough
6 Capability of Operator	☐ Skilled	☐ Not so bad	☐ Not capable
7 Capability of Technician	☐ Skilled	☐ Not so bad	☐ Not capable

5. PERSONNEL FORMATIONS

Chief	
Operator (skilled)	()
Technician (skilled)	()
Administrator	
Total	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF DISNAV	SITE	TARAKAN		
	CLASS	2nd	NO.	17

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

7. COMMENTS

Suggestion	
Remarks	

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

3rd Class Coast Station

Tarakan

(Coast Station No. 149)

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Note :
☑ Available in this list
☒ Not Available in this list
☐ Unnecessary in this list
* Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	TARAKAN		
CLASS	3rd	NO.	149

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
TX/RX	Jl. Yos Sudarso No. 6	0551-21550	0551-31333	117° 35′ 25″ E	03° 17′ 20″ N

2. GENERAL CONDITIONS

Moving from Jakarta				Site Access from Port	Road Traffic	Accommodation	Population
By Air	to Balik Papan	[Taking time:	1:30 hr.]	☐ Highway	☐ Heavy	☑ Hotel	57,000
By Air	to Tarakan	[Taking time:	2:00 hr.]	☑ Paved	☑ Medium	☐ Motel	
By Car	to Location	[Taking time:	0:15 hr.]	☐ Unpaved road	☐ Light		
					☐ None		

3. CONDITIONS OF STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☑ ☐ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☑ Sandy			☑ ☐ Lightning system
Altitude	5.00 M		**Telephone Lines**	☑ ☐ Feeder Cable Way
Land area	2,550 m²		☑ 2 Lines	☐ ☑ City water

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Roof Tile
Type of ceiling	Plywood
Type of wall	Brick
Wall finish	PC
Flooring	Tile

Room Area (m²)	
Operation room	24.00
E / G room	20.00
Remark	

3.3 Power Source

	PLN Source	E/G	Existing Power Conditions
Voltage	220 V	220 V	Good Bad
Phase	3	3	☑ ☐ Power Supply System
Wire	4	4	☑ ☐ Operations of E/G
kVA	7.5	7.5	☑ ☐ Operations of AVR

Quality of PLN source		Capacity of fuel for engine	
Fluctuations	V ± 15 %	Day tank	100 Liter
Availability of power per day	24 Hours	Main tank	1 k Liter
Power interruption /month	5 Times	E/G Stand-by System	
Total interpt. hours /month	11 Hours	☑ Single System	
Max. interpt. hours at once	6 Hours	☐ Dual System	

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Module Changing
Examples of major failure	AVR and HF telephone path
Sufficiency of spares	Un-available

Records of damages	Environmental Conditions		
	Good	Bad	
☐ Heavy rainfall			
☐ Storm	☑	☐	External noises
☐ Lightning	☑	☐	Air pollution
☐ Other calamity			

Institutional and Human Statuses				
1	Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2	Spares	☐ Enough	☐ Reasonable	☑ Not enough
3	Measuring eqpt /tools	☐ Enough	☑ Reasonable	☐ Not enough
4	Number of Operator	☑ Enough	☐ Reasonable	☐ Not enough
5	Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6	Capability of Operator	☑ Skilled	☐ Not so bad	☐ Not capable
7	Capability of Technician	☐ Skilled	☐ Not so bad	☑ Not capable

5. PERSONNEL FORMATIONS

	TX/RX	
Chief	1	
Operator (skilled)	11 (7)	()
Technician (skilled)	()	()
Administrator		
T o t a l	12	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF COAST STATION

SITE	TARAKAN		
CLASS	3rd	NO.	149

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996		3	4		1991			308	1996			282
1997		4	6		1992			314	1997	157	511	276
1998		2	5		1993			288	1998	172	554	264
1999		3	3		1994			297	1999	324	1,281	259
2000		2			1995			277	2000	221	750	231

7. COMMENTS

Suggestion	Ocean Ships already used Inmarsat, it is time for Indonesia to use Inmarsat for Maritime Telecommunications Local ship station majority only send the information without MSG Referring to the request for GMDSS installation in North Kalimantan, for Area-1, beckon Tower and Ships request for Repeater installation in order to monitoring along the coast area
Remarks	

INVENTORY

Site Name: Tarakan

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Equipment**							
1-1		**Transmitter**							
1		MF Transmitter	RH-00-2	005	Sailor	1995	F-TA-193: PH3		Good
2		MF Transmitter	RH-00-2	006	Sailor	1995	F-TA-193: PH3		Good
3		HF Transceiver (2 Sets)	RH-16-3	007	Sailor	1995	F-TA-193: PH3		Good
4		HF Transceiver	M-700	6160	ICOM	1996			Damaged
5		HF Transceiver	M-700		ICOM	1991			Damaged
1-2		**Operator Console/Desk/Rack**							
1-2-1		**MF Console**	RH-002	005	Sailor	1996	F-TA-193: PH3		Good
1		MF Transmitter (Type A)							
		- Tx (400W)	T1127L	504130	Sailor	1996	F-TA-193: PH3		Damaged
		- Tx (400W)	T1127L	504134	Sailor	1996	F-TA-193: PH3		Good
		- Exciter	S1301L	504138	Sailor	1996	F-TA-193: PH3		Good
		- Exciter	S1301L	504058	Sailor	1996	F-TA-193: PH3		Good
		- Tuner	H1201	504159	Sailor	1996	F-TA-193: PH3		Good
		- Tuner	H1201	504123	Sailor	1996	F-TA-193: PH3		Good
		- Power Supply	N1401	504147	Sailor	1996	F-TA-193: PH3		Good
		- Power Supply	N1401	522744	Sailor	1996	F-TA-193: PH3		Good
1-2-2		**MF/HF Console**	RH-16-3	1	Sailor	1996	F-TA-193: PH3		Good
1		MF/HF Equipment							
		- Tx (600 W) (on the wall)	T2131	513479	Sailor	1996	F-TA-193: PH3		Good
		- Tx (600 W) (on the wall)	T2131	513483	Sailor	1996	F-TA-193: PH3		Good
		- AC Power Supply	N2171	515495	Sailor	1996	F-TA-193: PH3		Damaged
		- AC Power Supply	N2171	515497	Sailor	1996	F-TA-193: PH3		Good
		- Antenna Coupler (on the wall)	AT2112	514514	Sailor	1996	F-TA-193: PH3		Good
		- Antenna Coupler (on the wall)	AT2112	514515	Sailor	1996	F-TA-193: PH3		Good
		- CW Unit	H2185	512149	Sailor	1995	F-TA-193: PH3		Good
		- CW Unit	H2185	514375	Sailor	1995	F-TA-193: PH3		Good
2		All Wave Receiver							
		- Control Unit HF1	RE2100	521646	Sailor	1996	F-TA-193: PH3		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
		- Control Unit HF2	RE2100	511895	Sailor	1996	F-TA-193: PH3		Good
		- Duplex Receiver	R2120T	237208	Sailor	1996	F-TA-193: PH3		Good
		- Duplex Receiver	R2120T	237196	Sailor	1996	F-TA-193: PH3		Good
		- Loudspeaker	H2054	2	Sailor	1996	F-TA-193: PH3		Good
3		Spot Receiver							
		- MF/HF DSC W/K RX	RM2150	511367	Sailor	1996	F-TA-193: PH3		Damaged
		- Power Supply	N2165	520221	Sailor	1996	F-TA-193: PH3		Good
4		Terminal Unit (DSC VHF/HF)							
		DSC System	TT-6200A	1	Sailor	1996	F-TA-193: PH3		Good
		- LAN	TT-101064	1	Sailor	1996	F-TA-193: PH3		Damaged
		- LAN I/O	TT-101065	1	Sailor	1996	F-TA-193: PH3		Damaged
		- CPU	TT-101051	1	Sailor	1996	F-TA-193: PH3		Good
		- CPU I/O	TT-10123	1	Sailor	1996	F-TA-193: PH3		Good
		- Paralel	TT-101190	1	Sailor	1996	F-TA-193: PH3		Damaged
		- Paralel I/O	TT-101217	1	Sailor	1996	F-TA-193: PH3		Good
		- VHF Modem	TT-102239	1	Sailor	1996	F-TA-193: PH3		Damaged
		- HF Modem	TT-1022337	1	Sailor	1996	F-TA-193: PH3		Good
		- Modem I/O	TT-102238	2	Sailor	1996	F-TA-193: PH3		Good
		- Alarm I/O	TT-101242	1	Sailor	1996	F-TA-193: PH3		Good
		- Power Supply	TT-101122	1	Sailor	1996	F-TA-193: PH3		Good
		- Power Input	TT-101241	1	Sailor	1996	F-TA-193: PH3		Good
		- DSC Op. Position Term /PC							
		1) Compaq Proline 466	-	160648-202	Sailor	1996	F-TA-193: PH3		Good
		2) Compaq Monitor 140	-	532AF05CB850	Sailor	1996	F-TA-193: PH3		Good
		- Printer (H-1252A) (On the Console)	TT-1608C	5CAP3193256	Sailor	1996	F-TA-193: PH3		Damaged
		- Monitor Display	TT-3602B	9603544	Sailor	1996	F-TA-193: PH3		Good
		- DSC Alarm	TT-1542B	1	Sailor	1996	F-TA-193: PH3		Good
5		Signal Control Panel							
		- Audio/Digital Matrix	MTX-1616	130	Sailor	1996	F-TA-193: PH3		Damaged
		- Keyer	KK-1	1	Sailor	1996	F-TA-193: PH3		Good
		- Loudspeaker	H2054	2	Sailor	1996	F-TA-193: PH3		Good
6		Telephone Repeater (Phone Pacth)							
		- Radio/Tel I/F Unit	RTU-280	346	Sailor	1996	F-TA-193: PH3		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
7		ARQ Equipment							
		- Radiotelex Modem	TT-1585E	9603504	Sailor	1996	F-TA-193: PH3		Good
		- ARQ Key Board	TT-1601 A	9603534	Sailor	1996	F-TA-193: PH3		Good
		- Printer (H1252A) (on the Console)	TT-1680C	5CAP3193327	Sailor	1996	F-TA-193: PH3		Damaged
		- Telex Alarm	TT-1542B	9603516	Sailor	1996	F-TA-193: PH3		Good
1-3		**Receiver**							
1		MF/HF Receiver	IC-R71E	0203	ICOM	1992			Damaged
2		MF/HF Receiver	NRD-15J	BR-12241	JRC	1972			Damaged
1-4		**VHF System**							
1		VHF Transceiver (3 Sets)	RH-16-1	007	Sailor	1995	F-TA-193: PH3		Good
2		VHF Transceiver	M-58	02070	ICOM	1996	F-TA-193: PH3		Good
3		VHF Transceiver	227 YH	BH-16877	JRC	1989	F-TA-193: PH3		Good
4		Operation Console	RH-16-1	007	Sailor	1996	F-TA-193: PH3		Good
		Multichannel VHF Transceiver							
		- VHF T/R (Modified)	RT 2048	523733	Sailor	1996	F-TA-193: PH3		Good
		- VHF T/R (Modified)	RT 2048	523704	Sailor	1996	F-TA-193: PH3		Good
		- VHF T/R (Modified)	RT 2048	523714	Sailor	1996	F-TA-193: PH3		Good
		- VHF T/R (Modified)	RT 2048	523689	Sailor	1996	F-TA-193: PH3		Good
		- Linier Power Amplifier	A2080BE-H	360	Sailor	1996	F-TA-193: PH3		Good
		- Linier Power Amplifier	A2080BE-H	573	Sailor	1996	F-TA-193: PH3		Good
		- Linier Power Amplifier	A2080BE-H	237	Sailor	1996	F-TA-193: PH3		Good
		- Linier Power Amplifier	A2080BE-H	310	Sailor	1996	F-TA-193: PH3		Good
		- Duplex Filter	-	2	Sailor	1996	F-TA-193: PH3		Good
5		CH-70 VHF T/R							
		- VHF T/R	RT2048	523712	Sailor	1996	F-TA-193: PH3		Good
		- High Low I/F Unit (Relay Box)	-	2	Sailor	1996	F-TA-193: PH3		Good
		- RF Power Amplifier	A2080BE-H	221	Sailor	1996	F-TA-193: PH3		Good
		- AC Power Supply	N163S	516304	Sailor	1996	F-TA-193: PH3		Good
		- DC Power Supply	N420	1	Sailor	1996	F-TA-193: PH3		Good
		- AC Power Supply	PSF-1	TWR/12770/043	Sailor	1996	F-TA-193: PH3		Good
6		Term Equipt (DSC VHF/HF)							
		- Audio/Digital Matrix	MTX-1616	128	Sailor	1996	F-TA-193: PH3		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
7		Telephone Repeater							
		- Radio/Tel I/F Unit	RTU-280	184	Sailor	1996	F-TA-193: PH3		Good
		- Telephone set with call timer	-	2	Sailor	1996	F-TA-193: PH3		Damaged
		- Headset	DM 811	2	Sailor	1996	F-TA-193: PH3		Damaged
		- Hand set	-	6	Sailor	1996	F-TA-193: PH3		Good
		- Desk Microphone	-	2	Sailor	1996	F-TA-193: PH3		Good
		- Quartz Clock	-	1	Sailor	1996	F-TA-193: PH3		Good
		- Service Engineer Kit	-	1	Sailor	1996	F-TA-193: PH3		Good
		- Mouse	-	1	Sailor	1996	F-TA-193: PH3		Good
		- Instr. Manual Comp. Compaq	-	1	Sailor	1996	F-TA-193: PH3		Good
		- Chair	-	1	Sailor	1996	F-TA-193: PH3		Good
2		**Tower & Antenna System**							
2-1		**Tower & Mast**							
		TX Station							
1		20mH Tower (3 Sets)	Triangle						Good
2-2		**Antenna System**							
		TX Station							
1		Single Tower Antenna				1991			Good
2		3-Wire T Type Antenna	T-Type		JRC	1972			Good
3		T-Type Antenna	T-Type		ICOM	1991			Good
4		Celwave VHF Antenna (3 Sets)	Dipole		Sailor	1996	F-TA-193: PH3		Good
5		AAS HF7 Antenna	Dipole		Sailor	1995	F-TA-193: PH3		Good
6		Multi Doublet Antenna	E-22		Furuno	1995			Good
7		AAD Cage Antenna	CA 5/1-20-15		Sailor	1996	F-TA-193: PH3		Good
8		I/L Antenna for T/R	HF7	1	Sailor	1996	F-TA-193: PH3		Good
9		VHF 3 Antenna		3					Good
2-3		**Antenna Switch**							
		- Desk Microphone		1	Sailor	1996	F-TA-193: PH3		Good
1		Automatic Antenna Tuner	AT-130		ICOM	1995			Good
2		Antenna Distributor	AAD10/1/A-J1-6G	1	Sailor	1996	F-TA-193: PH3		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
3		**Power Supply Equipment**							
3-1		**Power Distribution Board**							
1		7.5kVA PDB for TX/RX		9505	Sailor	1996	F-TA-193: PH3		Good
2		Control Panel (AMF)							
		- 10 kVA Single Standby	PL 95-7s	9510	Sailor	1996	F-TA-193: PH3		Good
		Starting, Fuel, Exhaust System	-	1	-	1996	F-TA-193: PH3		Good
		Fuel Day Tank							
		- 100 L	-	1	-	1996	F-TA-193: PH3		Good
		- Fuel Control Unit	-	1	-	1996	F-TA-193: PH3		Good
		Fuel Storage Tank							
		- 1000 L	-	1	-	1996	F-TA-193: PH3		Good
3-2		**Isolation Transformer**							
1		Trafo	IST 10P3	9505	PNT	1995			Good
2		7.5kVA, 4W, 3P	IST 10P3	9505	Sailor	1996	F-TA-193· PH3		Good
3-3		**Step-Up Transformer**							
1		Step-Up Transformer	SUT 10P3	9511	PNT	1995			Good
2		9.9kVA, 4W, 3P	STU 10P3	9511	Sailor	1996	F-TA-193: PH3		Good
3-4		**UPS & AVR**							
1		5kVA AVR	NBZ-295A	BP-295A	JRC	1972			Good
2		2.5kVA AVR	AVR 7P3	9513	PNT	1995	F-TA-193· PH3		Good
3		DC Power Supply Regulator	PS-450-AX		WELL	1996			Good
4		DC Power Supply Regulator	SP-3500		Swallow	1995			Good
5		DC Power Supply Regulator	DM 130MVZ		Alinco	1994			Good
6		DC Power Supply Regulator	EP 3010		Alinco	1992			Good
7		Battery Charge			Delta	1995			Damaged
8		Accumulator (x3)	N 200		Gold Star	1995			Good
9		AVR : 7.5kVA, 4W, 3P	AVR7P3	9513	Sailor	1996			Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
3-5		**Engine Generator**							
1		Diesel Motor	V 1505	664664	Kubota	1995	F-TA-193: PH3		Good
2		Diesel Motor	TS 230N	1323003	Yanmar	1996	F-TA-193: PH3		Damaged
3		Diesel Motor	TS 155C		Yanmar	1973			Good
4		AC Stamford Generator	BCI-164D26	CO5168412	Newage	1995	F-TA-193: PH3		Good
5		AC Generator	FA 10 F	0468787	Denyo	1996	F-TA-193: PH3		Good
6		AC Generator	730C	0163	Osaka	1973			Good
7		7.5kVA Single Standby AMF	PL-95-7S	9710	PNT	1995	F-TA-193: PH3		Good
8		Diesel E/G							
		Single Stanby							
		- 10 kVA, 380V,3P, 4W	EG 10 RA	1	JRC	1996	F-TA-193: PH3		Good
		Engine	V-1505E	V1505/664664	JRC	1996	F-TA-193: PH3		Good
		Generator	BC1-164-D	CO51684/2	JRC	1996	F-TA-193: PH3		Good
		E/G Panel	-	9513	JRC	1996	F-TA-193: PH3		Good
4		**Measuring Equipment**							
1		Analog Oscilloscope	PM 3065		Phillips	1995	F-TA-193: PH3		Good
2		Multi Meter (3 Sets)	Fluxe 87		Fluxe	1995	F-TA-193: PH3		Good
3		Insulation Tester	2406		Yokogama	1995	F-TA-193: PH3		Good
4		Multi Meter	SP-15D		Sanwa	1995	F-TA-193· PH3		Good
5		Multi Meter	CX-505	047132	Sanwa	1990			Good
6		Analog Oscilloscope	PM3065	DM639017	JRC	1996	F-TA-193: PH3		Good
		- Plobe/Lead (x2)		2					
		- Power Cable (x1)		1					
		- Black Cover (x1)		1					
		- Operation Manual		1					
7		Fluke 87 Multimeter	-	64510741	JRC	1996	F-TA-193: PH3		Good
8		Fluke 87 Multimeter	-	64510742	JRC	1996	F-TA-193: PH3		Good
9		Fluke 87 Multimeter	-	64510743	JRC	1996	F-TA-193: PH3		Good
		- Test Lead Set (x1)		3					
		- Hoester House Yellow (x1)		3					
		- User Manual (x2)		6					

INVENTORY

Site Name: Tarakan

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
10		Insulation Tester	2406A	65WA1524	JRC	1996	F-TA-193· PH3		Good
		- Line Plobe (x1)		1					
		- Earth Plobe (x1)		1					
		- Carrying Case (x1)		1					
		- Instruction Manual (x1)		1					
11		RF Coaxial Load Resistor	8201	17083	JRC	1996			Good
12		RF Coaxial Load Resistor	8201	17087	JRC	1996			Good
		- Connection Cable (x1)		2					
5		**Others**							
1		Air Conditioner			Carier	1995			Good
2		Air Conditioner	AF-1300M		Sharp	1994			Good
3		Air Conditioner			Sanyo	1994			Good
4		Type Writer	Carina 3		Olympia	1994			Good
5		Type Writer	Carina 3		Olympia	1994			Good
6		Tool Kit			Proskit	1996	F-TA-193: PH3		Good
7		Dummy Load	Bird 8201		Bird	1996	F-TA-193: PH3		Good
8		Vacum Cleaner	MC-2600	112860	National	1995	F-TA-193: PH3		Good
9		Compressor	MS-32		Mitsui	1996	F-TA-193: PH3		Good
10		Services Engineers Kit	RS 541-365	1	JRC	1996	F-TA-193: PH3		Good

STATUS OF TROUBLES

SITE NAME : TARAKAN **TRK-149-(1/1)**

Item / Equipment	HF Phone Patch Unit, AVR, MF Receiver / -		
Manufacturer	JPS Communications Inc, TNT Jakarta, JRC		
Manufacturer in year	1995, 1995, 1972		
Defective panel / unit	Damaged, Totally damaged, Must be changed		
Details of Trouble Status	Cause doe to:	Urgency of Repair	Repairing to be:
	☐ Aging		☑ Immediacy
	☑ Lightning		☐ By next year budget
	☐ Corrosion		☐ By next project
	☑ Lack of Spares		☐ Unnecessary
	☐ Others		

General Comment for Maintenance:

Can not be repaired, because there is no technician
Un-availability of spare unit
Difficult to find out the spare part
Un-sufficiency budget for maintenance

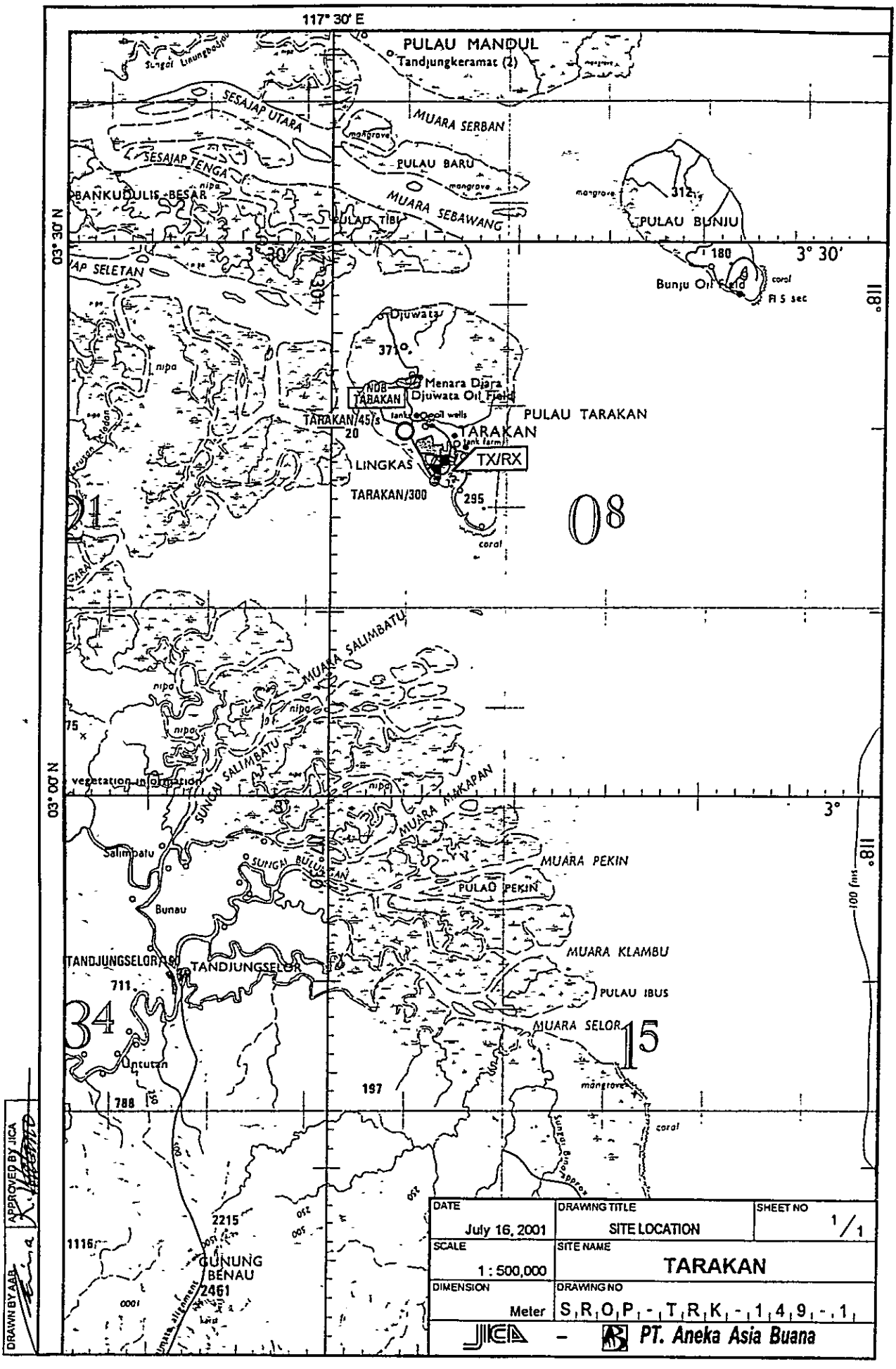
OPERATION SCHEDULE (FREQUENCIES)

Site Name: Tarakan

TRK-149-(1/1)

Call Sign : Mobile Service : PKO
Fix Service : 8AG

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
	Mobile Service				
1	500,0	A1A	400		
2	8 447,0	A1A	400		
3	2 182,0	J3E	600		
4	6 215,0	J3E	600		
5	8.291,0	J3E	600		
6	8 800,0	J3E	600		
7	2.187,5	F1B / DSC	600		
8	4 207,5	F1B / DSC	600		
9	6 312,0	F1B / DSC	600		
10	8.414,5	F1B / DSC	600		
11	12.577,0	F1B / DSC	600		
12	16 804,5	F1B / DSC	600		
13	6 329,0	F1B / NBDP	600		
14	8 431,0	F1B / NBDP	600		
15	2.174,5	F1B / NBDP	600		
	VHF Service				
15	156,800	F3E	50		
16	156,500	F3E	50		
17	161,600	F3E	50		
18	156,525	F1B	50		
	Fix Service				
19	5 316,0	J3E	600		
20	6 926,0	J3E	600		
21	11.060,0	J3E	600		
22	16 331,0	J3E	600		



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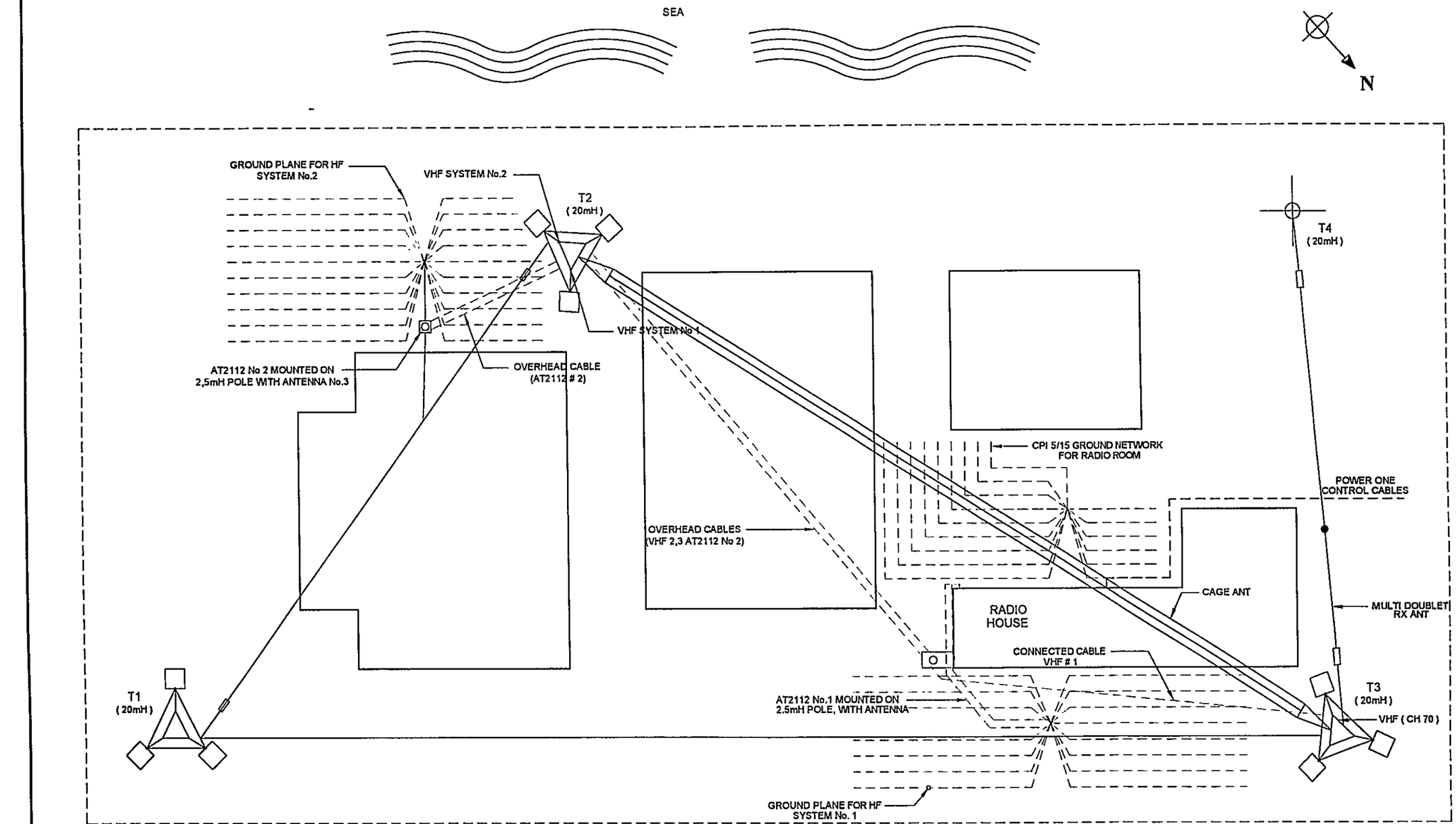
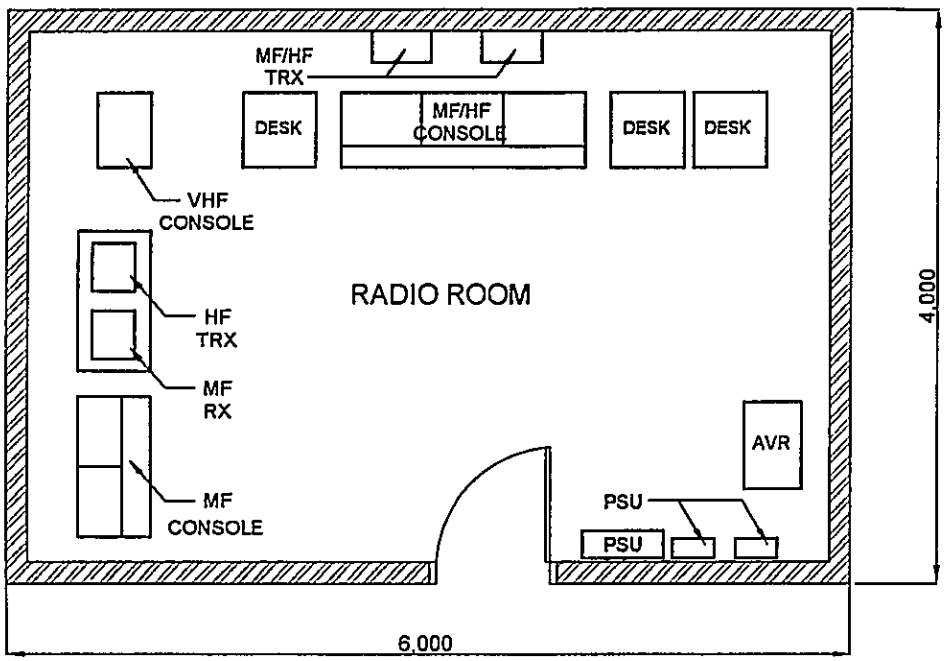
DIMENSION: Meter	DRAWING NO: S,R,O,P,-,T,R,K,-,1,4,9,-,1	
JICA – PT. Aneka Asia Buana		



APPROVED BY JICA

DRAWN BY AAB

DATE: July 05, 2001	DRAWING TITLE: ANTENNA LAYOUT	SHEET NO: 1/1
SCALE: 1 : 400	SITE NAME: TARAKAN	
DIMENSION: Milimeter	DRAWING NO.: SROP-TRK-149-2	
JICA – PT. Aneka Asia Buana		



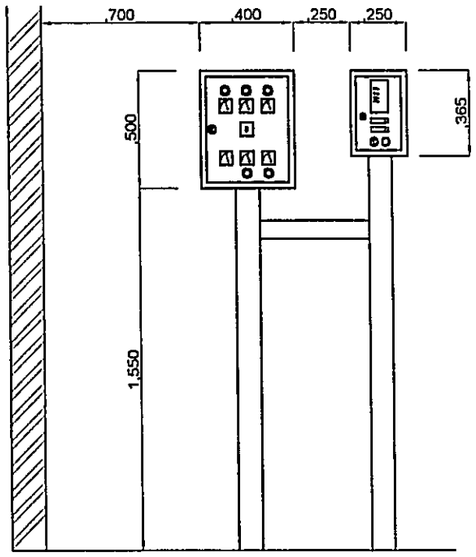
LEGEND

AVR : AUTOMATIC VOLTAGE REGULATOR
HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
TRX : TRANSCEIVER
VHF : VERY HIGH FREQUENCY

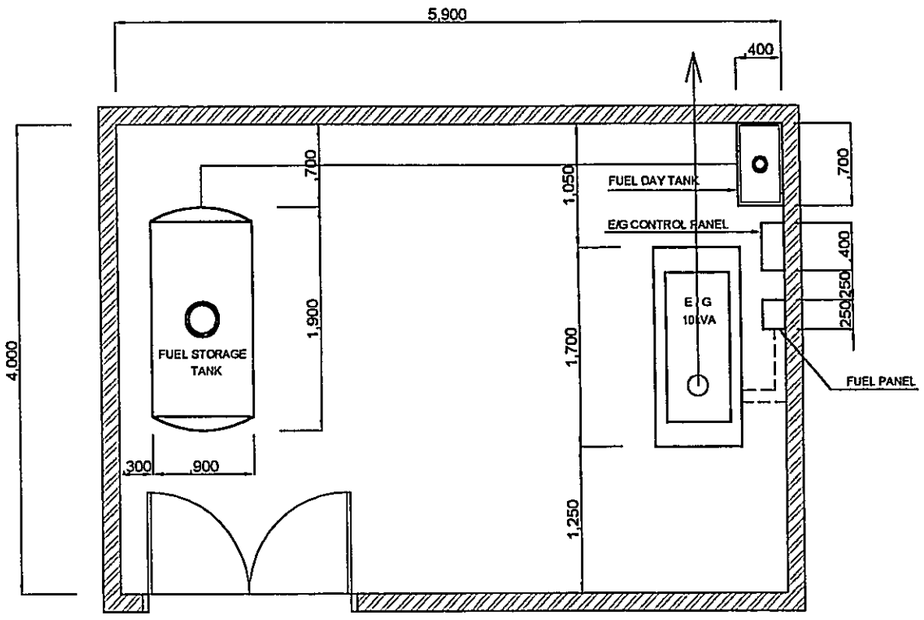
DATE: July 05, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 50	SITE NAME: TARAKAN	
DIMENSION: Milimeter	DRAWING NO.: SROP-TRK-149-3	
JICA –	PT. Aneka Asia Buana	

APPROVED BY JICA

DRAWN BY AAB



FRONT VIEW E/G PANEL

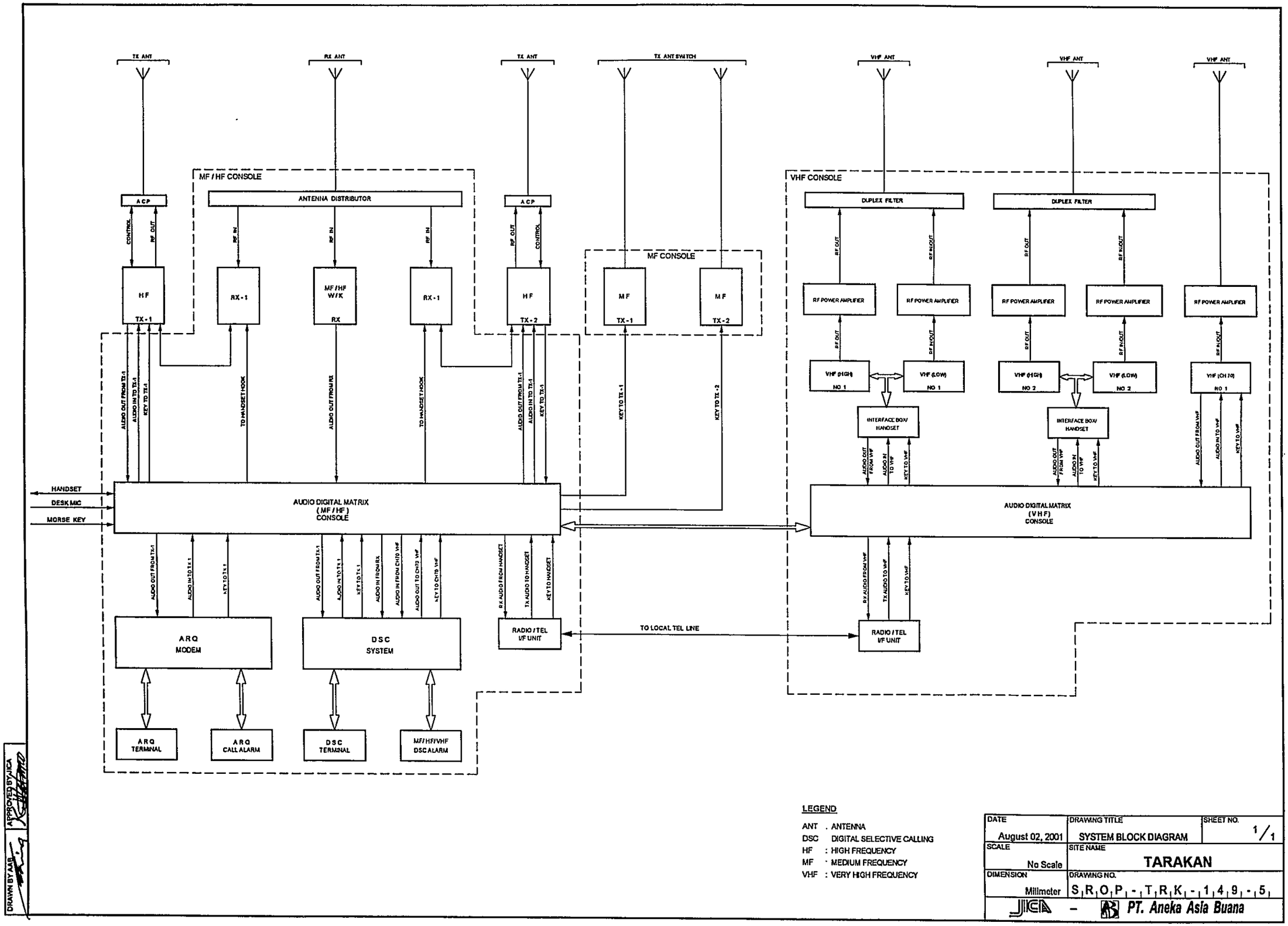


APPROVED BY JICA

DRAWN BY AAB

DATE: July 05, 2001	DRAWING TITLE: E/G FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 25 / 1 : 50	SITE NAME: TARAKAN	
DIMENSION: Millmeter	DRAWING NO: S,R,O,P,-,T,R,K,-,1,4,9,-,4,	

