

第9章 結論と提言

9-1 結論

前述各章の解析により、本プロジェクトは北イエメン5州の地方地域全般の経済・社会開発に大きく貢献する。特に本プロジェクトによって構築される基本通信網は、5州のほぼ全域にわたって新村落、新加入者をふやすことを可能にしているので、将来にわたってこの投資効果のみならず裨益地域、および裨益人口は大きい。

本プロジェクトに対する事業運営規模は、要員数で約3%、操業費で約2%であること、既存施設の維持、管理が円滑に行われていることなどから、本プロジェクトの事業実施主体である通信公社の技術、要員を含む事業運営全体能力は充分であり、また、プロジェクト完成後の維持・管理も適切に行われると判断される。

北イエメン側の負担する施設は、各サイトの敷地および道路のほか、121の局舎、122の鉄塔（マストを含む）および100村落に対する加入者網に及んでおり、その所要資金は約2億円相当（900,000\$ + 7,700,000Y.R.）と見積もられ、第3次計画の投資計画約83億円の2.4%に相当する。この負担は、本プロジェクトの重要性に対する北イエメン政府の認識と完成に対する意欲の現われであり、高く評価される。

以上の考察から、本プロジェクトに対する日本政府の無償資金協力の実施は妥当であると判断される。

9-2 提言

- (1) 本プロジェクトは両国の負担する施設がシステムの的に一体化することにより完成される。したがって、それぞれの負担する施設の技術的な整合および施工スケジュールの調和は、本プロジェクトを円滑に、遅滞なく実施するための管理上の重要な鍵である。両国の関係機関、関係者の密接な相互連絡・調整を次のように行う必要がある。
 - 1) 交換公文署名後、可能な限り速やかに北イエメン政府は北イエメン負担施設に対する資金確保の状況を日本大使館に連絡すること。
 - 2) コンサルタント契約時に、
 - ・通信公社は、北イエメン負担施設の調達スケジュール（技術仕様の概要、契約先、施工実施スケジュール）をコンサルタントに知らせること。
 - ・コンサルタントは、日本政府負担施設の施工実施スケジュールを通信公社に知らせること。
 - 3) コンサルタント契約後、通信公社とコンサルタント間の相互連絡により、実際的な施工調整を行うこと。
- (2) 本プロジェクトで構築される基本通信網の機能、システム容量の完全利用により本投資

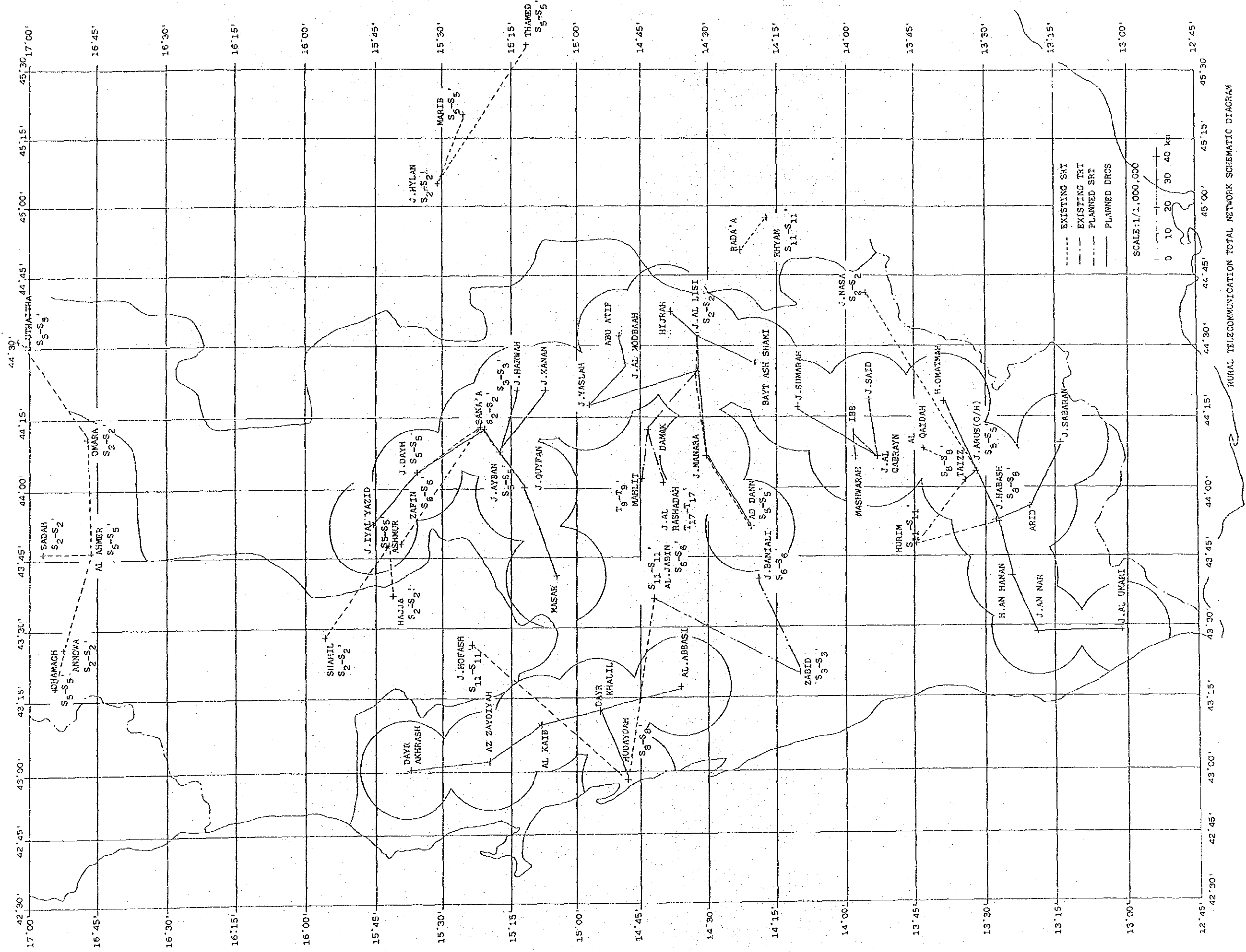
効果は更に大きなものになる。本プロジェクトに地方地域の旺盛な電話需要に応え、地域の経済・社会開発を促進するための最初のステップであり、100村落はそのモデルであると考えられる。即ち、今後に残されている無電話村落は余りにも多い。収益性、裨益性のうへで妥当であり、必要とされる本計画を更に有意義なものにするために、第3次5ヶ年計画の達成に向けて本基本通信網でカバーできる村落、加入者の拡大への努力を期待する。

基本設計図 1

地方電気通信総合網基本計画図

凡 例

- : 既設SRT
- : 既設TRT
- : 新設SRT
- : 新設DRCS
(本プロジェクト対象)



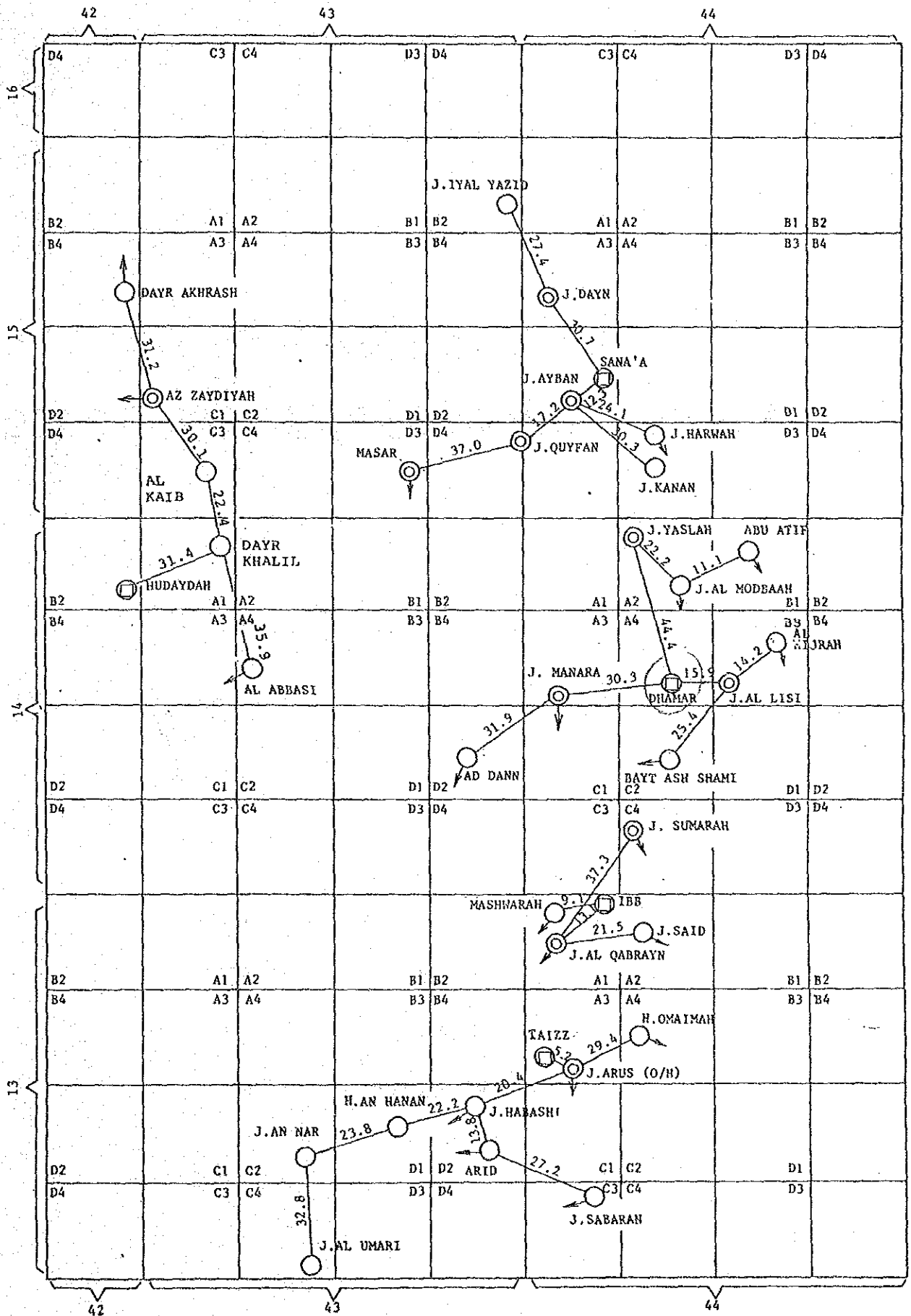
DRCS 基本通信網およびサービスエリア

基本設計図 2

DRCS 通信網基本計画図 (基地局 - 中継局)

凡 例

- : 基地局
- ◎ : 中継局 (既設)
- : 中継局 (新設)
- 12.3 : 伝播路距離 ; 12.3km
- 13, 14, 15, 16
43, 44
A₁, …, D₄ : 地図番号 (1/50,000)
- : 加入者線設備



DRCS NETWORK SCHEMATIC DIAGRAM
(BASE/REPEATER STATIONS)

基本設計図 3

DRCS 通信網基本計画図（中継局 - 加入者局）

凡 例

- : 基地局
- : 中継局
- : 加入者局
- ~~△ : 加入者用有線
- 10.1 : 伝播路距離 ; 10.1 km
- (1.040) : 標高 ; 1,040 m

SANA'A B. S.