JICA – PT. Aneka Asia Buana



LEGEND

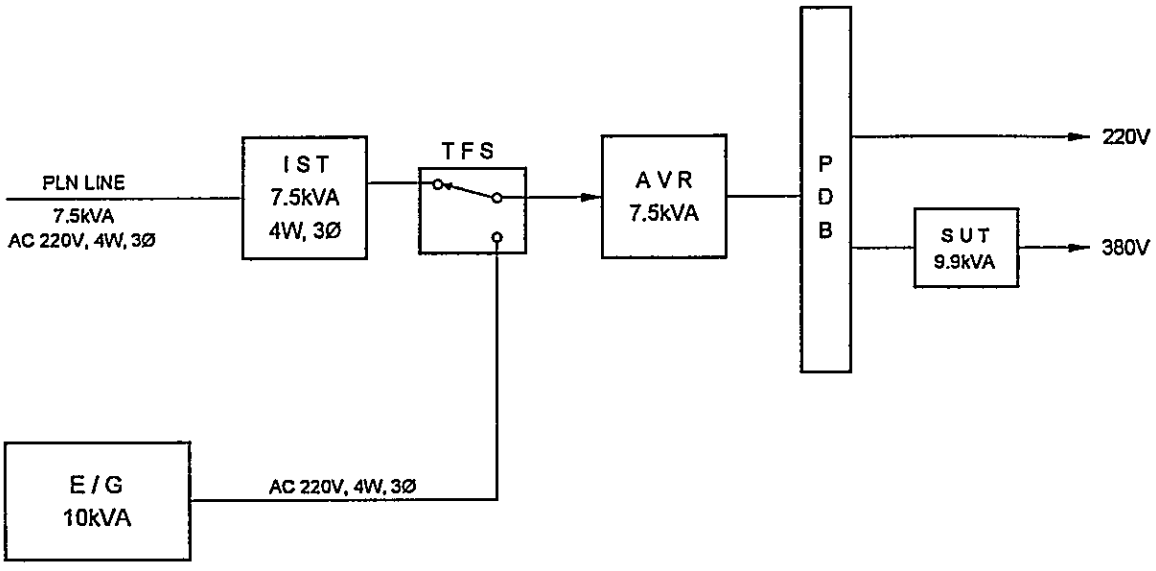
ANT . ANTENNA
DSC DIGITAL SELECTIVE CALLING
HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
VHF : VERY HIGH FREQUENCY

APPROVED BY JICA

DRAWN BY AAB

DATE: August 02, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: TARAKAN	
DIMENSION: Millimeter	DRAWING NO.: SROP-TRK-149-5	

JICA – PT. Aneka Asia Buana



LEGEND

AC	ALTERNATING CURRENT	TRX	TRANSCEIVER (ING)
AVR	AUTOMATIC VOLTAGE REGULATOR	V	VOLT
E/G	ENGINE GENERATOR	W	WIRE
HF	HIGH FREQUENCY	Ø	PHASE
IST	ISOLATION TRANSFORMER		
kVA	KILO VOLT AMPERE		
SUT	STEP UP TRANSFORMER		
TFS	TRANSFER SWITCH		

APPROVED BY JICA

DRAWN BY AAB

DATE: August 02, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO: 1 / 1
SCALE: No Scale	SITE NAME: TARAKAN	
DIMENSION: Milimeter	DRAWING NO.: SROP-TRK-149-6	
JICA –	PT. Aneka Asia Buana	

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

4th-A Class Coast Station
Nunukan
(Coast Station No. 150)

Table of Content

Note :
☑ Available in this list
☒ Not Available in this list
☐ Unnecessary in this list
* Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	NUNUKAN		
CLASS	4th-A	NO.	150

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
TX/RX	Jl. Pelabuhan Baru	21505		117° 40′ 00″ E	04° 49′ 00″ N

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Balik Papan [Taking time: 1:30 hr.]	☐ Highway	☐ Heavy	☑ Hotel	74,000
By Air to Tarakan [Taking time. 1:45 hr.]	☑ Paved	☑ Medium	☐ Motel	
By Ship to Nunukan [Taking time 0.5 hr.]	☐ Unpaved road	☐ Light		
		☐ None		

3. CONDITIONS OF STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☐ Flat	☑ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☑ ☐ Antenna
☑ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☑ ☐ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☐ Sandy			☑ ☐ Lightning system
Altitude	15.00 M		Telephone Lines	☑ ☐ Feeder Cable Way
Land area	687.50 m²		☑ 1 Lines	☐ ☑ City water

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Zinc
Type of ceiling	Triplex
Type of wall	Brick
Wall finish	Mortar
Flooring	Tile

Room Area (m²)	
Operation room	24.00
E / G room	5.00

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	110/220 V
Phase	1	1
Wire	2	2
kVA	1.2	3/2

Quality of PLN source			
Fluctuations	10 V ± %		
Availability of power per day	24 Hours		
Power interruption /month	9 Times		
Total interpt. hours /month	18 Hours		
Max. interpt. hours at once	18 Hours		

Existing Power Conditions		
	Good	Bad
Power Supply System	☑	☐
Operations of E/G	☑	☐
Operations of AVR	☐	☑

Capacity of fuel for engine	
Day tank	10 Liter
Main tank	k Liter

E/G Stand-by System	
☐	Single System
☑	Dual System

Remark

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	
Examples of major failure	
Sufficiency of spares	

Records of damages		Environmental Conditions		
		Good	Bad	
☐ Heavy rainfall				
☐ Storm		☑	☐	External noises
☐ Lightning		☑	☐	Air pollution
☐ Other calamity				

Institutional and Human Statuses				
1	Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2	Spares	☐ Enough	☐ Reasonable	☑ Not enough
3	Measuring eqpt./tools	☐ Enough	☑ Reasonable	☐ Not enough
4	Number of Operator	☐ Enough	☐ Reasonable	☑ Not enough
5	Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6	Capability of Operator	☑ Skilled	☐ Not so bad	☐ Not capable
7	Capability of Technician	☐ Skilled	☐ Not so bad	☑ Not capable

5. PERSONNEL FORMATIONS

	TX/RX	
Chief	1	
Operator (skilled)	(1)	()
Technician (skilled)	()	()
Administrator		
Total	2	

Training Record				
Course	Class	Location	Period	Trainee
Operator	Oru	Jakarta	94-95	1

SUMMARY OF COAST STATION

SITE	NUNUKAN		
CLASS	4th-A	NO.	150

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

7. COMMENTS

Suggestion	
Remarks	

INVENTORY

Site Name: Nunukan

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Equipment**							
1-1		**Transmitter**							
1		HF Transceiver	NTD/177	004-04	INTI	1981			Damaged
2		MF/HF Transceiver	FT/300C	08411066	CITRA	1985			Damaged
3		MF/HF Transceiver	IC-M700	01238	ICOM	1988			Good
4		MF/HF Transceiver	IC-77	1507	ICOM	1993			Good
1-2		**VHF System**							
1		VHF Transceiver	FM-400	247648	Furuno	1988			Damaged
2		VHF Transceiver	IC-M59	11030	ICOM	1997			Damaged
3		VHF Transceiver			Kenwood				Good
2		**Tower & Antenna System**							
2-1		**Antenna System**							
1		3W Antenna (1)	T						
2		Antenna (2)	L						
3		Antenna (1)	T						
2-2		**Antenna Switch**							
1		Antenna Coupler	XW-49	002-40	INTI	1981			
		Antenna Selector							
2		Automatic Antenna Tuner	AT-120		ICOM	1988			
3		Automatic Antenna Tuner	AT-120		ICOM	1988			Good
2-3		**Antenna Matching Unit**							
1		Antenna Matcher	CNW-419	H09174	DAIWA	1985			Not used
2		Antenna Coupler		002-49	INTI	1981			No Good
3		**Power Supply Equipment**							
3-1		**UPS & AVR System**							
1		Power Supply		002-40	INTI	1981			Good
2		Power Supply			Carlton	1990			Good

INVENTORY

Site Name: Nunukan

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
3		Power Supply			Well	1995			Good
4		Power Supply		7001062	Dakai	1997			Good
5		Accumulator 2x12V/50AH			Yuasa	1994			
6		Accumulator 2x12V/100AH			NS	1996			
7		Battery Charger 110/220V			Kobe	1994			
8		Battery Charger 110/220V			Delta	1995			
3-2		**Engine Generator**							
1		Engine	TS-60C	014638	Yanmar	1981			
2		Engine	TS-130C	0442491	Yanmar	1985			
3		Generator C232KVA			DENYO	1981			
4		Generator 3KVA			DENYO	1985			
4		**Measuring Equipment**							
1		Multi Tester	YX-360TRE		Sanwa	1996			
5		**Others**							
1		Portable Fan		5755	Maspion	1985			
2		Hanging Fan			National	1997			

STATUS OF TROUBLES

SITE NAME : NUNUKAN **NNK-150-(1/1)**

Item / Equipment	MF/HF Transceiver / -		
Manufacturer	PT. Citra Kirana		
Manufacturer in year	1981		
Defective panel / unit	Damaged		
Details of Trouble Status	Cause doe to:	Urgency of Repair	Repairing to be:
	☑ Aging		☐ Immediacy
	☐ Lightning		☐ By next year budget
	☐ Corrosion		☐ By next project
	☐ Lack of Spares		☑ Unnecessary
	☐ Others		
General Comment for Maintenance:			

OPERATION SCHEDULE (FREQUENCIES)

Site Name: Nunukan

NNK-150-(1/1)

Call Sign : Mobile Service : PKO.8
Fix Service : 8AG7

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
	Mobile Service				
1	2 182,0	J3E	100		
2	6 215,0	J3E	100		
3	8 276,0	J3E	100		
4	8 800,0	J3E	100		
	VHF Service				
5	156 800,0	G3E	25		
	Fix Service				
6	5 316,0	J3E	100		
7					
8					
9					
10					
11					
12					
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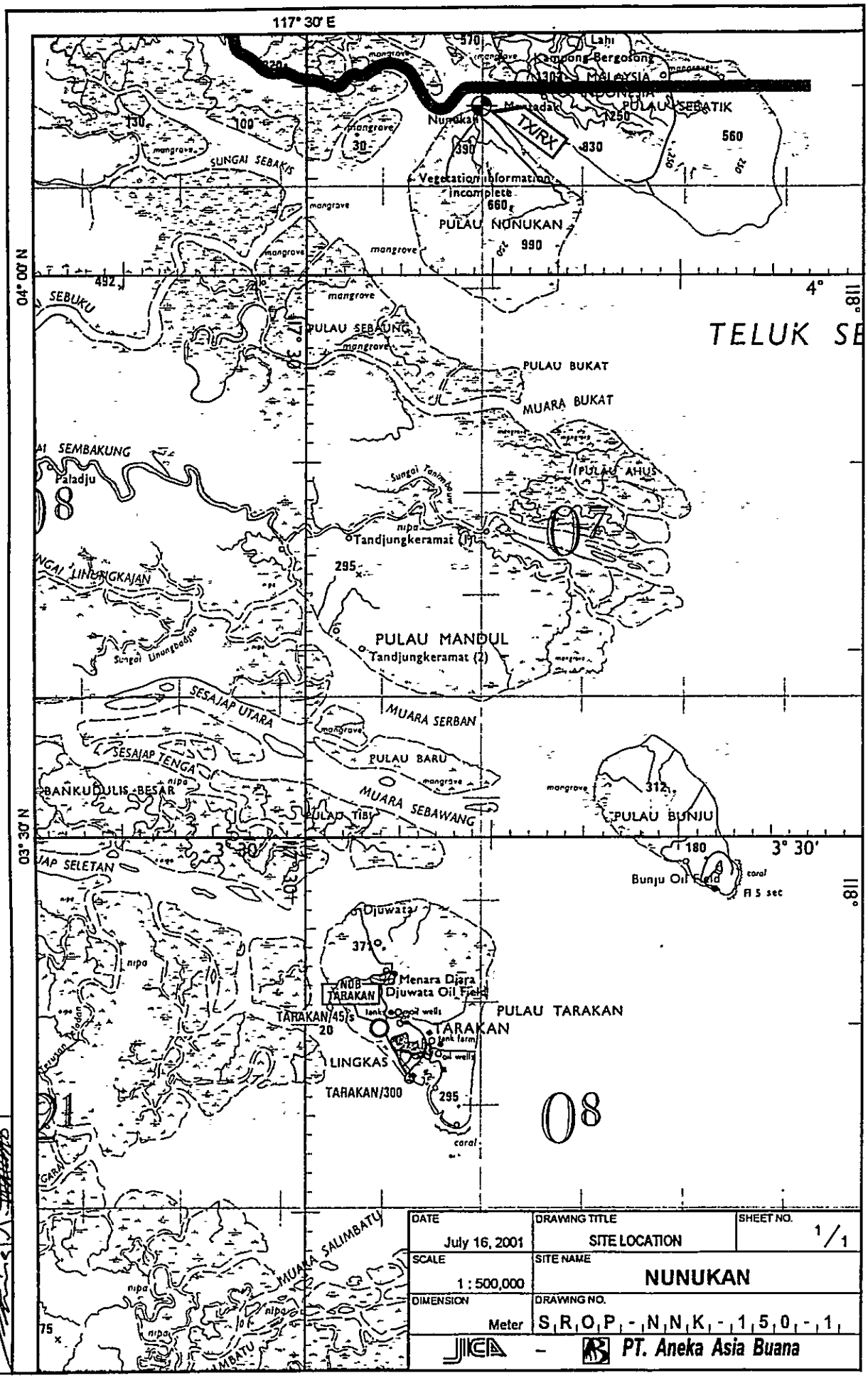
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					



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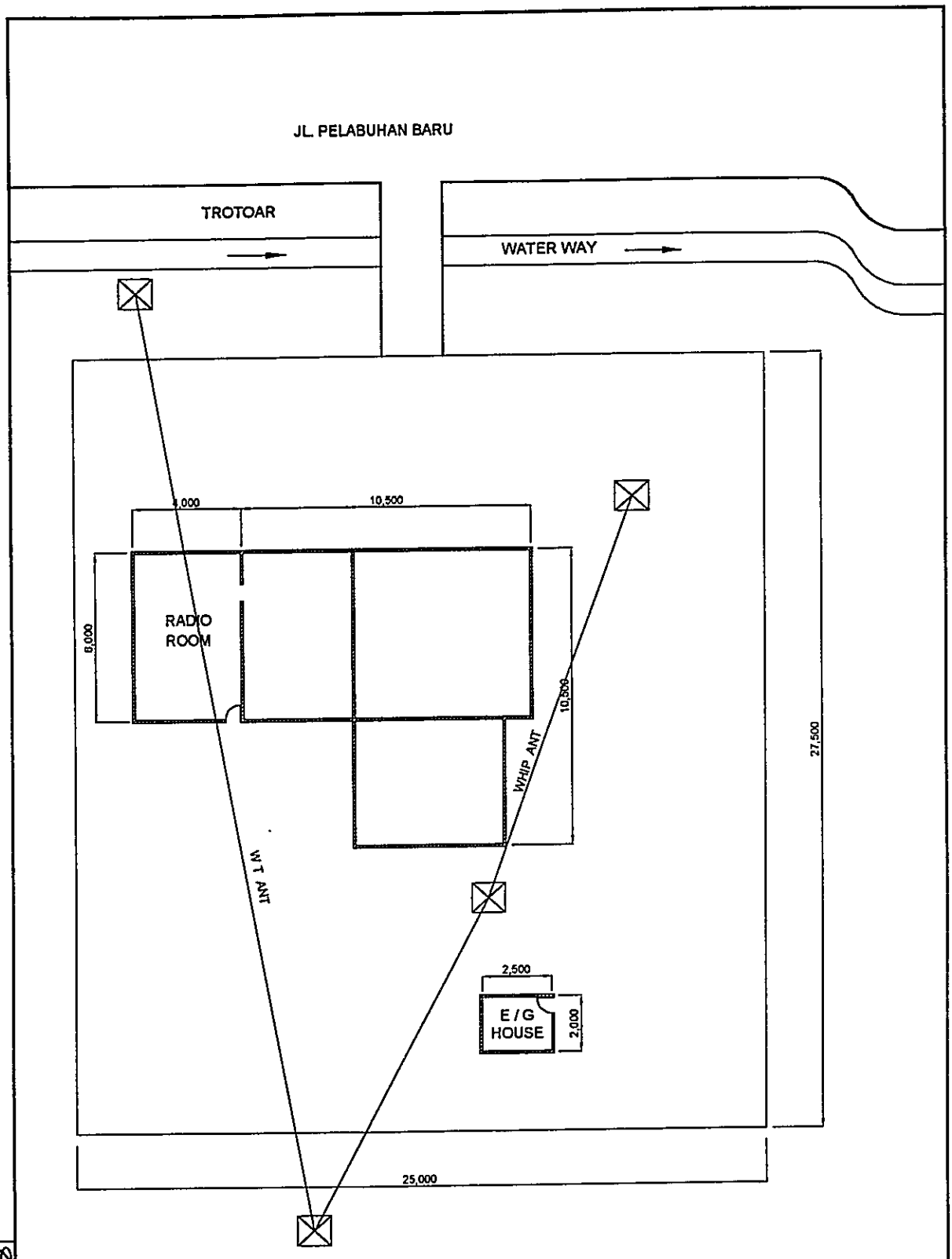
SCALE: 1 : 500,000	SITE NAME: NUNUKAN	
DIMENSION: Meter	DRAWING NO.: SROP-NNK-150-1	
JICA – PT. Aneka Asia Buana		

APPROVED BY JICA

DRAWN BY AAB



APPROVED BY JICA

DRAWN BY AAB

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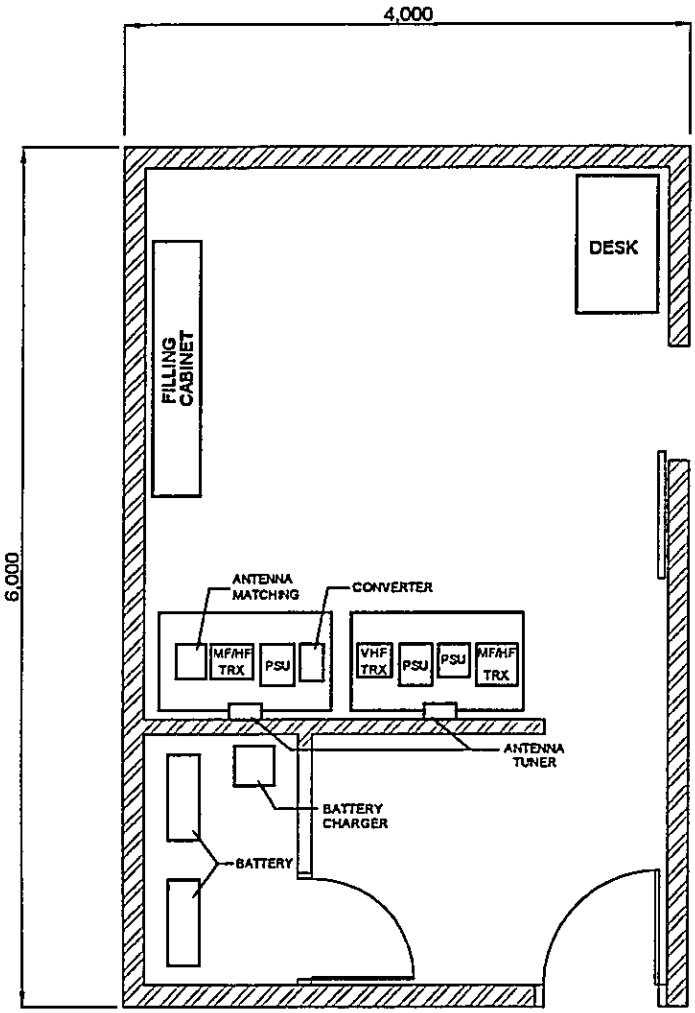
SCALE: 1 : 200	SITE NAME: NUNUKAN	
DIMENSION: Milimeter	DRAWING NO: SROP-NNK-150-2	
JICA –	PT. Aneka Asia Buana	



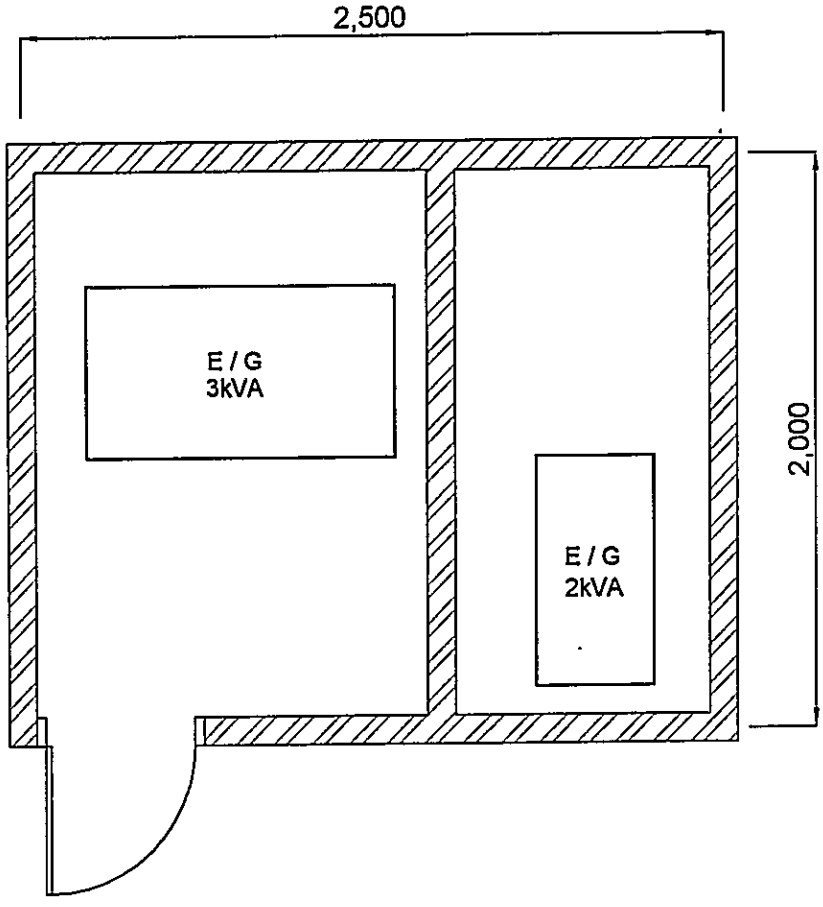
LEGEND

AMU . ANTENNA MATCHING UNIT
HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
PSU : POWER SUPPLY UNIT
TRX : TRANSCEIVER (ING)
VHF : VERY HIGH FREQUENCY

DATE: July 04, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 50	SITE NAME: NUNUKAN	
DIMENSION: Milimeter	DRAWING NO: S,R,O,P,-,N,N,K,-,1,5,0,-,3,	
JICA –	PT. Aneka Asia Buana	

APPROVED BY JICA

DRAWN BY AAB



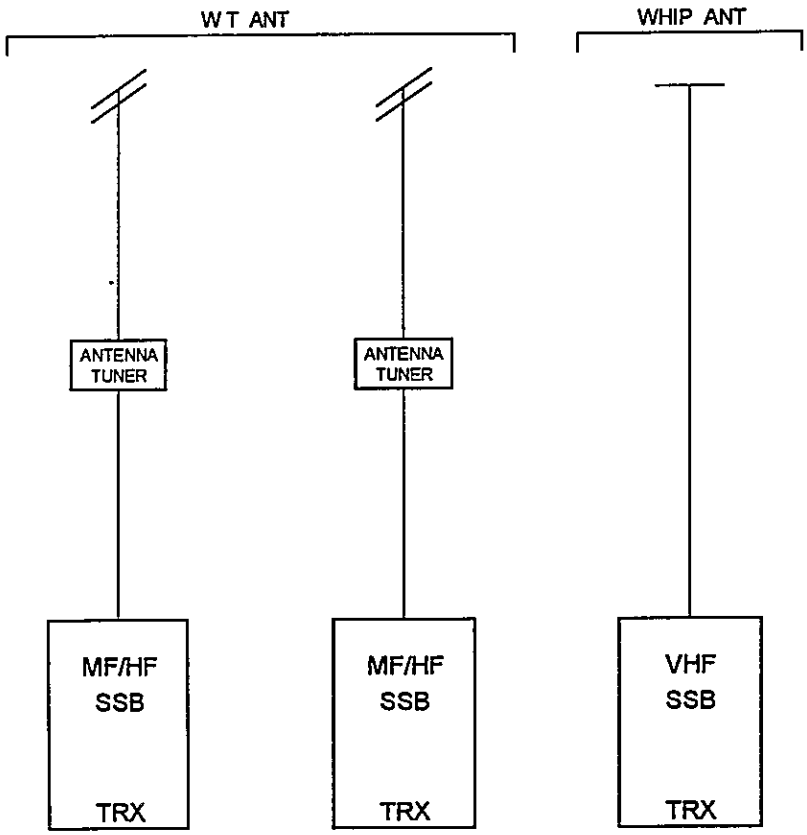
LEGEND

E/G : ENGINE GENERATOR

kVA : KILO VOLT AMPERE

DATE: July 04, 2001	DRAWING TITLE: E/G FLOOR LAYOUT	SHEET NO.: 1/1
SCALE: 1 : 25	SITE NAME: NUNUKAN	
DIMENSION: Milimeter	DRAWING NO: S,R,O,P,-,N,N,K,-,1,5,0,-,4,	
JICA – PT. Aneka Asia Buana		

DRAWN BY AAB: APPROVED BY MCA



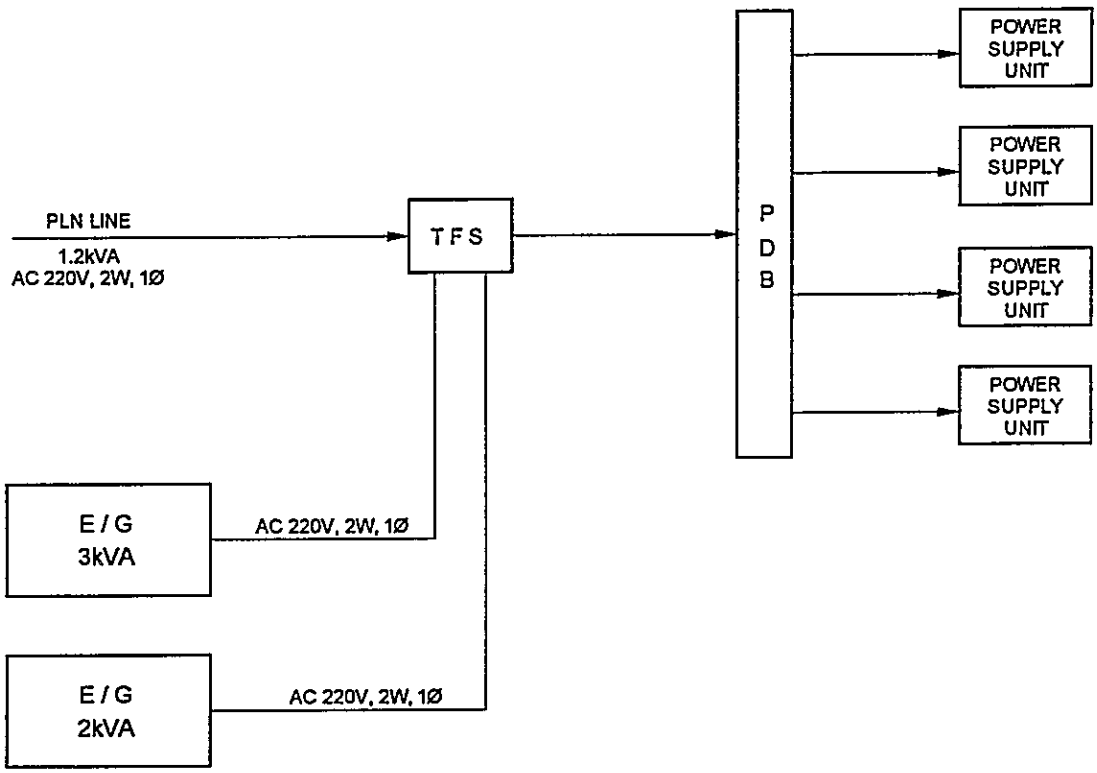
LEGEND

ANT : ANTENNA
HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
TRX : TRANSCEIVER (ING)
VHF : VERY HIGH FREQUENCY
WT : WIRE T TYPE

APPROVED BY JICA

DRAWN BY AAB

DATE: August 02, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: NUNUKAN	
DIMENSION: Milimeter	DRAWING NO.: SRO P - NNK - 150 - 5	
JICA – PT. Aneka Asia Buana		



LEGEND

AC	: ALTERNATING CURRENT
E/G	: ENGINE GENERATOR
HF	: HIGH FREQUENCY
kVA	: KILO VOLT AMPERE
TFS	. TRANSFER SWITCH
TRX	. TRANSCEIVER (ING)
V	: VOLT
W	WIRE
Ø	. PHASE

APPROVED BY JICA :

DRAWN BY AAB :

DATE: August 02, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: NUNUKAN	
DIMENSION: Milimeter	DRAWING NO: SROP-NNK-150-6	
JICA –	PT. Aneka Asia Buana	

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

4th-B Class Coast Station

Tg. Selor

(Coast Station No. 151)

Table of Content

- ☑ Summary of Coast Station
- ☒ Inventory
- ☐ Status of Trouble
- ☒ Operation Schedule (Frequencies)

TRX Drawings:

- ☑ Site Location
- ☒ Antenna Layout
- ☒ Equipment Floor Layout
- ☒ E/G Floor Layout
- ☒ System Block Diagram
- ☒ Power Block Diagram

Note :

- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list
- * Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	TG. SELOR		
CLASS	4th-B	NO.	151

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
TX/RX				117° 22′ 00″ E	02° 48′ 00″ N

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Balik Papan [Taking time: 1:30 hr.]	☐ Highway	☐ Heavy	☑ Hotel	
By Air to Tarakan [Taking time: 2:00 hr.]	☑ Paved	☐ Medium	☐ Motel	
By Ship to TG. Selor [Taking time: 1:30 hr.]	☐ Unpaved road	☑ Light		
		☐ None		

3. CONDITIONS OF STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☑ Ordinary	☐ Gravel	☐ Flood Tide	☐ ☑ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☐ ☑ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☐ ☑ Grounding system
☐ Valley	☐ Sandy			☐ ☑ Lightning system
Altitude	M		**Telephone Lines**	☐ ☑ Feeder Cable Way
Land area	m²		☐ Lines	☐ ☑ City water

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Zinc
Type of ceiling	Plywood
Type of wall	Brick
Wall finish	PC
Flooring	PC
Room Area (m²)	
Operation room	12.00
E / G room	
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	V
Phase	1	
Wire	2	
kVA	1,8	

Quality of PLN source		
Fluctuations	V ± 15 %	
Availability of power per day	24 Hours	
Power interruption /month	7 Times	
Total interpt. hours /month	20 Hours	
Max. interpt. hours at once	7 Hours	

Existing Power Conditions		
Good Bad		
☐ ☑ Power Supply System		
☐ ☑ Operations of E/G		
☐ ☑ Operations of AVR		
Capacity of fuel for engine		
Day tank	Liter	
Main tank	k Liter	
E/G Stand-by System		
☐ Single System		
☐ Dual System		

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Repaired in Tarakan
Examples of major failure	Antenna broken
Sufficiency of spares	Un-available

Records of damages		Environmental Conditions		
		Good	Bad	
☐ Heavy rainfall				
☐ Storm		☑	☐	External noises
☐ Lightning		☑	☐	Air pollution
☐ Other calamity				

Institutional and Human Statuses			
1 Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2 Spares	☐ Enough	☐ Reasonable	☑ Not enough
3 Measuring eqpt./tools	☐ Enough	☐ Reasonable	☑ Not enough
4 Number of Operator	☐ Enough	☐ Reasonable	☑ Not enough
5 Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6 Capability of Operator	☐ Skilled	☑ Not so bad	☐ Not capable
7 Capability of Technician	☐ Skilled	☐ Not so bad	☑ Not capable

5. PERSONNEL FORMATIONS

	TX/RX	
Chief		
Operator (skilled)	1 ()	()
Technician (skilled)	()	()
Administrator		
T o t a l	1	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF COAST STATION

SITE	TG. SELOR		
CLASS	4th-B	NO.	151

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

7. COMMENTS

Suggestion	Maritime Telecommunications covered by Tarakan Coast Station SSB/HF Transceiver for fixed/point to point Request for VHF facility and telephone call
Remarks	No Data (Operated by Kanpel Staff)

INVENTORY

Site Name: Tanjung Selor

TSR-151- (1 / 1)

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition

Data not Available doe to no Response from Coast Station

OPERATION SCHEDULE (FREQUENCIES)

Site Name: Tanjung Selor

TSR-151-(1/1)

Call Sign : Mobile Service : PKO 20
Fix Service :

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
	Mobile Service				
1	2 182,0	J3E	100		
2	2 690,0	J3E	100		
3	6 215,0	J3E	100		
4	6 510,0	J3E	100		
5					
6					
7					
8					
9					
10					
11					
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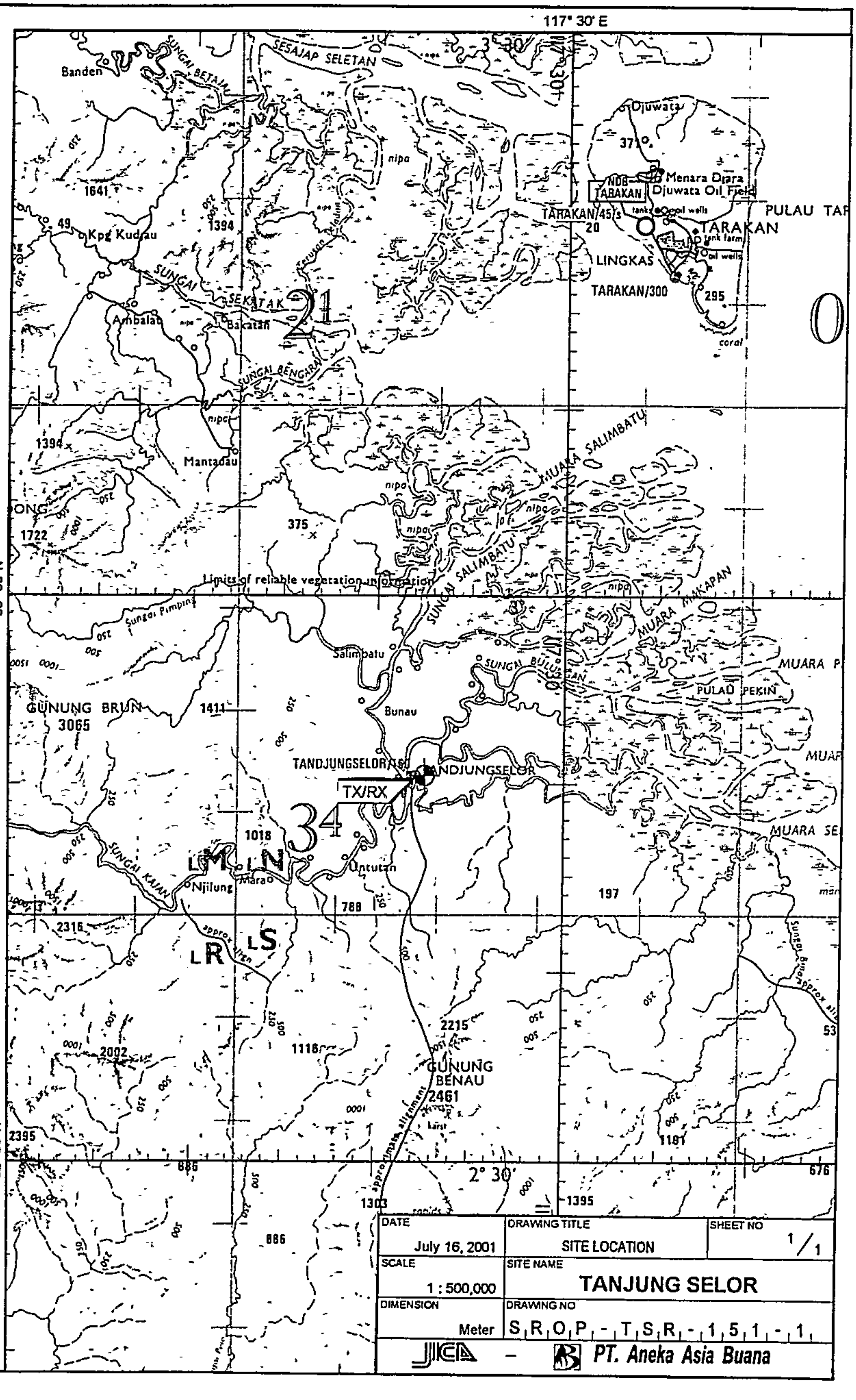
23					
24					
25					
26					
27					



DATE	DRAWING TITLE	SHEET NO
July 16, 2001	SITE LOCATION	1/1
SCALE	SITE NAME	
1 : 500,000	TANJUNG SELOR	
DIMENSION	DRAWING NO	
Meter	S R O P - T S R - 1 5 1 - 1	
JICA - PT. Aneka Asia Buana		

DRAWN BY AAB
APPROVED BY JICA:

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

4th-B Class Coast Station

Tg. Redeb

(Coast Station No. 152)

Table of Content

- ☑ Summary of Coast Station
- ☒ Inventory
- ☐ Status of Trouble
- ☒ Operation Schedule (Frequencies)

TRX Drawings:

- ☑ Site Location
- ☒ Antenna Layout
- ☒ Equipment Floor Layout
- ☒ E/G Floor Layout
- ☒ System Block Diagram
- ☒ Power Block Diagram

Note :

- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list
- * Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	TG. REDEP		
CLASS	4th-B	NO.	152

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
TX/RX	Jl. Pulau Derawan No. 388			117° 28′ 00″ E	02° 08′ 00″ N

2. GENERAL CONDITIONS

Moving from Jakarta			Site Access from Port	Road Traffic	Accommodation	Population
By Air	to Balik Papan	[Taking time: 1:30 hr.]	☐ Highway	☐ Heavy	☑ Hotel	118,960
By Air	to TG. Redep	[Taking time: 2:30 hr.]	☑ Paved	☐ Medium	☐ Motel	
By Car	to Location	[Taking time: 1:00 hr.]	☐ Unpaved road	☑ Light		
				☐ None		

3. CONDITIONS OF STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☑ Ordinary	☐ Gravel	☐ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☑ ☐ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☐ Sandy			☑ ☐ Lightning system
Altitude	4.00 M		**Telephone Lines**	☐ ☑ Feeder Cable Way
Land area	1,300 m²		☐ Lines	☑ ☐ City water

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Zinc
Type of ceiling	plywood
Type of wall	Brick
Wall finish	PC
Flooring	Tile
Room Area (m²)	
Operation room	3.00
E / G room	
Remark	No Data (Operated by Kanpel staff)

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	V
Phase	1	
Wire	2	
kVA		

Quality of PLN source		
Fluctuations	V ± %	
Availability of power per day	24 Hours	
Power interruption /month	15 Times	
Total interpt. hours /month	20 Hours	
Max. interpt. hours at once	6 Hours	

Existing Power Conditions		
Good	Bad	
☐	☑	Power Supply System
☐	☑	Operations of E/G
☐	☑	Operations of AVR

Capacity of fuel for engine	
Day tank	Liter
Main tank	k Liter

E/G Stand-by System	
☐	Single System
☐	Dual System

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Repaired in Tarakan
Examples of major failure	
Sufficiency of spares	

Records of damages		Environmental Conditions		
		Good	Bad	
☐ Heavy rainfall				
☐ Storm		☐	☑	External noises
☐ Lightning		☑	☐	Air pollution
☐ Other calamity				

Institutional and Human Statuses				
1	Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2	Spares	☐ Enough	☐ Reasonable	☑ Not enough
3	Measuring eqpt./tools	☐ Enough	☐ Reasonable	☑ Not enough
4	Number of Operator	☐ Enough	☐ Reasonable	☑ Not enough
5	Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6	Capability of Operator	☑ Skilled	☐ Not so bad	☐ Not capable
7	Capability of Technician	☐ Skilled	☐ Not so bad	☑ Not capable

5. PERSONNEL FORMATIONS

	TX/RX	
Chief		
Operator (skilled)	1 ()	()
Technician (skilled)	()	()
Administrator		
Total	1	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF COAST STATION

SITE	TG. REDEP		
CLASS	4th-B	NO.	152

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

7. COMMENTS

Suggestion	Communications between SSB and VHF does not active
Remarks	

INVENTORY

Site Name: Tanjung Redeb

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition

Data not Available doe to no Response from Coast Station

OPERATION SCHEDULE (FREQUENCIES)

Site Name: Tanjung Redeb

TRB-152-(1/1)

Call Sign : Mobile Service :
Fix Service :

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
1					
2					
3					
4					
5					
6					
7					
8					
9				**Data not Available doe to no Response from Coast Station**	
10					
11					
12					
13					
14					
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16					
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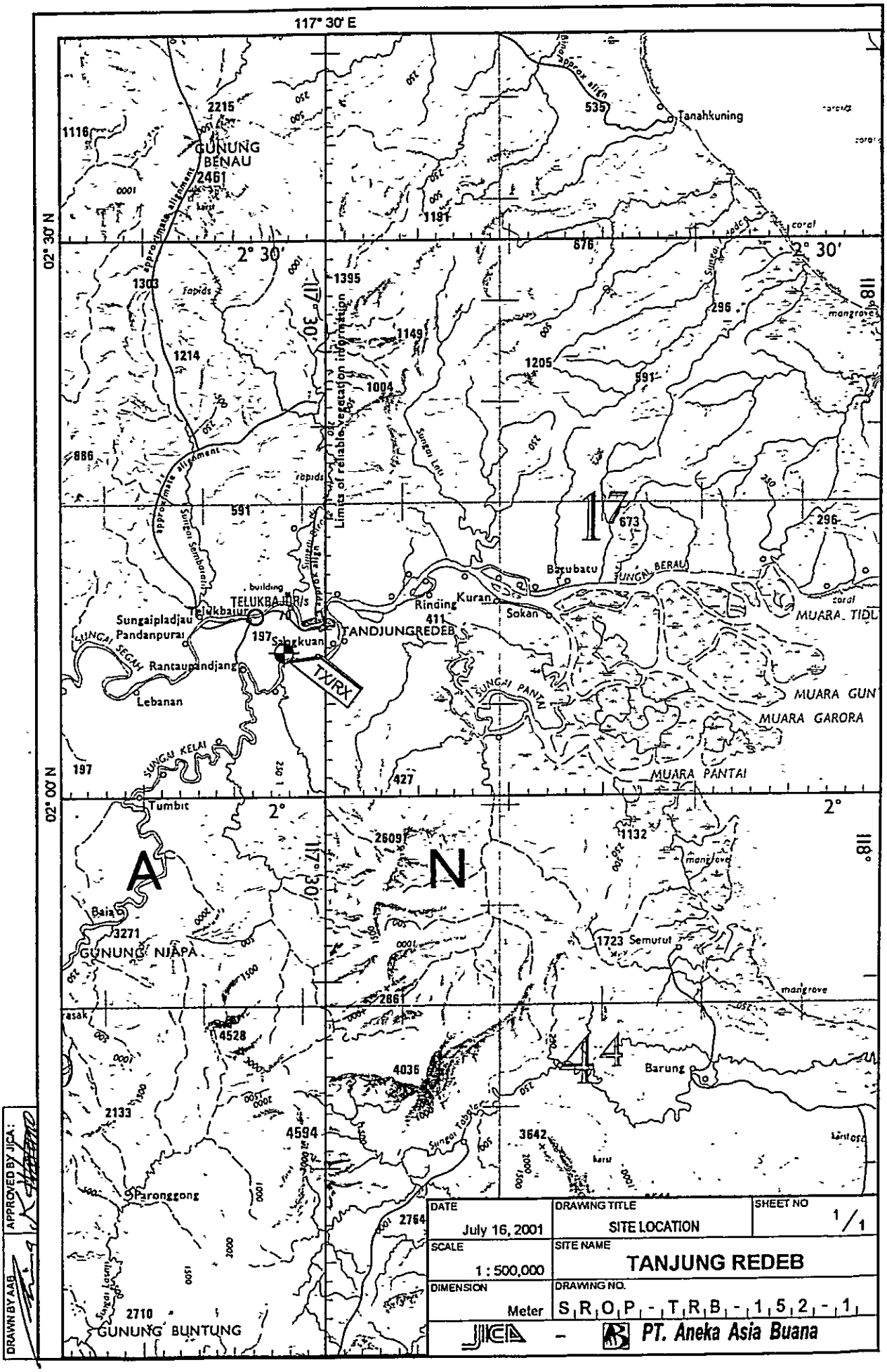
25					
26					
27					



DATE: July 16, 2001	DRAWING TITLE: SITE LOCATION	SHEET NO: 1/1
SCALE: 1 : 500,000	SITE NAME: TANJUNG REDEB	
DIMENSION: Meter	DRAWING NO.: SROP-TRB-152-1	

JICA – PT. Aneka Asia Buana

APPROVED BY JICA:

DRAWN BY AAB

THE STUDY FOR
MARITIME TRAFFIC SAFETY SYSTEM DEVELOPMENT PLAN
IN THE REPUBLIC OF INDONESIA

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

1ST CLASS DISTRICT NAVIGATION AREA (18)
MAKASSAR

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

1st Class District Navigation Area (18)

Makassar

Table of Content

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

1st Class District Navigation Office (Area-18)
Makassar

Table of Content

Note :
- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF DISNAV

SITE	MAKASSAR		
CLASS	1st	NO.	18

1. LOCATION

Address	Tel.	Fax	Longitude	Latitude
Jl. Madura No. 2, Ujung Pandang 90111	0411-320987,327505	0411-320987	119° 24′ 28″ E	05° 07′ 34.1″ S

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Makassar [Taking time: 2.00 hr.]	☐ Highway	☐ Heavy	☑ Hotel	
By Car to Location [Taking time 0.30 hr.]	☑ Paved	☑ Medium	☐ Motel	
	☐ Unpaved road	☐ Light		
		☐ None		

3. CONDITIONS OF DISNAV OFFICE

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☐ ☑ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☐ ☑ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☐ ☑ Grounding system
☐ Valley	☑ Sandy			☐ ☑ Lightning system
Altitude 10 m			Telephone Lines	☐ ☑ Feeder Cable Way
Land area 315 m²			☑ 2 Lines	☑ ☐ City water

3.2 Building Conditions

Constructions	
Num. of story	Two
Structure	Concrete
Type of roof	Plasterboard
Type of ceiling	Asbestos
Type of wall	Brick
Wall finish	Mortar
Flooring	Tile
Room Area (m²)	
Operation room	
E / G room	
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	V
Phase	3	
Wire	4	
kVA	5.9	

Quality of PLN source	
Fluctuations	220 V ± 10 %
Availability of power per day	24 Hours
Power interruption /month	5 Times
Total interpt. hours /month	10 Hours
Max. interpt. hours at once	2 Hours

Existing Power Conditions	Good	Bad
Power Supply System	☐	☐
Operations of E/G	☐	☐
Operations of AVR	☐	☐

Capacity of fuel for engine	
Day tank	Liter
Main tank	k Liter

E/G Stand-by System

☐ Single System

☐ Dual System

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	
Examples of major failure	
Sufficiency of spares	

Records of damages		Environmental Conditions	Good	Bad	
☐ Heavy rainfall					
☐ Storm			☐	☑	External noises
☐ Lightning			☐	☑	Air pollution
☐ Other calamity					

Institutional and Human Statuses			
1 Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2 Spares	☐ Enough	☐ Reasonable	☑ Not enough
3 Measuring eqpt./tools	☐ Enough	☐ Reasonable	☐ Not enough
4 Number of Operator	☐ Enough	☐ Reasonable	☐ Not enough
5 Number of Technician	☐ Enough	☐ Reasonable	☐ Not enough
6 Capability of Operator	☐ Skilled	☐ Not so bad	☐ Not capable
7 Capability of Technician	☐ Skilled	☐ Not so bad	☐ Not capable

5. PERSONNEL FORMATIONS

Chief	
Operator (skilled)	()
Technician (skilled)	()
Administrator	
T o t a l	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF DISNAV

SITE	MAKASSAR		
CLASS	1st	NO.	18

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

7. COMMENTS

Suggestion	Equipment facility same as equipment facility in Kanwil
Remarks	

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

Kanwil Office (Disnav Area - 18)
Makassar

Table of Content

- ☑ Summary of Coast Station
- ☑ Inventory
- ☐ Status of Trouble
- ☐ Operation Schedule (Frequencies)
- ☐ Site Location

Drawings:

- ☑ Antenna Layout
- ☑ Equipment Floor Layout
- ☐ E/G Floor Layout
- ☑ System Block Diagram
- ☑ Power Block Diagram

Note :

- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF KANWIL

SITE	MAKASSAR		
CLASS		NO.	18

1. LOCATION

Address	Tel.	Fax	Longitude	Latitude
Jl. Madura No 1	327505	320987	119° 24' 26.7" E	05° 07' 32.1" N

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Makassar [Taking time: 2.00 hr.]	☐ Highway	☐ Heavy	☑ Hotel	
By Car to Location [Taking time 0.45 hr.]	☑ Paved	☑ Medium	☐ Motel	
	☐ Unpaved road	☐ Light		
		☐ None		

3. CONDITIONS OF KANWIL OFFICE

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☐ ☑ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☑ Sandy			☑ ☐ Lightning system
Altitude	10 m		Telephone Lines	☑ ☐ Feeder Cable Way
Land area	315 m²		☐ Lines	☑ ☐ City water

3.2 Building Conditions

Constructions	
Num. of story	Two
Structure	Concrete
Type of roof	Zinc
Type of ceiling	Triplex
Type of wall	Brick
Wall finish	Mortar
Flooring	Tile
Room Area (m²)	
Operation room	2.50
E / G room	
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	V
Phase	3	
Wire	4	
kVA	5.9	

Quality of PLN source		Capacity of fuel for engine	
Fluctuations	220 V ± 10 %	Day tank	Liter
Availability of power per day	24 Hours	Main tank	k Liter
Power interruption /month	5 Times	E/G Stand-by System	
Total interpt. hours /month	10 Hours	☐ Single System	
Max. interpt. hours at once	2 Hours	☐ Dual System	

Existing Power Conditions	Good	Bad
☐ ☑ Power Supply System		
☐ ☐ Operations of E/G		
☐ ☐ Operations of AVR		

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Repaired by himself
Examples of major failure	Damaged by lightening
Sufficiency of spares	Not enough

Records of damages		Environmental Conditions	Good	Bad
☐ Heavy rainfall				
☐ Storm		☐ ☑ External noises		
☐ Lightning		☐ ☑ Air pollution		
☐ Other calamity				

Institutional and Human Statuses			
1 Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2 Spares	☐ Enough	☐ Reasonable	☑ Not enough
3 Measuring eqpt./tools	☐ Enough	☑ Reasonable	☐ Not enough
4 Number of Operator	☐ Enough	☑ Reasonable	☐ Not enough
5 Number of Technician	☐ Enough	☑ Reasonable	☐ Not enough
6 Capability of Operator	☐ Skilled	☑ Not so bad	☐ Not capable
7 Capability of Technician	☐ Skilled	☐ Not so bad	☐ Not capable

5. PERSONNEL FORMATIONS

Chief	1
Operator (skilled)	2 (1)
Technician (skilled)	1 (1)
Administrator	
Total	4

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF KANWIL

SITE	MAKASSAR		
CLASS		NO.	18

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

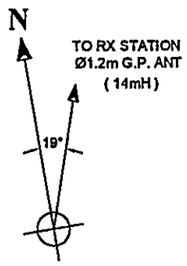
7. COMMENTS

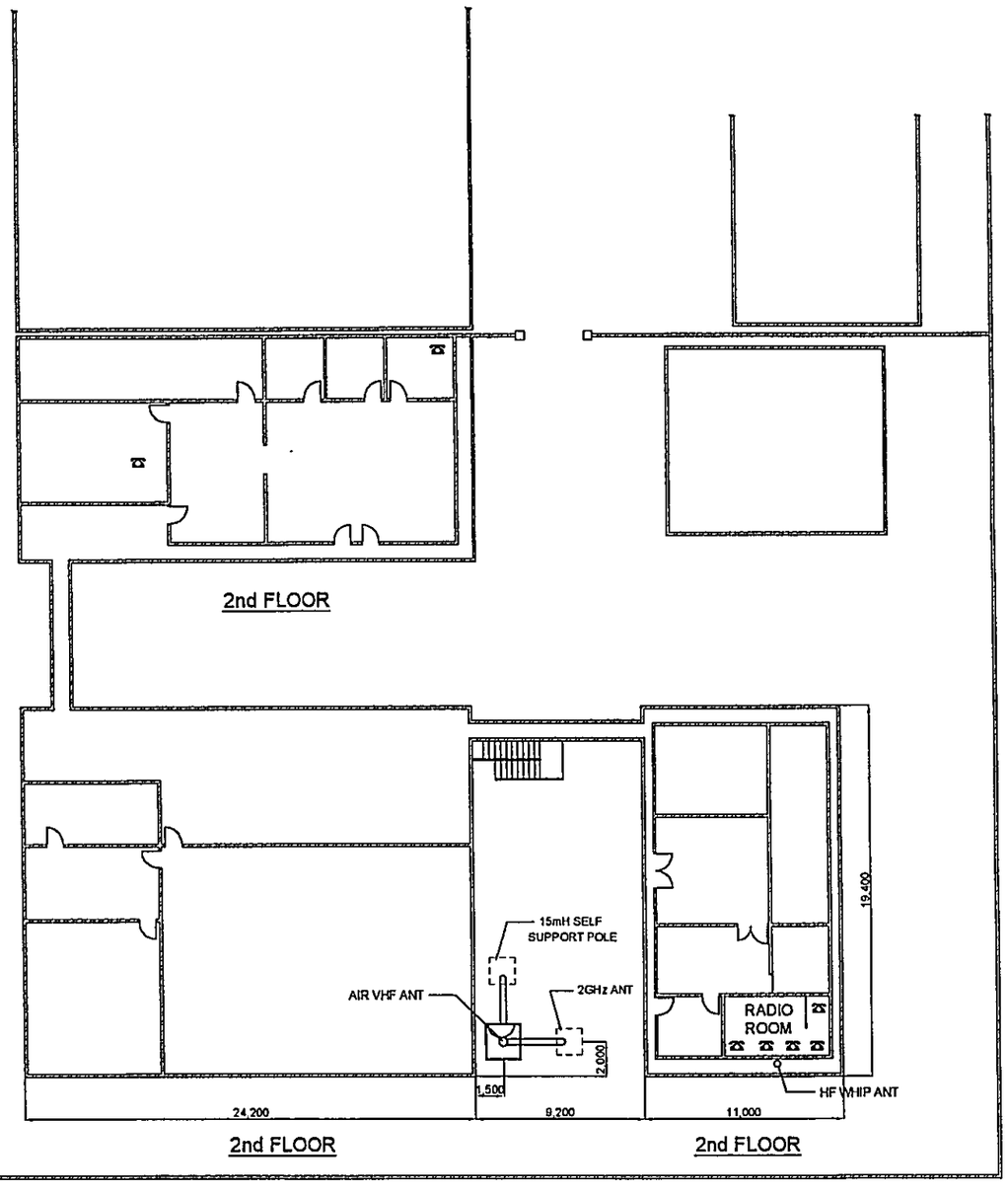
Suggestion	Equipment facility is better removed to Makassar Coast Station, because Makassar Coast Station also work for Communication Facility (SARCOM)
Remarks	

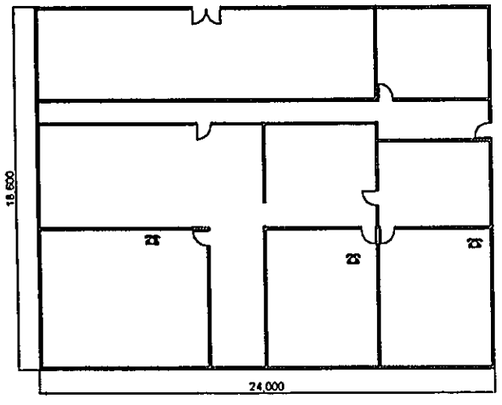
INVENTORY

Site Name: Kanwil Makassar

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Equipment**							
1-1		**Remote Control System**							
1		DRCS-SS Type-III	-	ET-12134-1	JRC	1990	SAR Project		Good
2		DRCS-SS Type-III	-	ET-12134-2	JRC	1990	SAR Project		Good
1-2		**Search & Monitor Console**							
1		SAR Console	II-1	BP-91898	JRC	1989	SAR Project		Good
2		- Speaker Panel	NVA-64	-	JRC	1989	SAR Project		Good
3		- TX Telecontroller	NCH-3000P	-	JRC	1989	SAR Project		Good
4		- Scanning Unit	NDH-93	-	JRC	1989	SAR Project		Good
5		- Receiver	NRD-93	-	JRC	1989	SAR Project		Good
6		- Dialing Unit	NQU-13A	-	JRC	1989	SAR Project		Good
7		- Signal Controller	NQP-21	-	JRC	1989	SAR Project		Good
8		- RX Controller	NCG-95	-	JRC	1989	SAR Project		Good
9		- Digital Clock	NKH-17	-	JRC	1989	SAR Project		Damaged
10		- Auto Alarm 2182 KHz Monitor	CCN-18	-	JRC	1989	SAR Project		Good
11		- Telephone Device	NQW-143	-	JRC	1989	SAR Project		Good
1-3		**VHF System**							
1		Air VHF Radio	NTE-26	-	JRC	1989	SAR Project		Good
2		**Power Supply Equipment**							
2-1		**Power Distribution Board**							
1		BPS Type-1		167064	JRC	1989	SAR Project		Not So Good
2		BPS Type-2		S6493	JRC	1989	SAR Project		Not So Good







1st FLOOR

2nd FLOOR

SEA

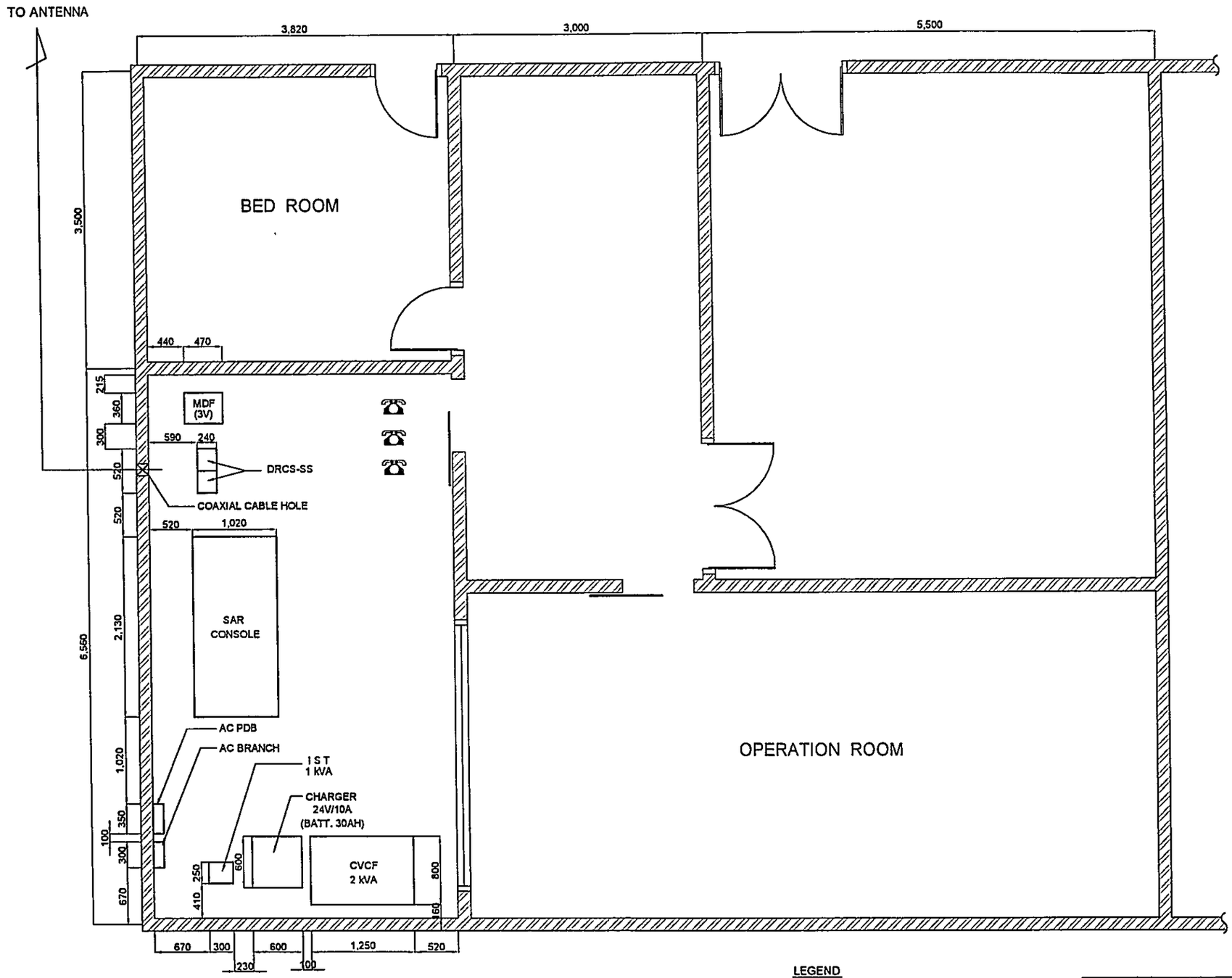
LEGEND

ANT : ANTENNA
HF : HIGH FREQUENCY
VHF : VERY HIGH FREQUENCY
☎ : TELEPHONE

DATE: July 10, 2001	DRAWING TITLE: ANTENNA LAYOUT	SHEET NO.: 1/1
SCALE: 1 : 300	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO: KWIL-MKS-153-2	
JICA – PT. Aneka Asia Buana		

DRAWN BY AAB

APPROVED BY JICA



LEGEND

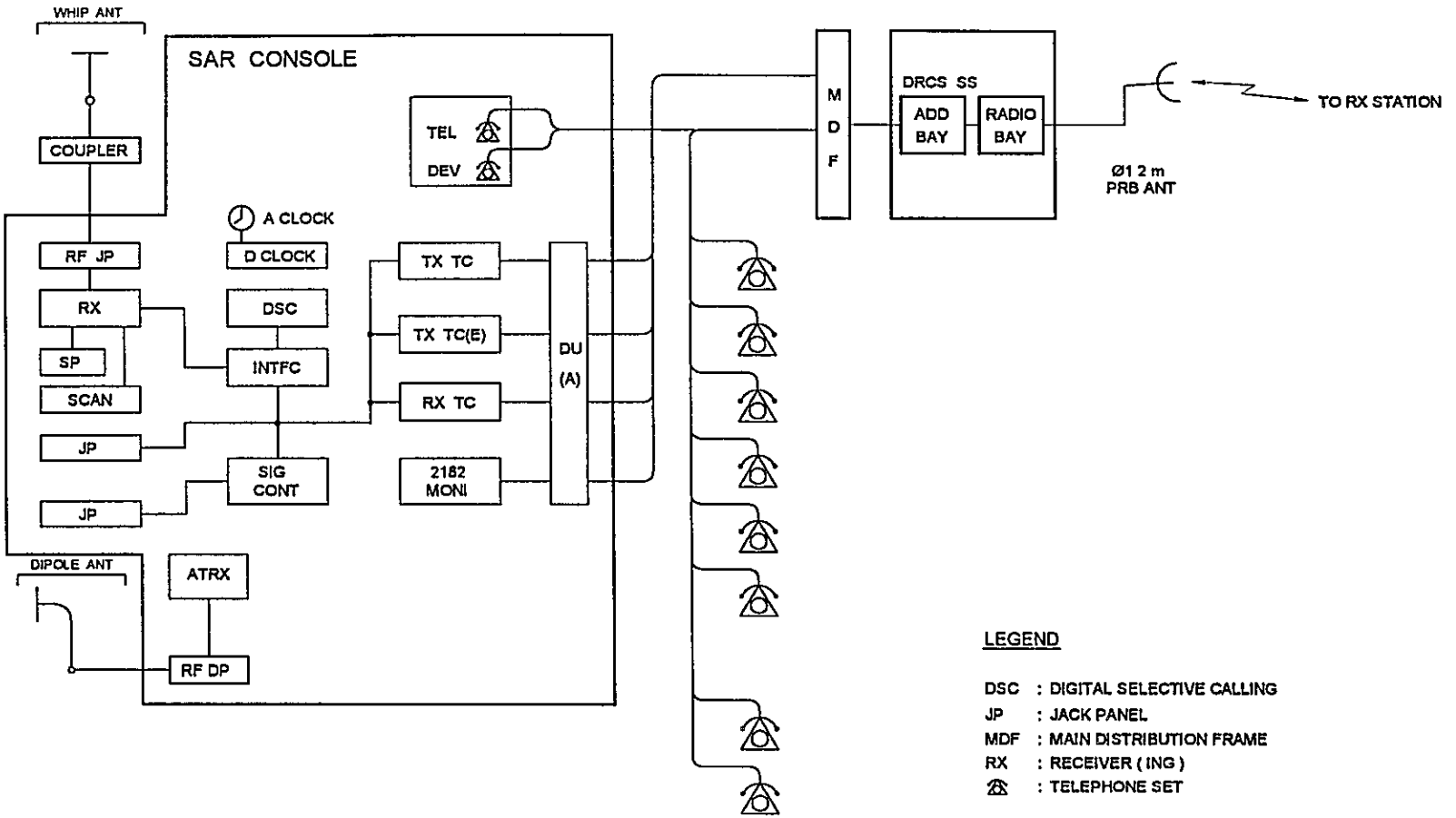
AC : ALTERNATING CURRENT
BATT : BATTERY
IST : ISOLATION TRANSFORMER
kVA : KILO VOLT AMPERE
MDF : MAIN DISTRIBUTION FRAME
☎ : TELEPHONE SET

DRAWN BY A&B:
APPROVED BY JICA:

DATE: July 10, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 50	SITE NAME: MAKASSAR	
DIMENSION: Millimeter	DRAWING NO.: KWIL-MKS-153-3	

JICA – PT. Aneka Asia Buana

DRAWN BY AAB | APPROVED BY JICA

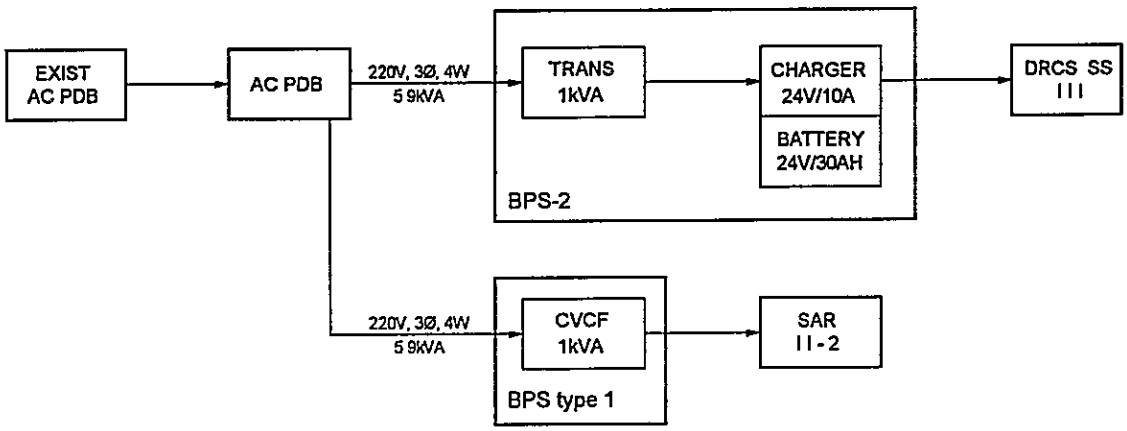


LEGEND

DSC : DIGITAL SELECTIVE CALLING
JP : JACK PANEL
MDF : MAIN DISTRIBUTION FRAME
RX : RECEIVER (ING)
: TELEPHONE SET

DATE	July 09, 2001
SCALE	No Scale
DIMENSION	Milimeter
DRAWING NO	K,W,1,L,-,M,K,S,-,1,5,3,-,5,
SITE NAME	MAKASSAR
DRAWING TITLE	SYSTEM BLOCK DIAGRAM
SHEET NO	1/1

JICA - PT. Aneka Asia Buana



LEGEND

BPS : BATTERY POWER SUPPLY
kVA : KILO VOLT AMPERE
PDB : POWER DISTRIBUTION BOARD
V : VOLT
Ø : PHASE

DRAWN BY AAB:

APPROVED BY JICA:

DATE: July 09, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: KWIL-MKS-153-6	

JICA – PT. Aneka Asia Buana

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

ADPEL/KPLP Office (Disnav Area - 18)
Makassar

Table of Content

- ☑ Summary of Coast Station
- ☑ Inventory
- ☐ Status of Trouble
- ☐ Operation Schedule (Frequencies)
- ☐ Site Location
- ☑ Antenna Layout
- ☑ Equipment Floor Layout
- ☐ E/G Floor Layout
- ☑ System Block Diagram
- ☑ Power Block Diagram

Note :
- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF ADPEL / KPLP

SITE	MAKASSAR		
CLASS		NO.	XVIII

1. LOCATION

Address	Tel.	Fax	Longitude	Latitude
Jl. Hatta No. 2	0411-327555	0411-323656	119° 24' 33.1" E	05° 07' 17.1" S

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Makassar [Taking time: 2.00 hr]	☐ Highway	☐ Heavy	☑ Hotel	1,000,000
By Car to Location [Taking time: 0:30 hr.]	☑ Paved	☑ Medium	☐ Motel	
	☐ Unpaved road	☐ Light		
		☐ None		

3. CONDITIONS OF ADPEL/KPLP OFFICE

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☐ ☑ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☑ Sandy			☐ ☑ Lightning system
Altitude	10 m		Telephone Lines	☑ ☐ Feeder Cable Way
Land area	1,800 m²		☐ Lines	☑ ☐ City water

3.2 Building Conditions

Constructions	
Num. of story	Two
Structure	Concrete
Type of roof	Zinc
Type of ceiling	Asbestos
Type of wall	Brick
Wall finish	Mortar
Flooring	Ceramic
Room Area (m²)	
Operation room	20.00
E / G room	
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	110 V	V
Phase	3	
Wire	4	
kVA	5.9	

Quality of PLN source	
Fluctuations	220 V ± 10 %
Availability of power per day	24 Hours
Power interruption /month	5 Times
Total interpt. hours /month	5 Hours
Max. interpt. hours at once	1 Hours

Existing Power Conditions	Good	Bad
Power Supply System	☑	☐
Operations of E/G	☐	☐
Operations of AVR	☐	☐

Capacity of fuel for engine	
Day tank	Liter
Main tank	k Liter

E/G Stand-by System	
☐	Single System
☐	Dual System

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	
Examples of major failure	
Sufficiency of spares	

Records of damages		Environmental Conditions	Good	Bad	
☐ Heavy rainfall					
☐ Storm			☑	☐	External noises
☐ Lightning			☐	☑	Air pollution
☐ Other calamity					

Institutional and Human Statuses			
1 Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2 Spares	☐ Enough	☐ Reasonable	☑ Not enough
3 Measuring eqpt./tools	☐ Enough	☐ Reasonable	☑ Not enough
4 Number of Operator	☐ Enough	☐ Reasonable	☑ Not enough
5 Number of Technician	☐ Enough	☐ Reasonable	☐ Not enough
6 Capability of Operator	☐ Skilled	☐ Not so bad	☐ Not capable
7 Capability of Technician	☐ Skilled	☐ Not so bad	☐ Not capable

5. PERSONNEL FORMATIONS

Chief	1
Operator (skilled)	3 (2)
Technician (skilled)	()
Administrator	1
Total	5

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF ADPEL / KPLP	SITE	MAKASSAR		
	CLASS		NO.	XVIII

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

7. COMMENTS

Suggestion	
Remarks	

INVENTORY

Site Nama: Adpel-Kplp Makassar

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Equipment**							
1-1		**Search & Monitor Console**							
1		SAR Console-III-2	BP-91913		JRC	1989	SAR Project		Good
2		- Dialing Unit	NQU-13A	-	JRC	1989	SAR Project		Good
3		- Digital Clock	NKH-17	-	JRC	1989	SAR Project		Good
4		- Telephone Device	NQW-143	-	JRC	1989	SAR Project		Good
1-2		**VHF System**							
1		VHF Telecontroller	NQU-134	-	JRC	1989	SAR Project		Good
2		**Power Supply Equipment**							
2-1		**Power Distribution Board**							
1		MDF	Shoden	S-18753	JRC	1989	SAR Project		Good
2		Back up Power Supply	167089	-	JRC	1989	SAR Project		Not so Good
3		BPS Type-3 (2 Unit)			JRC	1989	SAR Project		Good

PARKING

STORAGE

OFFICE

OFFICE

N

TO RX STATION

POWER LINE POLE

ENTRANCE

MDF EARTH POINT

POLE

ADPEL

ADPEL/KPLP

SAR ROOM

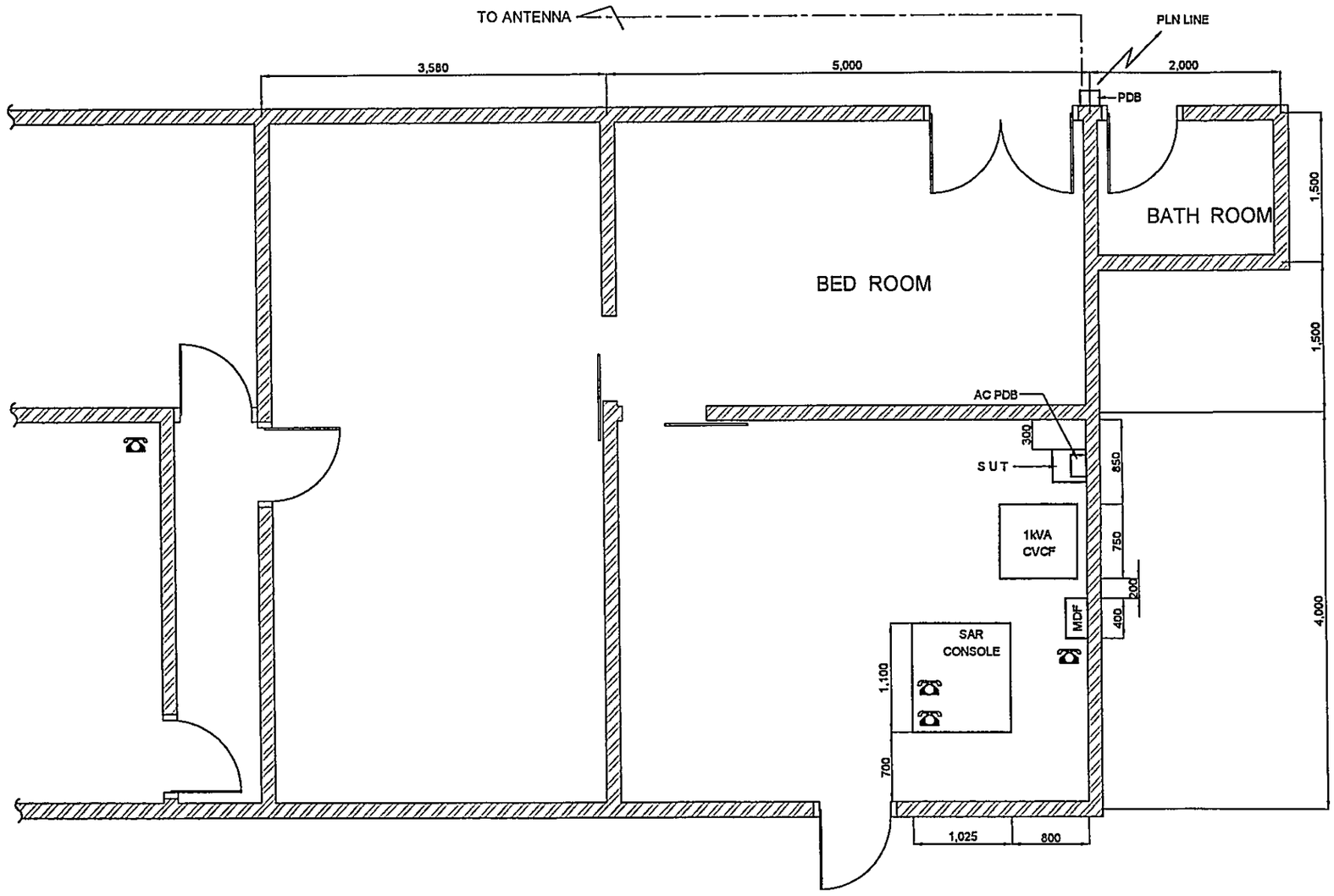
W/C

CORRIDOR

APPROVED BY JICA:

DRAWN BY AAB:

DATE: July 10, 2001	DRAWING TITLE: ANTENNA LAYOUT	SHEET NO: 1/1
SCALE: 1 : 200	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: KPLP-MKS-153-2	
JICA – PT. Aneka Asia Buana		



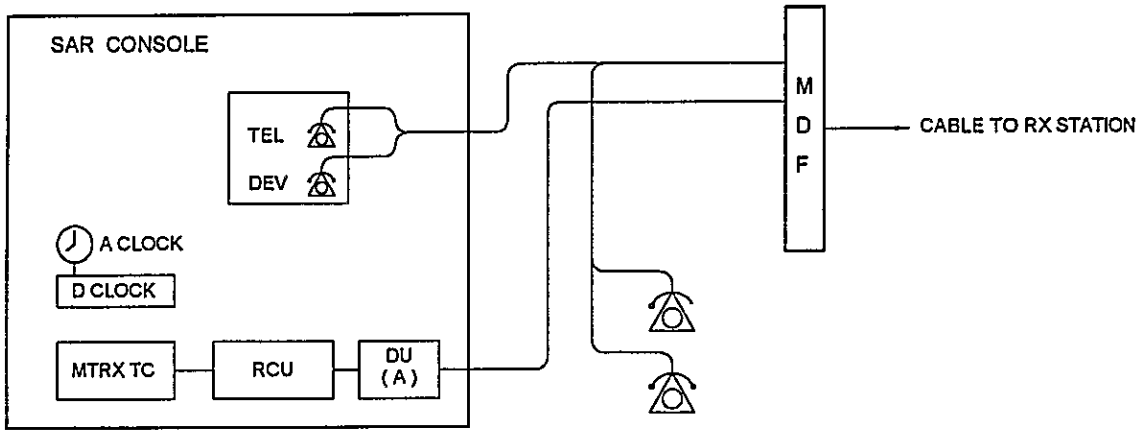
LEGEND

AC . ALTERNATING CURRENT
MDF · MAIN DISTRIBUTION FRAME
PDB POWER DISTRIBUTION BOARD
SUT : STEP - UP TRANSFORMER
☎ . TELEPHONE SET