AYBAN

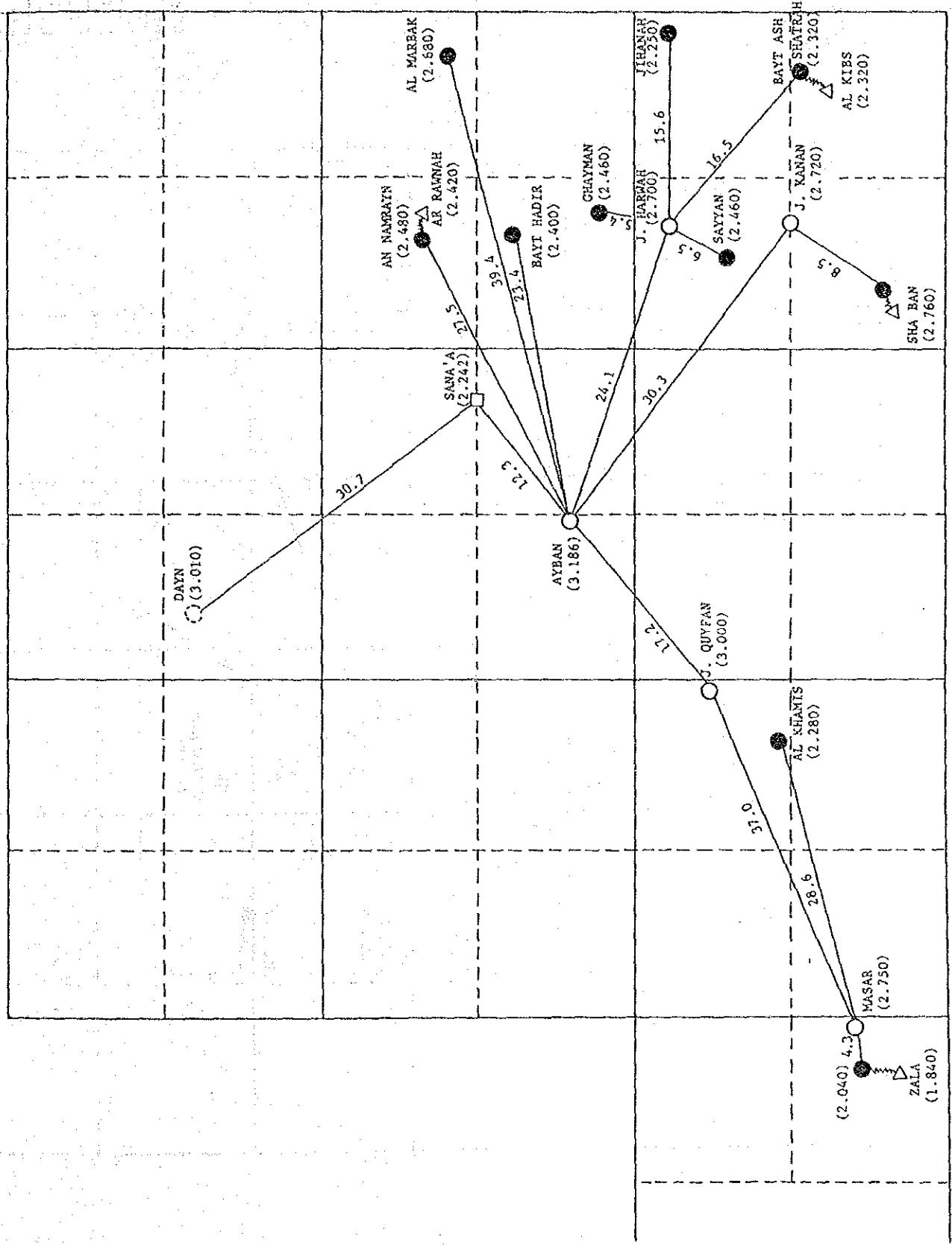
J. KANAN

J. HARGAH

J. QUYFAN

MASAR

R. S



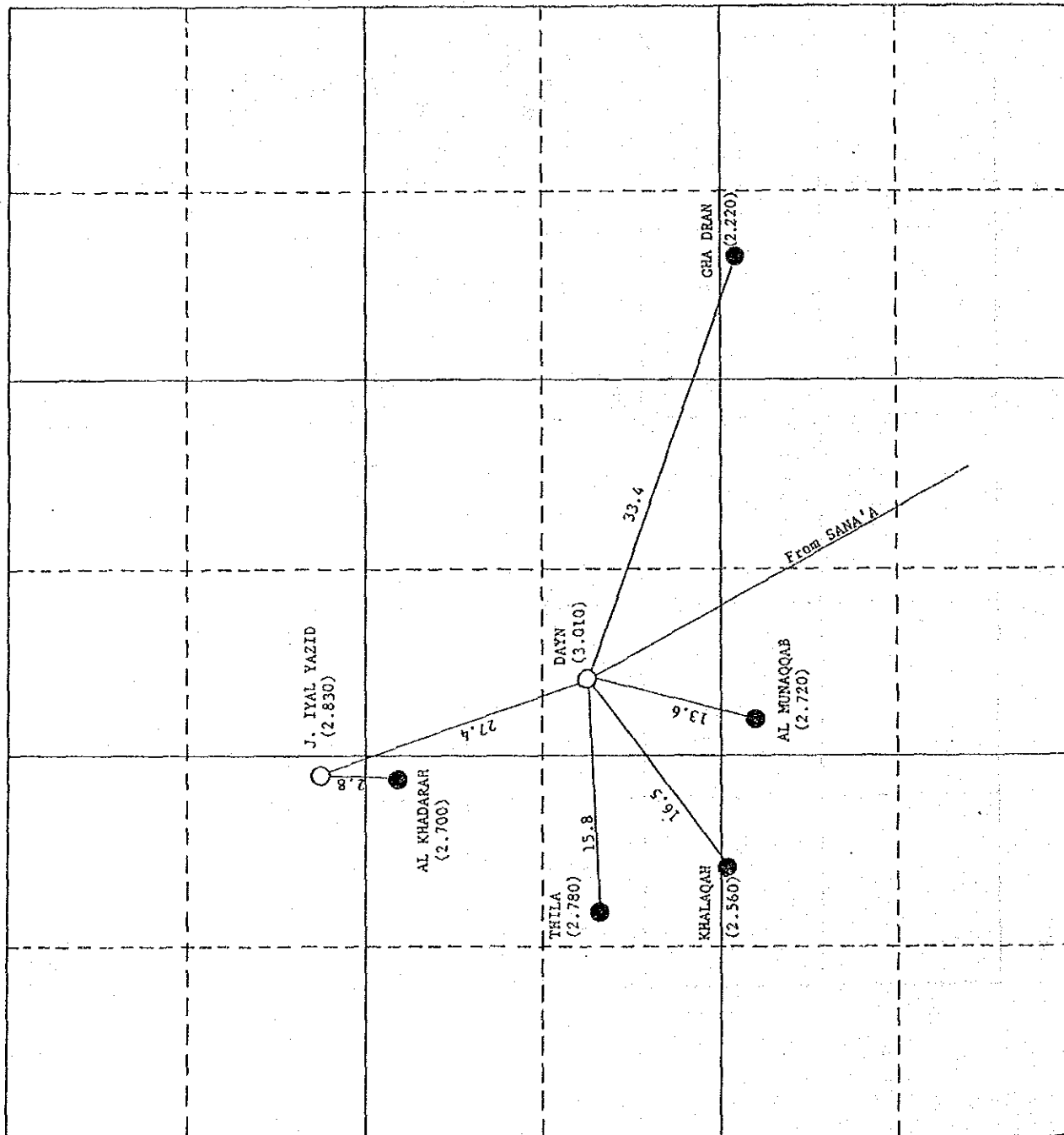
No. 1

RELATED MAP NUMBER

1543	1544	1544	1544
B4	A3	A3	A4
1543	1544	1544	1544
D2	C1	C1	C2
1543	1544	1544	1544
D3	D4	C3	C4

SANA'A B. S

DAYN
J. IYAL YAZID



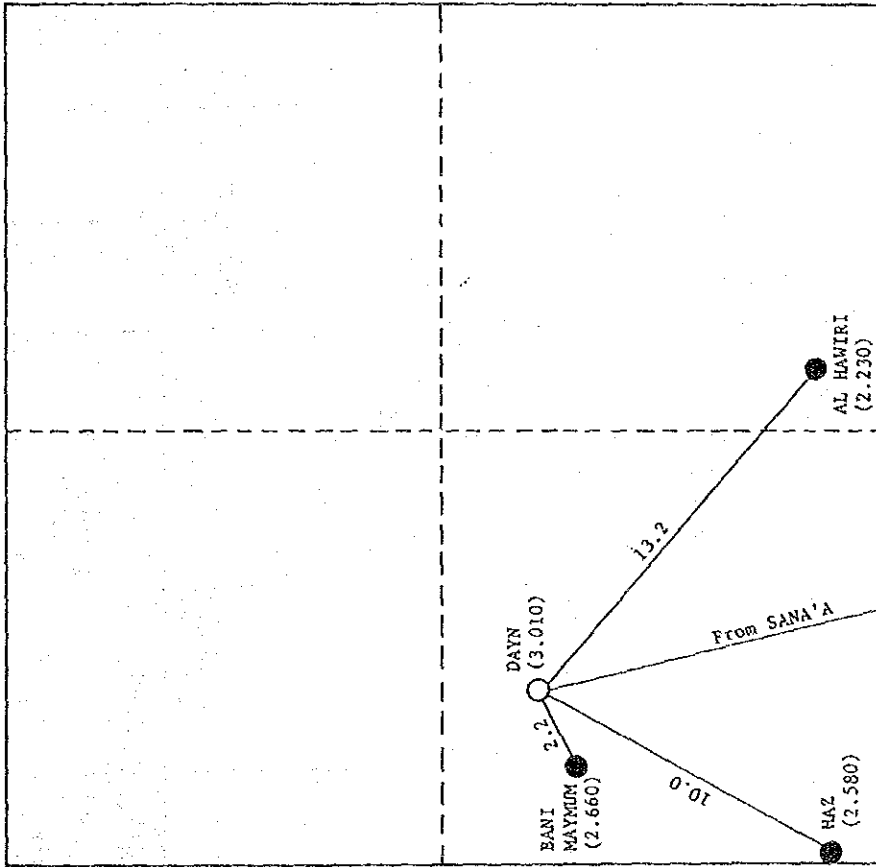
No. 2

RELATED MAP NUMBER

1543 B2	1544 A1	1544 A2
1543 B4	1544 A3	1544 A4
1543 D2	1544 C1	1544 C2

SANA'A B. S

DAYN R. S



No. 3

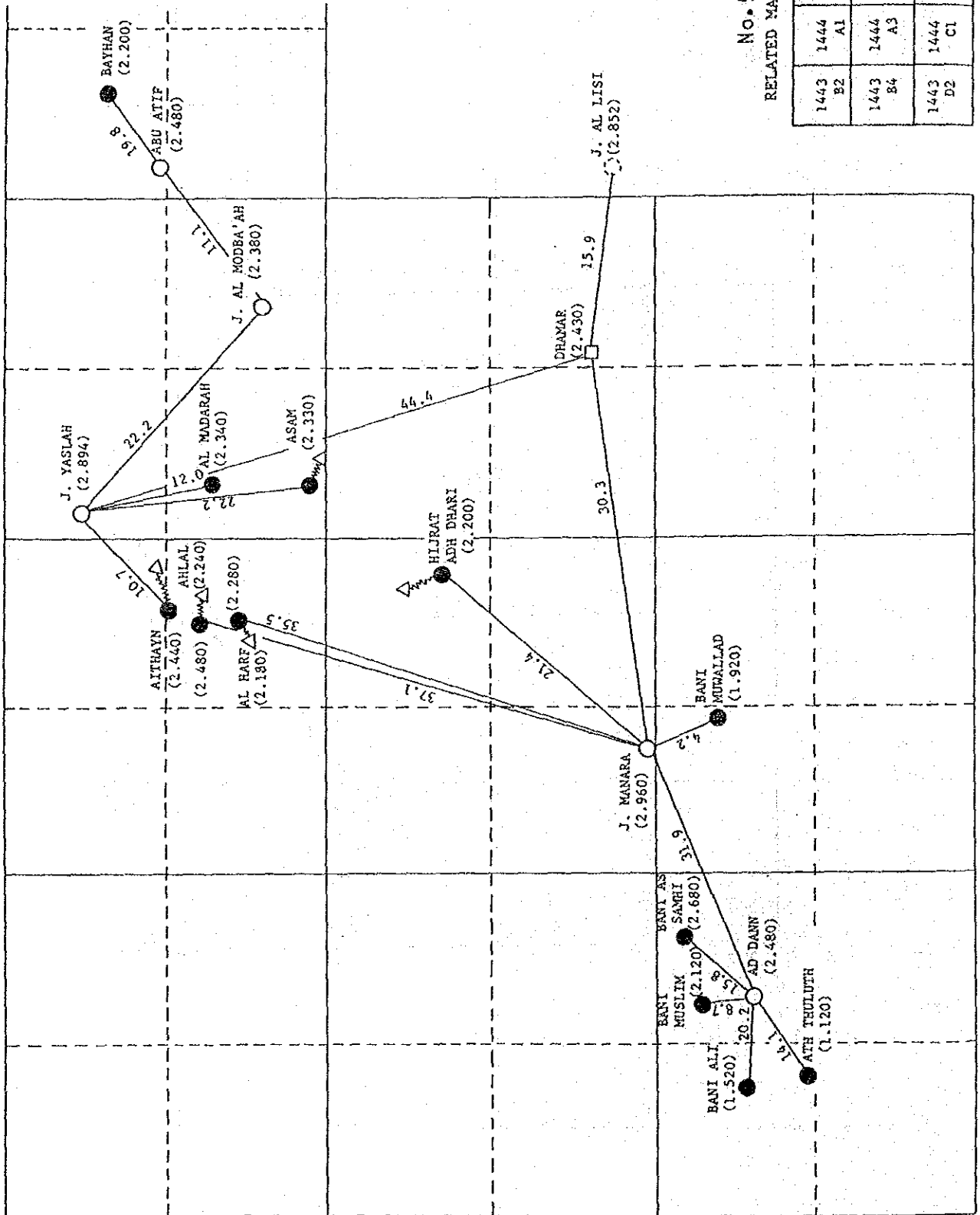
RELATED MAP NUMBER

	1544 A3	

DHAMAR B.S

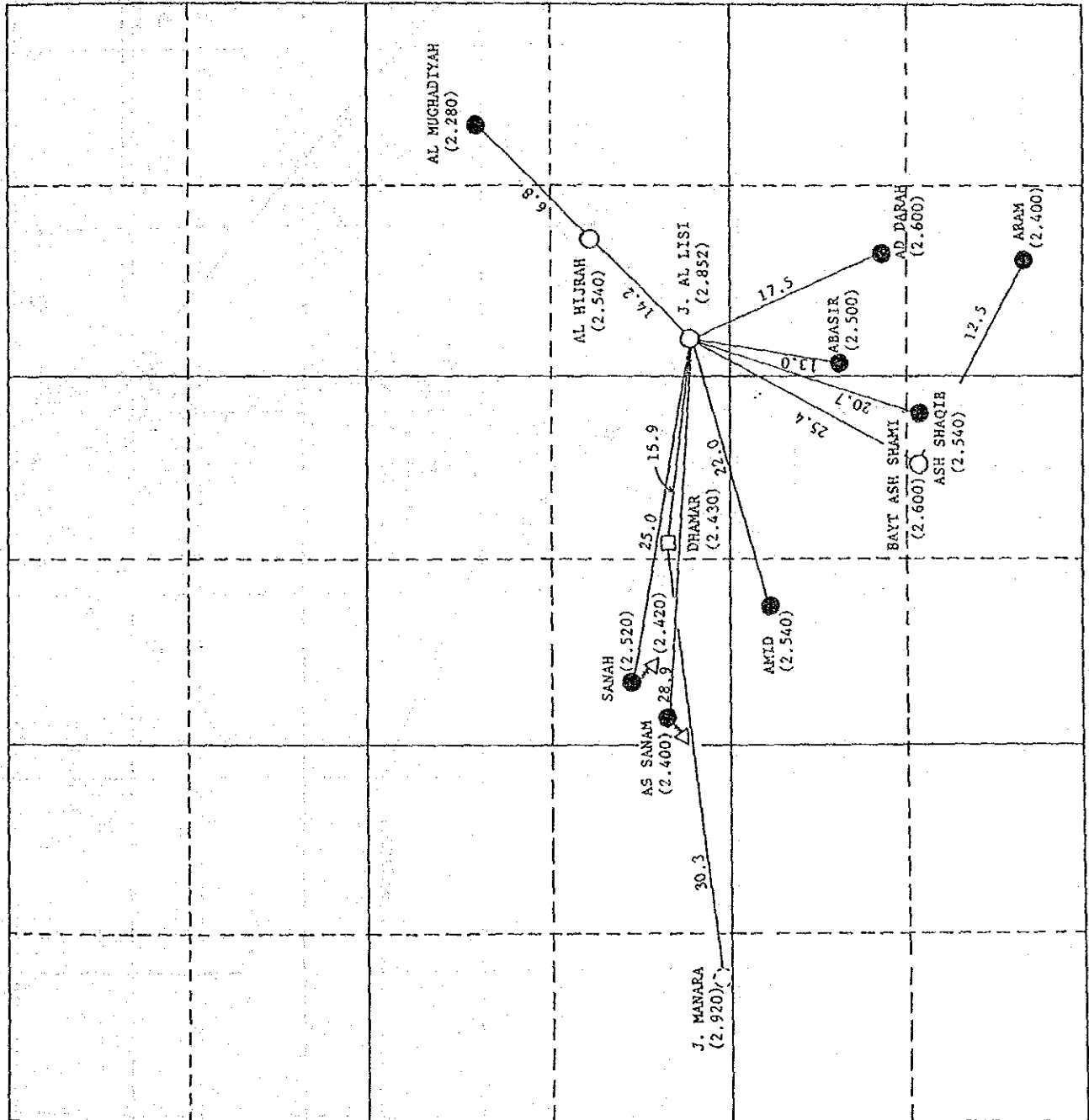
- J. AL MODBA'AH
- J. YASLAH
- J. MANARA
- ABU ATIF
- AD DANN

R.S



No. 5
RELATED MAP NUMBER

1443	1444	1444	1444
B2	A1	A2	B1
1443	1444	1444	1444
B4	A3	A4	A4
1443	1444	1444	1444
D2	C1	C2	C2



DHAMAR P. S

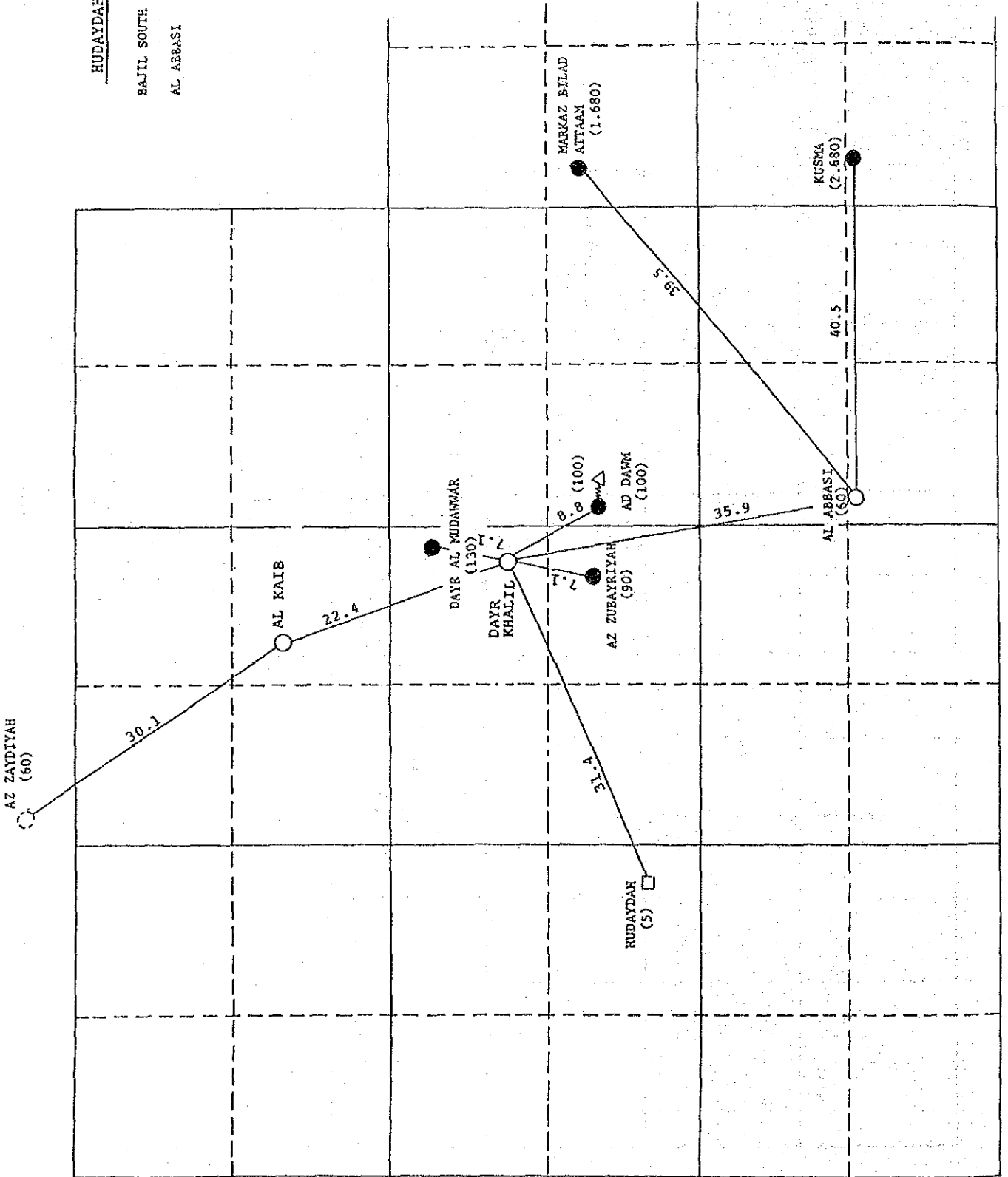
J. AL LISI
 AL HIJRAH
 BAYT ASH SHAMI } R. S

No. 4
 RELATED MAP NUMBER

1444	1444	1444
A1	A2	B1
1444	1444	1444
A3	A4	B3
1444	1444	1444
C1	C2	D1

HUDAYDAH B. S.

BAJIL SOUTH
AL ABBASI
R. S



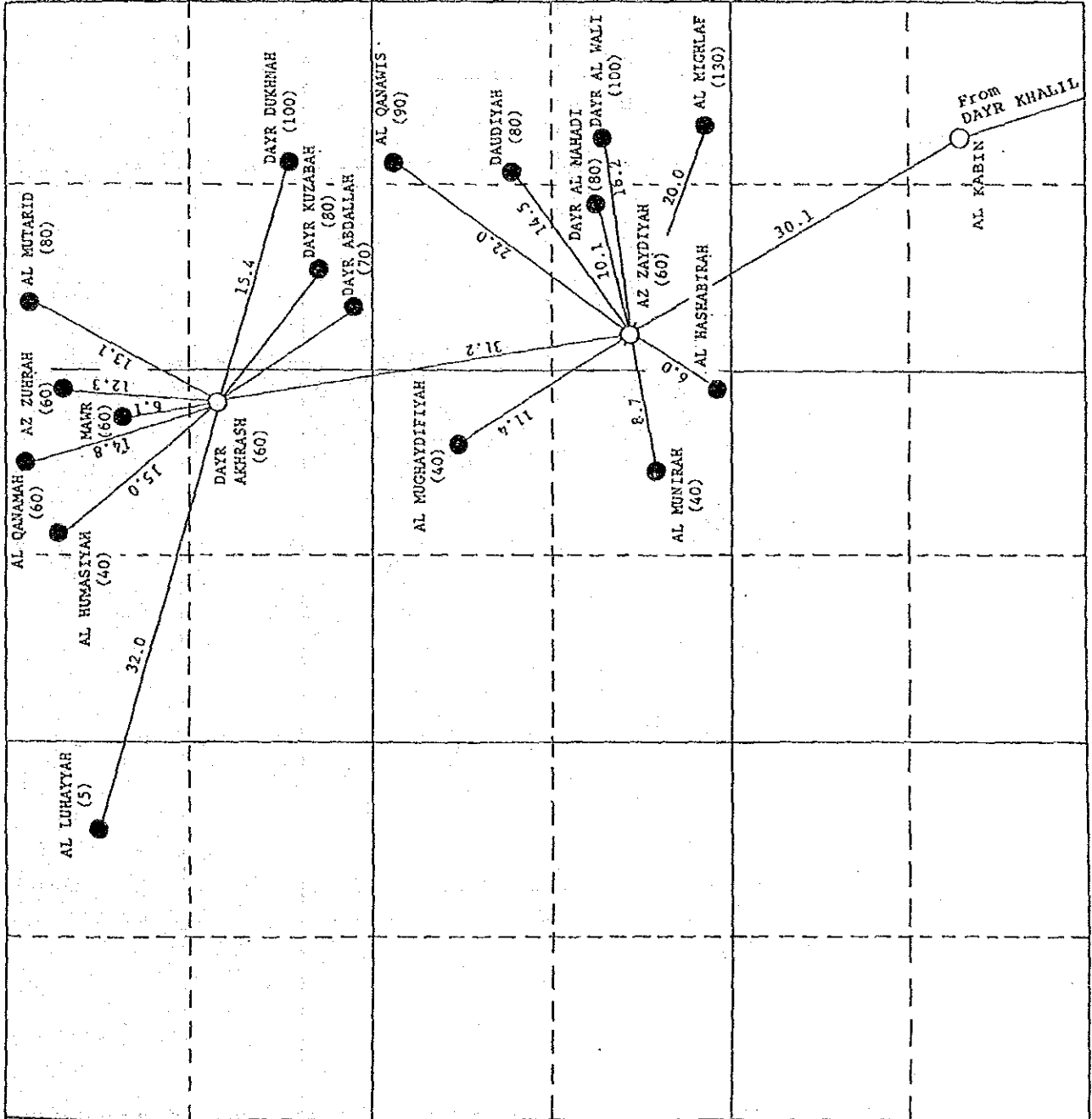
No. 6

RELATED MAP NUMBER

1542	1543	1543	1543
D4	C3	C4	C4
1442	1443	1443	1443
B2	A1	A2	B1
1442	1443	1443	1443
B4	A3	A4	B3

HUDAYDAH B. S.

DAYR AKHRASH } R. S
 AZ ZAYDIYAH }



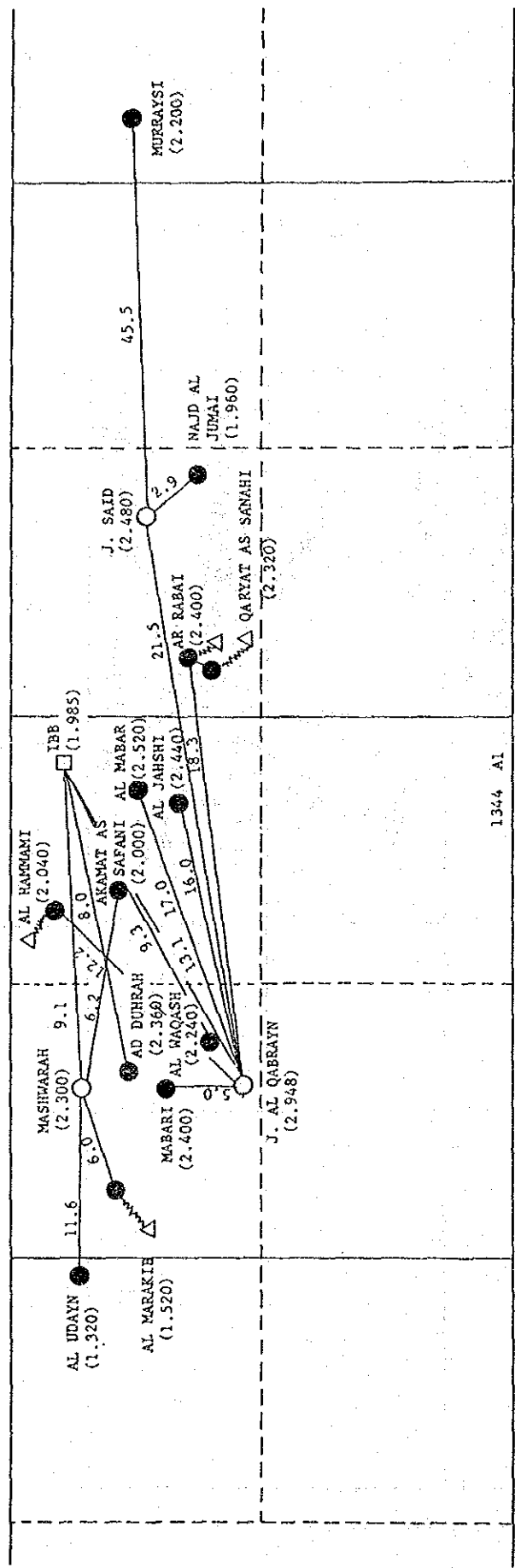
No. 7

RELATED MAP NUMBER

1542	1542	1542
B3	B4	A3
1542	1542	1543
D1	D2	C1
1542	1542	1543
D3	D4	C3

IBB B. S

MASHWARAH
 J. AL QABRAYN } R. S
 J. SAID

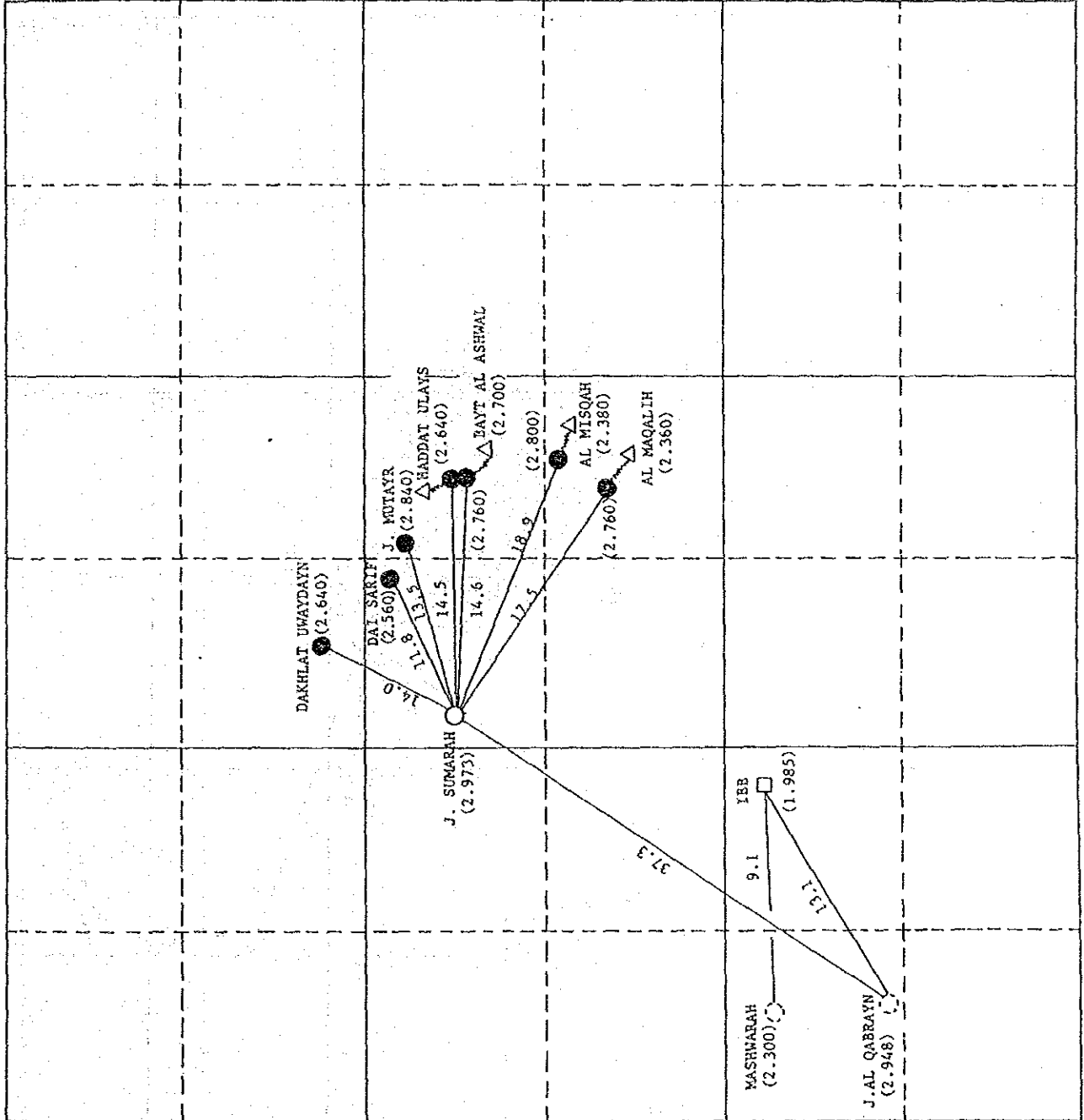


No. 8
 RELATED MAP NUMBER

1343	1344	1344	1344
B2	A1	A2	B1

IBB B. S.

J. SUMARAH R. S.



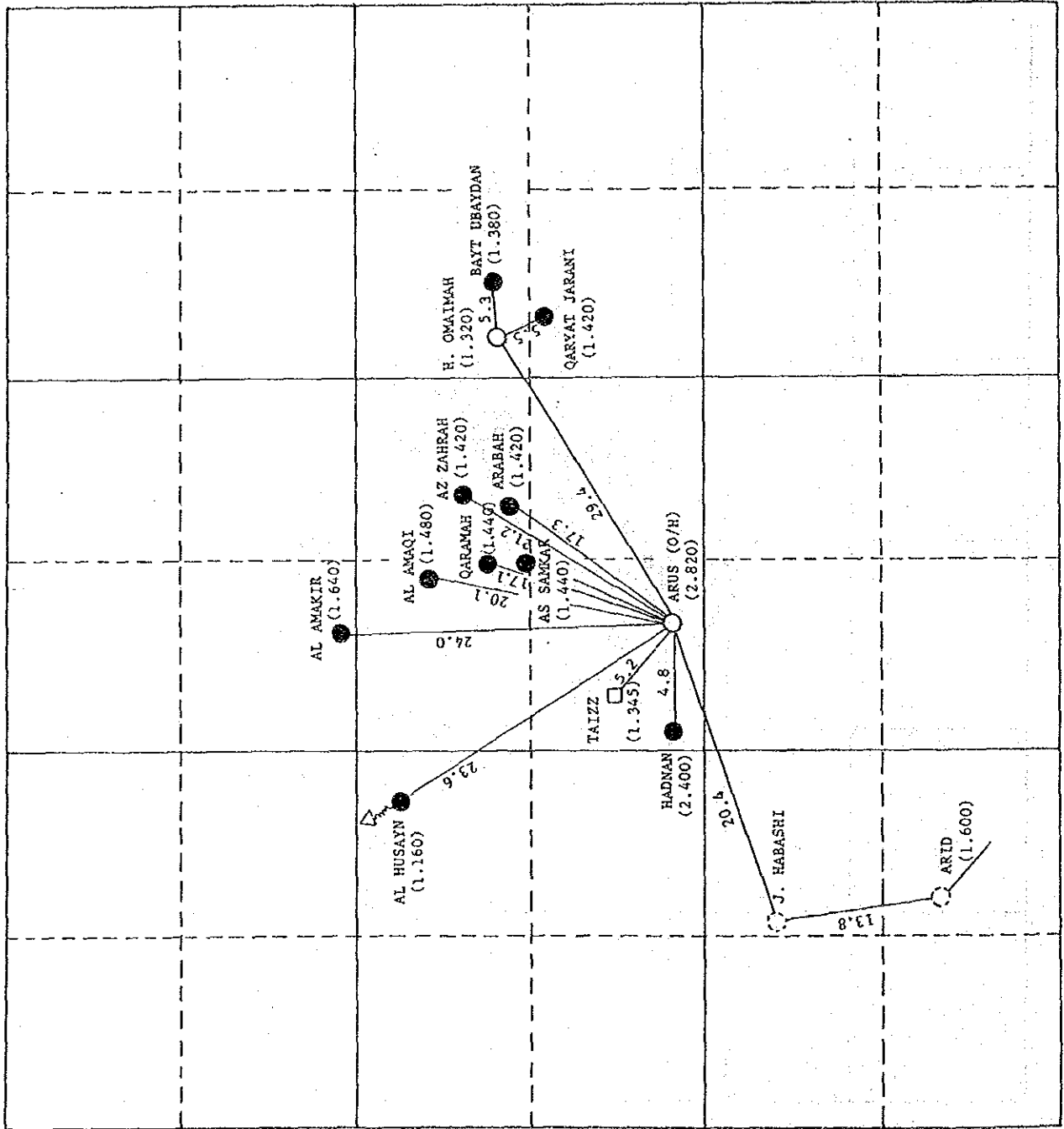
No. 9

RELATED MAP NUMBER

1444 C1	1444 C2	1444 D1
1444 C3	1444 C4	1444 D3
1344 A1	1344 A2	1344 B1

TAIZZ B. S

ARUS (O/H)
H. OMAIMAH } R. S



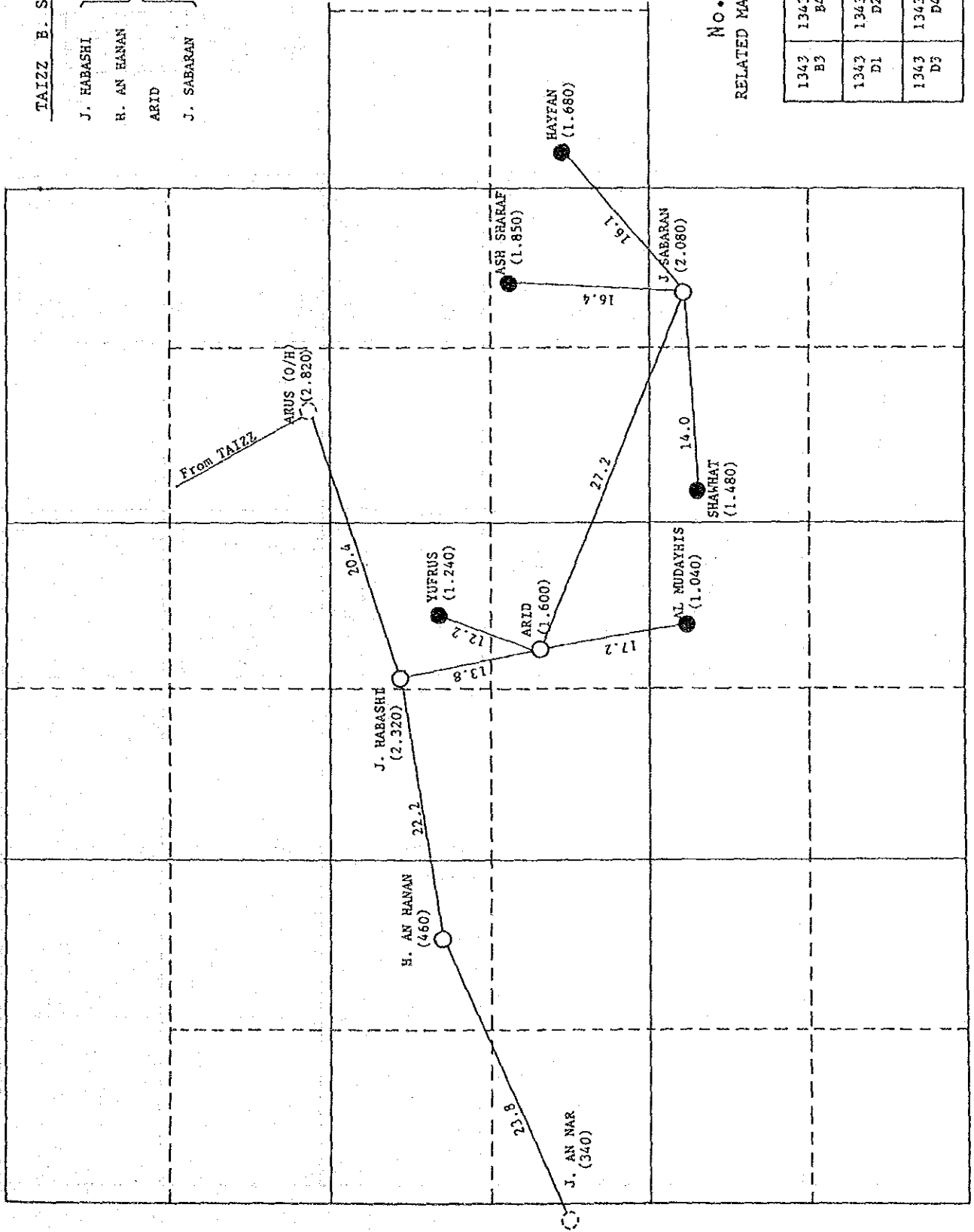
No. 10
RELATED MAP NUMBER

1343 B2	1343 A1	1344 A2
1343 B4	1344 A3	1344 A4
1343 D2	1344 C1	1344 C2

TAIZZ B. S.