DRAWN BY AAB:
APPROVED BY JICA:

DATE: July 10, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT	SHEET NO: 1/2
SCALE: 1 : 50	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO: KPLP-MKS-153-3	

JICA – PT. Aneka Asia Buana



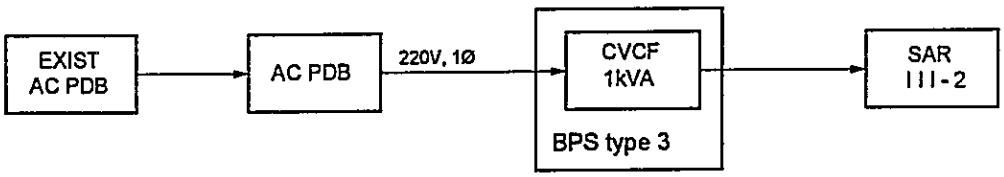
LEGEND

MDF - MAIN DISTRIBUTION FRAME
TEL TELEPHONE
RX RECEIVER (ING)
TELEPHONE SET

APPROVED BY JICA

DRAWN BY AAB

DATE: July 09, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: K,P,L,P,-,M,K,S,-,1,5,3,-,5,	
JICA –	PT. Aneka Asia Buana	



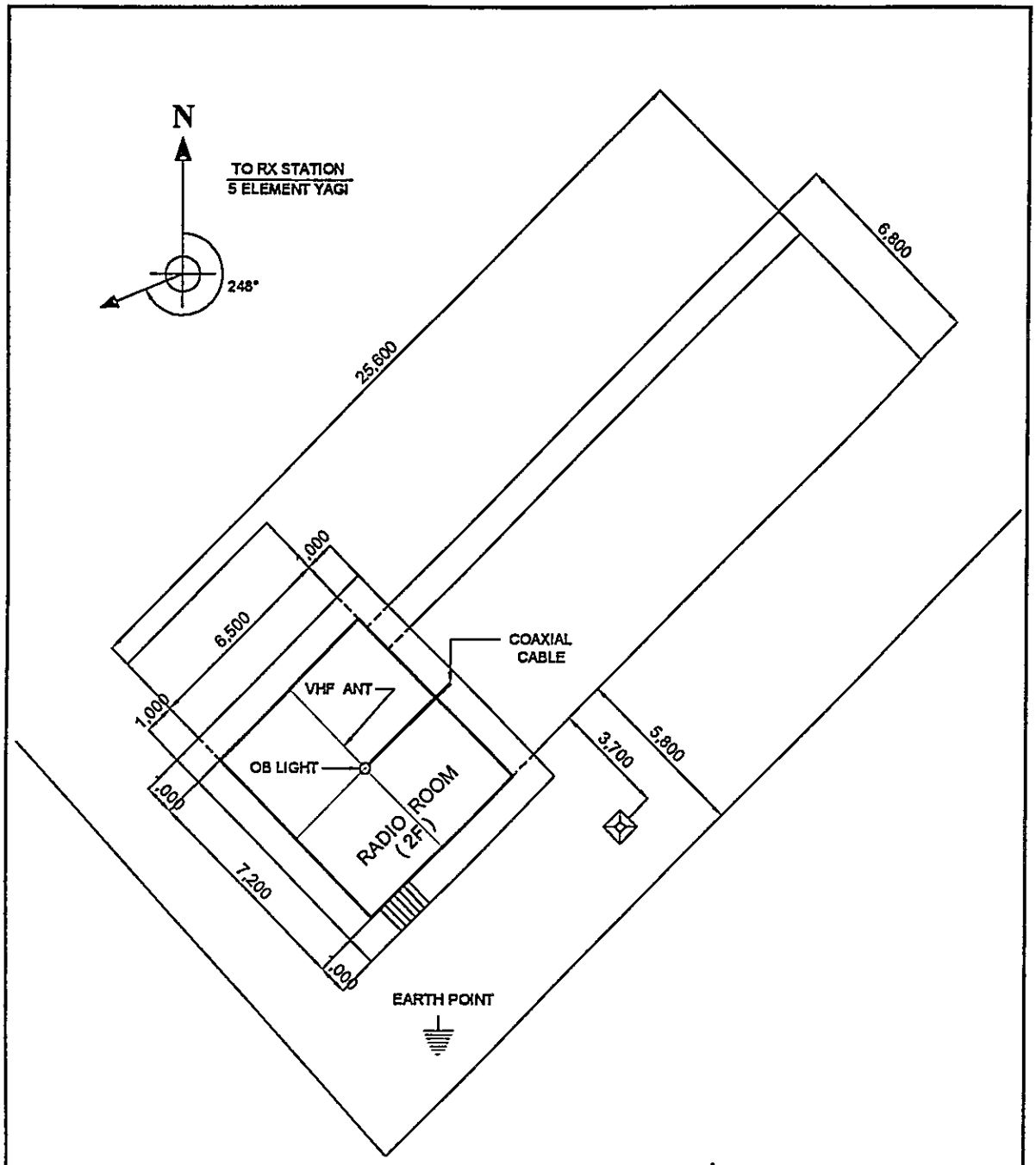
LEGEND

AC - ALTERNATING CURRENT
kVA - KILO VOLT AMPERE
PDB POWER DISTRIBUTION BOARD
V VOLT
Ø PHASE

APPROVED BY JICA:

DRAWN BY AAB

DATE: July 09, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO: KPLP-MKS-153-6	
JICA –	PT. Aneka Asia Buana	

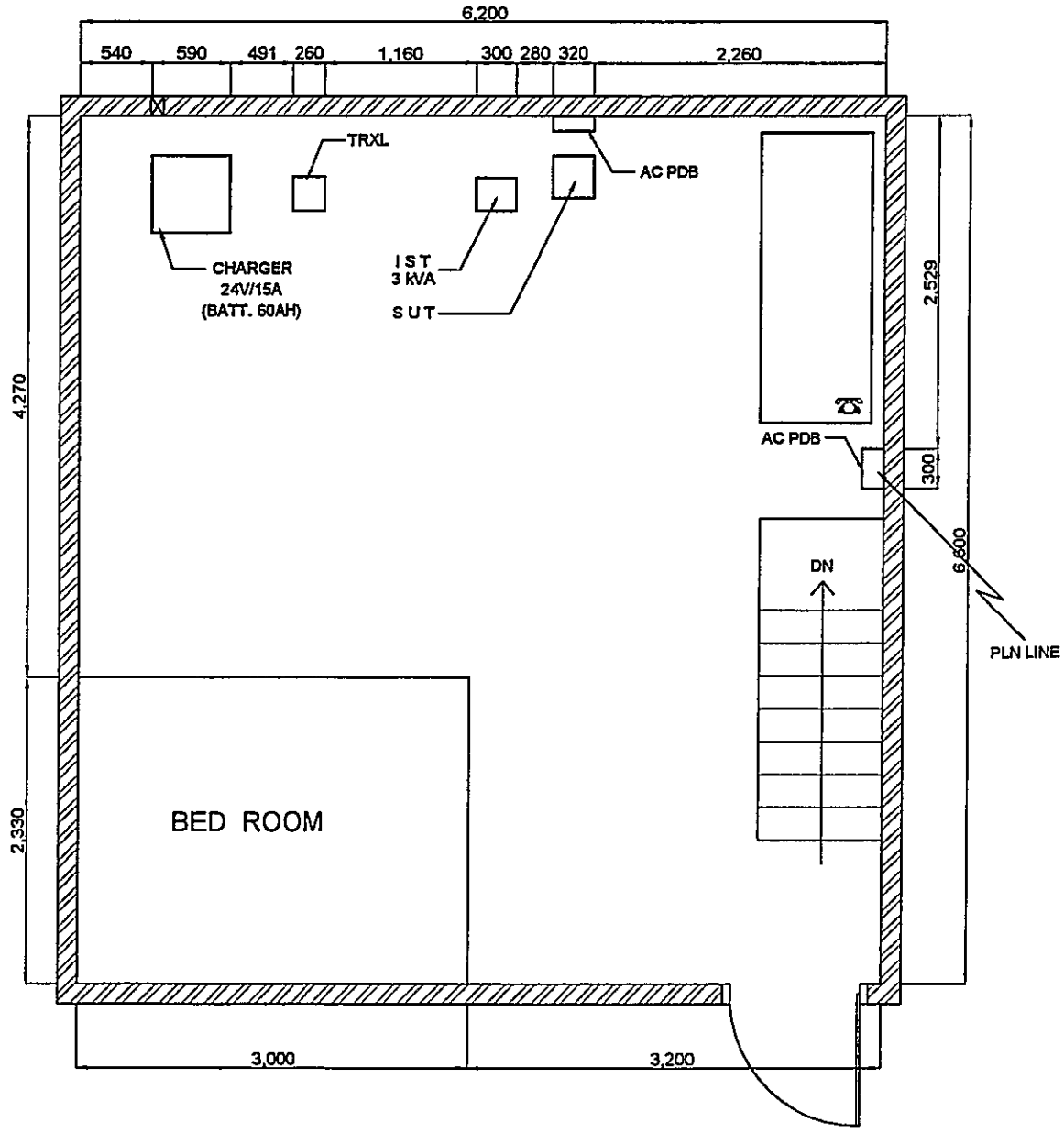


LEGEND

ANT : ANTENNA
VHF : VERY HIGH FREQUENCY

DATE: July 10, 2001	DRAWING TITLE: ANTENNA LAYOUT	SHEET NO.: 1/1
SCALE: 1 : 200	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO: KKR - MKS - 153 - 2	
JICA – PT. Aneka Asia Buana		

DRAWN BY AAB
APPROVED BY JICA



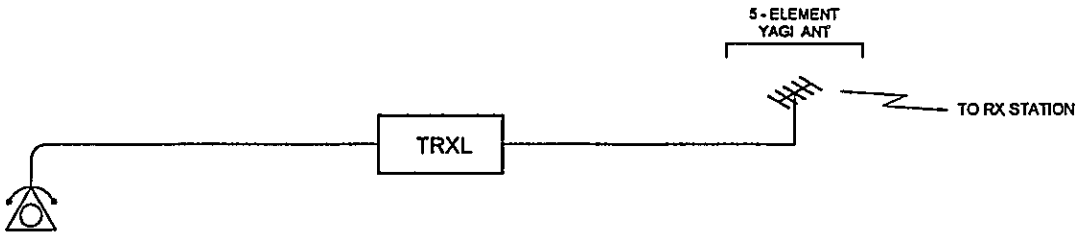
APPROVED BY JICA

DRAWN BY AAB

LEGEND

AC	: ALTERNATING CURRENT
IST	: ISOLATION TRANSFORMER
kVA	: KILO VOLT AMPERE
PDB	: POWER DISTRIBUTION BOARD
SUT	: STEP - UP TRANSFORMER
V	: VOLT
☎	: TELEPHONE SET

DATE: July 10, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 50	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: KKR - MKS - 153 - 3	
JICA –	PT. Aneka Asia Buana	



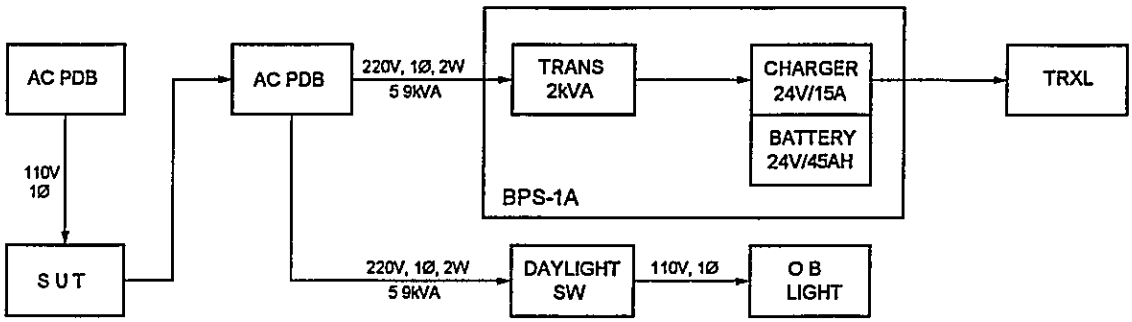
LEGEND

ANT - ANTENNA
MDF MAIN DISTRIBUTION FRAME
TELEPHONE

DRAWN BY AAB

APPROVED BY JICA

DATE: July 09, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: KKR-MKS-153-5	
JICA – PT. Aneka Asia Buana		



APPROVED BY JICA :

DRAWN BY AAB :

LEGEND

AC : ALTERNATING CURRENT
kVA : KILO VOLT AMPERE
PDB POWER DISTRIBUTION BOARD
SUT STEP - UP TRANSFORMER
V : VOLT
Ø : PHASE

DATE: July 09, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: K K R - M K S - 1 5 3 - 6	
JICA – PT. Aneka Asia Buana		

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

1st Class Coast Station

Makassar

(Coast Station No. 153)

Table of Content

Note :
- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list
- * Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	MAKASSAR		
CLASS	1st	NO.	153

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
RX	Jl. Hatta No. 1 Pelabuhan Sukarno	0411-322886, 319282	0411-322886	119° 24′ 31″ E	05° 07′ 14″ S
TX	JL. S. Abdullah No. 42	452303		119° 26′ 20″ E	05° 06′ 30″ S

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Makassar [Taking time: 2.00 hr.]	☐ Highway	☐ Heavy	☑ Hotel	1,000,000
By Car to Location [Taking time: 0.30 hr.]	☑ Paved	☑ Medium	☐ Motel	
	☐ Unpaved road	☐ Light		
		☐ None		

3. CONDITIONS OF RECEIVING STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☑ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☑ ☐ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☑ Sandy			☑ ☐ Lightning system
Altitude	10.00 M		**Telephone Lines**	☑ ☐ Feeder Cable Way
Land area	1,350 m²		☑ 2 Lines	☐ ☑ City water

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Asbestos
Type of ceiling	Asbestos
Type of wall	Brick
Wall finish	Mortar
Flooring	Tile
Room Area (m²)	
Operation room	120.00
E / G room	33.29
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	110 V
Phase	3	1
Wire	4	2
kVA	13	5

Quality of PLN source			
Fluctuations	220 V ± 10 %		
Availability of power per day	24 Hours		
Power interruption /month	2 Times		
Total interpt. hours /month	4 Hours		
Max. interpt. hours at once	3 Hours		

Existing Power Conditions			
Good	Bad		
☑	☐	Power Supply System	
☑	☐	Operations of E/G	
☑	☐	Operations of AVR	
Capacity of fuel for engine			
Day tank	20 Liter		
Main tank	k Liter		
E/G Stand-by System			
☐	Single System		
☑	Dual System		

4. CONDITIONS OF TRANSMITTING STATION

Refer to attached drawing

Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☑ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☑ ☐ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☑ Sandy			☑ ☐ Lightning system
Altitude	2.00 m		**Telephone Lines**	☑ ☐ Feeder Cable Way
Land area	20.000 m²		☑ Lines	☐ ☑ City water

SUMMARY OF COAST STATION

SITE	MAKASSAR		
CLASS	1st	NO.	153

4. CONDITIONS OF TRANSMITTING STATION (Continued)

Refer to attached drawing

Building Conditions		Power Source			
Constructions			PLN Source	E/G	Existing Power Conditions
Num. of story	One	Voltage	110 V	110 V	Good Bad
Structure	Concrete	Phase	3	1	☑ ☐ Power Supply System
Type of roof	Asbestos	Wire	4	2	☑ ☐ Operations of E/G
Type of ceiling		kVA	4.5	50	☑ ☐ Operations of AVR
Type of wall	Brick	Quality of PLN source			Capacity of fuel for engine
Wall finish	Mortar	Fluctuations	110 V ± 10 %		Day tank 20 Liter
Flooring	Tile	Availability of power per day	24 Hours		Main tank k Liter
Room Area (m²)		Power interruption /month	2 Times		E/G Stand-by System
Operation room	93.30	Total interpt. hours /month	4 Hours		☐ Single System
E / G room	70.00	Max. interpt. hours at once	3 Hours		☑ Dual System
Remark					

5. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Repaired by him self
Examples of major failure	
Sufficiency of spares	Not Enough

Records of damages		Environmental Conditions		
		Good	Bad	
☐ Heavy rainfall				
☐ Storm		☑	☐	External noises
☐ Lightning		☑	☐	Air pollution
☐ Other calamity				

Institutional and Human Statuses				
1	Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2	Spares	☐ Enough	☐ Reasonable	☑ Not enough
3	Measuring eqpt./tools	☐ Enough	☐ Reasonable	☑ Not enough
4	Number of Operator	☐ Enough	☐ Reasonable	☑ Not enough
5	Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6	Capability of Operator	☐ Skilled	☑ Not so bad	☐ Not capable
7	Capability of Technician	☐ Skilled	☑ Not so bad	☐ Not capable

6. PERSONNEL FORMATIONS

	RX	TX
Chief	1	1
Operator (skilled)	27 (26)	12 (12)
Technician (skilled)	1 (1)	4 (3)
Administrator	6	
T o t a l	3534	17

Training Record				
Course	Class	Location	Period	Trainee

7. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999	2	3			1994				1999			
2000	8	6		10	1995				2000	501	186	729

8. COMMENTS

Suggestion	Activity for public correspondence decreased, especially for communications by using telegraph, becaused ship make direct communication with agent/ownership by using Inmarsat facility.
Remarks	

INVENTORY

Site Name: Makassar

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Transmitter**							
1-1		**Transmitter**							
1		1KW MF Transmitter	JRS-10BP	BS-62123	JRC	1989	F-TA-193:PH2		Good
2		1KW MF Transmitter	JRS-10BP	BS-63478	JRC	1995	F-TA-193.PH3		Good
3		1KW HF TX NBDP	JRS-713AM	BS-63509	JRC	1995	F-TA-193:PH3		Good
4		1KW HF TX DSC	JRS-713AM	BS-63508	JRC	1995	F-TA-193:PH3		Good
5		1KW MF/HF Transmitter	JRS-106NB	BS-61494	JRC	1985	F-TA-193:PH1		Good
6		1KW MF/HF Transmitter	JRS-106NB	BS-61495	JRC	1985	F-TA-193:PH1		Good
7		1KW MF/HF Transmitter	JRS-106NB	BS-61496	JRC	1985	F-TA-193:PH1		Good
8		1KW HF Transmitter	JRS-106NB	BS-61398	JRC	1985	F-TA-193:PH1		Good
9		1KW HF Transmitter (SAR)	JRS-106NB	BS-62090	JRS	1990	SAR Project		Good
10		1KW HF Traansmitter	JRS-106NB	BS-62091	JRC	1990	SAR Project		Good
11		1KW MF TX (NAVTEX)	JRS-108P	BS-63478	JRC	1996	F-TA-193:PH3		Good
12		1KW HF TX (DSC)	JRS-713AM	BS-63508	JRC	1996	F-TA-193:PH3		Good
13		1KW HF TX (NBDP)	JRS-713AM	BS-63509	JRC	1996	F-TA-193:PH3		Good
14		1kW MF/HF Transmitter (MOBIL)	JRS-713AM	JF00035	JRC	1997	F-TA-193:PH3		Good
1-2		**Remote Control System**							
1-2-1		**Remote Control**							
1		Remote Control Rack	GED-1049B	BP-98018	JRC	1985	F-TA-193.PH1		Good
2		Local Terminal Unit	JCC-300RL8	BP-89307	JRC	1985	F-TA-193:PH1		Good
3		Local Terminal Unit	JCC-300RL8	BP-89308	JRC	1985	F-TA-193:PH1		Good
4		Local Terminal Unit	JCC-300RL8	BP-89388	JRC	1987	F-TA-193:PH1		Good
5		Multiplex Radio Relay	JUP-450	EM-11648	JRC	1987	F-TA-193:PH1		Good
6		Multiplex Radio Relay	JUP-450	EM-11649	JRC	1987	F-TA-193:PH1		Good
7		Multiplex Equipment (12/24Ch)	JUP-5A	EP-119447	JRC	1985	F-TA-193:PH1		Good
8		Voice Frequency Telegraph	JUT-1A	EQ-1284B	JRC	1985	F-TA-193:PH1		Good
9		Main Distribution Frame	NCE-40A2	BP-1346B	JRC	1987	F-TA-193.PH1		Good
10		Telephone Repeater	JUR-5A	EQ-1281B	JRC	1985	F-TA-193:PH1		Good
11		Remote Control & Morse Rack	GED-1050B	BP-89022	JRC	1985	F-TA-193:PH1		Good
12		Remote Control Unit	JCC-300RQS	BP-89323	JRC	1985	F-TA-193:PH1		Good
13		Morse Transmitter	NGK-2	BS-61454	JRC	1985	F-TA-193:PH1		No Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
14		Multiplex Terminal Equipment	JUF-5A	EP-11948	JRC	1985	F-TA-193:PH1		Good
15		Voice Frequency Telegraph	JUT-1A	EQ-12844	JRC	1985	F-TA-193:PH1		Good
16		Main Distibution Frame	NCE-40A2	BP-13464	JRC	1985	F-TA-193.PH1		Good
17		Interface Relay Circuit	CSC-257	BP-89611	JRC	1985	F-TA-193·PH1		Good
18		Interface Relay Circuit	CSC-257	BP-89612	JRC	1985	F-TA-193.PH1		Good
19		Interface Relay Circuit	CSC-257	BP-89613	JRC	1985	F-TA-193:PH1		Good
20		Switch Board	NCB-429	BP-10061	JRC	1969			Good
21		Switch Board	NCB-430	BP-10067	JRC	1969			Good
22		Telecontroller (MOBIL)	NCH-701M	JF31965	JRC	1997	F-TA-193:PH3		Good
23		Tx Selector	NCJ-676	JF32060	JRC	1997	F-TA-193:PH3		Good
24		Common Repeater	NQQ-18GC	JF31947	JRC	1997	F-TA-193:PH3		Good
1-2-2		**Supervisory Console**							
1		Console	NCA-563B	BP-89351	JRC	1985	F-TA-193:PH1		Good
2		Receiver	NRD-93	BR-33399	JRC	1985	F-TA-193:PH1		Good
3		Speaker panel (1)	NVA-64G		JRC	1985	F-TA-193:PH1		Good
4		TX Status Disply Panel	NCG-61C		JRC	1985	F-TA-193:PH1		Good
5		Ant. Matrix Status Display Panel (1)	NCG-62B		JRC	1985	F-TA-193:PH1		Good
6		Independent Clock (1)	QA-513		JRC	1985	F-TA-193·PH1		Good
7		Power Supply (1)	CBD-665		JRC	1985	F-TA-193·PH1		Good
1-3		**Operator Console Desk/Rack**							
1-3-1		**MF TG Console**							
1		Console	NCA-559B	BP-89342	JRC	1985	F-TA-193:PH1		Good
2		Receiver	NRD-93	BR-33400	JRC	1985	F-TA-193·PH1		Good
3		Receiver	NRD-93	BR-33406	JRC	1985	F-TA-193:PH1		Good
4		Speaker Panel (1)	NVA-64G		JRC	1985	F-TA-193:PH1		Good
5		Radio Terminal	NQP-11	BP-89399	JRC	1985	F-TA-193·PH1		Good
6		Radio Terminal	NQP-11	BP-89400	JRC	1985	F-TA-193:PH1		Good
7		TX Controller	NCH-230	BP-89482	JRC	1985	F-TA-193:PH1		Good
8		TX Controller	NCH-230	BP-89483	JRC	1985	F-TA-193:PH1		Good
9		CQ Transmitter (1)	RS-4K		JRC	1985	F-TA-193:PH1		Good
10		Telephone Type Station	YT-4K		JRC	1985	F-TA-193:PH1		Good
11		Slave Clock (1)			JRC	1985	F-TA-193:PH1		Good
12		Power Supply (1)	NBK-31B		JRC	1985	F-TA-193:PH1		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1-3-2		**HF TG Console**							
1		Console	NCA-560B	BP-89344	JRC	1985	F-TA-193:PH1		Good
2		Receiver	NRD-93	BR-33401	JRC	1985	F-TA-193:PH1		Good
3		Receiver	NRD-93	BR-33402	JRC	1985	F-TA-193:PH1		Good
4		Scaning Unit	NDH-93	BRS-5462	JRC	1985	F-TA-193:PH1		Good
5		Speaker Panel (1)	NVA-64G		JRC	1985	F-TA-193:PH1		Good
6		Radio Terminal	NQP-11	BP-89405	JRC	1985	F-TA-193:PH1		Good
7		Radio Terminal	NQP-11	BP-89406	JRC	1985	F-TA-193:PH1		Good
8		TX Controller	NCH-230	BP-89490	JRC	1985	F-TA-193:PH1		Good
9		TX Controller	NCH-230	BP-89491	JRC	1985	F-TA-193:PH1		Good
10		CQ Transmitter (1)	RS-4K		JRC	1985	F-TA-193·PH1		Good
11		Telephone Type Station	YT-A		JRC	1985	F-TA-193:PH1		Good
12		Slave Clock (1)			JRC	1985	F-TA-193 PH1		Good
13		Power Supply (1)	NBK-31B		JRC	1985	F-TA-193:PH1		Good
1-3-3		**MF/HF TP/Console**							
1		Console	NCA-562B	BP-89348	JRC	1985	F-TA-193:PH1		Good
2		Receiver	NRD-93	BR-33403	JRC	1985	F-TA-193:PH1		Good
3		Receiver	NRD-93	BR-33403	JRC	1985	F-TA-193:PH1		Good
4		Scanning Unit	NDH-93	BR-35461	JRC	1985	F-TA-193:PH1		Good
5		Speaker Panel (2)	ANA-6461		JRC	1985	F-TA-193:PH1		Good
6		Radio Terminal	NQP-11	BP-80419	JRC	1985	F-TA-193:PH1		Good
7		Radio Terminal	NQP-11	BP-80420	JRC	1985	F-TA-193:PH1		Good
8		TX Controller	NCF-230	BP-89503	JRC	1985	F-TA-193:PH1		Good
9		TX Controller	NCF-230	BP-89504	JRC	1985	F-TA-193.PH1		Good
10		Telephone Type Station	YT-A		JRC	1985	F-TA-193:PH1		Good
11		Slave Clock (1)			JRC	1985	F-TA-193·PH1		Good
12		Power Supply (1)	NBK-31B		JRC	1985	F-TA-193:PH1		Good
1-3-4		**FIX COM Console**							
1		Console	NCA-5610	BP-89346	JRC	1985	F-TA-193·PH1		Good
2		Receiver	NRD-93	BR-33443	JRC	1985	F-TA-193.PH1		Good
3		Receiver	NRD-93	BR-33444	JRC	1985	F-TA-193:PH1		Good
4		Speaker Panel (1)	NVA-646		JRC	1985	F-TA-193:PH1		Good
5		Radio Terminal	NQP-11	BP-89415	JRC	1985	F-TA-193:PH1		Good
6		TX Controller	NCH-230	BP-89496	JRC	1985	F-TA-193:PH1		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
7		Telephon Repeater	NQQ-31A	BP-89446	JRC	1985	F-TA-193:PH1		Good
8		Lincompex	NZA-15	BB-10097	JRC	1985	F-TA-193:PH1		Good
9		ARQ Equipment	NCL-550A	GA-10262	JRC	1985	F-TA-193:PH1		Good
10		Telephone Type Station	YT-A		JRC	1985	F-TA-193:PH1		Good
11		Slave Clock (1)			JRC	1985	F-TA-193:PH1		Good
12		Power Supply (1)	NBK-31B		JRC	1985	F-TA-193:PH1		Good
13		Telephone Repeater	JUR-5A	EQ-12819	JRC	1995	F-TA-193:PH1		Good
1-3-5		**Search & Monitor Console**							
1		Console	NCA-564A	BP-31105	JRC	1985	F-TA-193:PH1		Good
2		Receiver	NRD-93	BR-33405	JRC	1985	F-TA-193:PH1		Good
3		Scanning Unit	NDH-93	BR-35460	JRC	1985	F-TA-193:PH1		Good
4		Speaker Panel (1)	NVA-64G		JRC	1985	F-TA-193:PH1		Good
5		500 Khz AA Rec	JXA-15A	BA-20739	JRC	1985	F-TA-193:PH1		Good
6		2182 Khz AA Rec	JXA-8A	BA-21037	JRC	1985	F-TA-193:PH1		Good
7		Automatic DF	JLR-1002	MF-12479	JRC	1985	F-TA-193:PH1		Good
8		Telephone Type Station	YT-A		JRC	1985	F-TA-193:PH1		Good
9		Slave Clock (1)			JRC	1985	F-TA-193:PH1		Good
10		Power Supply	NBK-31B		JRC	1985	F-TA-193:PH1		Good
11		500 Khz BUZZER	BZ-18	BA-20739	JRC	1985	F-TA-193:PH1		Good
12		Power Unit	NBA-3519	BP-20739	JRC	1985	F-TA-193:PH1		Good
13		Power Supply	NBA-1180	MF-12479	JRC	1985	F-TA-193:PH1		Good
14		Audio Select & Monitor	NSJ-280A	BP-89372	JRC	1985	F-TA-193:PH1		Good
15		Audio Select & Monitor	NSJ-280B	BP-89381	JRC	1985	F-TA-193:PH1		Good
16		Control Exhangge Unit	YKK-16	160884Y	JRC	1985	F-TA-193:PH1		Good
17		Connection Rack	GE-1056B	BP-89027	JRC	1985	F-TA-193:PH1		Good
1-3-6		**DSC Console**							
1		Console	NCA-783B	BP-98269	JRC	1996	F-TA-193:PH3		Good
2		Tele Controller	NCH-70IM	BP-98703	JRC	1996	F-TA-193:PH3		Good
3		Master Clock	NKH-100	BP-99586	JRC	1996	F-TA-193:PH3		Good
4		Junction Box (1)	NQD-3655B		JRC	1996	F-TA-193:PH3		Good
5		Power Supply (1)	NBK-31		JRC	1996	F-TA-193:PH3		Good
6		Telecontroller	NCH-701M	BP-98703	JRC	1996	F-TA-193:PH3		Good
7		Personal Computer 150DX4-100MHz	PC-100	A19000A4KMZ	JRC	1996	F-TA-193:PH3		Good
8		CRT Display	6542-105	66-66293	JRC	1996	F-TA-193:PH3		No Good

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No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
9		Key Board	A	L-0960	JRC	1996	F-TA-193:PH3		Good
10		Printer	LX-300	077428	JRC	1996	F-TA-193:PH3		Good
11		Chair (1)			JRC	1996	F-TA-193:PH3		Good
12		Printer Rack (1)	P-1020G		JRC	1996	F-TA-193:PH3		Good
1-3-7		**DSC W/K Rack (2U)**							
1		Rack (2U)	GED-12496	BP-98302	JRC	1995	F-TA-193:PH3		Good
2		Antenna Coupler	NAJ-110A	BC-19365	JRC	1995	F-TA-193:PH3		Good
3		Receiver Controller	NCJ-536A	BP-98375	JRC	1995	F-TA-193:PH3		Good
4		Power Supply	NBA-3979C		JRC	1995	F-TA-193:PH3		Good
5		DSC W/K RX Rack (2U type)	GED-1249C	BP-98302	JRC	1996	F-TA-193:PH3		Good
6		RF Jack Panel (1)	NQE-584R-C		JRC	1996	F-TA-193:PH3		Good
7		Junction Box (1)	NQD-3631C		JRC	1996	F-TA-193:PH3		Good
8		ALM Buzzer (1)	CCD-242		JRC	1996	F-TA-193:PH3		Good
1-3-8		**DSC Rack**							
1		DSC W/K Receiver	NRD-740	BR-69422	JRC	1996	F-TA-193:PH3		Good
2		DSC W/K Receiver	NRD-740	BR-69423	JRC	1996	F-TA-193:PH3		Good
3		DSC W/K Receiver	NRD-740	BR-69424	JRC	1996	F-TA-193:PH3		Good
4		DSC W/K Receiver	NRD-740	BR-69425	JRC	1996	F-TA-193:PH3		Good
5		DSC W/K Receiver	NRD-740	BR-69426	JRC	1996	F-TA-193:PH3		Good
6		DSC W/K Receiver	NRD-740	BR-69427	JRC	1996	F-TA-193:PH3		Good
7		DSC W/K Receiver	NRD-740	BR-69428	JRC	1996	F-TA-193:PH3		Good
8		DSC W/K Receiver	NRD-740	BR-69429	JRC	1996	F-TA-193:PH3		Good
9		RX Controller	NCJ-536A	BP-98375	JRC	1996	F-TA-193:PH3		Good
10		Antenna Multicoupler	NAJ-110A	BC-19365	JRC	1996	F-TA-193:PH3		Good
11		1600KHz High Pass Filter	CFK-2	BC-19350	JRC	1996	F-TA-193:PH3		Good
12		System Rack with Mother Board & PS	NCT-32	BP-98543	JRC	1996	F-TA-193:PH3		Good
13		DSC DEM	CND-129A	BP-98460	JRC	1996	F-TA-193:PH3		Good
14		DSC DEM	CND-129A	BP-98461	JRC	1996	F-TA-193:PH3		Good
15		DSC MOD	CNM-159A	BP-98497	JRC	1996	F-TA-193:PH3		Good
16		VHF DSC Modem (Ch70)	CNM-158A	BP-98521	JRC	1996	F-TA-193:PH3		Good
17		CPU IF	CDC-721A	BP-98422	JRC	1996	F-TA-193.PH3		Good
18		Power Supply	NBA-3979C	BP-98556	JRC	1996	F-TA-193·PH3		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1-3-9		**NBDP Console**							
1		Console	NCA-784A	BP-98280	JRC	1995	F-TA-193:PH3		Good
2		Receiver	NRD-93	BR-69363	JRC	1996	F-TA-193:PH3		Good
3		Receiver	NRD-93	BR-69364	JRC	1996	F-TA-193.PH3		Good
4		Telecontroller	NCH-701M	BP-98704	JRC	1995	F-TA-193:PH3		Good
5		Signal Controller	NQP-21-1	BP-98629	JRC	1995	F-TA-193:PH3		Good
6		Telephone Controller	NGQ-31BA	BP-98642	JRC	1995	F-TA-193:PH3		Good
7		Converter	NHH-556A-3 2W/4W	BP-99821	JRC	1995	F-TA-193:PH3		Good
8		Personal Computer	150-100DX4	A19000A4KWL	IBM	1995	F-TA-193:PH3		Good
9		Monitor	G-40		IBM	1995	F-TA-193:PH3		Good
10		Key Board	A	Y-1631	JRC	1996	F-TA-193:PH3		Good
11		Printer (2)	LX-300		EPSON	1996	F-TA-193:PH3		Good
12		Paper Tape Reader	DPT-610A		JRC	1996	F-TA-193:PH3		Good
13		Speaker Panel (1)	NVA-64		JRC	1996	F-TA-193:PH3		Good
14		Slave Clock (1)			CITIZEN	1996	F-TA-193:PH3		Good
15		Console (2U type)	NCA-784A	BP-98280	JRC	1996	F-TA-193:PH3		Good
16		Jack Panel (1)	NQC-742A		JRC	1996	F-TA-193:PH3		Good
17		RF Jack Panel (1)	NQE-584C		JRC	1996	F-TA-193:PH3		Good
18		Junction Box (1)	NQD-3654A		JRC	1996	F-TA-193:PH3		Good
19		Power Supply (1)	NBK-31		JRC	1996	F-TA-193:PH3		Good
20		Receiver	NRD-93	BR-69363	JRC	1996	F-TA-193:PH3		Good
21		Receiver	NRD-93	BR-69364	JRC	1996	F-TA-193:PH3		Good
22		Hybrid (1)	CB-721S-S		JRC	1996	F-TA-193:PH3		Good
23		Speaker Panel (1)	NVA-64-2		JRC	1996	F-TA-193:PH3		Good
24		Telecontroller	NCH-701M	BP-98704	JRC	1996	F-TA-193:PH3		Good
25		Signal Controller	NQP-21-1	BP-98629	JRC	1996	F-TA-193:PH3		Good
26		Telephone Repeater	NQQ-31BA	BP-98642	JRC	1996	F-TA-193:PH3		Good
27		System Rack with Mother Board & PS	NCT-32S-A	BP-98569	JRC	1996	F-TA-193:PH3		Good
28		FS Modem	CHF-12A	BP-98397	JRC	1996	F-TA-193:PH3		Good
29		CPU IF	CDC-721A	BP-98421	JRC	1996	F-TA-193:PH3		Good
30		Level Converter	CMH-1280A	BP-98577	JRC	1996	F-TA-193:PH3		Good
31		2W/4W Converter	NHH-556A-3	BP-99821	JRC	1996	F-TA-193:PH3		Good
32		Personal Computer	6281-V5B	A19000A4KNI	JRC	1996	F-TA-193:PH3		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
33		CRT Display	6542-105	66-66287	JRC	1996	F-TA-193:PH3		Good
34		System Floppy Disk (NBDP/TLX)	7YLED10106		JRC	1996	F-TA-193:PH3		Good
35		Clock (+8H) (1)	6HCED00074		JRC	1996	F-TA-193:PH3		Good
36		Headset (1)	NTR-3302		JRC	1996	F-TA-193:PH3		Good
37		Morse Key (1)	HK-704		JRC	1996	F-TA-193:PH3		Good
38		Cable for Key (1)	KC-547		JRC	1996	F-TA-193.PH3		Good
39		Headphone (1)	ST-3		JRC	1996	F-TA-193:PH3		Good
40		Chair (1)			JRC	1996	F-TA-193·PH3		Good
41		Printer Rack (1)	P-1020G		JRC	1996	F-TA-193·PH3		Good
42		Printer	LX-300	077432	JRC	1996	F-TA-193:PH3		Good
43		Printer	LX-300	078113	JRC	1996	F-TA-193:PH3		Good
44		Printer Auto Switch (1)	ASL-21(240)		JRC	1996	F-TA-193:PH3		Good
45		Paper Tape Reader/Puncher	DPT-610A	Q567262	JRC	1996	F-TA-193·PH3		Good
1-4		**MUX CH Expantion (UHF)**							
1		CH TR Sub.Rack	NGD-508	NBZ-001	JRC	1989	SAR Project		Good
2		12/24 Ch50 24/24 Ch		NBZ-501	JRC	1989	SAR Project		Good
3		CH Modem Unit	NMC-100A1	NBX-042	JRC	1989	SAR Project		Good
4		CH Modem Unit	NMC-100A1	NBX-043	JRC	1989	SAR Project		Good
5		CH Modem Unit	NMX-100A1	NBX-067	JRC	1989	SAR Project		Good
6		CH Modem Unit	NMC-100A1	NBX-068	JRC	1989	SAR Project		Good
7		CH Modem Unit	NMC-100A1	NBX-069	JRC	1989	SAR Project		Good
8		CH Modem Unit	NMC-100A1	NBX-080	JRC	1989	SAR Project		Good
9		CH Modem Unit	NMC-100A1	NBX-023	JRC	1989	SAR Project		Good
10		CH Modem Unit	NMC-100A1	NBX-033	JRC	1989	SAR Project		Good
11		CH Modem Unit	NMC-100A1	NBX-040	JRC	1989	SAR Project		Good
12		CH Modem Unit	NMC-100A1	NBX-041	JRC	1989	SAR Project		Good
13		CH Modem Unit	NMC-100A1	NBX-087	JRC	1989	SAR Project		Good
14		CH Modem Unit	NMC-100A1	NBX-088	JRC	1989	SAR Project		Good
15		GSR Unit	NNE-100	N-59069	JRC	1989	SAR Project		Good
16		GSR Unit	NNE-100	N-59069	JRC	1989	SAR Project		Good
1-5		**NAVTEX**							
1		NAVTEX Receiver	NVR-300A	GD-22728	JRC	1996	F-TA-193:PH3		Good
2		ARQ Modem	NCL-800		JRC		F-TA-193.PH3		Good