J. HABASHI
 R. AN HANAN
 ARID
 J. SABARAN

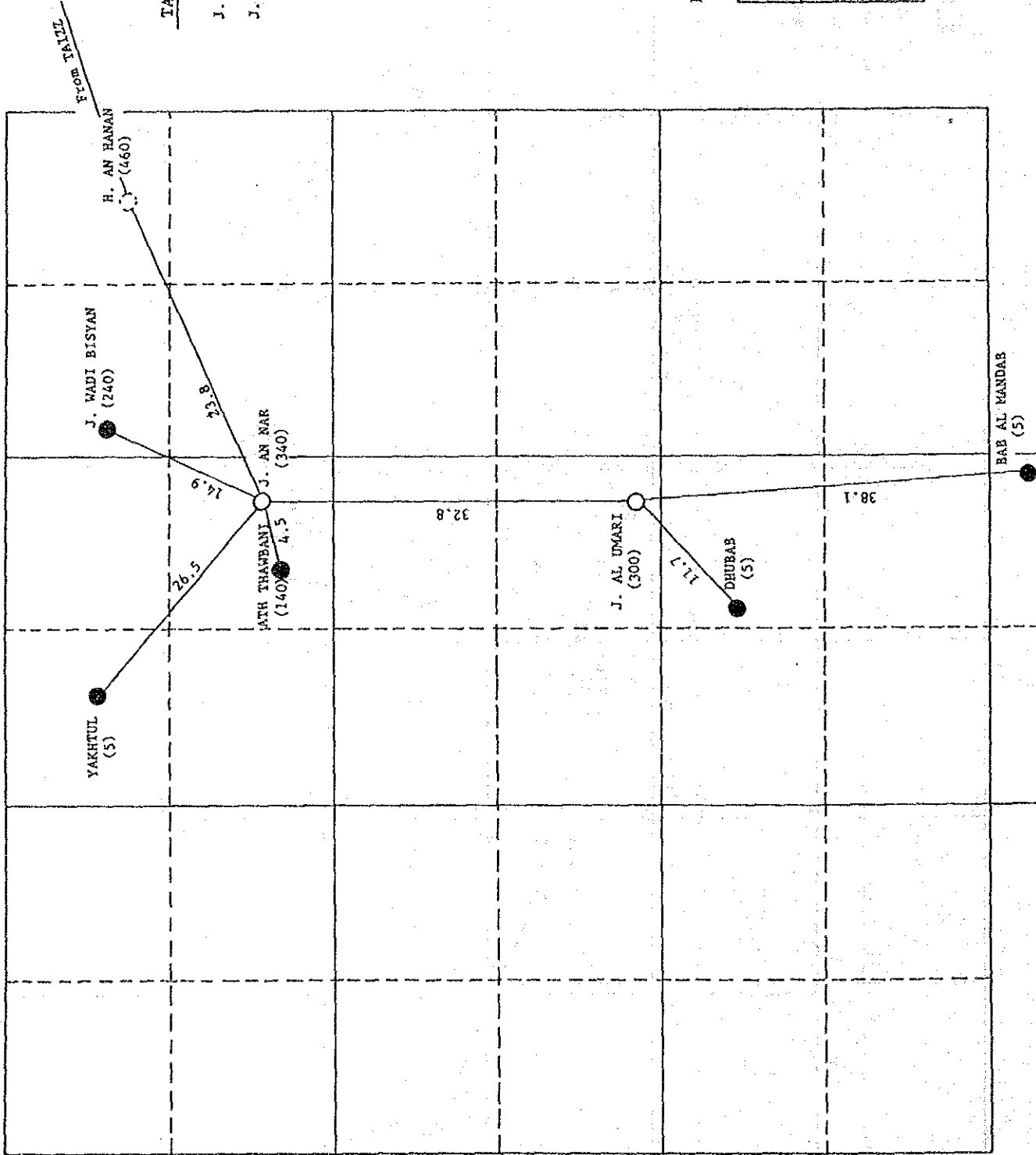
R. S.



No. 11

RELATED MAP NUMBER

1342 B3	1343 B4	1344 A3
1343 D1	1343 D2	1344 C1
1343 D5	1343 D4	1344 C3
		1344 C2



No. 12
RELATED MAP NUMBER

1343 C1	1343 C2	1343 D1
1343 C3	1343 C4	1343 D3
1243 A1	1243 A2	1243 B1
	1243 A4	

基本設計図 4

アンテナタイプおよび地上高一覧表

凡 例

BS	:	基地局
REP	:	中継局
SS	:	加入者局
OMN	:	無指向性アンテナ
GP	:	グリッドパラボラ アンテナ

Antenna Type And Height (SANA'A) -- |

Base & Repeater Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
SANA'A BS.	REP.	OMNI x1	20	ON GOING
J.DAYN REP.	SANA'A BS.	1.2mD GPx1	10	EXISTING
	REP. S.S	OMNI x1	15	
J.AYBAN REP.	SANA'A BS.	HORN x1	10	EXISTING
	REP. S.S	OMNI x1	15	
J.HARWAH REP.	J.AYBAN REP.	HORN x1	10	NEW
	REP. S.S	OMNI x1	25	
J.KANAN REP.	J.AYBAN REP.	1.2mD GPx1	10	NEW
	S.S	OMNI x1	15	
J.QUYFAN REP.	J.AYBAN REP.	HORN x1	10	EXISTING
	REP. S.S	OMNI x1	15	
MASAR REP.	J.QUYFAN REP.	1.2mD GPx1	10	EXISTING
	S.S	OMNI x1	15	
J.IYAL YAZID REP.	J.DAYN REP.	HORN x1	10	NEW
	S.S	OMNI x1	20	

Subscriber Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
THILA	J.DAYN REP.	HORN x1	10	NEW
KHALAQAH	J.DAYN REP.	HORN x1	10	NEW
AL MUNAQQAB	J.DAYN REP.	HORN x1	10	NEW
GHADLAN	J.DAYN REP.	HORN x1	10	NEW
BANI MAYMUN	J.DAYN REP.	HORN x1	10	NEW
HAZ	J.DAYN REP.	HORN x1	10	NEW
AL HAWIRI	J.DAYN REP.	HORN x1	10	NEW
AL KHADARAH	J.IYAL YAZID REP.	HORN x1	10	NEW
AL MARBAK	J.AYBAN REP.	1.2mD GPx1	10	NEW
BAYT HADIR	J.AYBAN REP.	HORN x1	10	NEW
AR RAWNAH	J.AYBAN REP.	HORN x1	10	NEW
ZALA	MASAR REP.	HORN x1	10	NEW
AL KHAMIS	MASAR REP.	HORN x1	10	NEW
GHAJMAN	J.HARWAH REP.	HORN x1	10	NEW
JIHANAH	J.HARWAH REP.	HORN x1	10	NEW
AL KIBS	J.HARWAH REP.	HORN x1	10	NEW
SAYYAN	J.HARWAH REP.	HORN x1	10	NEW
SHABAN	J.KANAN REP.	HORN x1	10	NEW

Antenna Type And Height (DHAMAR) - 2

Base & Repeater station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
DHAMAR BS.	REP. S.S	OMNI x1	20	ON GOING
J.YASLAH REP	DHAMAR BS.	3.0mD GPx1	10	EXISTING
	REP. S.S	OMNI x1	15	
J.AL MODBAAH REP.	J.YASLAH REP.	HORN x1	10	NEW
	REP. S.S	OMNI x1	15	
ABU ATIF REP.	J.AL MODBAAH REP.	HORN x1	10	NEW
	S.S	OMNI x1	15	
J.MANARA REP.	DHAMAR BS.	1.2mD GPx1	4	EXISTING
	REP. S.S	OMNI x1	9	
AD DANN REP.	J.MANARA REP.	1.2mD GPx1	10	NEW
	S.S	OMNI x1	15	
J.AL LISI REP.	DHAMAR BS.	HORN x1	15	EXISTING
	REP. S.S	OMNI x1	20	
AL HIJAH REP.	J.AL LISI REP.	HORN x1	10	NEW
	S.S	OMNI x1	15	
BYT ASH SHAMI REP.	J.AL LISI REP.	HORN x1	10	NEW
	S.S	OMNI x1	15	

Subscriber Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
AITHAYN	J.YASLAH REP	HORN x1	10	NEW
ASAM	J.YASLAH REP	HORN x1	10	NEW
AL MADARAH	J.YASLAH REP	HORN x1	10	NEW
BAYHAN	ABU ATIF REP.	HORN x1	10	NEW
AHLAL	J.MANARA REP.	1.2mD GPx1	10	NEW
AL HARF	J.MANARA REP.	1.2mD GPx1	10	NEW
HIJRAT ADH DHARI	J.MANARA REP.	HORN x1	10	NEW
BANI MUWALLAD	J.MANARA REP.	HORN x1	10	NEW
BANI AS SAMHI	AD DANN REP.	HORN x1	10	NEW
BANI MUSLIM	AD DANN REP.	HORN x1	10	NEW
BANI ALI	AD DANN REP.	HORN x1	10	NEW
ATH THULUTH	AD DANN REP.	HORN x1	10	NEW
AD DARAH	J.AL LISI REP.	HORN x1	10	NEW
ABASIR	J.AL LISI REP.	HORN x1	10	NEW
ASH SHAQB	J.AL LISI REP.	HORN x1	10	NEW
AMID	J.AL LISI REP.	HORN x1	10	NEW
AS SANAM	J.AL LISI REP.	HORN x1	10	NEW
SANAH	J.AL LISI REP.	HORN x1	10	NEW
AL MUGHADIYAH	AL HIJAH REP.	HORN x1	10	NEW
ARAM	BYT ASH SHAMI REP.	HORN x1	10	NEW

Antenna Type And Height (HUDAYDAH) — 3

Base & Repeater Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
HUDAYDAH BS.	REP.	OMNI x1	25	EXISTING
DAYR KHALIL REP.	HUDAYDAH BS.	3.0mD GPx1	40	NEW
	REP. S.S	OMNI x1	40	
AZ ZAYDIYAH REP.	AL KAIB REP.	3.0mD GPx1	59	NEW
	REP. S.S	OMNI x1	60	
DAYR AKHRASH REP.	AZ ZAYDIYAH REP.	2.4mD GPx1	34	NEW
	S.S	OMNI x1	50	
AL KAIB REP.	DAYR KHALIL REP.	1.2mD GPx1	25	NEW
	S.S	OMNI x1	30	
AL ABBASI REP	DAYR KHALIL REP.	3.0mD GPx1	58	NEW
	S.S	OMNI x1	58	

Subscriber Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
AD DAWM	DAYR KHALIL REP.	HORN x1	10	NEW
AZ ZUBAYRIYAH	DAYR KHALIL REP.	HORN x1	10	NEW
DAYR AL MUDAWWAR	DAYR KHALIL REP.	HORN x1	10	NEW
AL MUGHAYDIFIYAH	AZ ZAYDIYAH REP.	HORN x1	12	NEW
AL QANAWIS	AZ ZAYDIYAH REP.	HORN x1	10	NEW
DAUDIYAH	AZ ZAYDIYAH REP.	HORN x1	10	NEW
DAYR AL MAHADI	AZ ZAYDIYAH REP.	HORN x1	10	NEW
DAYR AL WALI	AZ ZAYDIYAH REP.	HORN x1	10	NEW
AL MIGHLAF	AZ ZAYDIYAH REP.	HORN x1	10	NEW
AL HASHABIRAH	AZ ZAYDIYAH REP.	HORN x1	10	NEW
AL MUNIRAH	AZ ZAYDIYAH REP.	HORN x1	10	NEW
AL LUHAYYAH	DAYR AKHRASH REP.	1.8mD GPx1	16	NEW
AL HUMASIYAH	DAYR AKHRASH REP.	HORN x1	10	NEW
AL QANAMAH	DAYR AKHRASH REP.	HORN x1	10	NEW
MWR	DAYR AKHRASH REP.	HORN x1	10	NEW
AZ ZUHRAH	DAYR AKHRASH REP.	HORN x1	12	NEW
AL MUTARID	DAYR AKHRASH REP.	HORN x1	10	NEW
DAYR DUKHNAH	DAYR AKHRASH REP.	HORN x1	10	NEW
DAYR KUZABAH	DAYR AKHRASH REP.	HORN x1	10	NEW
DAYR ABDALLAH	DAYR AKHRASH REP.	HORN x1	10	NEW
KUSMA	AL ABBASI REP	1.8mD GPx1	10	NEW
MARKAZ BILAD ATTAAM	AL ABBASI REP	1.8mD GPx1	10	NEW

Antenna Type And Height (IBB) — 4

Base & Repeater Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
IBB BS.	REP. S.S	OMNI x1	20	ON GOING
J.AL QABRAYN REP.	IBB BS.	HORN x1	10	EXISTING
	REP. S.S	OMNI x1	15	
J.SAID REP.	J.AL QABRAYN REP.	HORN x1	10	NEW
	S.S	OMNI x1	15	
MASHWARAH REP.	IBB BS.	HORN x1	10	NEW
	S.S	OMNI x1	15	
J.SUMARAH REP.	J.AL QABRAYN REP.	1.2mD GPx1	10	EXISTING
	S.S	OMNI x1	15	

Subscriber Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
AL WAQASH	IBB BS.	HORN x1	10	NEW
AD DUHRAH	IBB BS.	HORN x1	10	NEW
MABARI	J.AL QABRAYN REP.	HORN x1	10	NEW
AL HAMMANI	J.AL QABRAYN REP.	HORN x1	10	NEW
AL MABAR	J.AL QABRAYN REP.	HORN x1	10	NEW
AL JAHSI	J.AL QABRAYN REP.	HORN x1	10	NEW
AR RABAI	J.AL QABRAYN REP.	HORN x1	10	NEW
QARYAT AS SANABI	J.AL QABRAYN REP.	HORN x1	10	NEW
NAJD AL JUMAI	J.SAID REP.	HORN x1	10	NEW
MURRAYSI	J.SAID REP.	1.8mD GPx1	10	NEW
AL UDAYN	MASHWARAH REP.	HORN x1	10	NEW
AL MARAKIB	MASHWARAH REP.	HORN x1	10	NEW
AKAMAT AS SAFANI	MASHWARAH REP.	HORN x1	10	NEW
DAKHLAT UWAYDAYN	J.SUMARAH REP.	HORN x1	10	NEW
DHI SARIF	J.SUMARAH REP.	HORN x1	10	NEW
J.MUTAYR	J.SUMARAH REP.	HORN x1	10	NEW
HADDAT ULAYS	J.SUMARAH REP.	HORN x1	10	NEW
BAYT AL ASHWAL	J.SUMARAH REP.	HORN x1	10	NEW
AL MISOAH	J.SUMARAH REP.	HORN x1	10	NEW
AL MAQALIH	J.SUMARAH REP.	HORN x1	10	NEW

Antenna Type And Height (TAIZZ) — 5

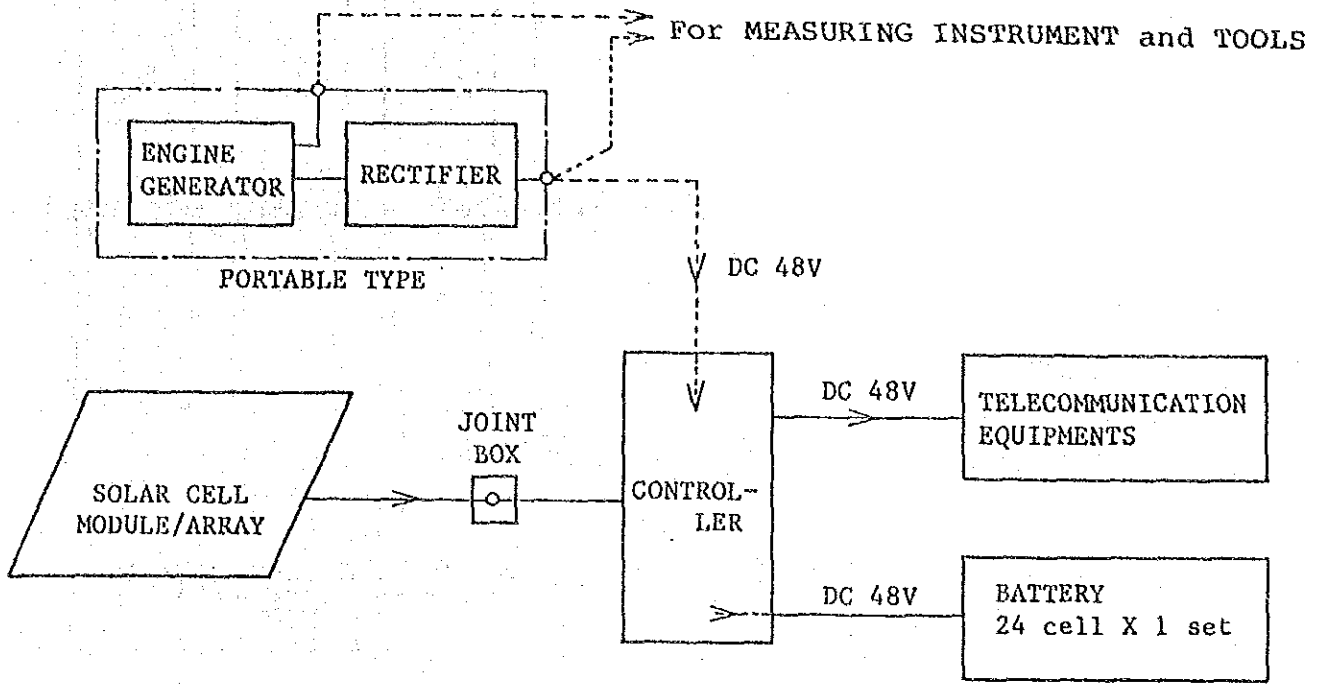
Base & Repeater Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
TAIZZ BS.	REP. S.S	OMNI x1	20	EXISTING
ARUS (O/H) REP.	TAIZZ BS.	HORN x1	10	EXISTING
	REP. S.S	OMNI x1	15	
H.OMAIMAH REP.	J.ARUS O/H REP.	1.2mD GPx1	10	NEW
	S.S	OMNI x1	15	
J.HABASHI REP.	J.ARUS O/H REP.	HORN x1	10	NEW
	REP. S.S	OMNI x1	43	
ARID REP.	J.HABASHI REP.	HORN x1	15	NEW
	REP. S.S	OMNI x1	15	
J.SABARAN REP.	ARID REP.	HORN x1	10	NEW
	S.S	OMNI x1	35	
H.AN HANAN REP.	J.HABASHI REP.	HORN x1	10	NEW
	REP.	OMNI x1	15	
J.AN NAR REP.	H AN HANAN REP.	HORN x1	10	NEW
	REP. S.S	OMNI x1	15	
J.AL UMARI REP.	J.AN NAR REP.	1.2mD GPx1	10	NEW
	S.S	OMNI x1	15	

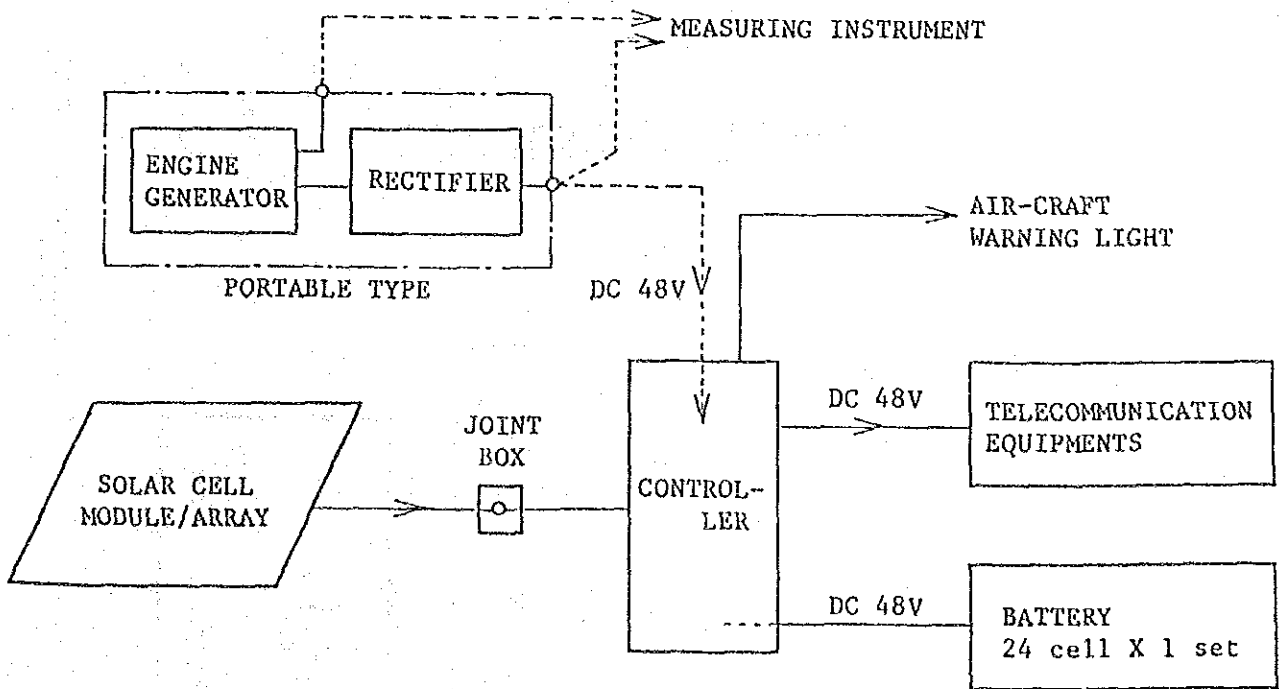
Subscriber Station

Site Name	Direction	Antenna Type	Antenna Height(M)	Availability of Tower
HADNAN	ARUS (O/H) REP.	HORN x1	12	NEW
AL HUSAYN	ARUS (O/H) REP.	HORN x1	10	NEW
AL AMAKIR	ARUS (O/H) REP.	HORN x1	10	NEW
AL AMAQI	ARUS (O/H) REP.	HORN x1	10	NEW
QARAMAH	ARUS (O/H) REP.	HORN x1	10	NEW
AS SAMKAR	ARUS (O/H) REP.	HORN x1	10	NEW
AZ ZAHRAH	ARUS (O/H) REP.	HORN x1	10	NEW
ARABAH	ARUS (O/H) REP.	HORN x1	10	NEW
BAYT UBAYDAN	H.OMAIMAH REP.	HORN x1	10	NEW
QARYAT JARANI	H.OMAIMAH REP.	HORN x1	10	NEW
YUFRUS	ARID REP.	HORN x1	10	NEW
AL MUDAYHIS	ARID REP.	HORN x1	10	NEW
ASH SHARAF	J.SABARAN REP.	HORN x1	10	NEW
HAYFAN	J.SABARAN REP.	HORN x1	10	NEW
SHAWHAT	J.SABARAN REP.	HORN x1	10	NEW
J.WADI BISYAN	J.AN NAR REP.	HORN x1	10	NEW
YAKHTUL	J.AN NAR REP.	1.2mD GPx1	10	NEW
ATH THAWBANI	J.AN NAR REP.	HORN x1	10	NEW
DHUBAB	J.AL UMARI REP.	HORN x1	10	NEW
BAB AL MANDAB	J.AL UMARI REP.	2.4mD GPx1	10	NEW

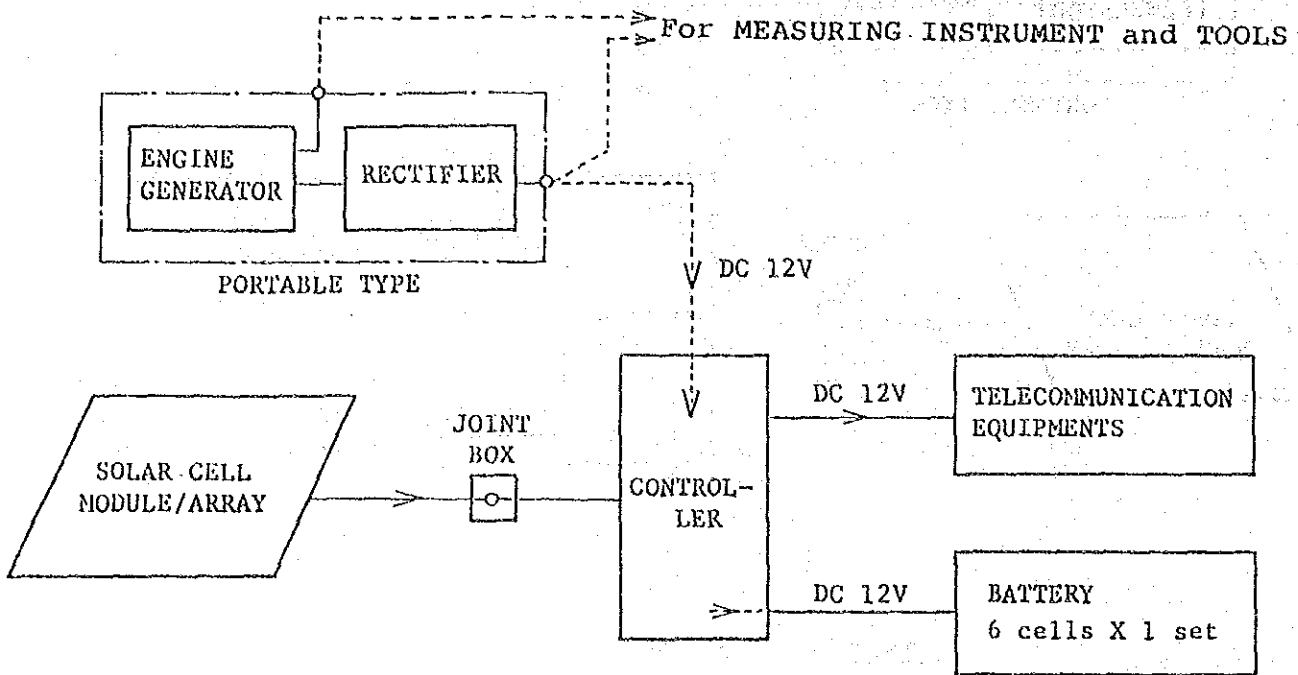
基本設計図 5
電力供給基本計画図



REPEATER STATION (1)



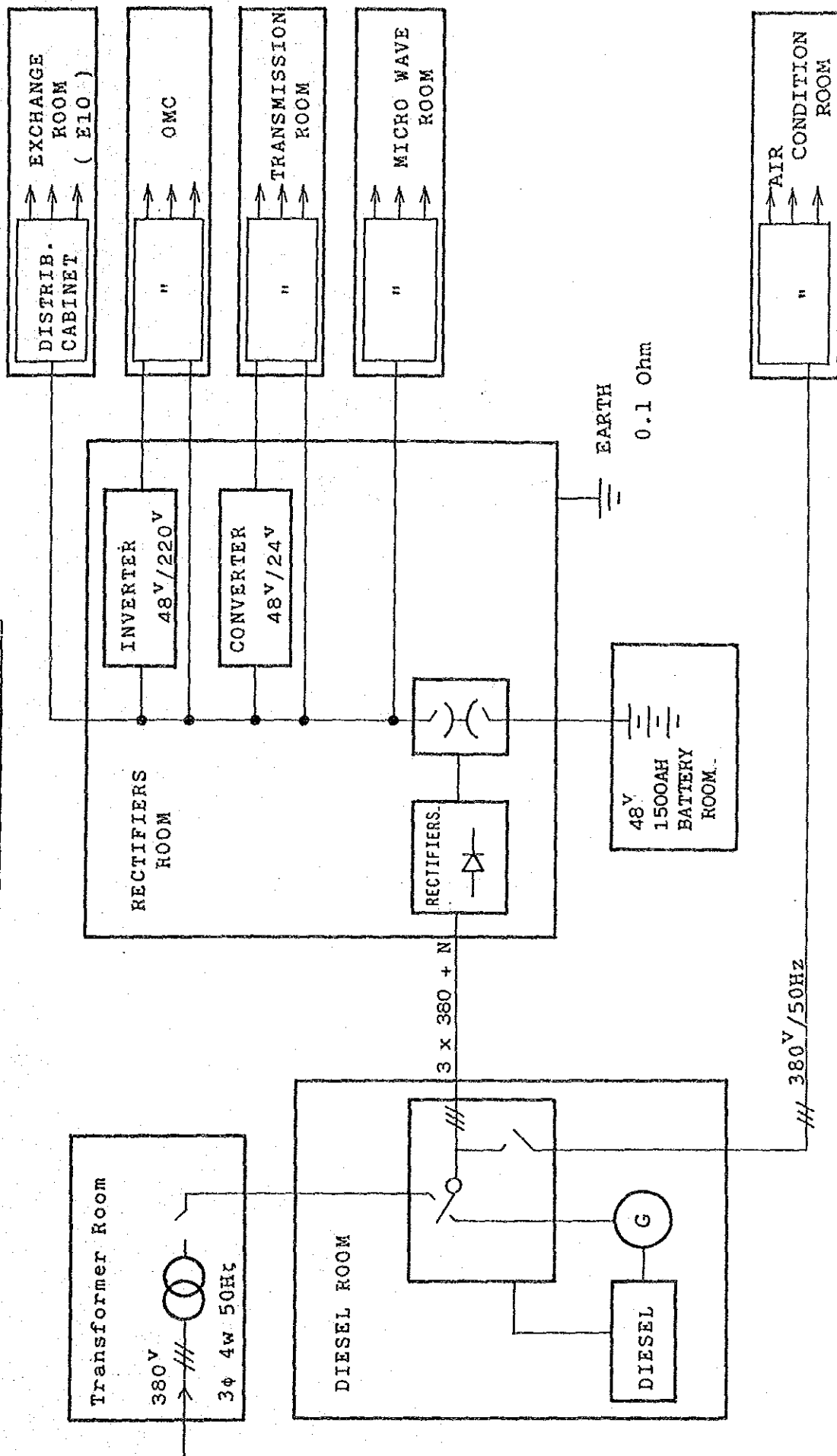
REPEATER STATION (2)



SUBSCRIBER STATION

HUDAYDAH

Power Supply Diagram



OMC: Operation Maintenance Control.

基本設計図 6

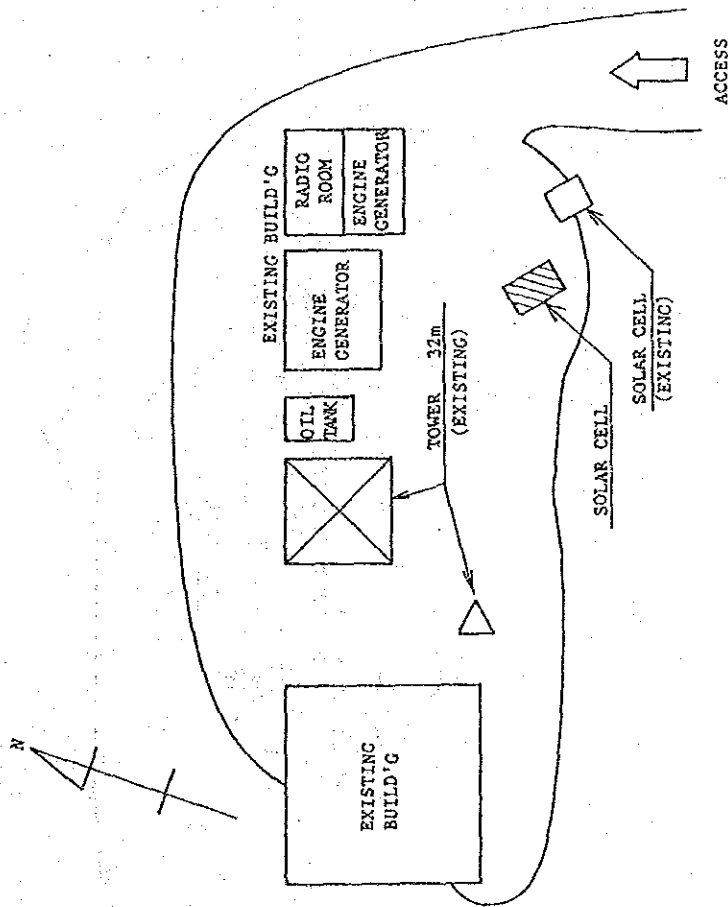
施設配置計画図

凡 例



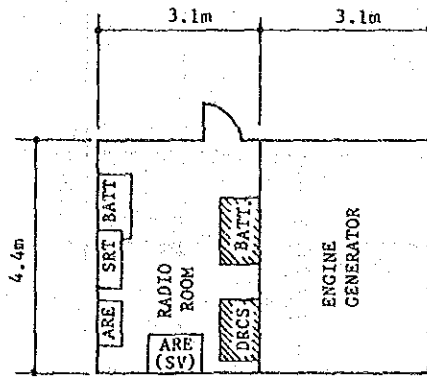
DRCS 関連機器

DAYN REP.