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No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
3		ARQ Modem(for Navtex) with FD	NCI-800	BP-73267	JRC	1996	F-TA-193:PH3		Good
4		Personal Computer 486DX4-100MHz	PC-100	AJ9000A4KNY	JRC	1996	F-TA-193:PH3		Good
5		CRT Display		66L6178	JRC	1996	F-TA-193:PH3		Good
6		Key Board	A	Y-3502	JRC	1996	F-TA-193:PH3		Good
7		Printer	LX-300	077431	JRC	1996	F-TA-193:PH3		Good
8		Desk (1)	CD4-398		JRC	1996	F-TA-193:PH3		Good
1-6		**Receiver**							
1		HF Receiver (SAR)	NRD	BR-334005	JRC	1995	F-TA-193:PH3		Good
1-7		**VHF System**							
1		VHF Console	GFD-501YC (A)	VC-57491	JRC	1995	F-TA-193:PH3		Good
2		VHF Transceiver 50W	GFD-260YK	CV-57460	JRC	1995	F-TA-193:PH3		Good
3		VHF Transceiver 50W	GFD-260YK	CV-57471	JRC	1995	F-TA-193:PH3		Good
4		VHF Transceiver 50W	GFD-260YK	CV-57472	JRC	1995	F-TA-193 PH3		Good
5		VHF Transceiver	JRV-500AP	BH-24427	JRC	1995	F-TA-193:PH3		Good
6		VHF TX/RX (Ch70 DSC)	JRV-500AP	BH-20427	JRC	1996	F-TA-193:PH3		Good
7		Duplexer	AW-158YB	950712	JRC	1996	F-TA-193:PH3		Good
8		Coaxial Arrester	NYZ-10	95006	JRC	1996	F-TA-193:PH3		Good
2		**Tower & Antenna System**							
2-1		**Tower & Mast**							
		TX Station							
1		30mH Self Suppporting	Triangle	T2 T3 T4	JRC	1969			Good
2		35mH Self Suppporting	Triangle	T1	JRC	1969			Good
3		30mH Self Supporting	Square	T5	JRC	1969			Good
		RX Station							Good
4		30mH Self Supporting	Trianngle	T2.T3.T4	JRC	1969			Good
5		35MH Self Supporting	Triangle	T1	JRC	1969			Good
2-2		**Antenna System**							Good
		TX Station							Good
1		Inverted Antenna (3)	L Antenna		JRC	1969			Good
2		Inverted Antenna (2)	L Antenna		JRC	1969			Good
3		3W Antenna (1)	T Antenna		JRC	1969			Good
4		Antenna (3)	FAN Antenna		JRC	1969			Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
5		Antenna (6)	Multi Doublet		JRC	1969			Good
6		Automatic Aevia (Exchanger)	NQZ-168A	BP-80180	JRC	1969			Good
7		Antenna Exchanger	CS-201		Daiwa	1969			Good
8		Antenna Matching Unit	NFG-2C	BP-88959	JRC	1969			Good
9		Antenna Matching Unit	NFG-2C	BP-88960	JRC	1969			Good
10		Antenna Macthing Unit	NFG-140A	BP-985993	JRC	1996	F-TA-193:PH3		Good
11		Antenna Macthing Unit	NFG-140A	BP-95594	JRC	1996	F-TA-193:PH3		Good
12		Antenna Matching Unit	NFG-140A	JF31873	JRC	1997	F-TA-193:PH3		Good
13		Antenna Changer (1)	NKZ-221		JRC				Good
14		Antenna Changer (3)	CS-201N		JRC	1969			Good
15		Antenna Changer	NKZ-230	JF31979	JRC	1997	F-TA-193:PH3		Good
16		MF Antenna Exchanger	NKZ-223	BP-99945	JRC	1996	F-TA-193:PH3		Good
17		Matching Unit Controlle	NCM-134F	BP-99949	JRC	1996	F-TA-193:PH3		Good
18		Lightning Rod (2)			JRC	1996	F-TA-193:PH3		Good
19		Inverted Antenna for TX	L Antenna		JRC	1996	F-TA-193:PH3		Good
20		Broad Band H Antenna for TX (1)	HD-220--1-2		JRC	1996	F-TA-193:PH3		Good
21		Brown Cardioide Antenna (1)	BRC-1511		JRC	1996	F-TA-193:PH3		Good
		RX Station							
1		Antenna (4)	Interval L Ant.		JRC	1969			Good
2		Lop Antenna (1)	Lop Ant		JRC	1969			Good
3		Antenna (1)	Double Doublet		JRC	1969			Good
4		Doublet Antenna (1)	Doublet		JRC	1969			Good
5		5 Element Yagi Antenna (1)			JRC	1969			Good
6		2GHz Antenna (1)			JRC	1989	SAR Project		Good
7		VHF Antenna (2)			JRC	1989	SAR Project		Good
8		VHF Antenna (1)			JRC	1989	SAR Project		Good
9		Cadioide Antenna	BRC-1501	4032	JRC	1985	F-TA-193:PH1		Good
10		Cadioide Antenna	BRC-1501	4039	JRC	1985	F-TA-193:PH1		Good
11		Cadioide Antenna	BRC-1501	4050	JRC	1985	F-TA-193:PH1		Good
12		Band Pass Filter	BP2-1500A	F-4446	JRC	1985	F-TA-193:PH1		Good
13		Duplex Antenna 25	OF-1500A	F-44455	JRC	1985	F-TA-193:PH1		Good
14		Duplex Antenna 25	OF-1500A	F-44456	JRC	1985	F-TA-193 PH1		Good
15		Lightning Rod (3)			JRC	1996	F-TA-193.PH3		Good

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
2-3		**Antenna Switch**							
1		MF Antenna Exchanger	NKZ-223A	BP-99945	JRC	1996	F-TA-193·PH3		Good
2		Exchanger Antenna	NKZ-223	BP-91883	JRC	1989	SAR Project		Good
		Antenna Selector							
3		Antenna Selector Rack	GJD-1076	BP-89116	JRC	1985	F-TA-193:PH1		Good
4		Antenna Selector (1)	NKZ-220B		JRC	1985	F-TA-193:PH1		Good
5		Antenna Multicoupler	NAF-80FA	BC-13451	JRC	1985	F-TA-193:PH1		Good
6		Antenna Multicoupler	NAV-80FA	BC-13452	JRC	1985	F-TA-193:PH1		Good
7		Antenna Multicoupler	NAV-80FA	BC-13453	JRC	1985	F-TA-193:PH1		Good
8		Antenna Multicoupler	NAV-80FA	BC-13454	JRC	1985	F-TA-193:PH1		Good
3		**Power Supply Equipment**							
3-1		**Power Distribution Board**							
1		Distribution Board	NCB-432	BP-10064	JRC	1969			Good
2		Main Distribution Board	NCB-432	BP-7325	TAIYO	1969			Good
3		Power Distribution Board	NBJ-402RAJ	BP-98325	JRC	1995	F-TA-193:PH3		Good
4		Power Distribution Board	NBJ-402RB	BP-98332	JRC	1995	F-TA-193:PH3		Good
5		Power Distribution Board	NBJ-402RC		JRC	1995	F-TA-193:PH3		Good
6		Type RAI(forRX)220V,1Ph (1) New	NBJ-402RA1		JRC	1996	F-TA-193:PH3		Good
3-2		**Isolation Transformer**							
1		Isolation Transformer 55 KVA	NZL-22732	BP-99806	JRC	1996	F-TA-193:PH3		Good
2		Isolation Transformer	T1-20-10	1540	JRC	1989	SAR Project		Good
3		Isolation Transf. 55KVA220V,3Ph	NBL-227B2	BP-99806	JRC	1996	F-TA-193:PH3		Good
3-3		**Step-Up Transformer**							
1		Step Up Transformer	NBL-2265	BP-99795	JRC	1995	F-TA-193:PH3		Good
2		3.5 KVA (for TX) 220V/380V,3Ph	NBA-226B	BP-99780	JRC	1996	F-TA-193:PH3		Good
3		5KVA ,110V/220V,1Ph	NBL-226C	BP-99798	JRC	1996	F-TA-193:PH3		Good
3-4		**UPS & AVR System**							
1		AVR	NBK-102A	BP-99780	JRC	1996	F-TA-193:PH3		Good
2		AVR	GERED 00018	1525643		1989	SAR Project		Good
3		UPS 2KNA	NETPRO 2000		Victron	1996	F-TA-193:PH3		No Good
4		AVR 55KVA 220V,3Ph	NBK-102A	BP-99780	JRC	1996	F-TA-193:PH3		Good
5		2KVA,220V,1Ph Net.Pro 2000	NP-20A049-	626A008	JRC	1996	F-TA-193:PH3		Good

INVENTORY

Site Name: Makassar

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
3-5		**Engine Generator**							Good
1		Engine 70HP	4LG	4270	Kubota	1969			Good
2		Engine 70HP	4LG	4271	Kubota	1969			Good
3		Engine 9HP	ER-90N	6041	Kubota	1969			Good
4		Engine 9HP	ER-90N	6048	Kubota	1969			Good
5		Generator 127/220V/3Ph 50KVA	VSDEP-275	120597	Kubota	1969			Good
6		Generator 127/220V/3Ph 50KVA	VSDEP-275	120600	Kubota	1969			Good
7		Generator 110 /1Ph 5KVA	AJK-150	51230		1969			Good
8		Generator 110 /1Ph 5KVA	AJK-150	51229		1996	F-TA-193:PH3		Good
9		Battery Charger Input 110/220V	13091/01	DL-4138A	Philips				Good
10		Battery 12V/200AH (4)			Yuasa				No Good
11		Battery 12V/70AH (2)			GS				Good
4		**Measuring Equipment**							
1		Oscilloscope	2235	B-017850		1985	F-TA-193:PH1		Good
2		Digital Circuit Tester	MD-200C	841196		1985	F-TA-193:PH1		Good
3		Frequency Counter	5383A	2338A06193		1985	F-TA-193:PH1		Good
4		Audio Distortion Meter	796F	M-14427019		1985	F-TA-193:PH1		Good
5		RF Signal Generator	MSG-2560B	84113135		1985	F-TA-193:PH1		Good
6		Mega Ohm Tester	3213	35015		1985	F-TA-193:PH1		Good
7		Electric Voltmeter With Probe	ML-69A	M-15486		1985	F-TA-193:PH1		Good
8		VHF Signal Generator	MG-54E	M-44184		1985	F-TA-193:PH1		Good
9		VHF Output Testing Equipment	MS-52B	M-49283		1985	F-TA-193:PH1		Good
10		Directional Coupler	MA-52A	M-94587		1985	F-TA-193.PH1		Good
11		VHF/UHF Dummy Load	TP-5J10	22161		1985	F-TA-193 PH1		Good
12		Portable Test Rack (1)	206			1985	F-TA-193:PH1		Good
13		DC Power Supply unit	PAD-35-5L	1840890		1985	F-TA-193:PH1		Good
14		Motor Drive Wire Wrapper	EW-70			1985	F-TA-193:PH1		Good
15		Tools (1)	Zped 0002			1985	F-TA-193:PH1		Good
16		Tools (1)	S-10			1985	F-TA-193:PH1		Good
17		Tools (1)	ND-XP2174--74			1985	F-TA-193:PH1		Good
18		Dummy Load	DL-102A-3J-A	93895-3		1985	F-TA-193:PH1		Good

INVENTORY

Site Name: Makassar

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
5		**Others**							
1		Tape Recorder	X-2000	50789	Teac	1985	F-TA-193:PH1		Good
2		Tape Recorder	X-2000	50602	Teac	1985	F-TA-193:PH1		Good
3		Master Clock	KM-6THS	2182		1984	F-TA-193:PH1		No Good
4		Telex on Line	LO-133		Lorens				No Good
5		Telex on Radio	T-1000	BCK-280780	Siemens	1984	F-TA-193:PH1		Good
6		Air Conditioner (10)	CW-120JS225			1989	SAR Project		No Good
7		Air Conditioner	CW-71Y	3471403		1989			No Good
8		Exhause Fan	FV-30VAN	180183		1969			Good
9		Exhause Fan	FV-30VAN	180184		1969			Good

STATUS OF TROUBLES

SITE NAME : MAKASSAR **MKS-153-(1/1)**

Item / Equipment	- / -		
Manufacturer	-		
Manufacturer in year	-		
Defective panel / unit	-		
Details of Trouble Status	Cause doe to:	Urgency of Repair	Repairing to be:
	☐ Aging		☐ Immediacy
	☐ Lightning		☐ By next year budget
	☐ Corrosion		☐ By next project
	☐ Lack of Spares		☐ Unnecessary
	☐ Others		
General Comment for Maintenance: Can not work maximal, because spare part un-available			

OPERATION SCHEDULE (FREQUENCIES)

Site Name: Makassar

Call Sign : Mobile Service : PKF
Fix Service : 8AG

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
	Mobile Service				
1	465,0	A1A	1000		
2	500,0	A2A	1000		
3	518,0	F1B	1000		
4	4 295,0	A1A	1000		
5	8 686,0	A1A	1000		
6	12 682,5	A1A	1000		
7	2 182,0	J3E	1000		
8	2 690,0	J3E	1000		
9	4 125,0	J3E	1000		
10	4 396,0	J3E	1000		
11	6 215,0	J3E	1000		
12	6 510,0	J3E	1000		
13	8 291,0	J3E	1000		
14	12.290,0	J3E	1000		
15	16 420,0	J3E	1000		
	NBDP Service				
16	2.174,5	F1B	1000		
17	6 268,0	F1B	1000		
18	8 419,5	F1B	1000		
19	12 520,0	F1B	1000		
20	8 381,0	F1B	1000		
21	6.269,0	F1B	1000		
22	12 482,0	F1B	1000		
23	16.692,5	F1B	1000		

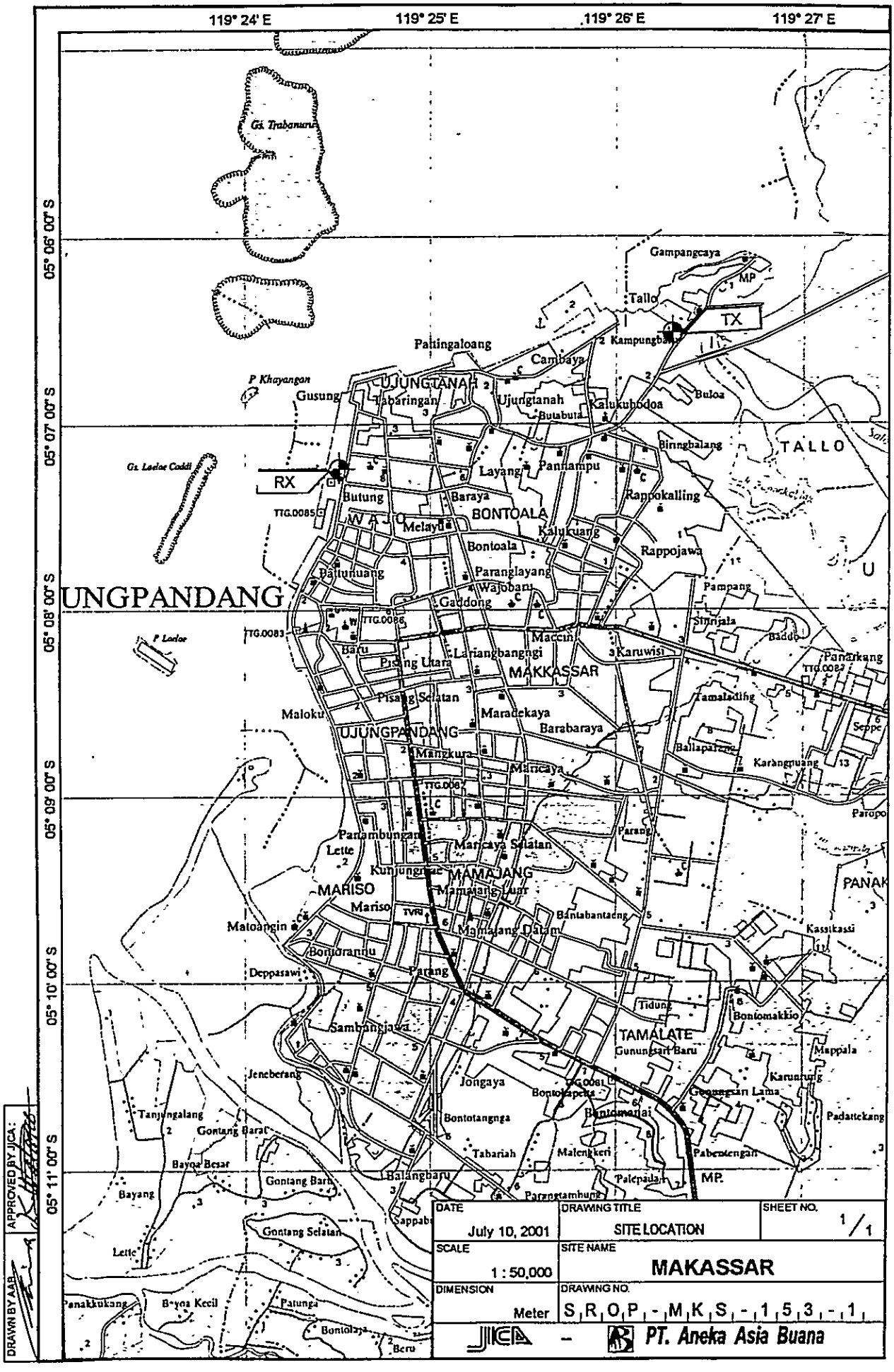
OPERATION SCHEDULE (FREQUENCIES)

Site Name: Makassar

MKS-153-(2/2)

Call Sign : Mobile Service . PKF
Fix Service : 8AG

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
24	16 892,5	J3B	1000		
25	8 376,5	F1B	1000		
26	2.189,5	F1B	1000		
27	8 415,0	F1B	1000		
	DSC				
28	2 187,5	F1B	1000		
29	4 207,5	F1B	1000		
30	6 312,0	F1B	1000		
31	8 414,5	F1B	1000		
32	12 577,0	F1B	1000		
33	16.804,5	F1B	1000		
	VHF Service				
34	Channel-16	F3E	50		
35	Channel-20	F3E	50		
36	Channel-26	F3E	50		
37	Channel-70	G2B	50		
38					
39					
40					
41					
42					
43					
44					



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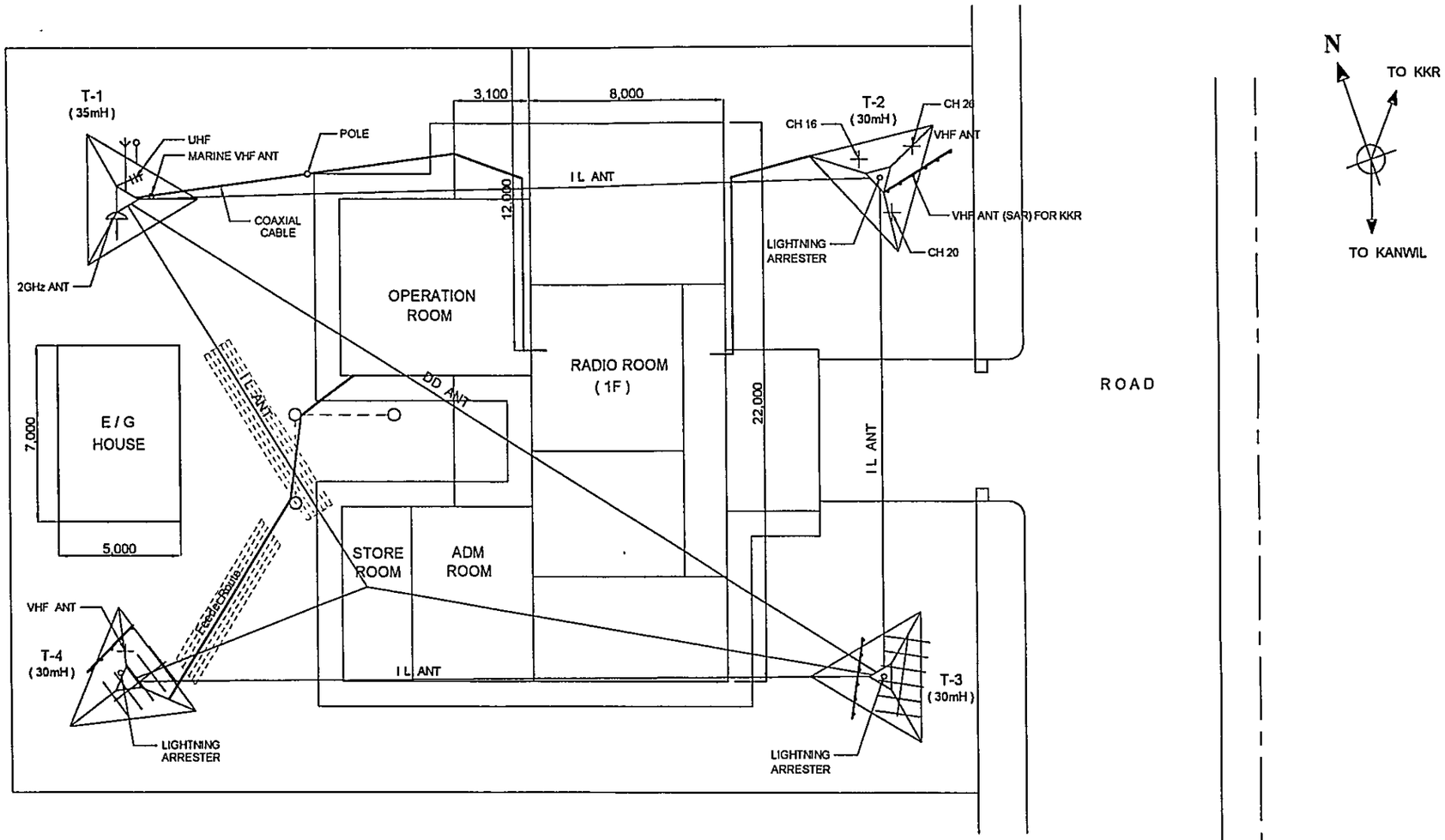
DATE: July 10, 2001	DRAWING TITLE: SITE LOCATION	SHEET NO.: 1/1	
SCALE: 1 : 50,000	SITE NAME: MAKASSAR		
DIMENSION: Meter	DRAWING NO.: SROP-MKS-153-1		
JICA – PT. Aneka Asia Buana			



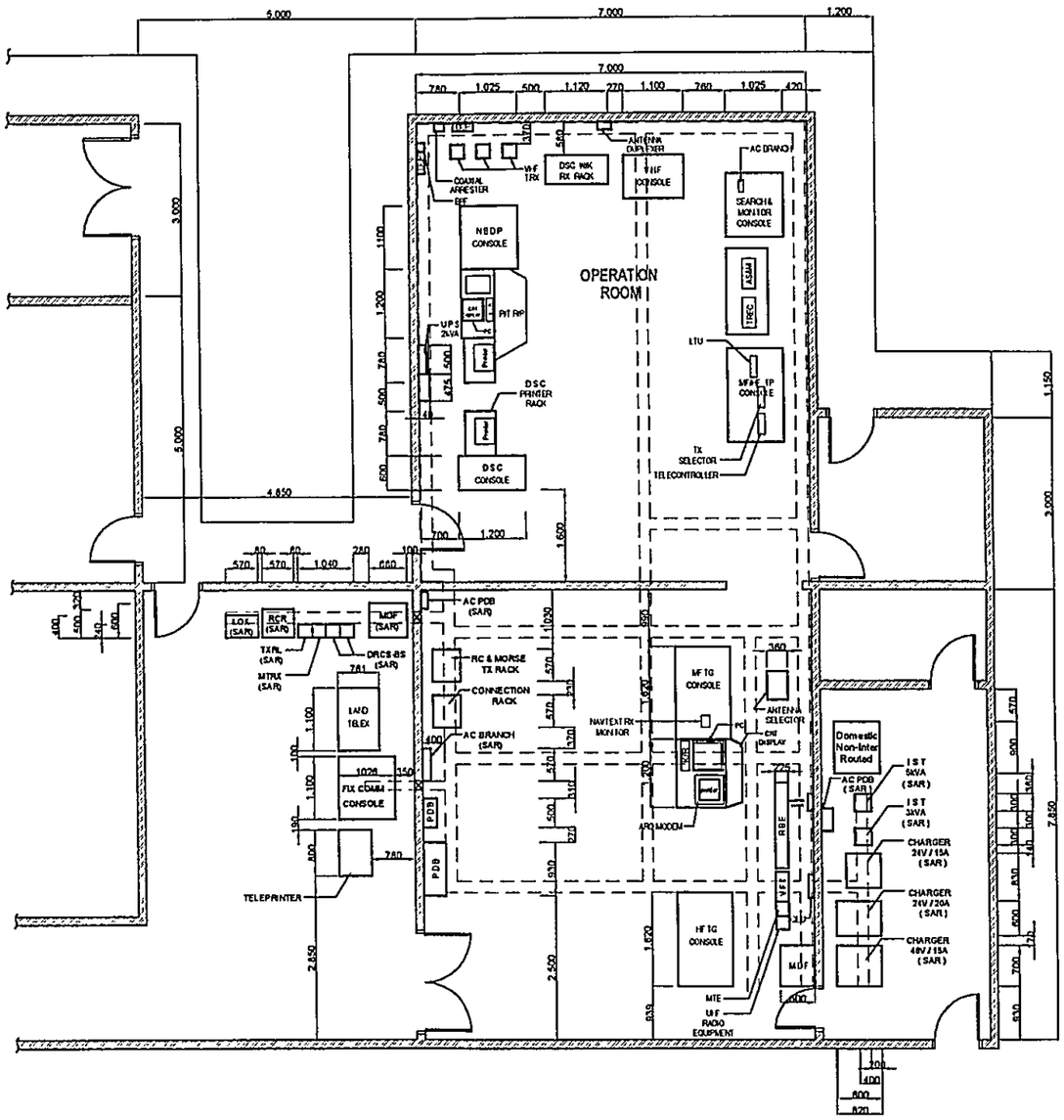
LEGEND

ANT : ANTENNA
DD : DOUBLE DOUBLET
E/G : ENGINNE GENERATOR
IL : INVERTED L
UHF : ULTRA HIGH FREQUENCY
VHF : VERY HIGH FREQUENCY

DRAWN BY A.A.B. APPROVED BY JICA

DATE: July 09, 2001	DRAWING TITLE: ANTENNA LAYOUT FOR RX STATION	SHEET NO: 1/1
SCALE: 1 : 200	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: SROP-MKS-153-2R	

JICA – PT. Aneka Asia Buana

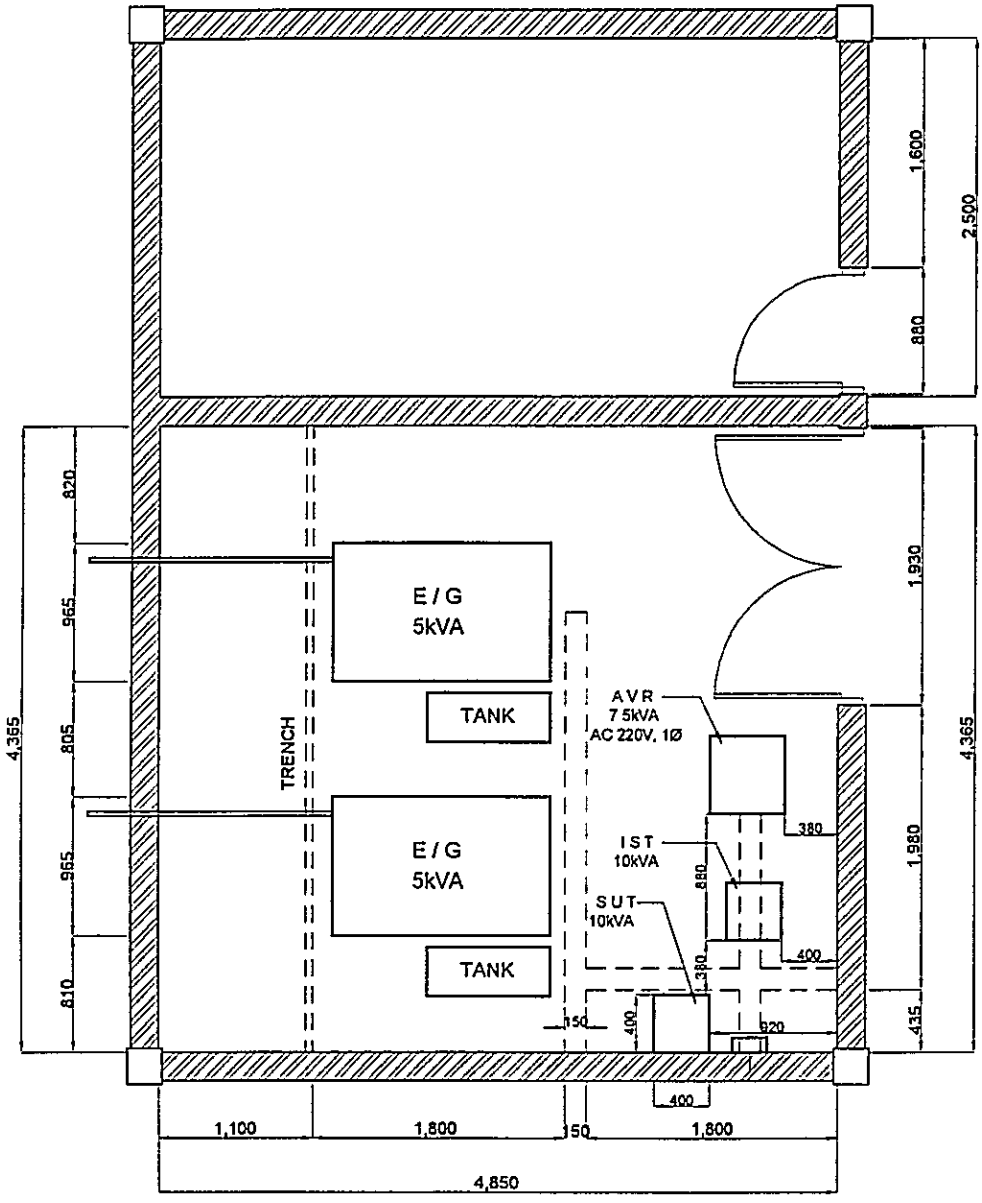


LEGEND

AS&M	AUDIO SELECT & MONITOR	IST	ISOLATION TRANSFORMER	RBE	RADIO BEACON EQUIPMRNT	UPS	UNINTERRUPTED POWER SUPPLY
BPF	BATTERY POWER SUPPLY	kVA	KILO VOLT AMPERE	RCR	REMOTE CONTROL RADIO	V	VOLT
CEU	CENTRAL EXCHANGE UNIT	MF	MEDIUM FREQUENCY	TG	TELEGRAPHY	VFT	VOICE FREQUENCY TELEGRAPH
DUP	DUPLEXER	MDF	MAIN DISTRIBUTION FRAME	TP	TELEPHONY	VHF	: VERY HIGH FREQUENCY
DSC	DIGITAL SELECTIVE CALING	MTE	MULTIPLEX TERMINAL EQUIPMENT	TREC	TAPE RECORDER		
FIX	: FIX COMMUNICATION	NBDP	NARROW - BAND DIRECT - PRINTING	TRX	: TRANSCEIVER (ING)		
HF	HIGH FREQUENCY	PDB	POWER DISTRIBUTION BOARD	TX	TRANSMITTER (ING)		

DRAWN BY AAB | APPROVED BY JICA:

DATE: July 10, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT FOR RX STATION	SHEET NO: 1/1
SCALE: 1 : 100	SITE NAME: MAKASSAR	
DIMENSION: Millimeter	DRAWING NO.: S R O P - M K S - 1 5 3 - 3 R	
JICA	– PT. Aneka Asia Buana	



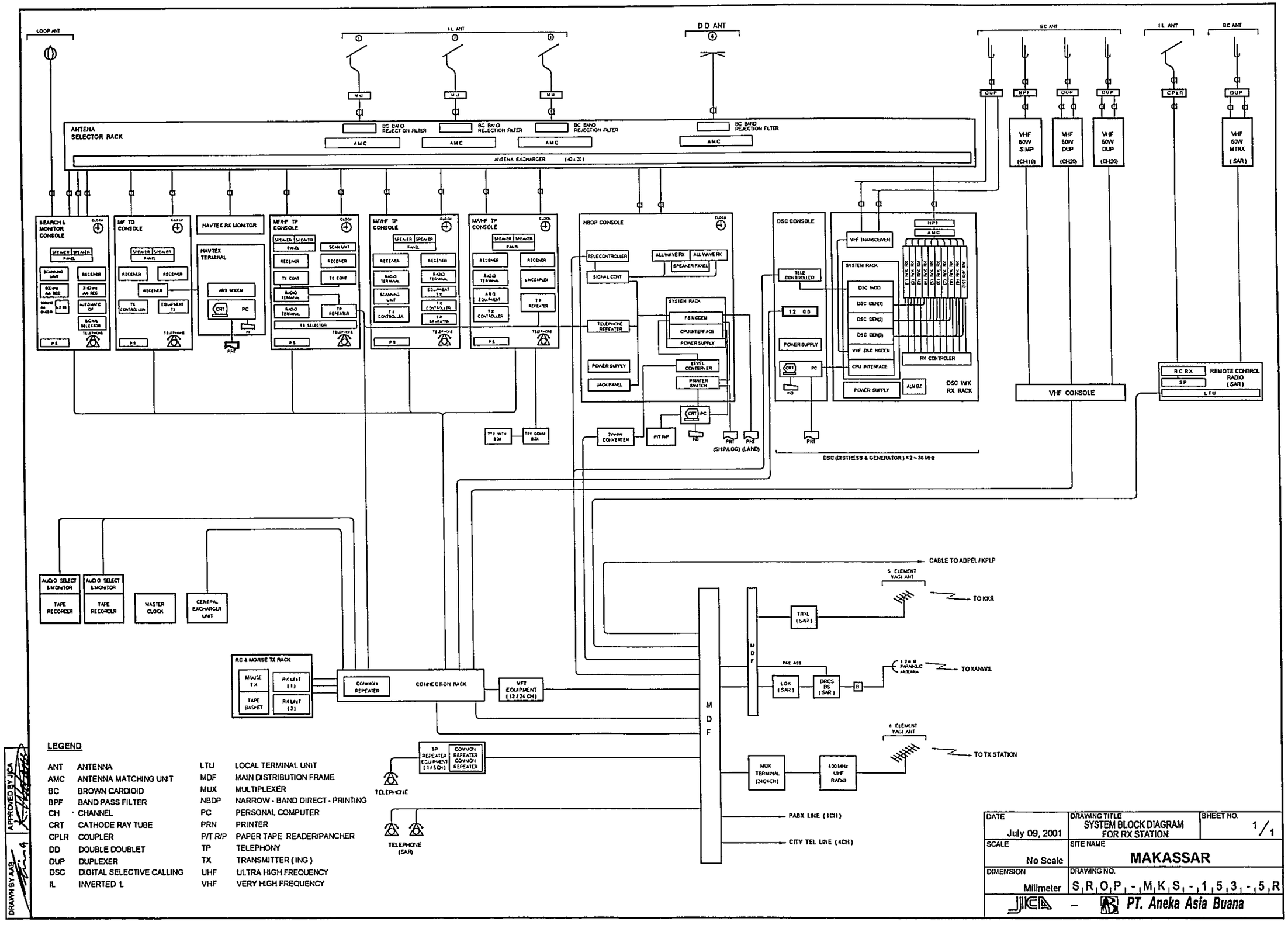
LEGEND

AVR . AUTOMATIC VOLTAGE REGULATOR
E/G : ENGINNE GENERATOR
IST : ISOLATION TRANSFORMER
kVA . KILO VOLT AMPERE
SUT : STEP - UP TRANSFORMER

APPROVED BY JICA

DRAWN BY AAB

DATE: July 09, 2001	DRAWING TITLE: E/G FLOOR LAYOUT FOR RX STATION	SHEET NO.: 1/1
SCALE: 1 : 50	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO: S,R,O,P,-,M,K,S,-,1,5,3,-,4,R	
JICA – PT. Aneka Asia Buana		



LEGEND

ANT	ANTENNA	LTU	LOCAL TERMINAL UNIT
AMC	ANTENNA MATCHING UNIT	MDF	MAIN DISTRIBUTION FRAME
BC	BROWN CARDIOID	MUX	MULTIPLEXER
BPF	BAND PASS FILTER	NBDP	NARROW - BAND DIRECT - PRINTING
CH	CHANNEL	PC	PERSONAL COMPUTER
CRT	CATHODE RAY TUBE	PRN	PRINTER
CPLR	COUPLER	P/T R/P	PAPER TAPE READER/PANCHER
DD	DOUBLE DOUBLET	TP	TELEPHONY
DUP	DUPLEXER	TX	TRANSMITTER (ING)
DSC	DIGITAL SELECTIVE CALLING	UHF	ULTRA HIGH FREQUENCY
IL	INVERTED L	VHF	VERY HIGH FREQUENCY

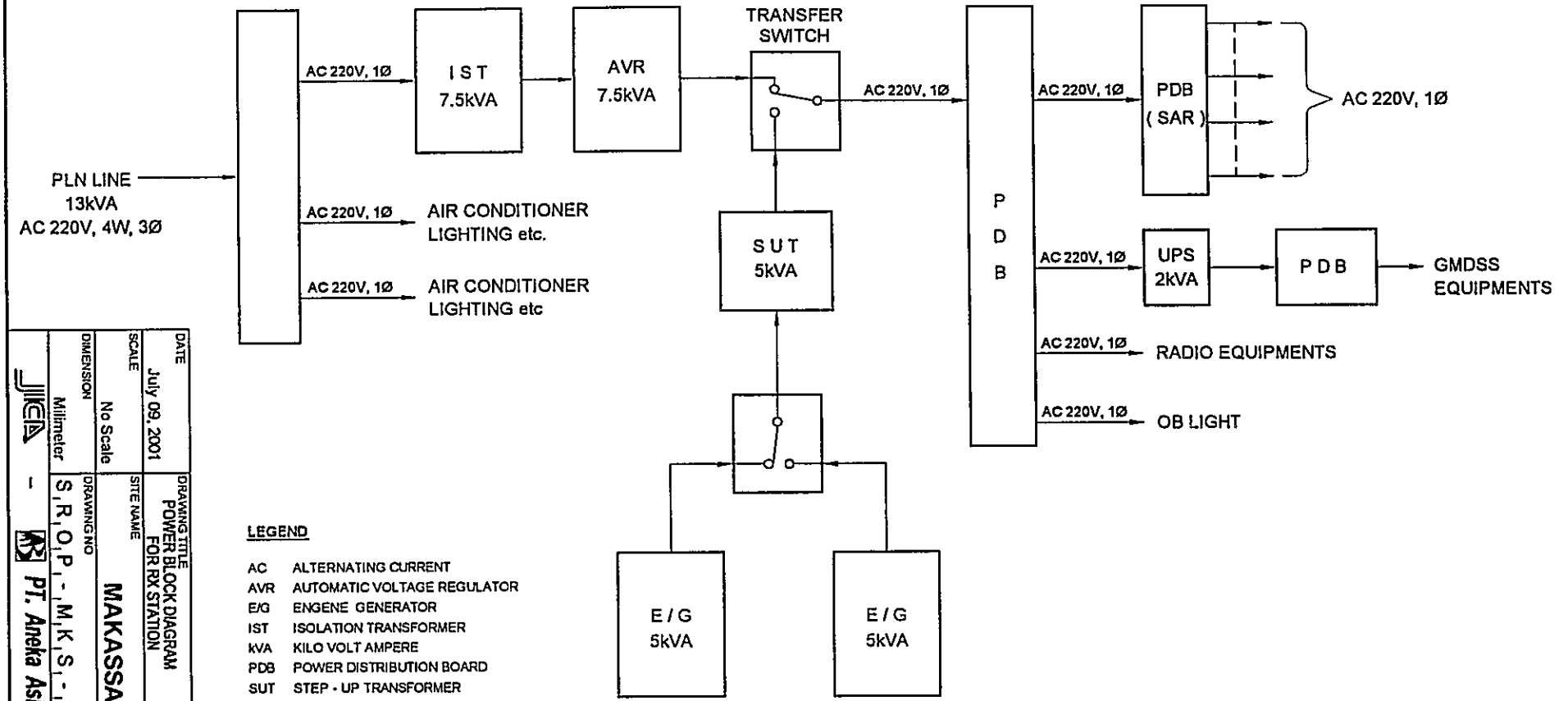
APPROVED BY JICA

DRAWN BY AAB

DATE: July 09, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM FOR RX STATION	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: MAKASSAR	
DIMENSION: Millmeter	DRAWING NO.: SROP-MKS-153-5R	