SITE GROUND PLAN

SCALE : 1/300

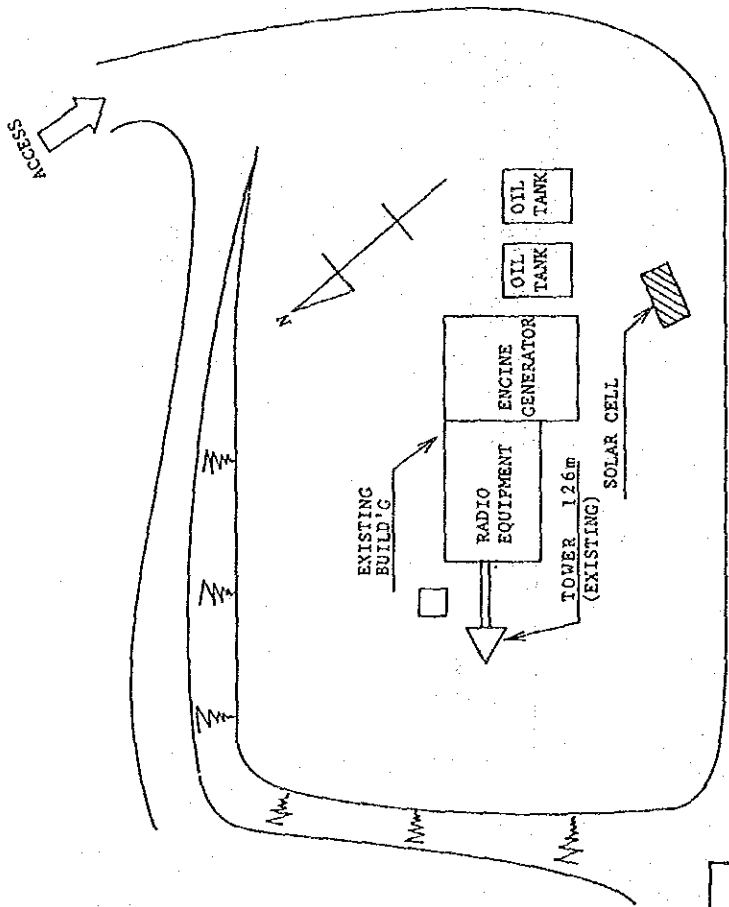


EQUIPMENT LAYOUT PLAN

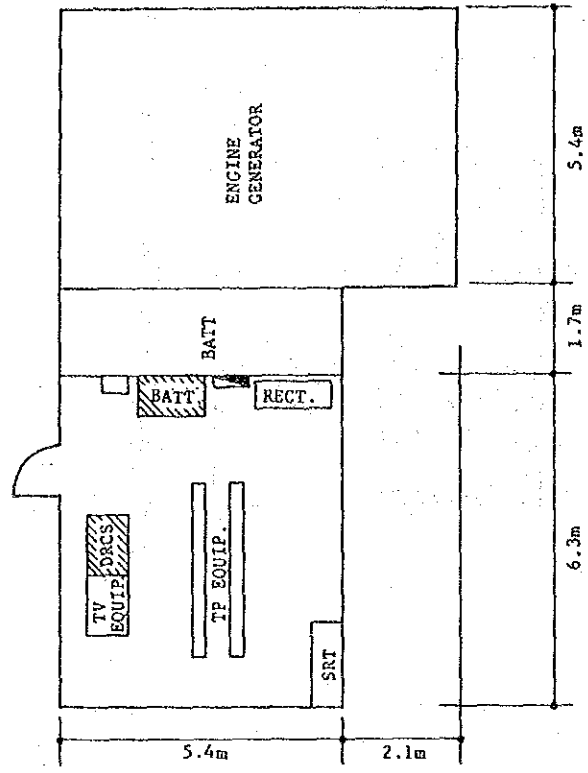
SCALE : 1/100

SITE	DAYN REP.	
DATE	18. DEC. 1988	

AYBAN REP.



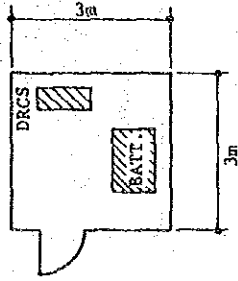
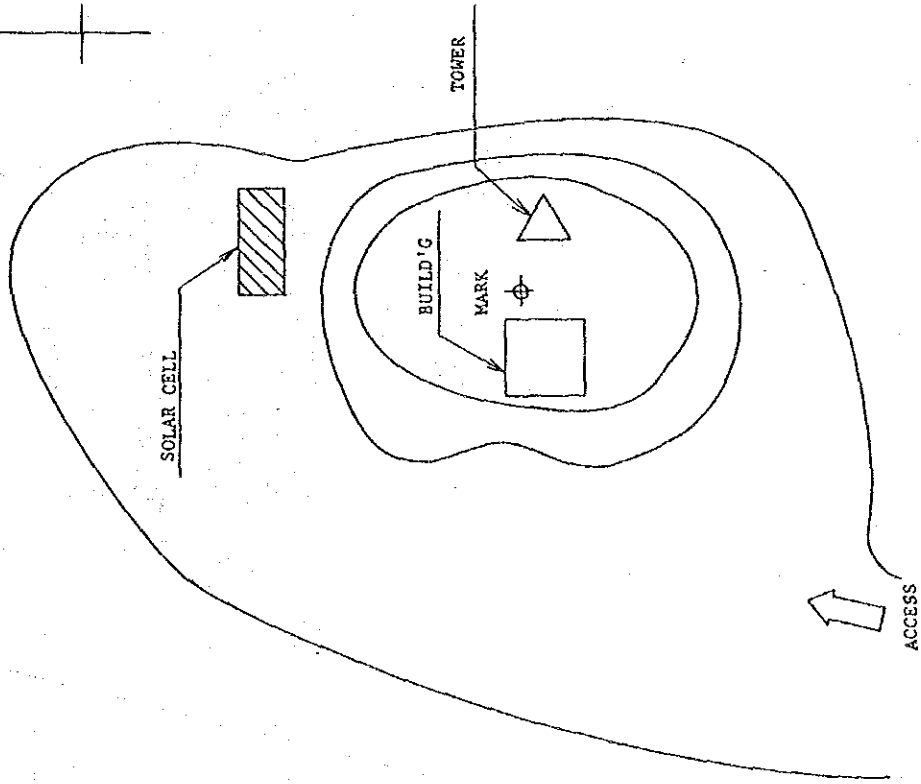
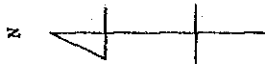
SITE GROUND PLAN SCALE : 1/300



EQUIPMENT LAYOUT PLAN SCALE : 1/100

SITE	AYBAN REP.	2
DATE	18. DEC. 1988	

J. HARWAH REP.

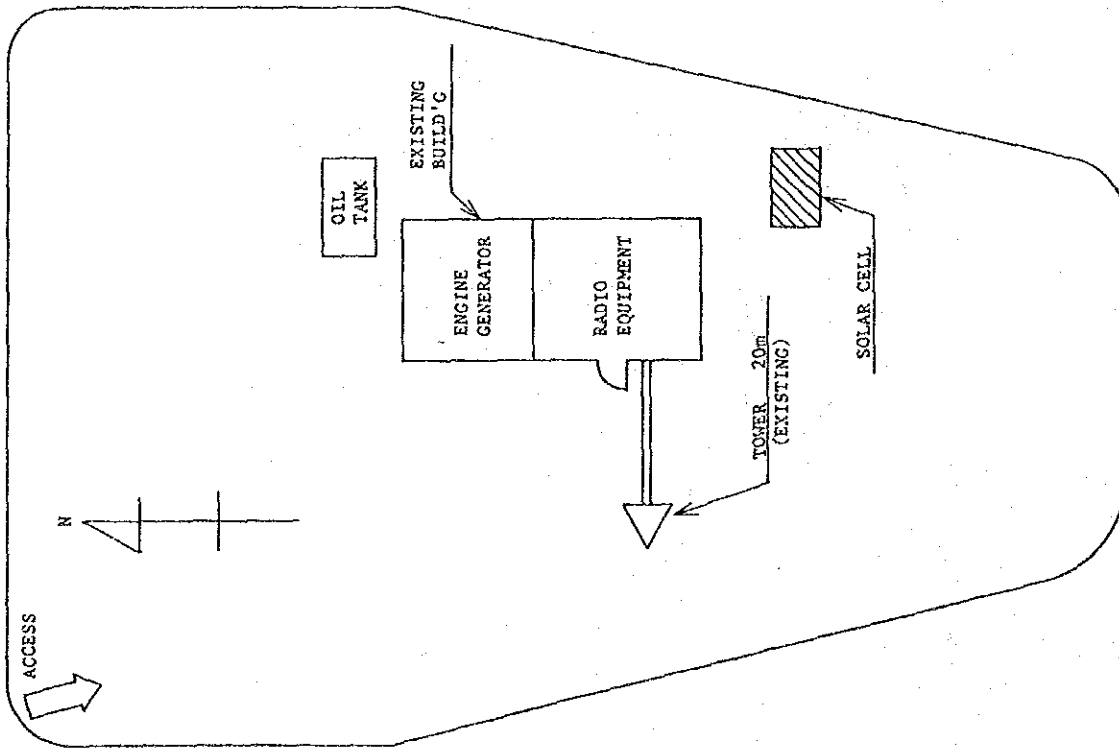


EQUIPMENT LAYOUT PLAN SCALE : 1/100

SITE GROUND PLAN SCALE : 1/200

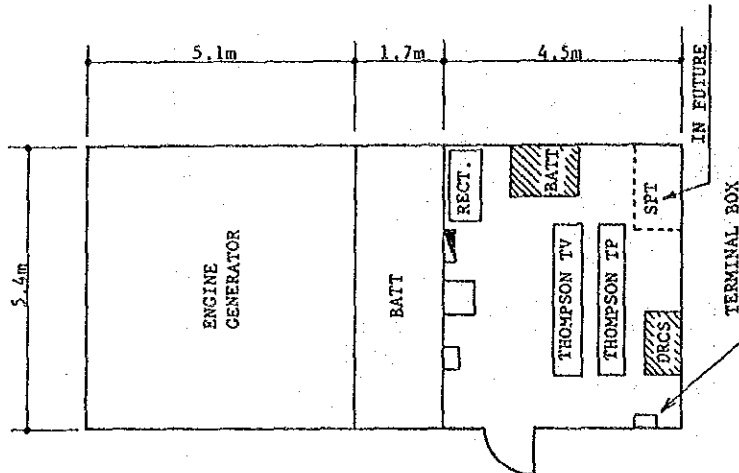
SITE	J. HARWAH REP.	3
DATE	18. DEC. 1988	

J. YASLAH REP.



SITE GROUND PLAN

SCALE : 1/200

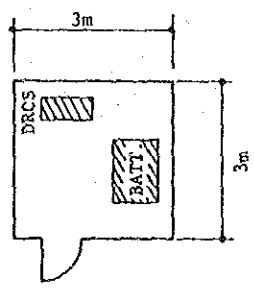
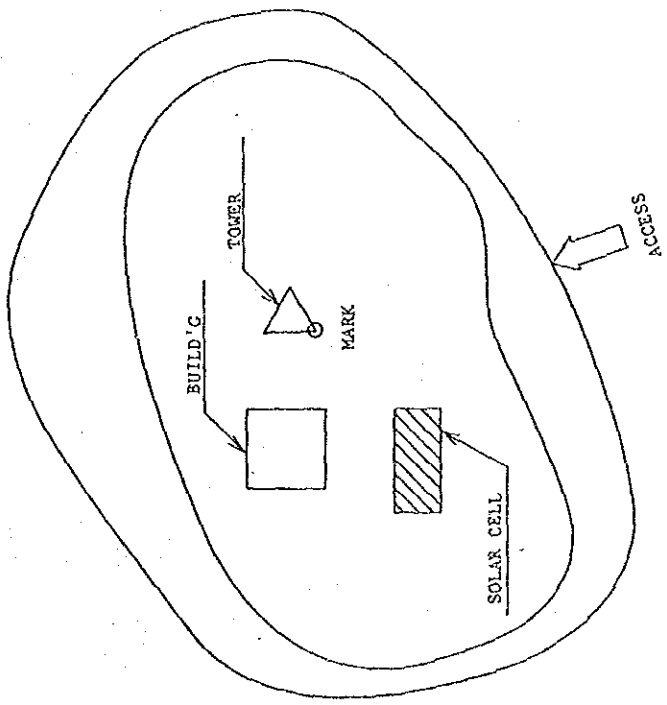
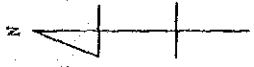


EQUIPMENT LAYOUT PLAN

SCALE : 1/100

SITE	J. YASLAH REP.	4
DATE	18. DEC. 1988	

J. AL MODBAAH REP.

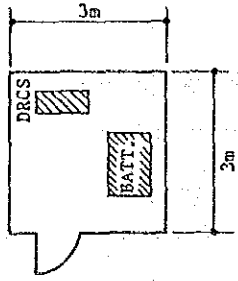
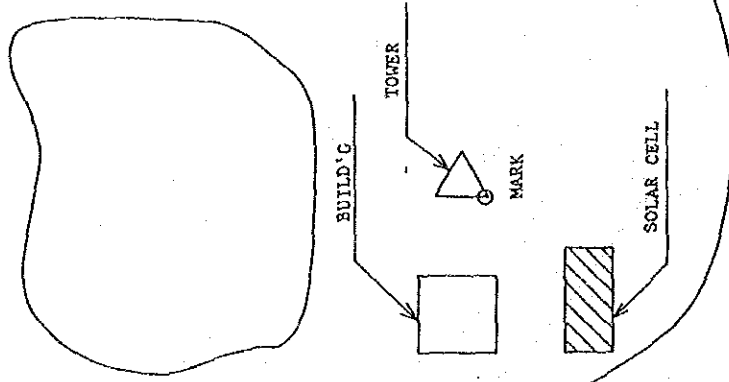
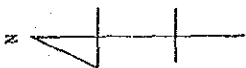


EQUIPMENT LAYOUT PLAN SCALE : 1/100

SITE GROUND PLAN SCALE : 1/200

SITE	J. AL MODBAAH REP.	5
DATE	18. DEC. 1988	

ABU ATIF REP.