JICA – PT. Aneka Asia Buana

DRAWN BY AAB | APPROVED BY JICA

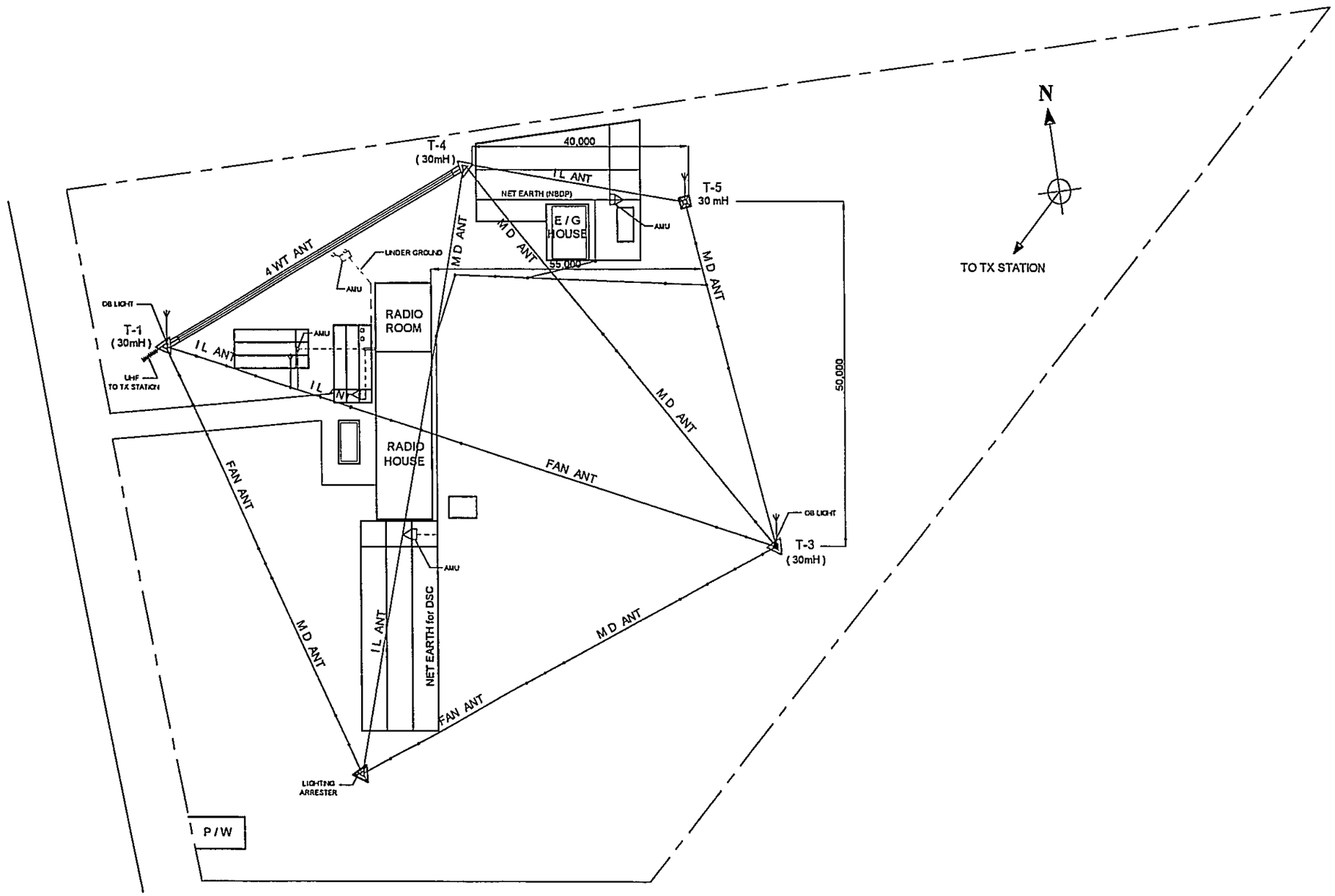


LEGEND

AC	ALTERNATING CURRENT
AVR	AUTOMATIC VOLTAGE REGULATOR
E/G	ENGENE GENERATOR
IST	ISOLATION TRANSFORMER
kVA	KILO VOLT AMPERE
PDB	POWER DISTRIBUTION BOARD
SUT	STEP - UP TRANSFORMER
UPS	UNINTERRUPTED POWER SUPPLY
V	VOLT
W	WIRE / WATT

JICA – PT. Aneka Asia Buana

DIMENSION	Milimeter
SCALE	No Scale
DATE	July 09, 2001
DRAWING NO	S,R,O,P,-,M,K,S,-,1,5,3,-,6,R
SITE NAME	MAKASSAR
DRAWING TITLE	POWER BLOCK DIAGRAM FOR RX STATION
SHEET NO	1/1



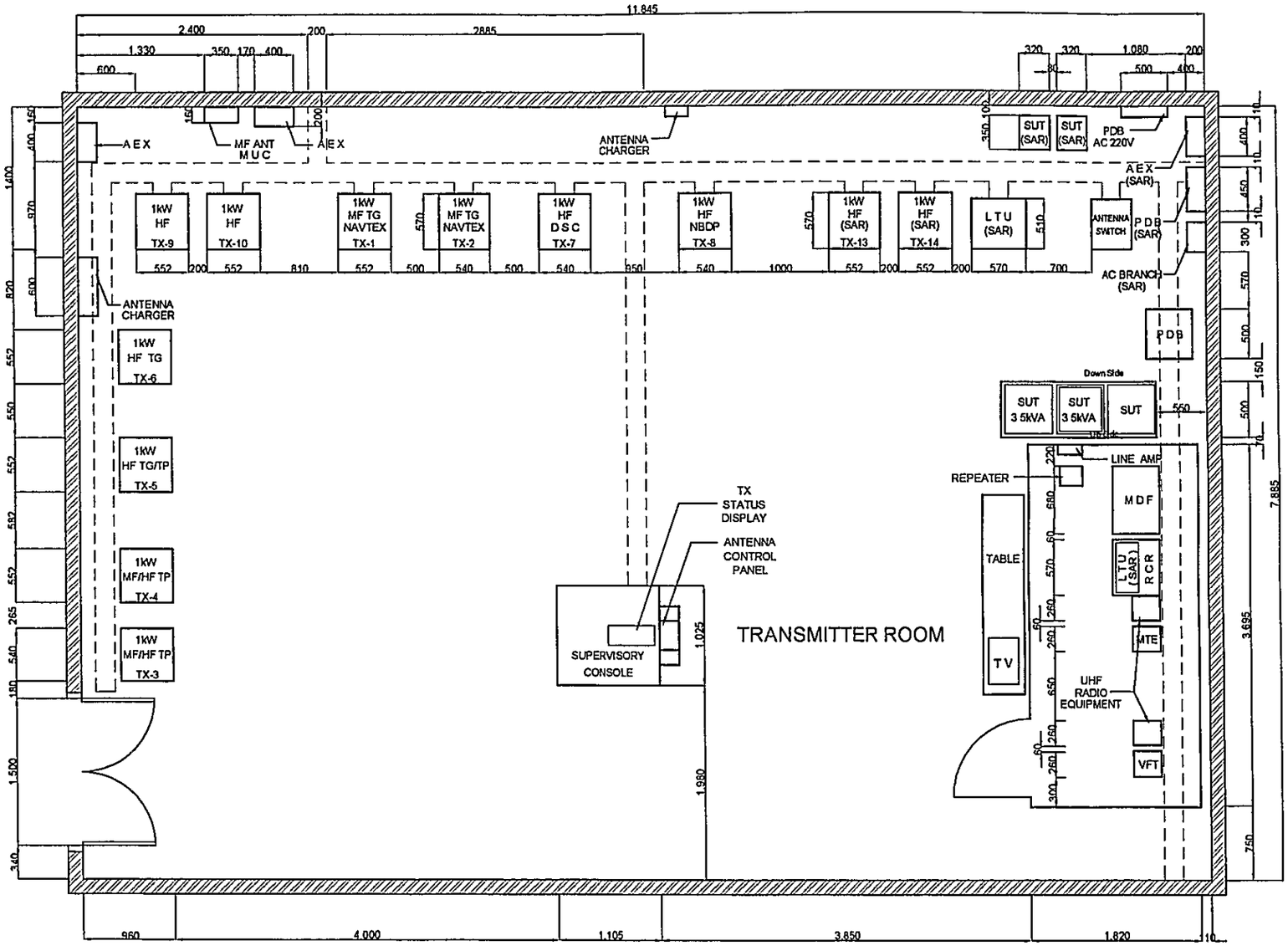
LEGEND

ANT : ANTENNA
E/G : ENGINNE GENERATOR
IL : INVERTED L
MD : MULTI DOUBLET
UHF : ULTRA HIGH FREQUENCY
WT : WIRE T TYPE

DATE: July 09, 2001	DRAWING TITLE: ANTENNA LAYOUT FOR TX STATION	SHEET NO: 1/1
SCALE: 1 : 1,000	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO: SROP-MKS-153-2T	
JICA – PT. Aneka Asia Buana		

DRAWN BY AAB

APPROVED BY JICA:

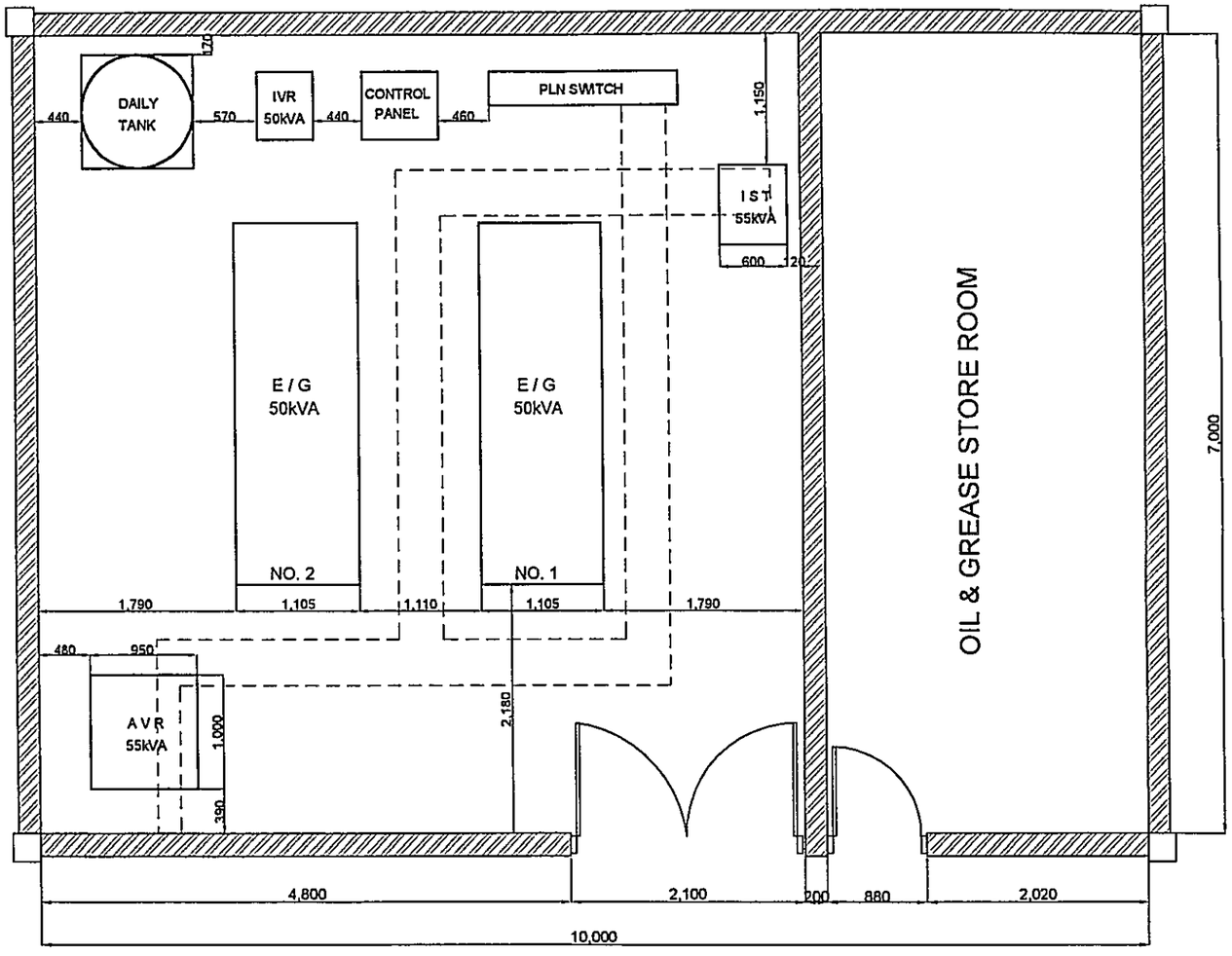


LEGEND

AC	ALTERNATING CURRENT	MDF	MAIN DISTRIBUTION FRAME	TP	TELEPHONY
AEX	ANTENNA EXCHARGER	MTE	. MULTIPLEX TERMINAL EQUIPMENT	TX	TRANSMITTER (ING)
DSC	· DIGITAL SELECTIVE CALLING	MUC	· MATCHING UNIT CONTROL	UHF	ULTRA HIGH FREQUENCY
HF	HIGH FREQUENCY	NBDP	NARROW - BAND DIRECT - PRINTING	VFT	: VOICE FREQUENCY TELEGRAPH
kVA	. KILO VOLT AMPERE	PDB	POWER DISTRIBUTION BOARD		
LTU	LOCAL TERMINAL UNIT	SUT	· STEP - UP TRANSFORMER		
MF	MEDIUM FREQUENCY	TG	. TELEGRAPHY		

DRAWN BY AAB | APPROVED BY JICA:

DATE: July 10, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT FOR TX STATION	SHEET NO.: 1/1
SCALE: 1 : 50	SITE NAME: MAKASSAR	
DIMENSION: Millmeter	DRAWING NO.: SROP-MKS-153-3T	
JICA – PT. Aneka Asia Buana		

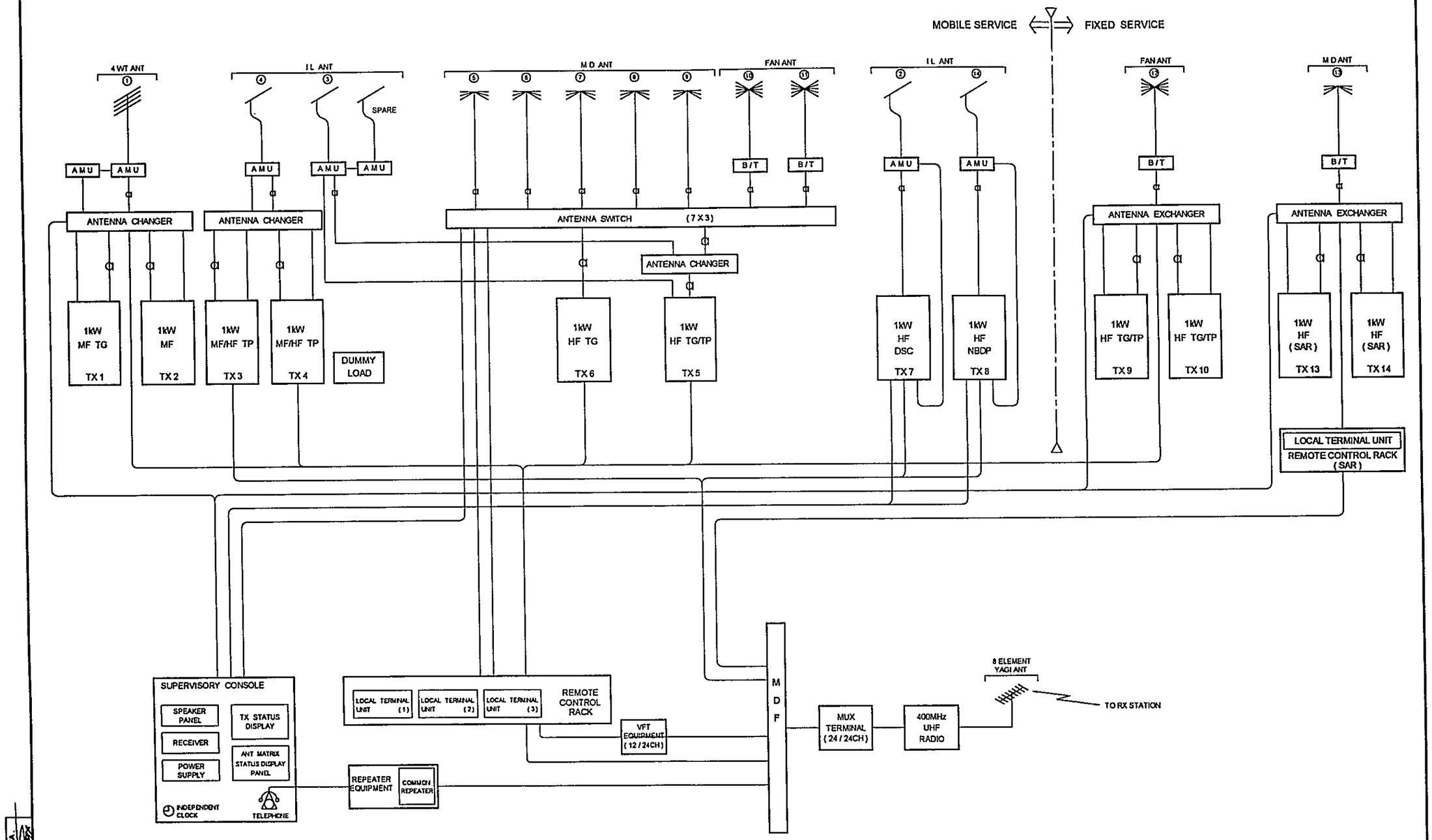


LEGEND

AVR : AUTOMATIC VOLTAGE REGULATOR
E/G : ENGINNE GENERATOR
IST : ISOLATION TRANSFORMER
kVA : KILO VOLT AMPERE

DRAWN BY AAB:
APPROVED BY JICA:

DATE: July 09, 2001	DRAWING TITLE: E/G FLOOR LAYOUT FOR TX STATION	SHEET NO.: 1/1
SCALE: 1 : 50	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO: SRO P-MKS-153-4T	
JICA –	PT. Aneka Asia Buana	



LEGEND

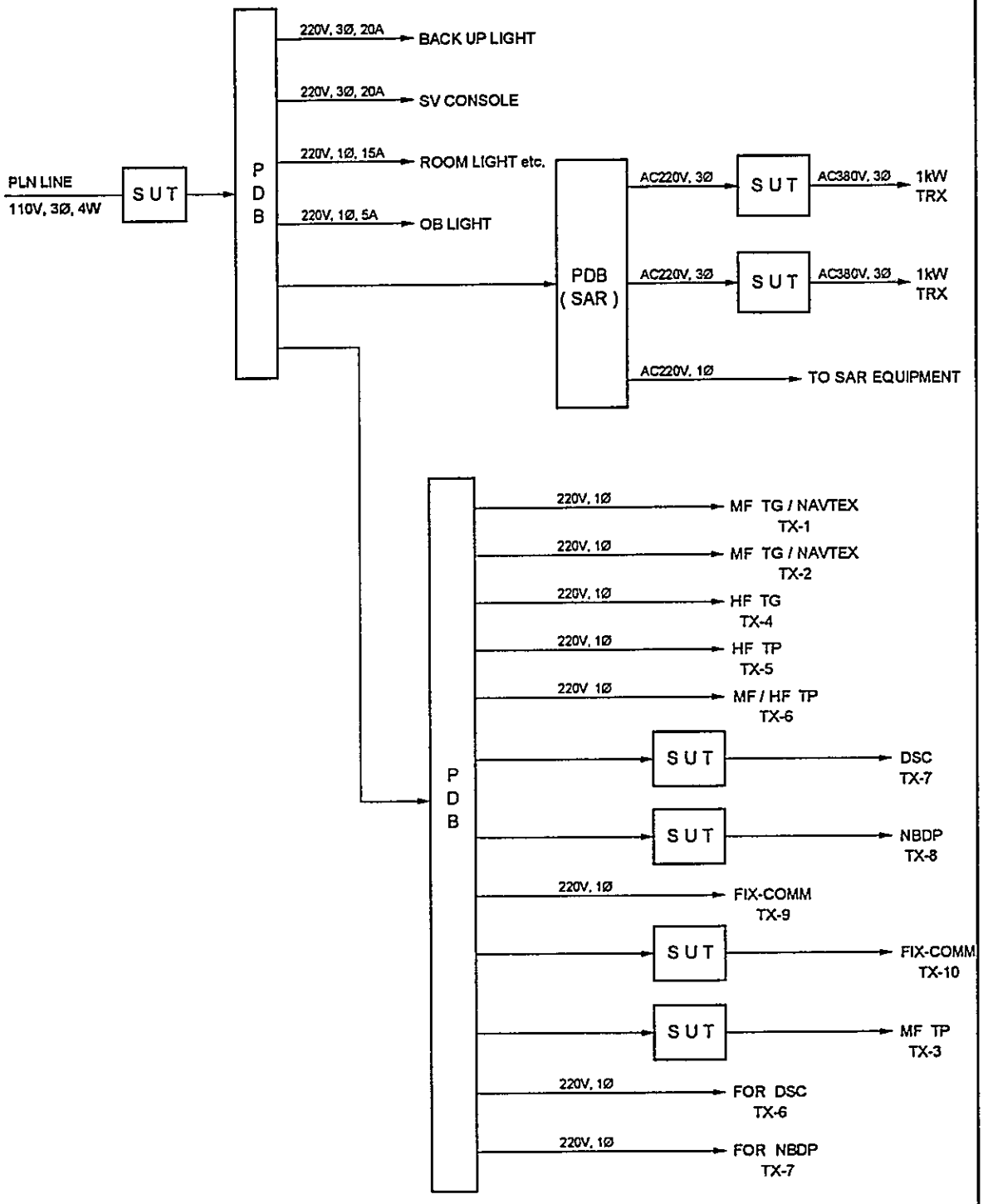
ANT	. ANTENNA	MF	. MEDIUM FREQUENCY
AMU	ANTENNA MATCHING UNIT	MDF	: MAIN DISTRIBUTION FRAME
B/T	. BALUNTS TRANS	MUX	. MULTIPLEXER
DUP	: DUPLEXER	NBDP	: NARROW - BAND DIRECT - PRINTING
DSC	. DIGITAL SELECTIVE CALLING	TX	. TRANSMITTER
HF	: HIGH FREQUENCY	UHF	. ULTRA HIGH FREQUENCY
IL	INVERTED L	WT	: WIRE T TYPE
MD	. MULTI DOUBLET		

DRAWN BY AAB

APPROVED BY JICA

DATE: July 09, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM FOR TX STATION	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: SRO,P-MKS-1,5,3-5T	

JICA – PT. Aneka Asia Buana



APPROVED BY JICA

DRAWN BY AAB

LEGEND

AC	ALTERNATING CURRENT	TP	TELEPHONY
DSC	DIGITALL SELECTIVE CALLING	TX	TRANSMITTER (ING)
HF	HIGH FREQUENCY	V	VOLT
MF	MEDIUM FREQUENCY	Ø	PHASE
NBDP	NARROW - BAND DIRECT - PRINTING		
PDB	POWER DISTRIBUTION BOARD		
SUT	STEP - UP TRANSFORMER		
TG	TELEGRAPHY		

DATE: July 09, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM FOR TX STATION	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: MAKASSAR	
DIMENSION: Milimeter	DRAWING NO.: S,R,O,P,-,M,K,S,-,1,5,3,-,6,T	
JICA – PT. Aneka Asia Buana		

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

4th-A Class Coast Station

Pare-pare

(Coast Station No. 154)

Table of Content

Note :
☑ Available in this list
☒ Not Available in this list
☐ Unnecessary in this list
* Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	PARE-PARE		
CLASS	4th-A	NO.	154

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
TX/RX	Jl. Atletik	0421-27088		119° 37′ 44″ E	04° 01′ 03″ S

2. GENERAL CONDITIONS

Moving from Jakarta			Site Access from Port	Road Traffic	Accommodation	Population
By Air	to Makassar	[Taking time 2.00 hr.]	☐ Highway	☐ Heavy	☑ Hotel	100,000
By Car	to Pare-Pare	[Taking time: 3:00 hr.]	☑ Paved	☑ Medium	☐ Motel	
			☐ Unpaved road	☐ Light		
				☐ None		

3. CONDITIONS OF STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system	
☐ Flat	☐ Dry soil	☑ Limestone	☐ Flood	Yes	No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☑ Antenna	☐
☑ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☑ Towers (Masts)	☐
☐ Basin	☐ Clay	☑ Limestone	☐ Ground Subsidence	☑ Grounding system	☐
☐ Valley	☐ Sandy			☑ Lightning system	☐
Altitude	50.00 M		Telephone Lines	☑ Feeder Cable Way	☐
Land area	1,000 m²		☑ 1 Lines	☑ City water	☐

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Roof Tile
Type of ceiling	Asbestos
Type of wall	Brick
Wall finish	Mortar
Flooring	Ceramic

Room Area (m²)	
Operation room	32.5
E / G room	49.50
Remark	

3.3 Power Source

	PLN Source	E/G	Existing Power Conditions	
Voltage	220 V	220 V	Good	Bad
Phase	1	1	☐	☑ Power Supply System
Wire	2	2	☐	☑ Operations of E/G
kVA	1.3	1/3	☐	☐ Operations of AVR

Quality of PLN source		Capacity of fuel for engine	
Fluctuations	220 V ± 10 %	Day tank	5 Liter
Availability of power per day	24 Hours	Main tank	k Liter
Power interruption /month	2 Times	E/G Stand-by System	
Total interpt. hours /month	4 Hours	☐ Single System	
Max. interpt. hours at once	3 Hours	☑ Dual System	

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Request for technician
Examples of major failure	
Sufficiency of spares	Not enough

Records of damages		Environmental Conditions		
		Good	Bad	
☐ Heavy rainfall				
☐ Storm		☑	☐	External noises
☐ Lightning		☑	☐	Air pollution
☐ Other calamity				

Institutional and Human Statuses				
1	Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2	Spares	☐ Enough	☐ Reasonable	☑ Not enough
3	Measuring eqpt./tools	☐ Enough	☑ Reasonable	☐ Not enough
4	Number of Operator	☐ Enough	☑ Reasonable	☐ Not enough
5	Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6	Capability of Operator	☐ Skilled	☑ Not so bad	☐ Not capable
7	Capability of Technician	☐ Skilled	☐ Not so bad	☑ Not capable

5. PERSONNEL FORMATIONS

	TX/RX	
Chief	1	
Operator (skilled)	2 ()	()
Technician (skilled)	()	()
Administrator		
Total	3	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF COAST STATION

SITE	PARE-PARE		
CLASS	4th-A	NO.	154

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998	1		
1999					1994				1999	1		
2000					1995				2000	2		

7. COMMENTS

Suggestion	Coast Station must be completed by GMDSS system, minimal Area A1. For Public correspondence from SROP to ship or the opposite, it must be done by Coast Station Class-I Makassar.
Remarks	

INVENTORY

Site Name: Pare-Pare

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Equipment**							
1-1		**Transmitter**							
1		SSB Transceiver	IC-M700	3953	ICOM	1994			Good
1-2		**VHF System**							
1		VHF Radio Transceiver	IC-2000	51643	ICOM	1996			Good
2		**Tower & Antenna System**							
2-1		**Tower & Mast**							
1		Antenna Tower							Good
2		Antenna Tower							Good
3		**Power Supply Equipment**							
3-1		**UPS & AVR System**							
1		Accumulator	N200		GS	1994			No Good
3-1		**Engine Generator**							
1		Engine Generator (1 kVA)							Damaged
2		Engine Generator (3 kVA)							Damaged
4		**Measuring Equipment**							
1		Multi Meter	SP-15		Sanwa				Good

STATUS OF TROUBLES

SITE NAME : PARE-PARE **PPR-154-(1/1)**

Item / Equipment	- / -		
Manufacturer	-		
Manufacturer in year	-		
Defective panel / unit	-		
Details of Trouble Status	Cause doe to:	Urgency of Repair	Repairing to be:
	☐ Aging		☐ Immediacy
	☐ Lightning		☐ By next year budget
	☐ Corrosion		☐ By next project
	☐ Lack of Spares		☐ Unnecessary
	☐ Others		
General Comment for Maintenance: Engine Generator heavily damaged			

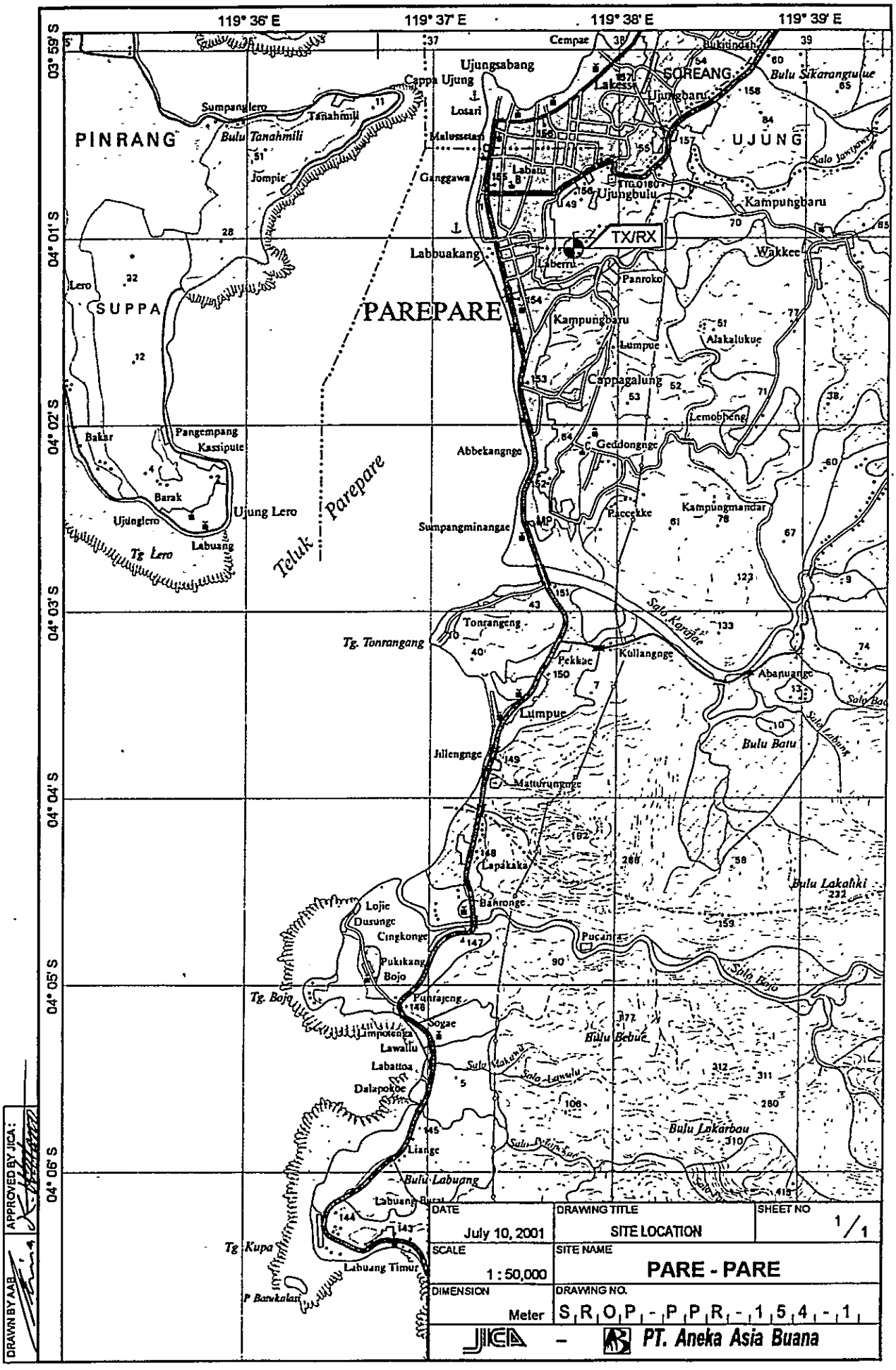
OPERATION SCHEDULE (FREQUENCIES)

Site Name: Pare-Pare

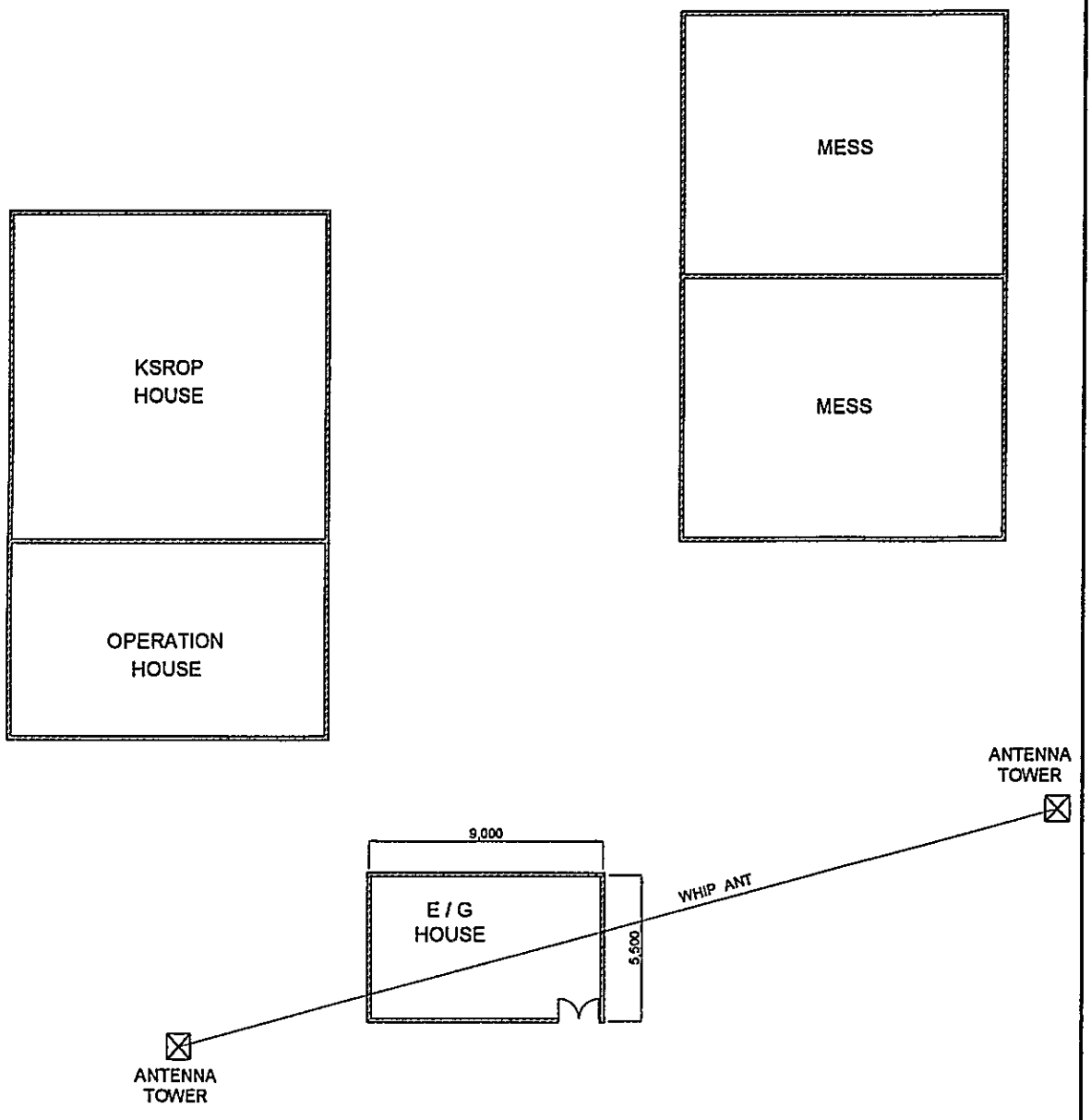
PPR-154-(1/1)

Call Sign : Mobile Service : PKF.4
Fix Service :

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
	Mobile Service				
1	2 182,0	J3E	150		
2	6 215,0	J3E	150		
	VHF Service				
3	Channel-16	G3E	50		
	Fix Service				
4	5 165,0	J3E	50		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					