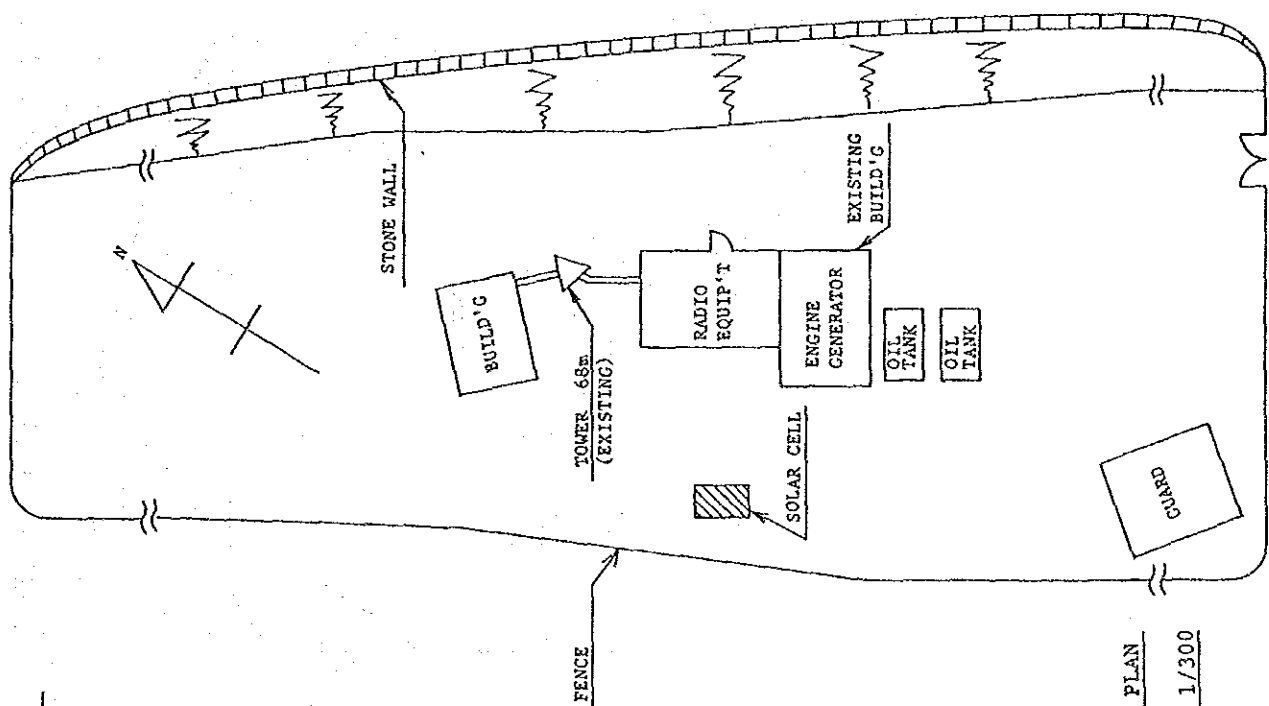


EQUIPMENT LAYOUT PLAN SCALE : 1/100

SITE GROUND PLAN SCALE : 1/200

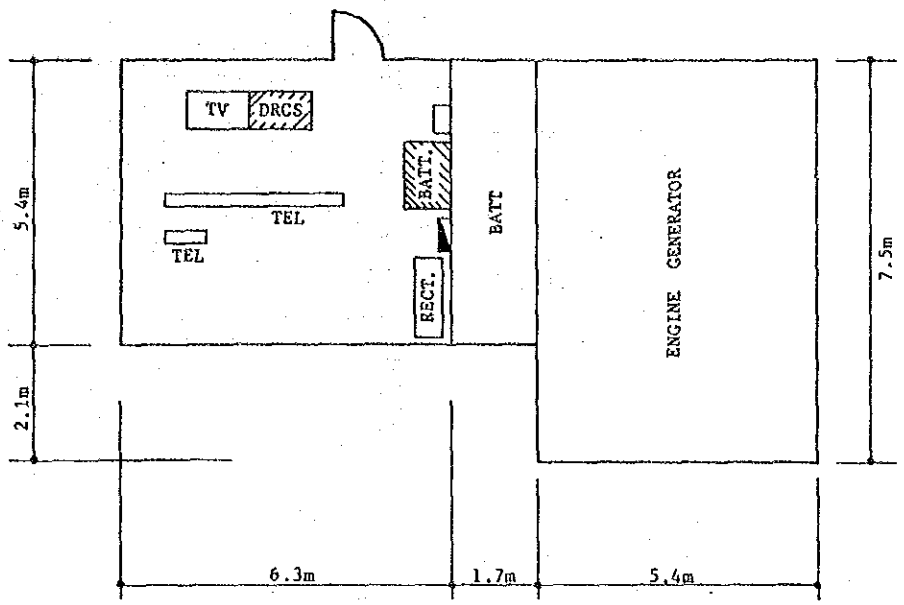
SITE	ABU ATIF REP.	6
DATE	18. DEC. 1988	

J. AL LISI REP.



SITE GROUND PLAN

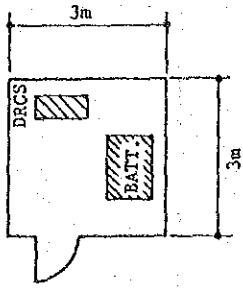
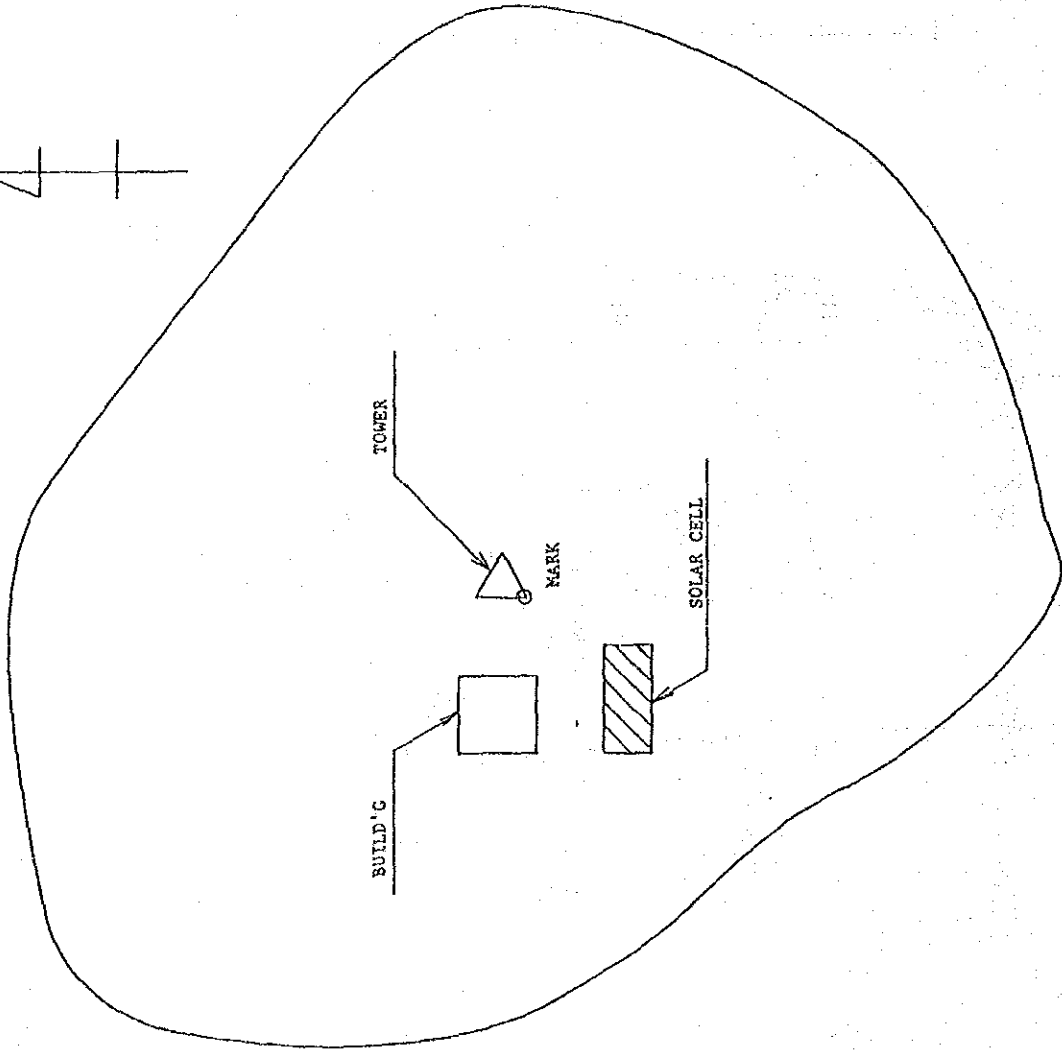
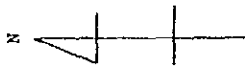
SCALE: 1/300



EQUIPMENT LAYOUT PLAN SCALE: 1/100

SITE	J. AL LISI REP.	7
DATE	18. DEC. 1988	

AL. HIJRAH REP.

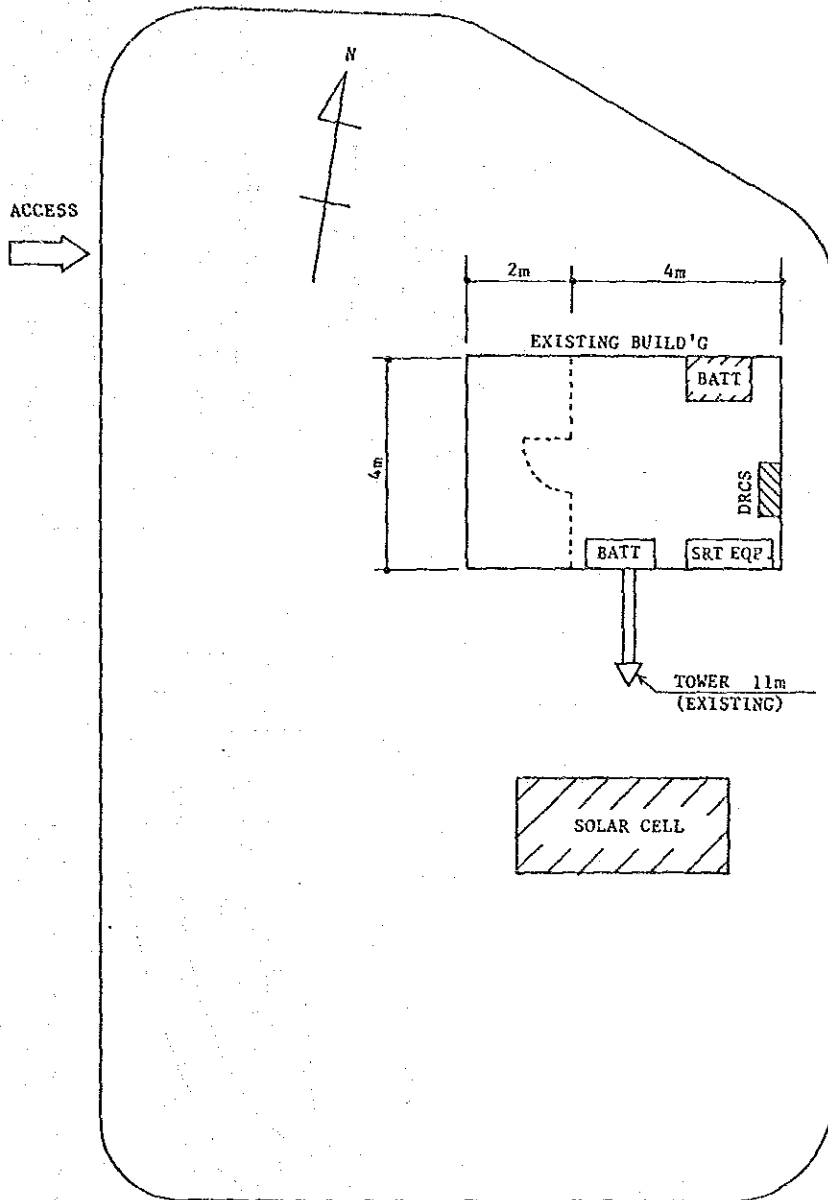


EQUIPMENT LAYOUT PLAN SCALE: 1/100



SITE GROUND PLAN SCALE : 1/200

SITE	AL. HIJRAH REP.	8
DATE	18. DEC. 1988	

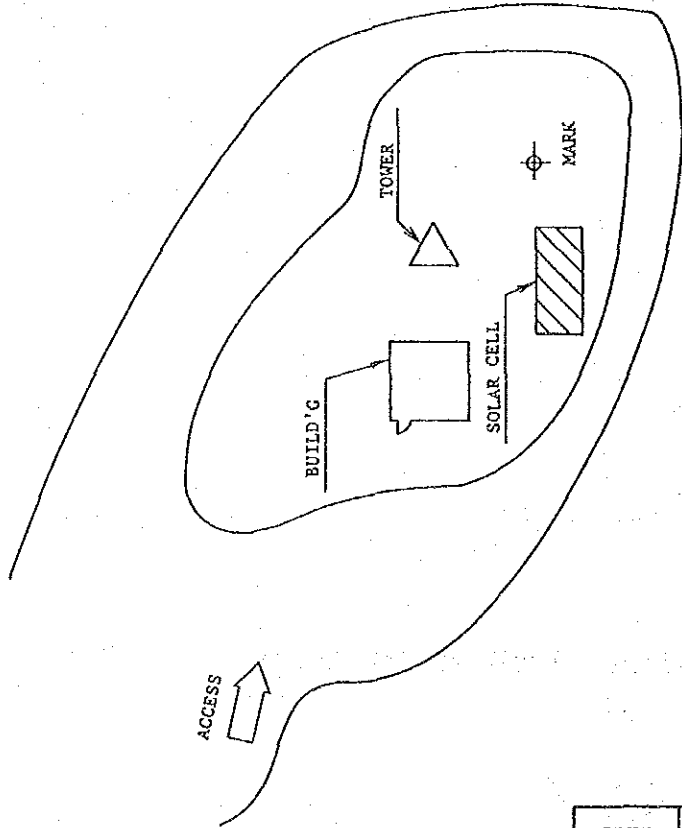
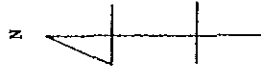


SITE GROUND AND EQUIPMENT LAYOUT PLAN

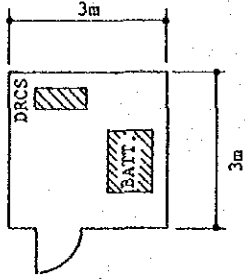
SCALE : 1/100

SITE	J. MANARA REP.	9
DATE	18. DEC. 1988	

BAYT ASH SHAML REP.

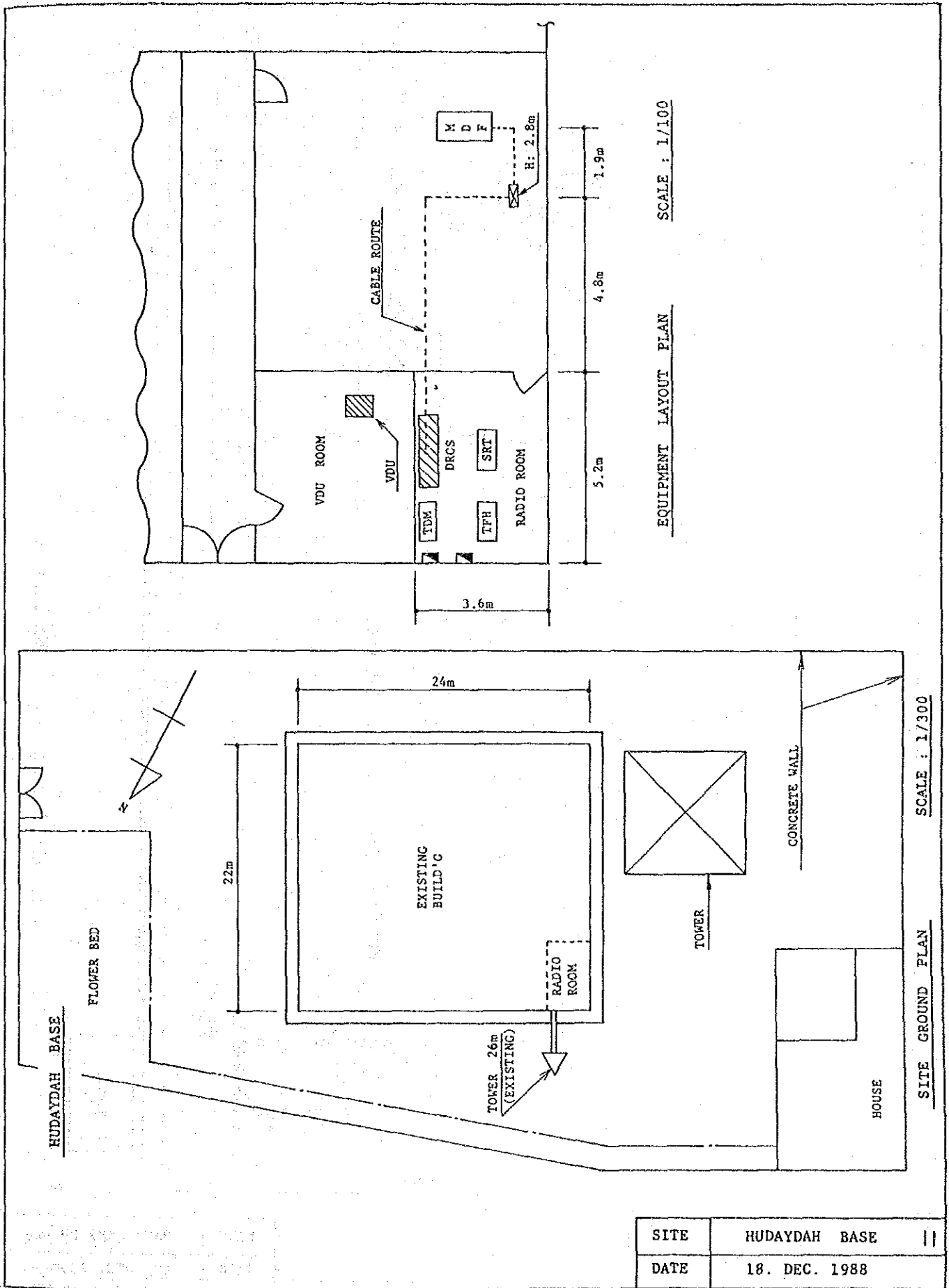


SITE GROUND PLAN SCALE : 1/200



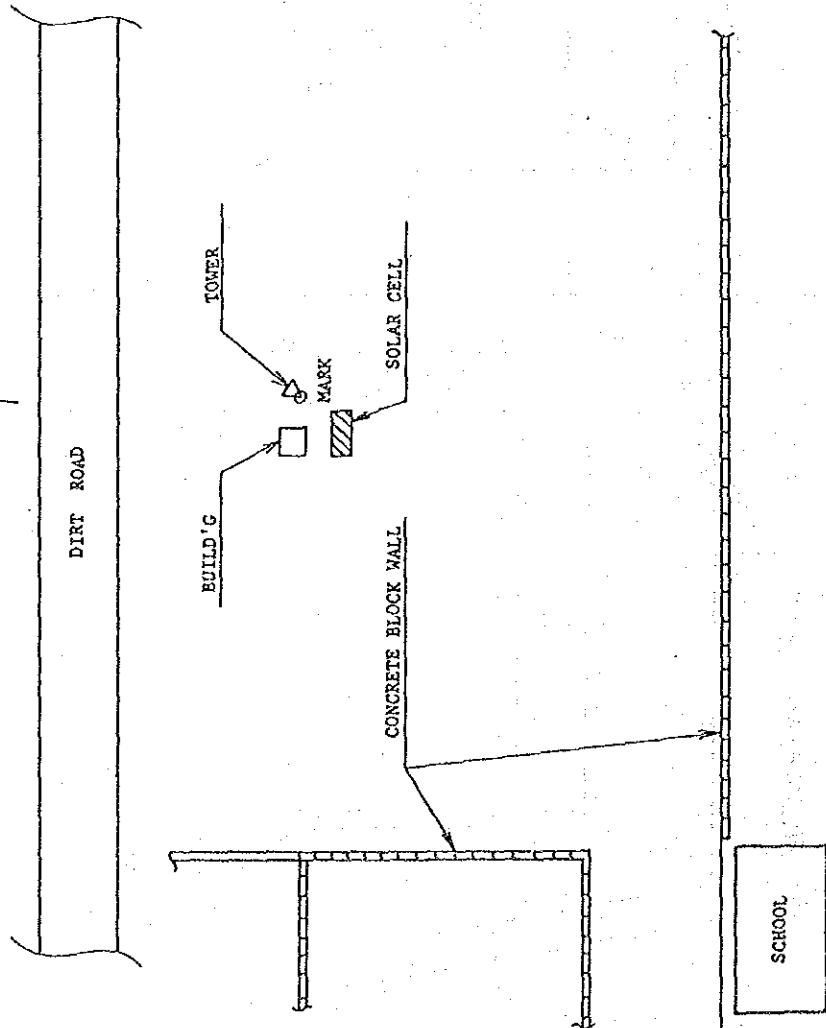
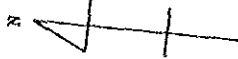
EQUIPMENT LAYOUT PLAN SCALE : 1/100

SITE	BAYT ASH SHAML REP. 10
DATE	18. DEC. 1988



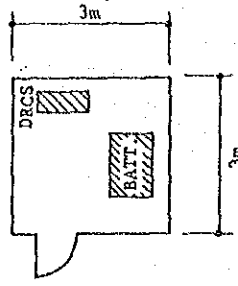
SITE	HUDAYDAH BASE	
DATE	18. DEC. 1988	

DAYR AKHRASH REP.