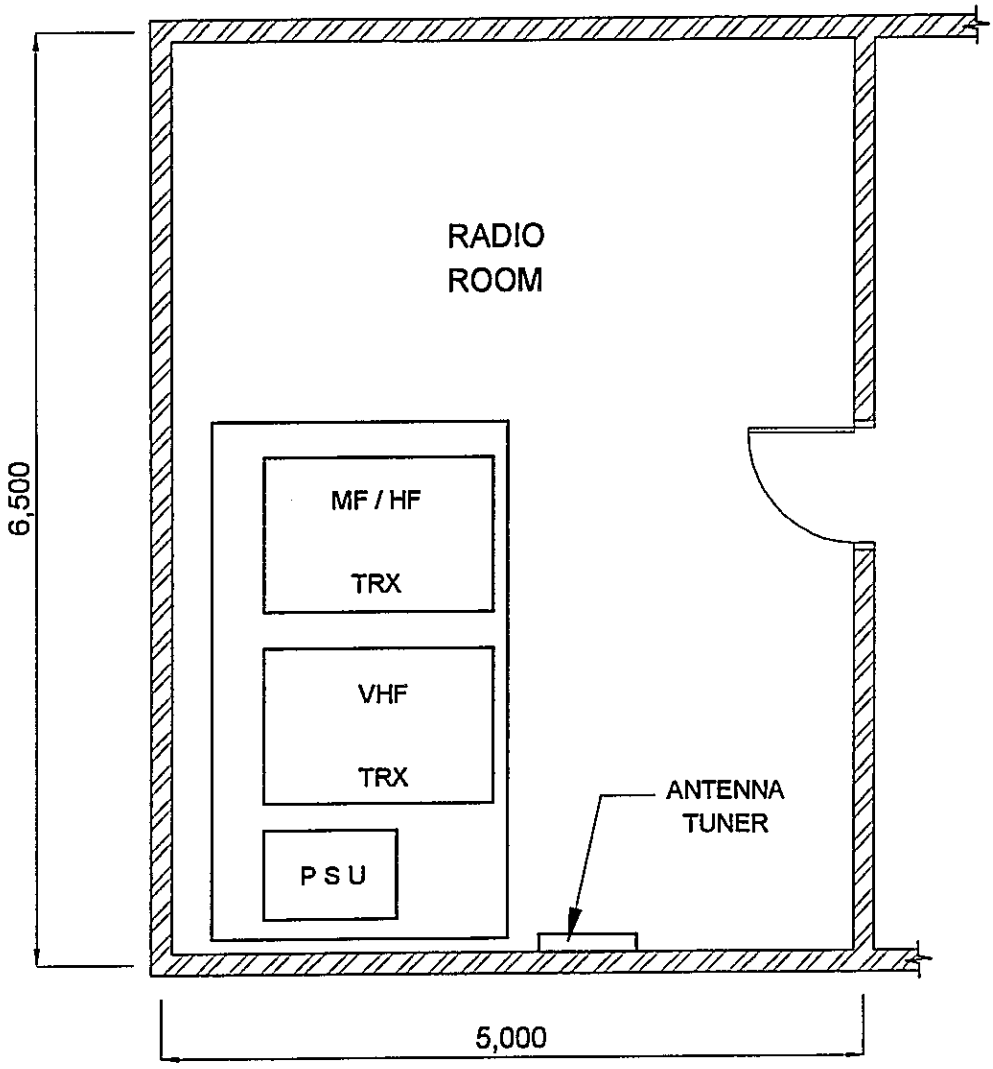
DRAWN BY AAB	APPROVED BY JICA:	
DATE: July 10, 2001	DRAWING TITLE: SITE LOCATION	SHEET NO: 1/1
SCALE: 1 : 50,000	SITE NAME: PARE - PARE	
DIMENSION: Meter	DRAWING NO.: SROP-PPR-154-1	
JICA – PT. Aneka Asia Buana		



DRAWN BY AAB

APPROVED BY JICA

DATE: July 06, 2001	DRAWING TITLE: ANTENNA LAYOUT	SHEET NO: 1/1
SCALE: 1 : 250	SITE NAME: PARE-PARE	
DIMENSION: Milimeter	DRAWING NO.: SROP-KBH-154-2	
JICA - PT. Aneka Asia Buana		

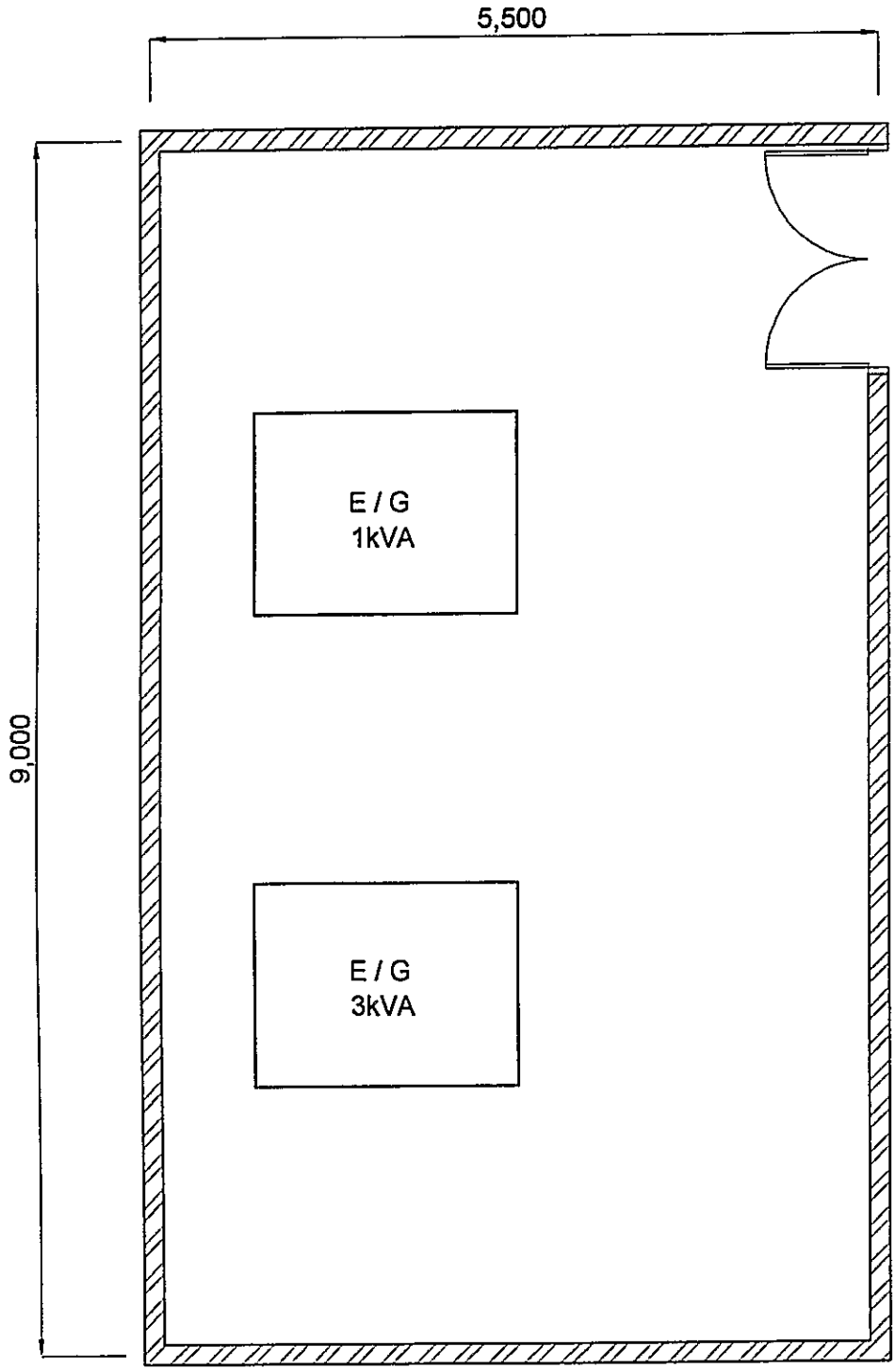


LEGEND

HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
PSU : POWER SUPPLY UNIT
TRX : TRANSCEIVER (ING)

DATE: July 06, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT	SHEET NO.: 1/1
SCALE: 1 : 50	SITE NAME: PARE-PARE	
DIMENSION: Milimeter	DRAWING NO.: SROP-KBH-154-3	
JICA – AB PT. Aneka Asia Buana		

DRAWN BY AAB: APPROVED BY JICA:



LEGEND

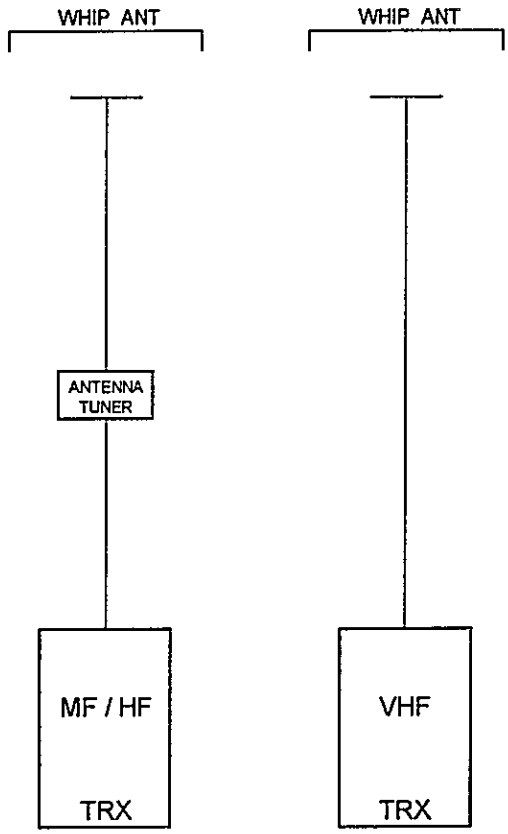
E/G : ENGINE GENERATOR

kVA : KILO VOLT AMPERE

DATE: July 06, 2001	DRAWING TITLE: E/G FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 50	SITE NAME: PARE-PARE	
DIMENSION: Milimeter	DRAWING NO: SRJOP-KBH-154-4	
JICA –	PT. Aneka Asia Buana	

APPROVED BY JICA :

DRAWN BY AAB



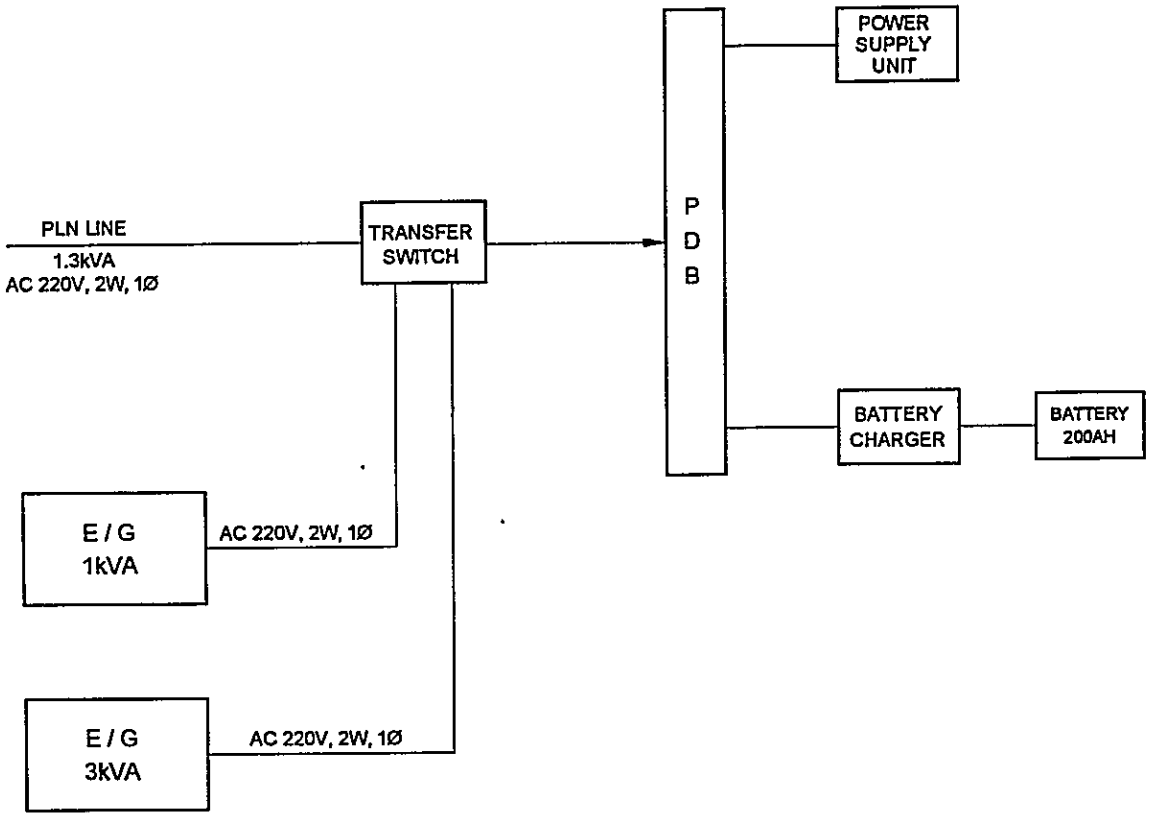
LEGEND

ANT : ANTENNA
HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
TRX : TRANSCEIVER (ING)
VHF : VERY HIGH FREQUENCY

APPROVED BY JICA

DRAWN BY AAB

DATE: July 30, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: PARE-PARE	
DIMENSION: Milimeter	DRAWING NO: SROP-PPR-154-5	
JICA –	PT. Aneka Asia Buana	



LEGEND

AC : ALTERNATING CURRENT
AVR : AUTOMATIC VOLTAGE REGULATOR
V : VOLT
W : WIRE / WATT
Ø : PHASE

DRAWN BY AAB

APPROVED BY JICA

DATE: July 30, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: PARE-PARE	
DIMENSION: Milimeter	DRAWING NO.: SROP-PPR-154-6	
JICA – PT. Aneka Asia Buana		

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

4th-A Class Coast Station

Mamuju

(Coast Station No. 155)

Table of Content

- ☑ Summary of Coast Station
- ☑ Inventory
- ☐ Status of Trouble
- ☑ Operation Schedule (Frequencies)

TRX Drawings:

- ☑ Site Location
- ☑ Antenna Layout
- ☑ Equipment Floor Layout
- ☑ E/G Floor Layout
- ☑ System Block Diagram
- ☑ Power Block Diagram

Note :

- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list
- * Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	MAMUJU		
CLASS	4th-A	NO.	155

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
TX/RX	Jl. Yos Sudarso No. 1	0426-22274		118° 53′ 20″ E	02° 40′ 28″ S

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Makassar [Taking time: 2.00 hr.]	☐ Highway	☐ Heavy	☐ Hotel	30,000
By Car to Location [Taking time: 10.00 hr.]	☐ Paved	☐ Medium	☑ Motel	
	☑ Unpaved road	☑ Light		
		☐ None		

3. CONDITIONS OF STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☐ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☐ ☑ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☑ Sandy		☑ Tide	☑ ☐ Lightning system
Altitude	3.00 M		**Telephone Lines**	☑ ☐ Feeder Cable Way
Land area	500.00 m²		☑ 1 Lines	☑ ☐ City water

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Zinc
Type of ceiling	Triplex
Type of wall	Brick
Wall finish	Mortar
Flooring	Mortar
Room Area (m²)	
Operation room	12.00
E / G room	5.00
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	220 V
Phase	1	1
Wire	2	2
kVA	0.9	0.45

Quality of PLN source		
Fluctuations	220 V ± 10 %	
Availability of power per day	24 Hours	
Power interruption /month	10 Times	
Total interpt. hours /month	30 Hours	
Max. interpt. hours at once	3 Hours	

Existing Power Conditions		
Good	Bad	
☑	☐	Power Supply System
☐	☑	Operations of E/G
☐	☐	Operations of AVR

Capacity of fuel for engine	
Day tank	Liter
Main tank	k Liter

E/G Stand-by System	
☑	Single System
☐	Dual System

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Request for technician
Examples of major failure	Damaged by lightening
Sufficiency of spares	Not enough

Records of damages	Environmental Conditions		
	Good	Bad	
☐ Heavy rainfall			
☐ Storm	☑	☐	External noises
☐ Lightning	☑	☐	Air pollution
☐ Other calamity			

Institutional and Human Statuses				
1	Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2	Spares	☐ Enough	☐ Reasonable	☑ Not enough
3	Measuring eqpt./tools	☐ Enough	☑ Reasonable	☐ Not enough
4	Number of Operator	☐ Enough	☐ Reasonable	☑ Not enough
5	Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6	Capability of Operator	☐ Skilled	☑ Not so bad	☐ Not capable
7	Capability of Technician	☐ Skilled	☐ Not so bad	☑ Not capable

5. PERSONNEL FORMATIONS

	TX/RX	
Chief	1	
Operator (skilled)	()	()
Technician (skilled)	()	()
Administrator		
Total	1	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF COAST STATION

SITE	MAMUJU		
CLASS	4th-A	NO.	155

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998		1			1993				1998			
1999		1			1994				1999			
2000		2			1995				2000			

7. COMMENTS

Suggestion	Marine Safety Communication was done, after received information from the owner ship/agent/crew of the ship that there is accident in the sea.
Remarks	

INVENTORY

Site Name: Mamuju

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Equipment**							
1-1		**Transmitter**							
1		MF/HF Transceiver		5520-243	Furuno	1978			
2		MF/HF Transceiver	IC-M700	6369	ICOM				Good
2-1		**VHF System**							
1		VHF Transceiver	IC-2100H	36699	ICOM				Good
2		**Tower & Antenna System**							
2-1		**Tower & Mast**							
1		Iron Pipe Tower							Good
2-2		**Antenna Matching Unit**							
1		Antenna Matcher	MN-100		ICOM				Good
3		**Power Supply Equipment**							
3-1		**UPS & AVR**							
1		Power Supply	SP-3500		ICOM				Good
3-2		**Engine Generator**							
1		Engine Generator (0,45 kVA)							Good
4		**Others**							
1		Key (1 Set)							
2		Typewritter	Portable						Good
3		Tool Sheet							Good

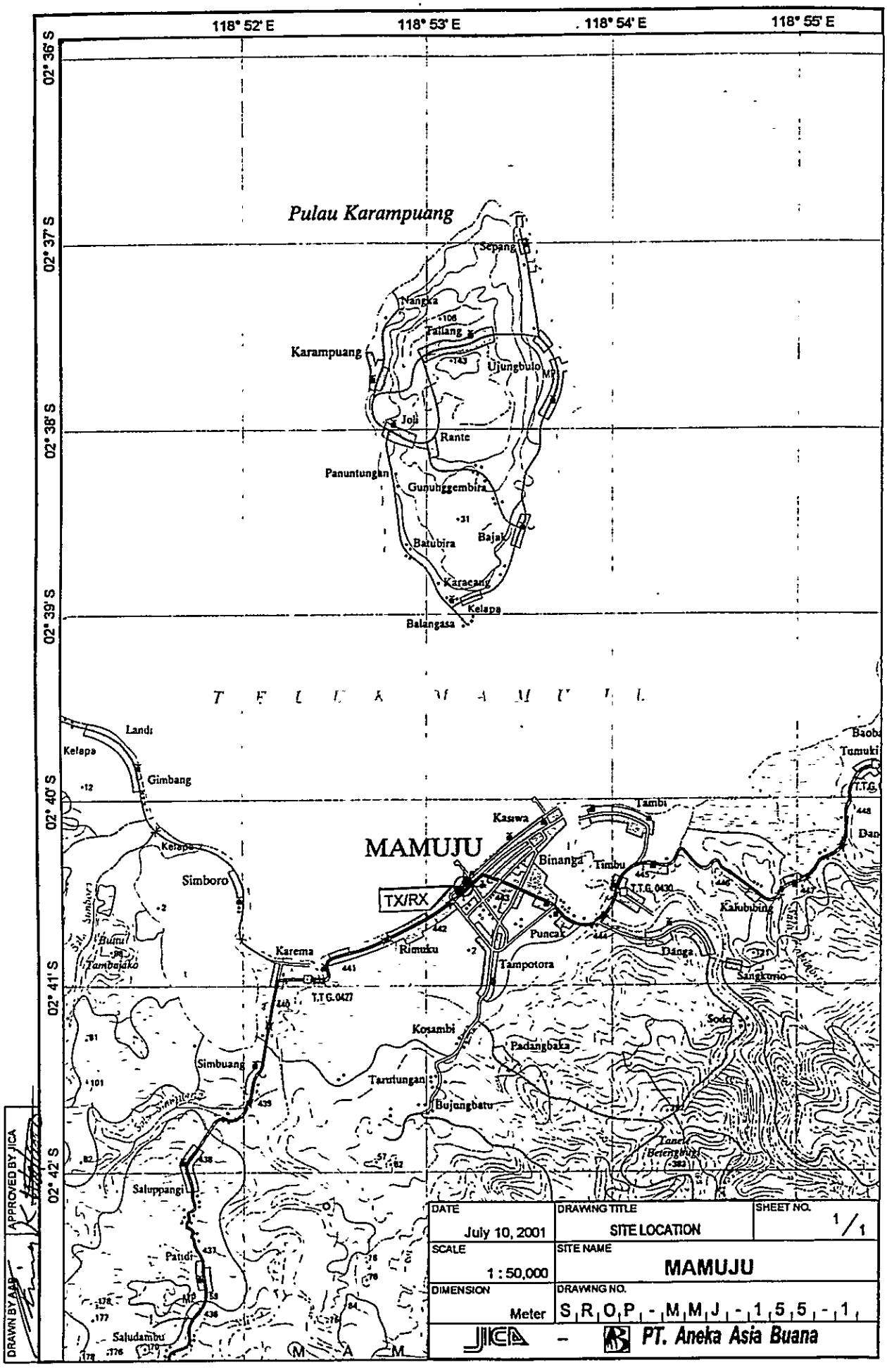
OPERATION SCHEDULE (FREQUENCIES)

Site Name: Mamuju

MMJ-155-(1/1)

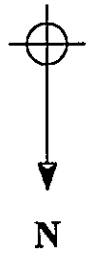
Call Sign : Mobile Service : PKF.29
Fix Service :

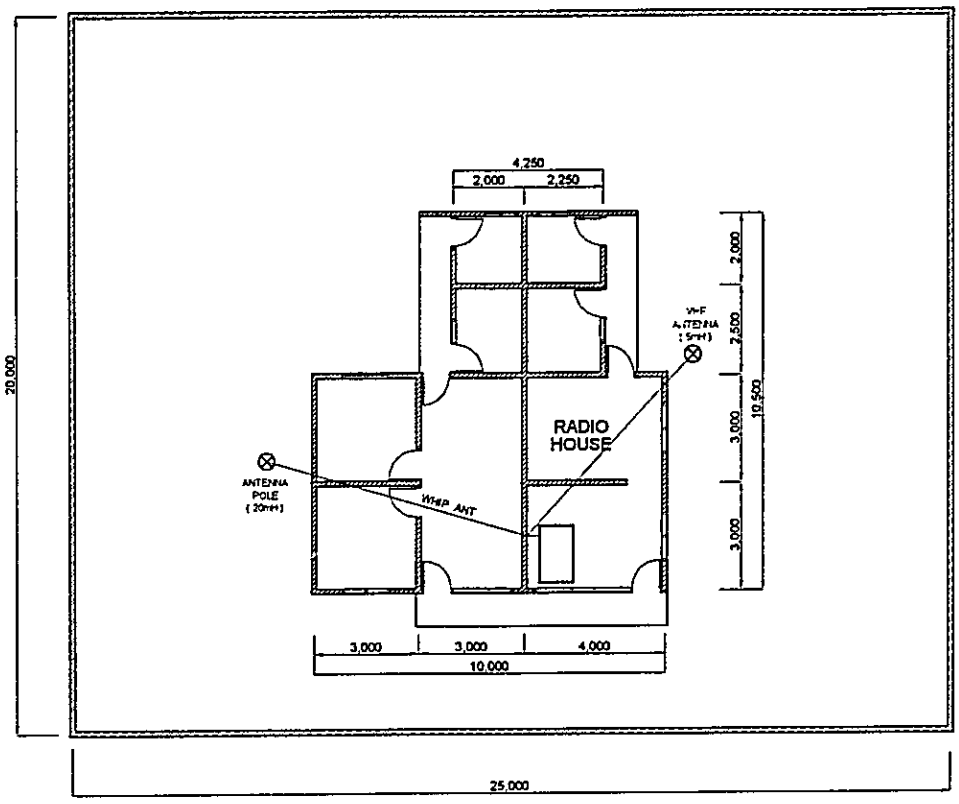
	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
	Mobile Service				
1	2 182,0	J3E	100		
2	3.180,0	J3E	100		
3	6 215,0	J3E	100		
4	6 510,0	J3E	100		
5	3 023,0	J3E	100		
6	5.680,0	J3E	100		
7	13.100,8	J3E	100		
8	17 260,8	J3E	100		
	VHF Service				
9	Channel-16	G3E	25		
10	Channel-20	G3E	25		
11	Channel-26	G3E	25		
	Fix Service				
12	5.165,0	J3E	50		
13	5 395,5	J3E	50		
14	9.925,0	J3E	50		
15					
16					
17					
18					
19					
20					
21					
22					
23					



DATE: July 10, 2001	DRAWING TITLE: SITE LOCATION	SHEET NO.: 1/1
SCALE: 1 : 50,000	SITE NAME: MAMUJU	
DIMENSION: Meter	DRAWING NO.: S R O P - M M J - 1 5 5 - 1	
JICA – PT. Aneka Asia Buana		

DRAWN BY AAP | APPROVED BY JICA

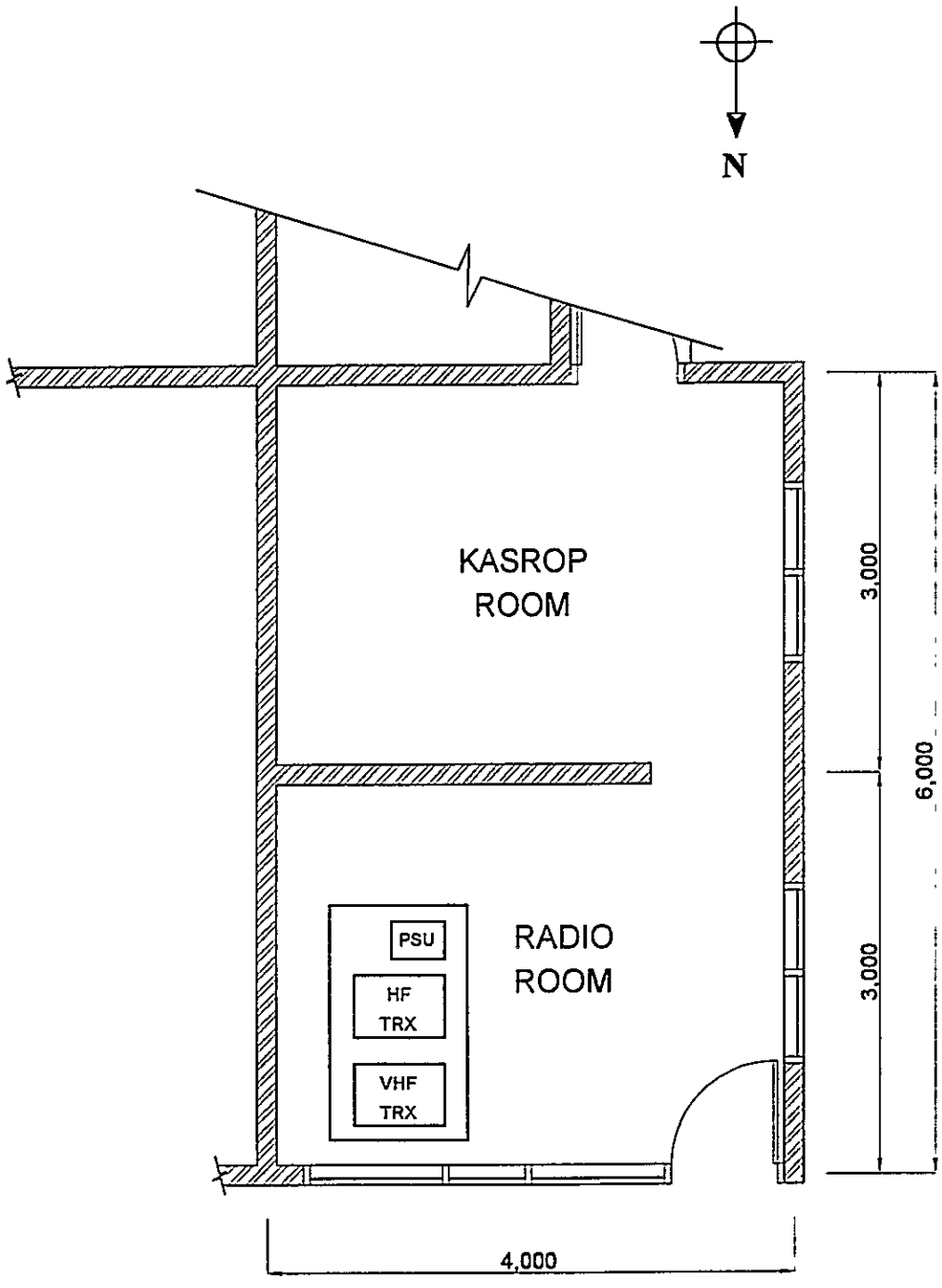




DRAWN BY AAB

APPROVED BY JICA

DATE: August 24, 2001	DRAWING TITLE: ANTENNA LAYOUT	SHEET NO: 1/1
SCALE: 1 : 200	SITE NAME: **MAMUJU**	
DIMENSION: Milimeter	DRAWING NO: S,R,O,P,-,M,M,J,-,1,5,5,-,2,	
JICA –	PT. Aneka Asia Buana	

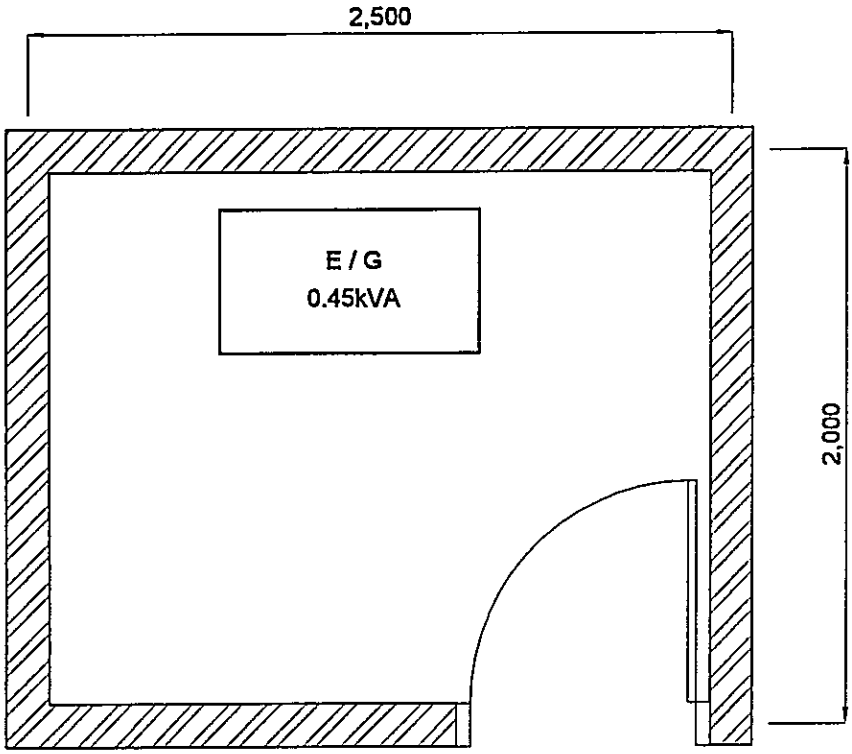


LEGEND

HF : HIGH FREQUENCY
PS : POWER SUPPLY
VHF : VERY HIGH FREQUENCY
TRX : TRANSCEIVER

DATE: August 24, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 50	SITE NAME: MAMUJU	
DIMENSION: Milimeter	DRAWING NO: SROP-MMJ-155-3	
JICA –	PT. Aneka Asia Buana	

DRAWN BY AAB | APPROVED BY JICA



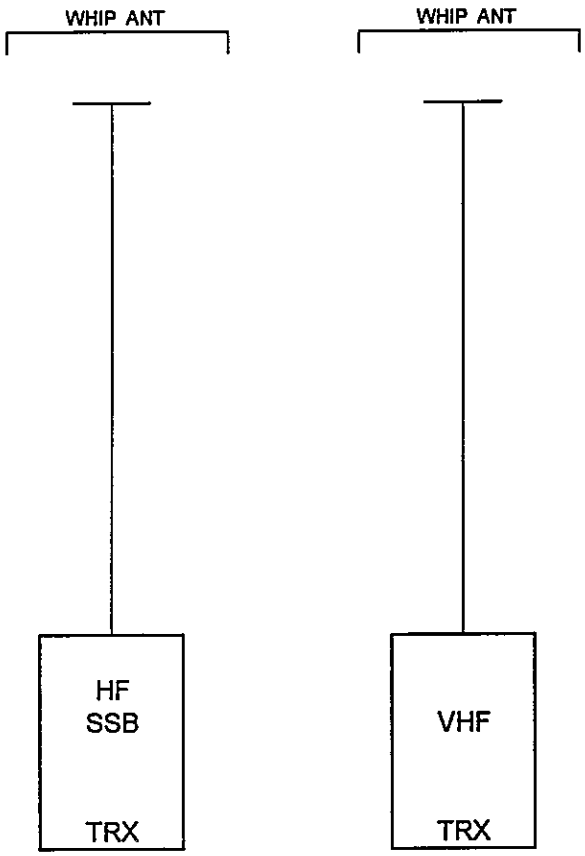
LEGEND

E/G : ENGINE GENERATOR
kVA : KILO VOLT AMPERE

DATE: July 06, 2001	DRAWING TITLE: E/G FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 50	SITE NAME: MAMUJU	
DIMENSION: Milimeter	DRAWING NO.: SROP-MMJ-155-4	
JICA –	PT. Aneka Asia Buana	

DRAWN BY AAB

APPROVED BY JICA.



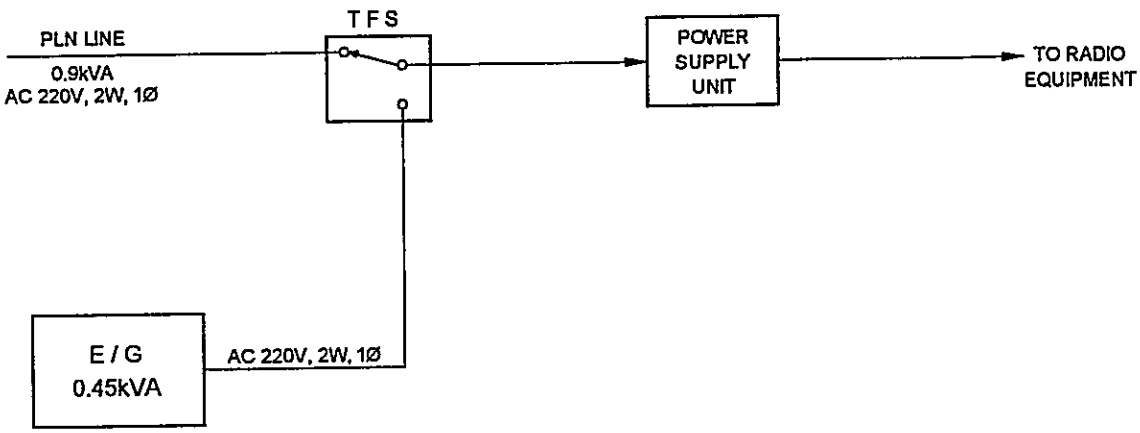
LEGEND

ANT : ANTENNA
HF : HIGH FREQUENCY
TRX : TRANSCEIVER (ING)
VHF : VERY HIGH FREQUENCY

DATE: July 06, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: MAMUJU	
DIMENSION: Milimeter	DRAWING NO.: S,R,O,P,-,M,M,J,-,1,5,5,-,5,	
JICA –	PT. Aneka Asia Buana	

APPROVED BY JICA

DRAWN BY AAB



LEGEND

AC	: ALTERNATING CURRENT
E/G	: ENGINE GENERATOR
kVA	: KILO VOLT AMPERE
TFS	: TRANSFER SWITCH
V	: VOLT
W	: WIRE
Ø	: PHASE

APPROVED BY JICA :

DRAWN BY AAB :

DATE: July 06, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: **MAMUJU**	
DIMENSION: Milimeter	DRAWING NO: S,R,O,P,-,M,M,J,-,1,5,5,-,6,	
JICA –	PT. Aneka Asia Buana	

Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

4th-A Class Coast Station
Palopo
(Coast Station No. 156)

Table of Content

Note :
☑ Available in this list
☒ Not Available in this list
☐ Unnecessary in this list
* Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	PALOPO		
CLASS	4th-A	NO.	156

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
TX/RX	Jl. Yos Sudarso No. 67, Palopo Luwu	0471-325360		120° 12′ 10″ E	02° 59′ 20″ S

2. GENERAL CONDITIONS

Moving from Jakarta			Site Access from Port	Road Traffic	Accommodation	Population
By Air	to Makassar	[Taking time: 2:00 hr.]	☐ Highway	☐ Heavy	☐ Hotel	
By Car	to Palopo	[Taking time: 10 00 hr.]	☑ Paved	☐ Medium	☑ Motel	
			☐ Unpaved road	☑ Light		
				☐ None		

3. CONDITIONS OF STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☑ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☐ ☑ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☑ Sandy			☑ ☐ Lightning system
Altitude	5.00 M		**Telephone Lines**	☑ ☐ Feeder Cable Way
Land area	276.00 m²		☑ 1 Lines	☑ ☐ City water

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Asbestos
Type of ceiling	Triplex
Type of wall	Brick
Wall finish	Mortar
Flooring	Tile

Room Area (m²)	
Operation room	12.00
E / G room	
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	V
Phase	1	
Wire	2	
kVA	1.5	

Quality of PLN source		
Fluctuations	220 V ± 10 %	
Availability of power per day	24 Hours	
Power interruption /month	3 Times	
Total interpt. hours /month	6 Hours	
Max. interpt. hours at once	3 Hours	

Existing Power Conditions		
	Good	Bad
Power Supply System	☑	☐
Operations of E/G	☐	☐
Operations of AVR	☐	☐

Capacity of fuel for engine	
Day tank	Liter
Main tank	k Liter

E/G Stand-by System

☐ Single System

☐ Dual System

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Repaired by himself
Examples of major failure	
Sufficiency of spares	Not enough

Records of damages		Environmental Conditions	Good	Bad	
☐ Heavy rainfall					
☐ Storm			☑	☐	External noises
☐ Lightning			☑	☐	Air pollution
☐ Other calamity					

Institutional and Human Statuses				
1	Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2	Spares	☐ Enough	☐ Reasonable	☑ Not enough
3	Measuring eqpt./tools	☐ Enough	☑ Reasonable	☐ Not enough
4	Number of Operator	☐ Enough	☑ Reasonable	☐ Not enough
5	Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6	Capability of Operator	☑ Skilled	☐ Not so bad	☐ Not capable
7	Capability of Technician	☐ Skilled	☐ Not so bad	☑ Not capable

5. PERSONNEL FORMATIONS

	TX/RX	
Chief	1	
Operator (skilled)	2 (1)	()
Technician (skilled)	()	()
Administrator		
T o t a l	3	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF COAST STATION

SITE	PALOPO		
CLASS	4th-A	NO.	156

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service							
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

7. COMMENTS

Suggestion	Coast Station must be completed by GMDSS, minimum A1 Office location must be moved, because there is widening of road
Remarks	Coast Station not yet use for Public Correspondence

INVENTORY

Site Name: Palopo

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Equipment**							
1-1		**Transmitter**							
1		HF Transceiver	IC-M700	20124	ICOM	1994			Good
2		MF/HF Transceiver	NS-11A	5320043	Furuno	1978			Damaged
2		**Tower & Antenna System**							
2-1		**Antenna Selector**							
1		Antenna Tuner	CN-419	H.12248	Daiwa				Good
2		Antenna Balun Mancher	MN-100						Damaged
3		**Power Supply Equipment**							
3-1		**UPS & AVR**							
1		Power Supply	RPC-7130	D.22789	Koyama				Good

Makassar

STATUS OF TROUBLES

SITE NAME : PALOPO **PLO-156-(1/1)**

Item / Equipment	Tower 15M / -		
Manufacturer	Makassar Navigation		
Manufacturer in year	1980		
Defective panel / unit	Tower Structure		
Details of Trouble Status	Cause doe to:	Urgency of Repair	Repairing to be:
	☐ Aging		☐ Immediacy
	☐ Lightning		☑ By next year budget
	☑ Corrosion		☐ By next project
	☐ Lack of Spares		☐ Unnecessary
	☐ Others		

General Comment for Maintenance:

Antenna Tower must be repaired

OPERATION SCHEDULE (FREQUENCIES)

Site Name: Palopo

PLP-156-(1/1)

Call Sign : Mobile Service : PKF.31
Fix Service :

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
	Mobile Service				
1	2 182,0	J3E	100		
2	3.180,0	J3E	100		
3	6 215,0	J3E	100		
4	6.510,0	J3E	100		
	Fix Service				
5	5.165,0	J3E	100		
6	5 295,5	J3E	100		
7					
8					
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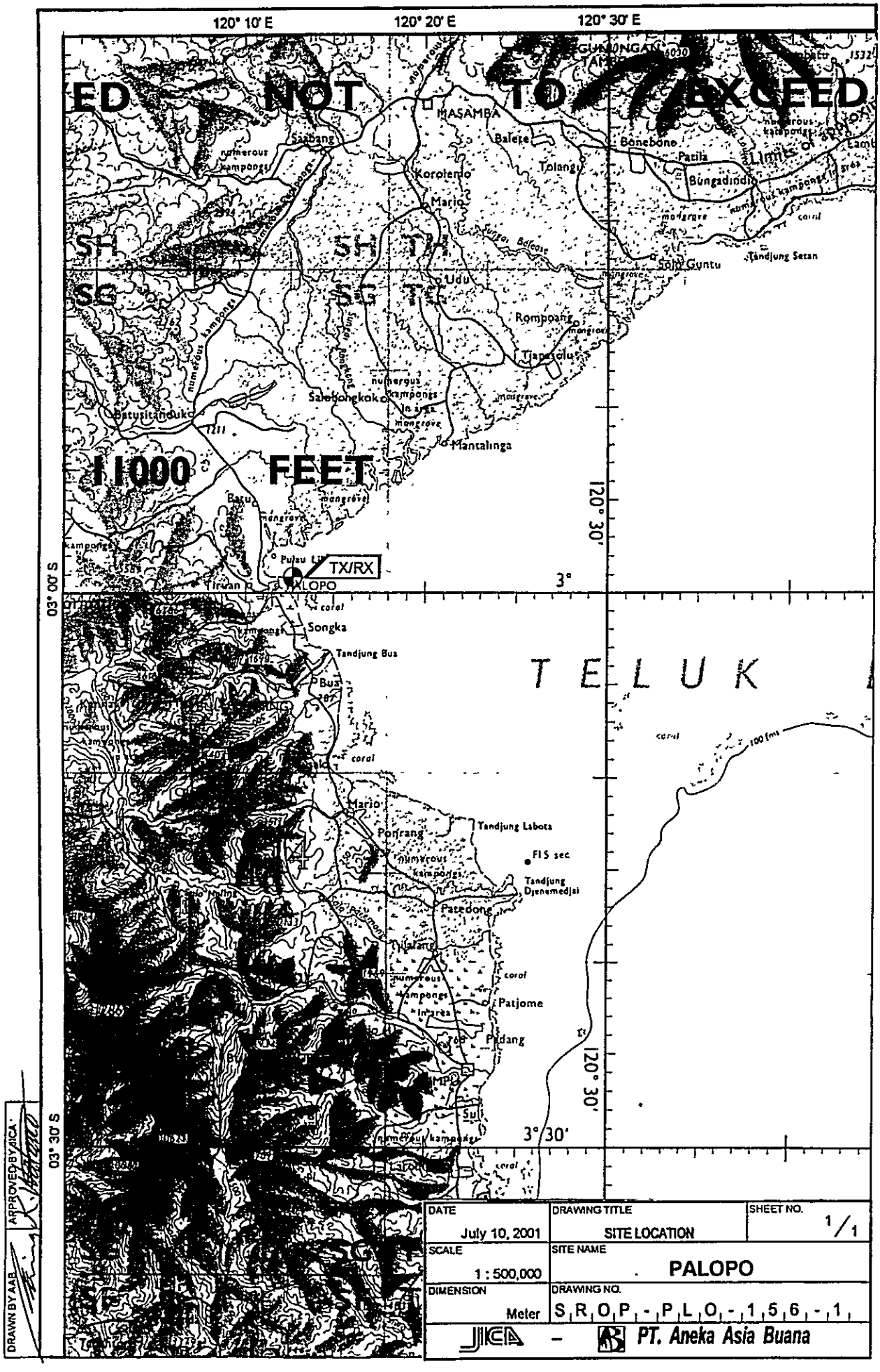

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SCALE: 1 : 500,000	SITE NAME: PALOPO	
DIMENSION: Meter	DRAWING NO.: S R O P - P L O - 1 5 6 - 1	
JICA – PT. Aneka Asia Buana		

DRAWN BY AAB

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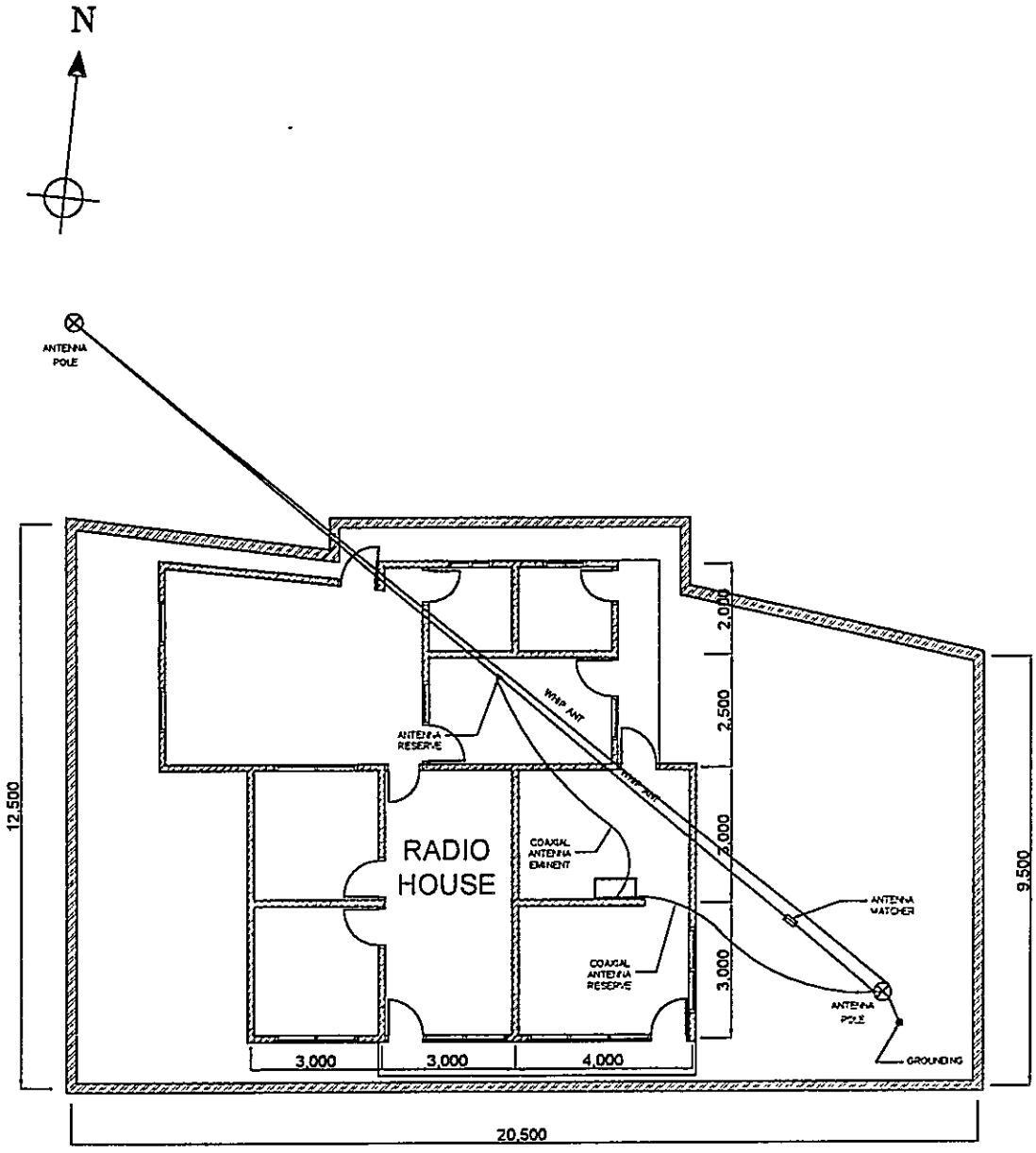

DRAWN BY AAB

APPROVED BY JICA

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SCALE: 1 : 150	SITE NAME: PALOPO	
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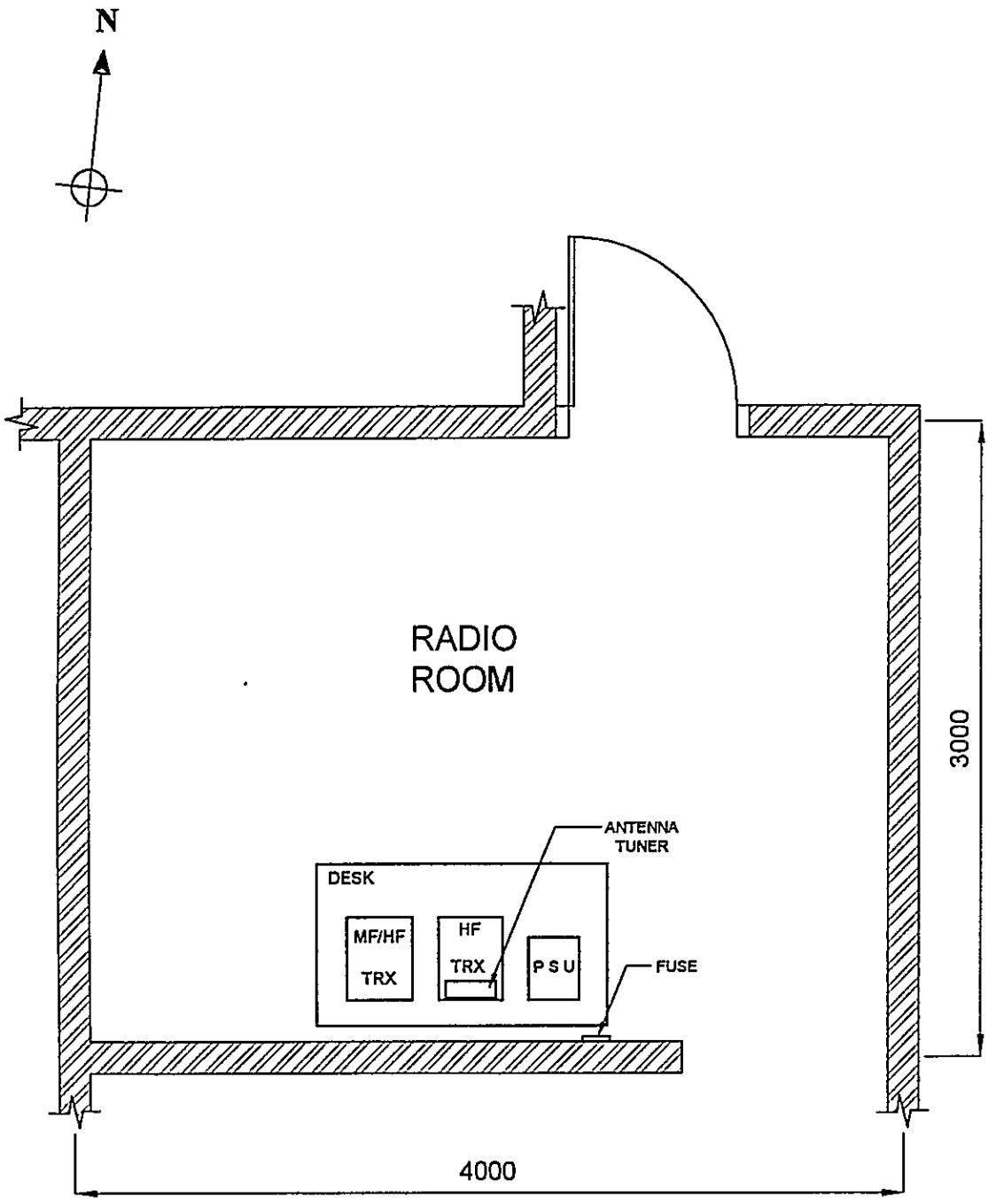
JICA –	PT. Aneka Asia Buana	



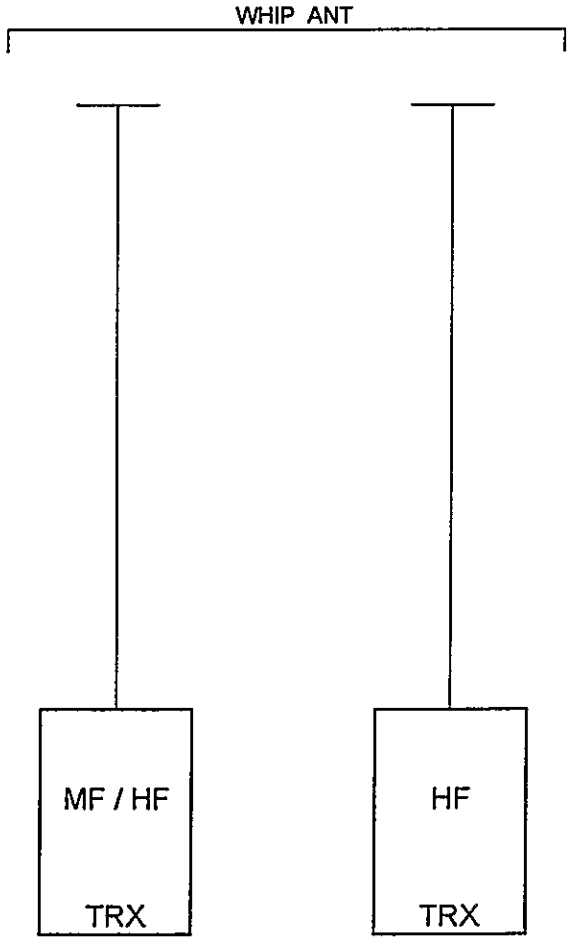
LEGEND

HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
PS : POWER SUPPLY
TRX : TRANSCEIVER (ING)

APPROVED BY JICA

DRAWN BY AAB

DATE: Sept 13, 2001	DRAWING TITLE: EQUIPMENT FLOOR LAYOUT	SHEET NO: 1/1
SCALE: 1 : 30	SITE NAME: PALOPO	
DIMENSION: Milimeter	DRAWING NO: S,R,O,P,-,P,L,O,-,1,5,6,-,3,	
JICA –	PT. Aneka Asia Buana	



LEGEND

ANT : ANTENNA
HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
TRX : TRANSCEIVER (ING)

DATE: July 30, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: PALOPO	
DIMENSION: Milimeter	DRAWING NO: S,R,O,P,-,P,L,O,-,1,5,6,-,5,	
JICA --	PT. Aneka Asia Buana	

DRAWN BY AAB | APPROVED BY JICA :

LEGEND

AC : ALTERNATING CURRENT
kVA : KILO VOLT AMPERE
V : VOLT
W : WIRE / WATT
Ø : PHASE

DATE: July 30, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO.: 1/1
SCALE: No Scale	SITE NAME: PALOPO	
DIMENSION: Milimeter	DRAWING NO.: SROP-PLO-156-6	
JICA – PT. Aneka Asia Buana		

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Maritime Telecommunication Facilities: Inventory, Plant Records and Outlook-2001

4th-B Class Coast Station
Bulukumba
(Coast Station No. 157)

Table of Content

- ☑ Summary of Coast Station
- ☑ Inventory
- ☐ Status of Trouble
- ☑ Operation Schedule (Frequencies)

TRX Drawings:
- ☑ Site Location
- ☑ Antenna Layout
- ☒ Equipment Floor Layout
- ☐ E/G Floor Layout
- ☑ System Block Diagram
- ☑ Power Block Diagram

Note :
- ☑ Available in this list
- ☒ Not Available in this list
- ☐ Unnecessary in this list
- * Combined in one drawing

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

November 2001

SUMMARY OF COAST STATION

SITE	BULUKUMBA		
CLASS	4th-B	NO.	157

1. LOCATION

Station	Address	Tel.	Fax	Longitude	Latitude
TX/RX	Jl. Yos Sudarso No. 7	81295		120° 12′ 00″ E	05° 33′ 17″ S

2. GENERAL CONDITIONS

Moving from Jakarta	Site Access from Port	Road Traffic	Accommodation	Population
By Air to Makassar [Taking time: 2:00 hr.]	☐ Highway	☐ Heavy	☐ Hotel	
By Car to Location [Taking time: 3 00 hr.]	☑ Paved	☐ Medium	☑ Motel	
	☐ Unpaved road	☑ Light		
		☐ None		

3. CONDITIONS OF STATION

Refer to attached drawing

3.1 Site Conditions

Topography	Nature of Soil		Past disaster of site	Confirmation of existing system
☑ Flat	☐ Dry soil	☐ Limestone	☐ Flood	Yes No
☐ Slope	☐ Ordinary	☐ Gravel	☑ Flood Tide	☑ ☐ Antenna
☐ Hill-top	☐ Swampy	☐ Rocky	☐ Rain Leakage	☐ ☑ Towers (Masts)
☐ Basin	☐ Clay		☐ Ground Subsidence	☑ ☐ Grounding system
☐ Valley	☐ Sandy			☑ ☐ Lightning system
Altitude	5.00 M		Telephone Lines	☑ ☐ Feeder Cable Way
Land area	m²		☑ 1 Lines	☑ ☐ City water

3.2 Building Conditions

Constructions	
Num. of story	One
Structure	Concrete
Type of roof	Zinc
Type of ceiling	Triplex
Type of wall	Brick
Wall finish	Mortar
Flooring	Tile
Room Area (m²)	
Operation room	12.00
E / G room	
Remark	

3.3 Power Source

	PLN Source	E/G
Voltage	220 V	V
Phase	1	
Wire	2	
kVA	0.9	

Quality of PLN source			
Fluctuations	220 V ± 10 %		
Availability of power per day	24 Hours		
Power interruption /month	10 Times		
Total interpt. hours /month	10 Hours		
Max. interpt. hours at once	1 Hours		

Existing Power Conditions			
Good Bad			
☐ ☑ Power Supply System			
☐ ☐ Operations of E/G			
☐ ☑ Operations of AVR			
Capacity of fuel for engine			
Day tank	Liter		
Main tank	k Liter		
E/G Stand-by System			
☐ Single System			
☐ Dual System			

4. OPERATION AND MAINTENANCE

Actions taken in equipment failure	
Restoration flow	Request for technician
Examples of major failure	
Sufficiency of spares	Not enough

Records of damages		Environmental Conditions		
		Good	Bad	
☐ Heavy rainfall				
☐ Storm		☑	☐	External noises
☐ Lightning		☑	☐	Air pollution
☐ Other calamity				

Institutional and Human Statuses				
1	Budget	☐ Sufficient	☐ Reasonable	☑ Insufficient
2	Spares	☐ Enough	☐ Reasonable	☑ Not enough
3	Measuring eqpt /tools	☐ Enough	☐ Reasonable	☑ Not enough
4	Number of Operator	☐ Enough	☐ Reasonable	☑ Not enough
5	Number of Technician	☐ Enough	☐ Reasonable	☑ Not enough
6	Capability of Operator	☐ Skilled	☑ Not so bad	☐ Not capable
7	Capability of Technician	☐ Skilled	☑ Not so bad	☐ Not capable

5. PERSONNEL FORMATIONS

	TX/RX	
Chief	1	
Operator (skilled)	()	()
Technician (skilled)	()	()
Administrator		
T o t a l	1	

Training Record				
Course	Class	Location	Period	Trainee

SUMMARY OF COAST STATION

SITE	BULUKUMBA		
CLASS	4th-B	NO.	157

6. STATISTICAL COMMUNICATION TRAFFIC DATA

Maritime Safety					Public Telecommunication Service						
Years	TG	TEL	DSC	NBDP	Years	Telephone		TG Call	Years	Telephone		TG Call
						Call	Minute			Call	Minute	
1996					1991				1996			
1997					1992				1997			
1998					1993				1998			
1999					1994				1999			
2000					1995				2000			

7. COMMENTS

Suggestion	Coast Station equipment replaced in Port Office, Radio communication only for official used, as the channel for commandant of Ditjen Hubla
Remarks	- Coast Station not yet used for public correspondence, and it is operated by Kanpel Staff

INVENTORY

Site Name: Bulukumba

No	Registered No.	Description	Type	Serial No	Manufacturer	Date	Reference	Maintenance Record	Condition
1		**Radio Equipment**							
1-1		**Transmitter**							
1		MF/HF Transceiver	IC-77	04115	ICOM				Good

OPERATION SCHEDULE (FREQUENCIES)

Site Name: Bulukumba

BKB-157-(1/1)

Call Sign : Mobile Service : PKF.27
Fix Service :

	FREQUENCY (kHz)	EMISSION	POWER (W)	UTC 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	REMARK
	Mobile Service				
1	2 182,0	J3E	100		
2	6 215,0	J3E	100		
	Fix Service				
3	5 165,0	J3E	50		
4	5 295,5	J3E	50		
5					
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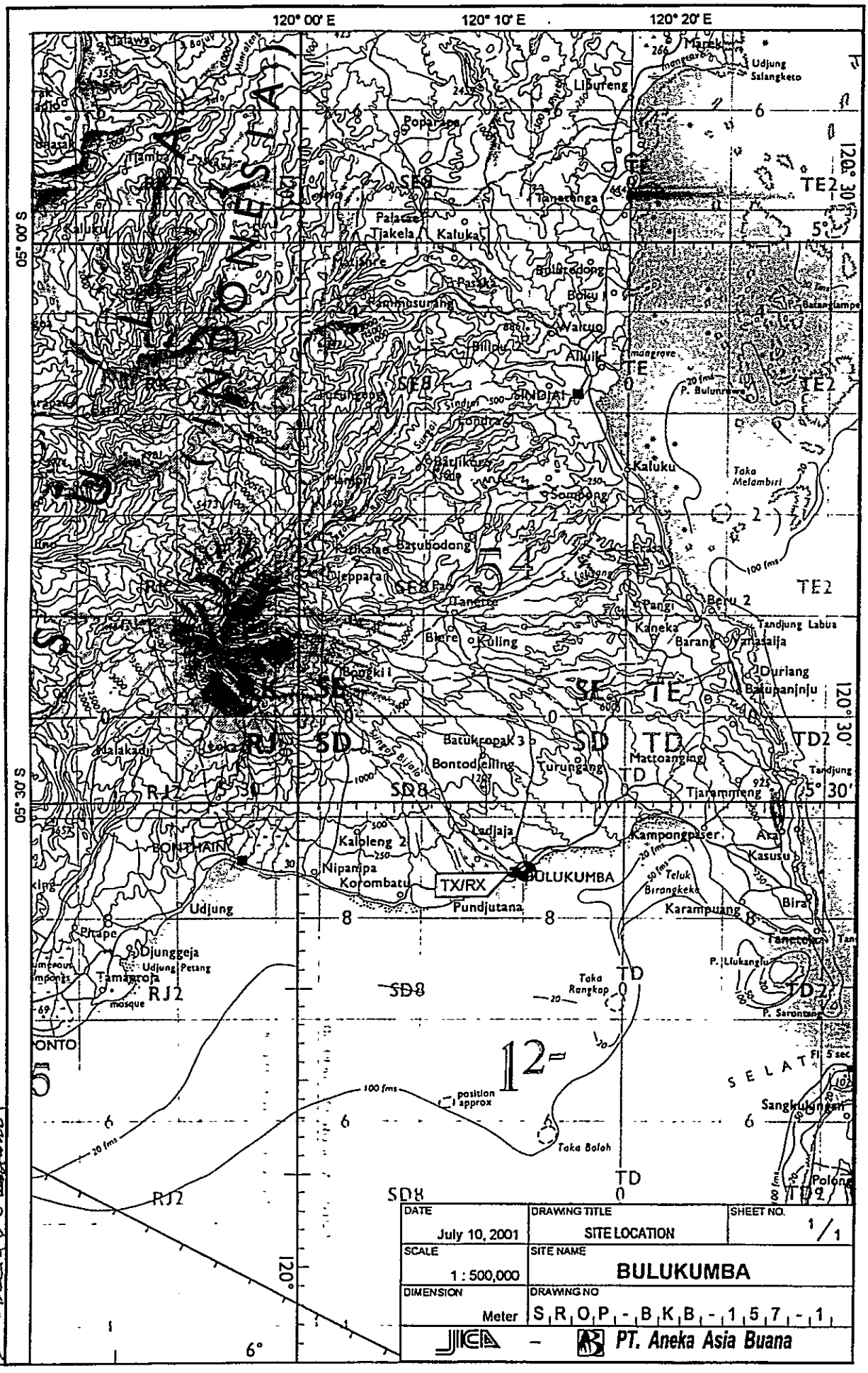

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DIMENSION: Meter	DRAWING NO: S R O P - B K B - 1 5 7 - 1	
JICA – PT. Aneka Asia Buana		

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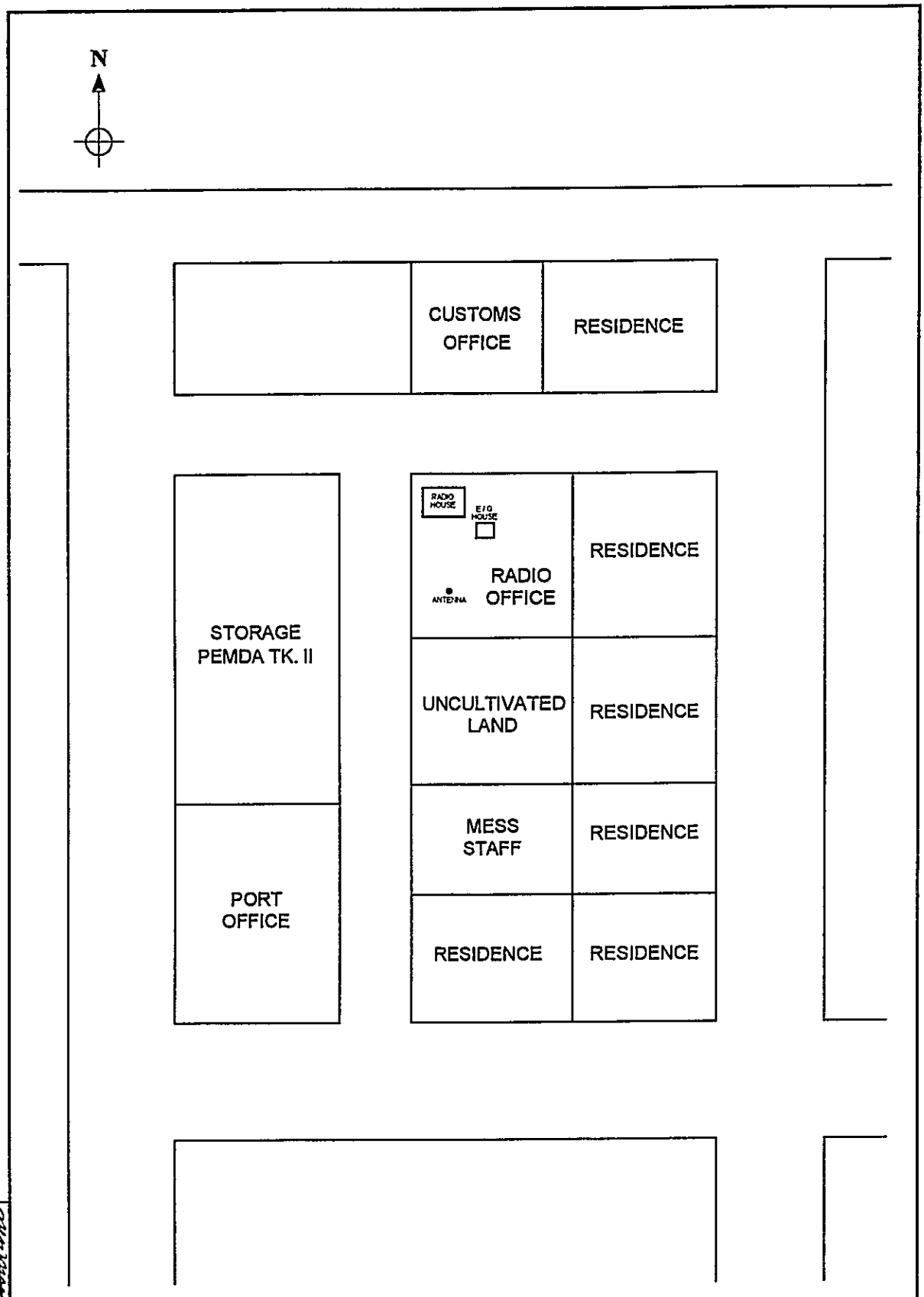

APPROVED BY JICA

DRAWN BY AAB

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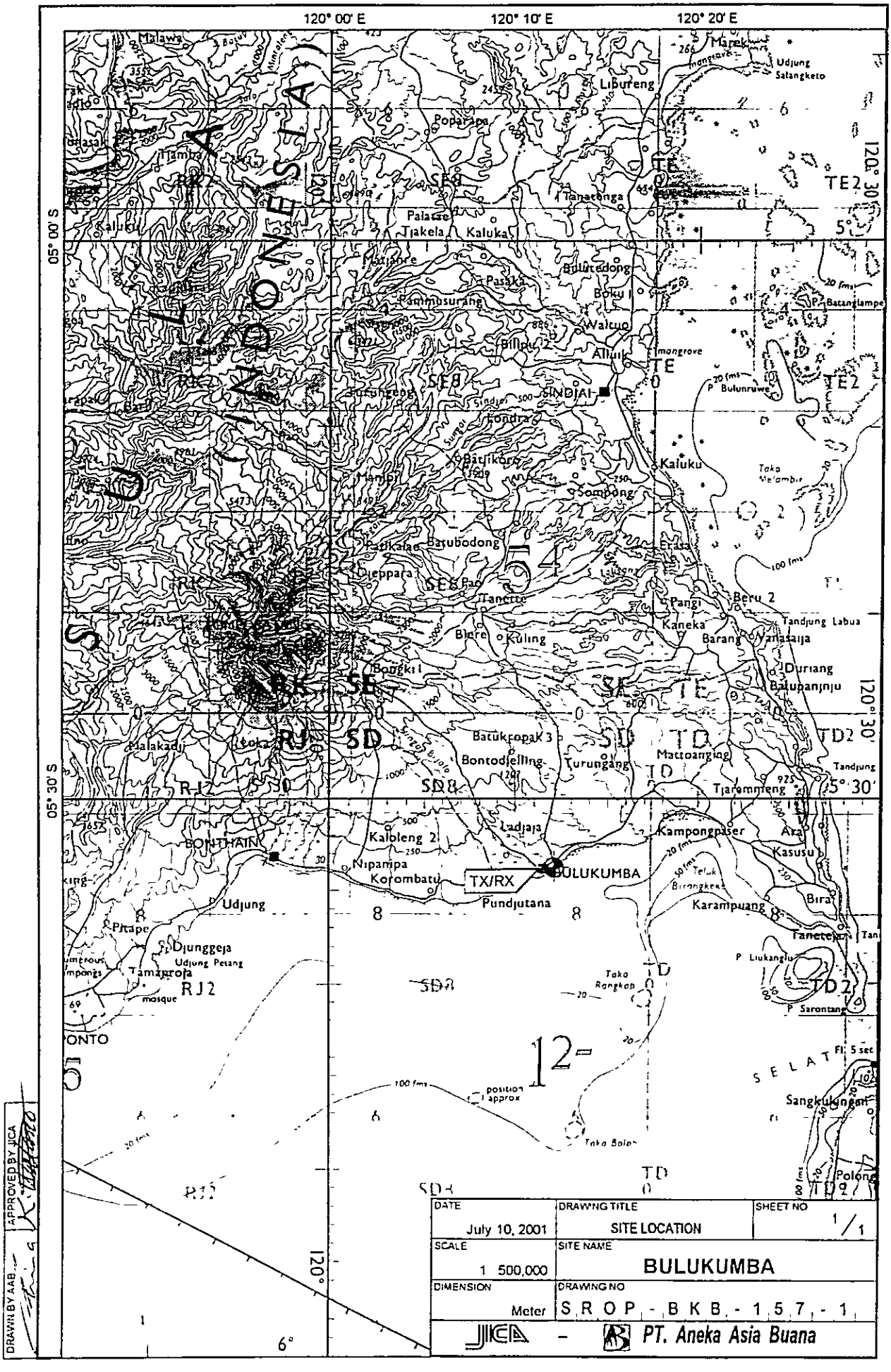
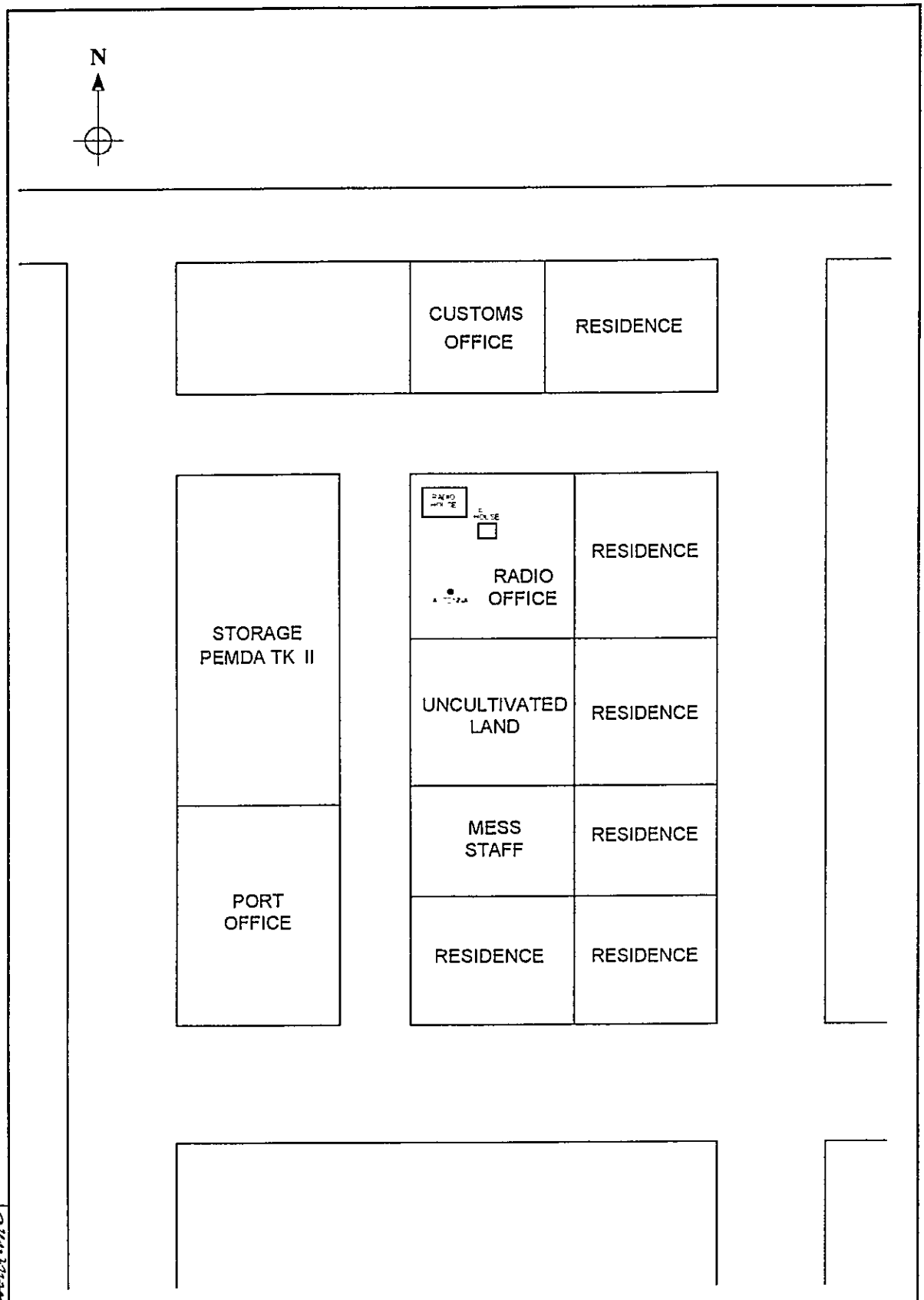
DIMENSION: Milimeter	DRAWING NO.: SROP-BKB-157-2	
JICA –	PT. Aneka Asia Buana	



DATE: July 10, 2001	DRAWING TITLE: SITE LOCATION	SHEET NO: 1/1
SCALE: 1 500,000	SITE NAME: BULUKUMBA	
DIMENSION: Meter	DRAWING NO: S R O P - B K B - 1 5 7 - 1	
JICA – PT. Aneka Asia Buana		



DRAWN BY AAB

APPROVED BY JICA

DATE: August 02, 2001	DRAWING TITLE: ANTENNA LAYOUT	SHEET NO: 1/1
SCALE: 1 750	SITE NAME: BULUKUMBA	
DIMENSION: Milimeter	DRAWING NO: S R O P - B K B - 1 5 7 - 2	
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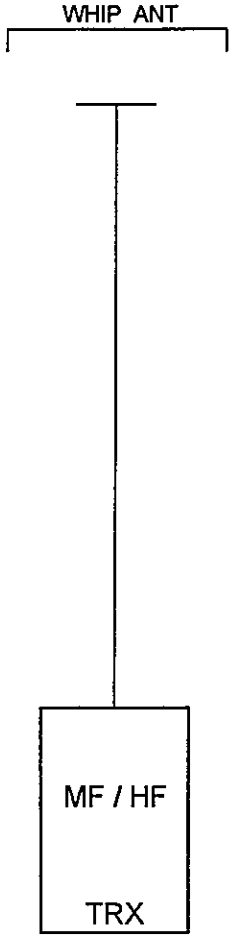


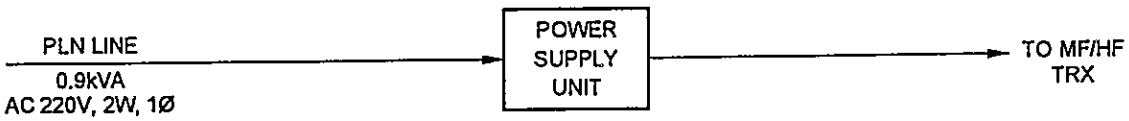
LEGEND

ANT : ANTENNA
HF : HIGH FREQUENCY
MF : MEDIUM FREQUENCY
TRX : TRANSCEIVER (ING)

DATE: July 30, 2001	DRAWING TITLE: SYSTEM BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: **BULU KUMBA**	
DIMENSION: Milimeter	DRAWING NO.: S,R,O,P,-,B,K,B,-,1,5,7,-,5,	
JICA – PT. Aneka Asia Buana		

DRAWN BY AAB

APPROVED BY JICA



LEGEND

AC	: ALTERNATING CURRENT
kVA	: KILO VOLT AMPERE
V	: VOLT
W	: WIRE / WATT
Ø	: PHASE

APPROVED BY JICA :

DRAWN BY AAB :

DATE: July 30, 2001	DRAWING TITLE: POWER BLOCK DIAGRAM	SHEET NO: 1/1
SCALE: No Scale	SITE NAME: **BULU KUMBA**	
DIMENSION: Milimeter	DRAWING NO: SROP-BKB-157-6	
JICA –	PT. Aneka Asia Buana	