SITE GROUND PLAN

SCALE : 1/600

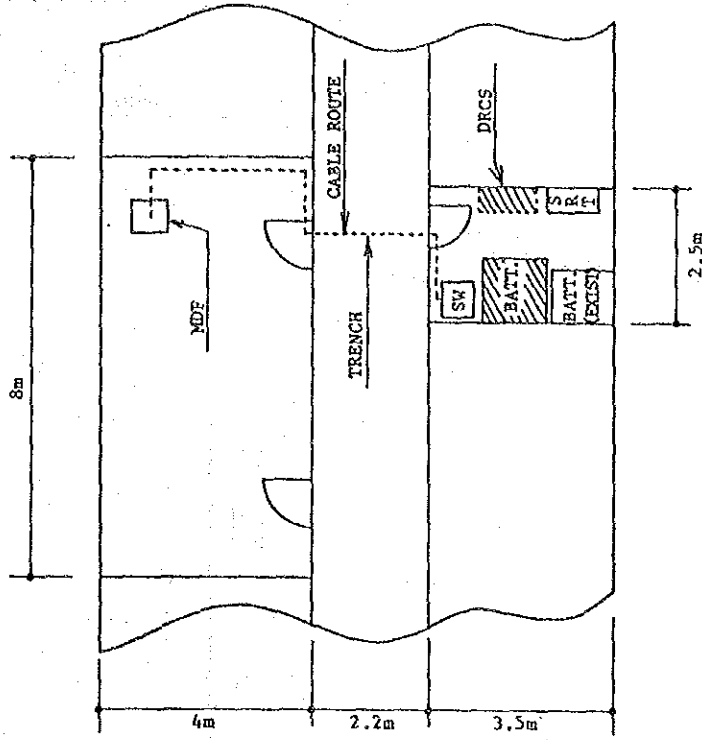
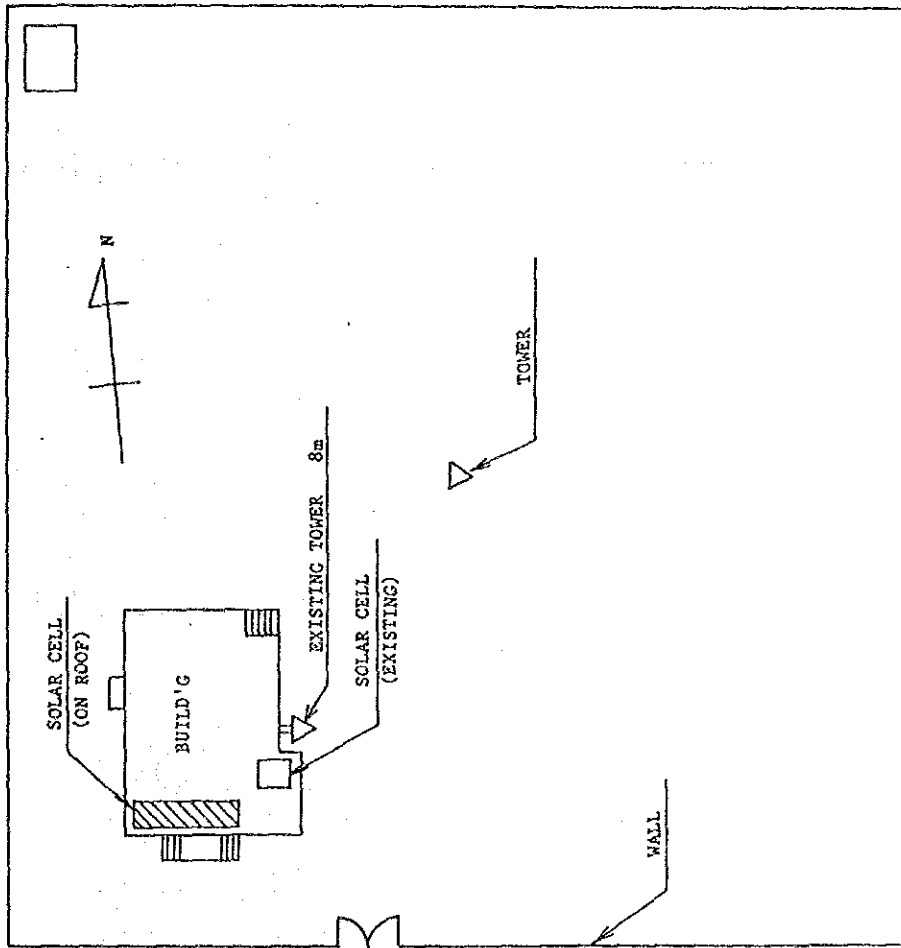


EQUIPMENT LAYOUT PLAN

SCALE : 1/100

SITE	DAYR AKHRASH REP. 12
DATE	18. DEC. 1988

AZ ZAYDIYAH REP.



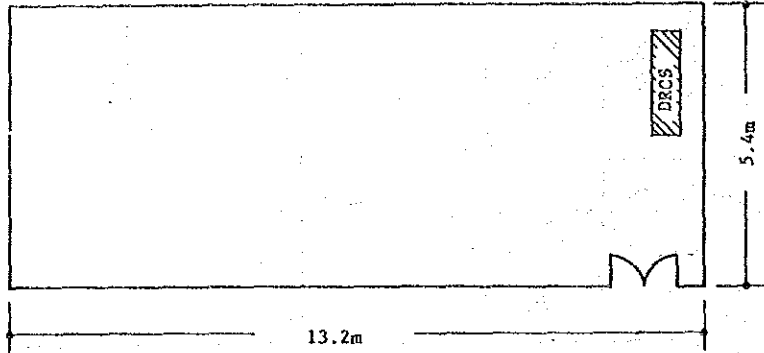
EQUIPMENT LAYOUT PLAN SCALE : 1/100

SITE GROUND PLAN SCALE : 1/400

SITE GROUND PLAN

SITE	AZ ZAYDIYAH REP.	13
DATE	18. DEC. 1988	

IBB BASE

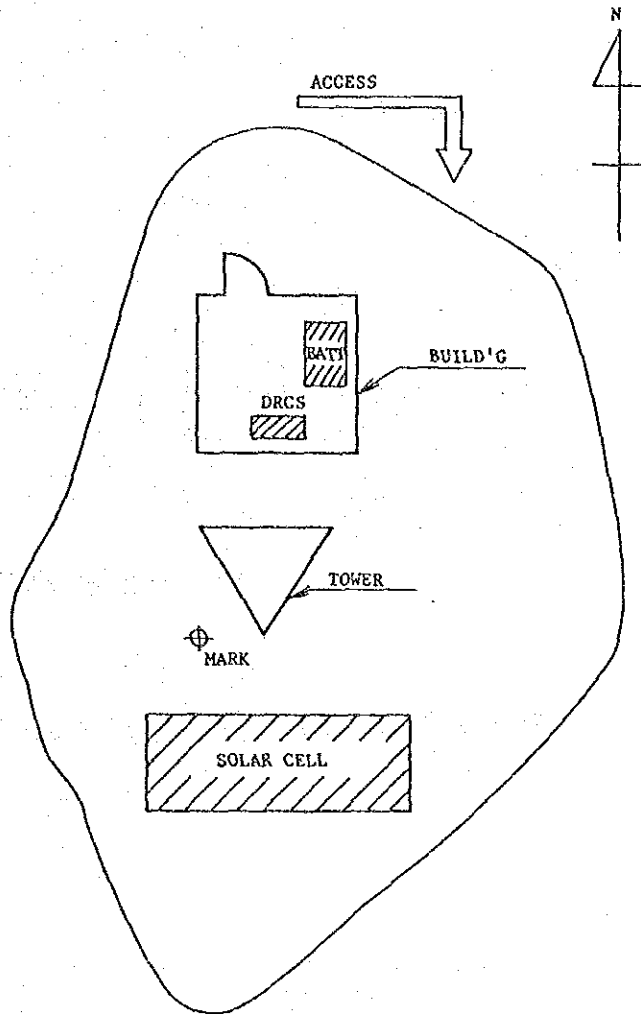


EQUIPMENT LAYOUT PLAN

SCALE : 1/100

SITE	IBB BASE	14
DATE	18. DEC. 1988	

MASHWARAH REP.

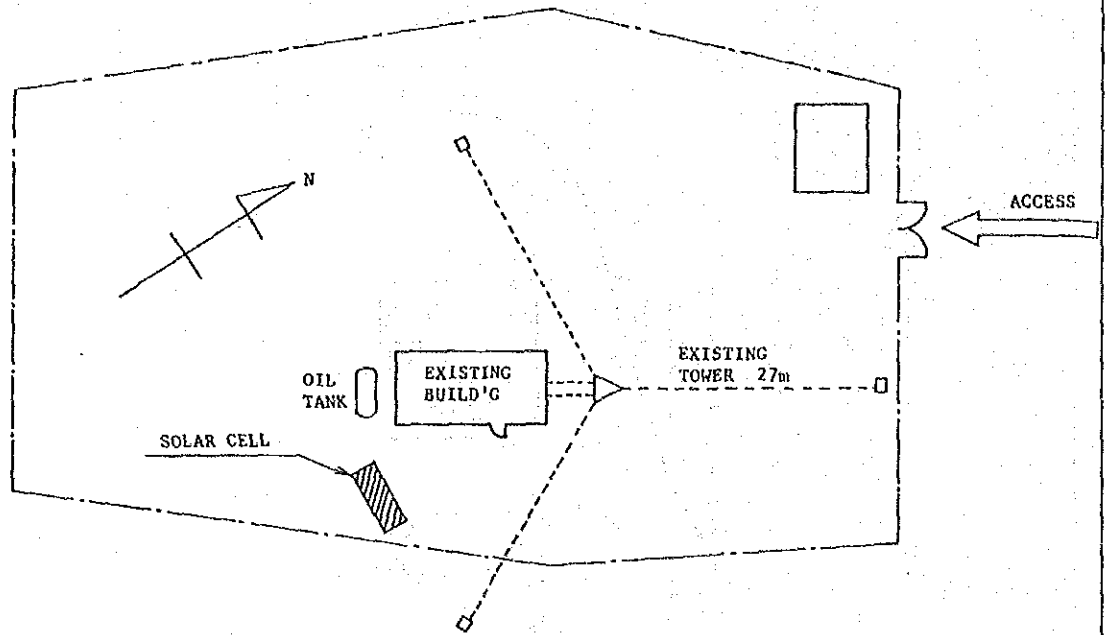


SITE GROUND PLAN AND EQUIPMENT PLAN

SCALE : 1/100

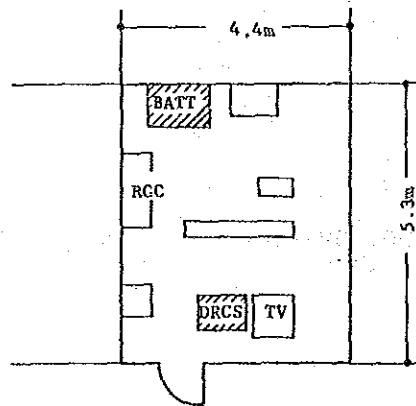
SITE	MASHWARAH REP.	15
DATE	10. DEC. 1988	

J. SUMARAH REP.



SITE GROUND PLAN

SCALE : 1/400

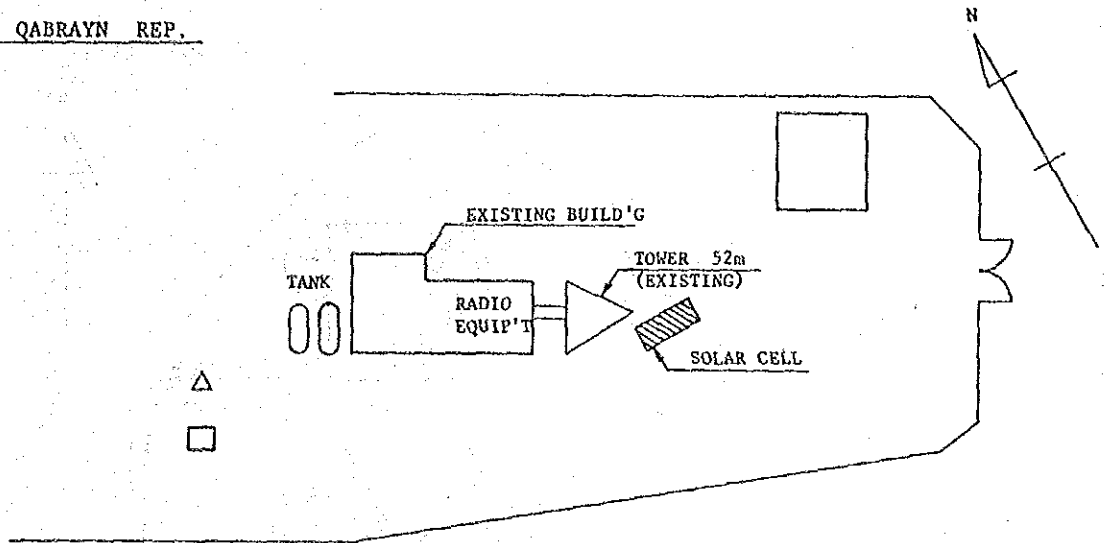


EQUIPMENT LAYOUT PLAN

SCALE 1/100

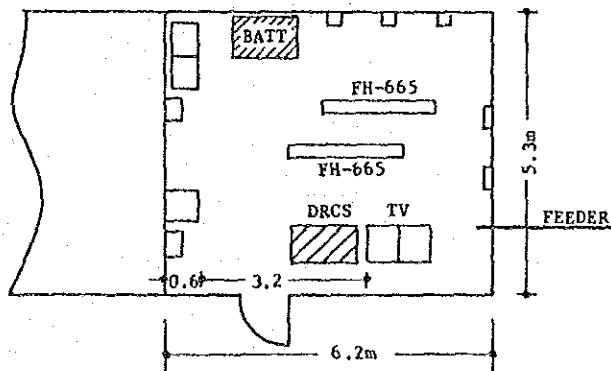
SITE	J. SUMARAH REP.	16
DATE	18. DEC. 1988	

J. AL QABRAYN REP.



SITE GROUND PLAN

SCALE : 1/400

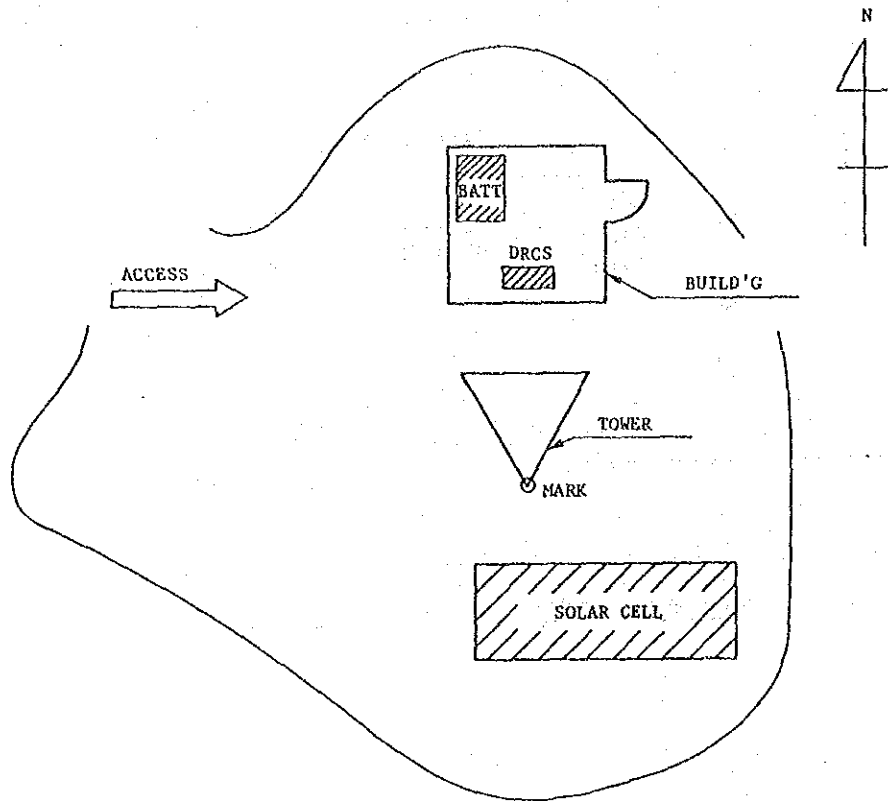


EQUIPMENT LAYOUT PLAN

SCALE : 1/100

SITE	J. AL QABRAYN REP. 17
DATE	18. DEC. 1988

J. SAID REP.

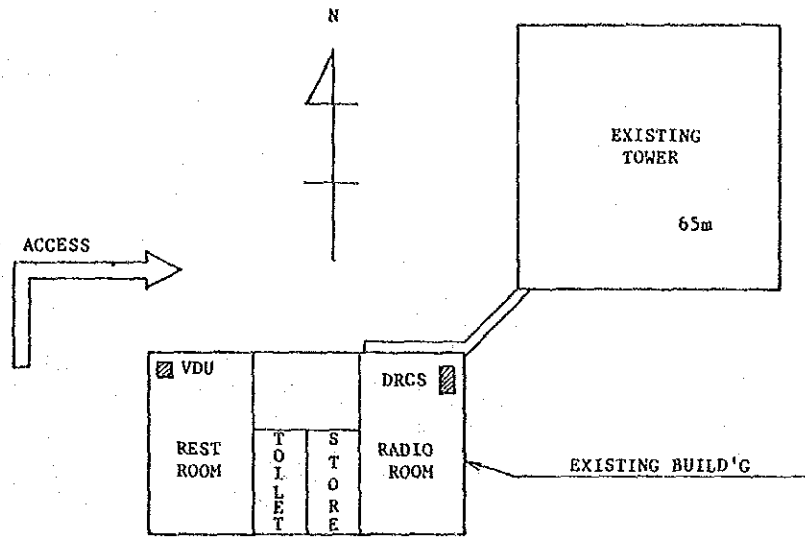


SITE GROUND PLAN AND EQUIPMENT LAYOUT PLAN

SCALE : 1/100

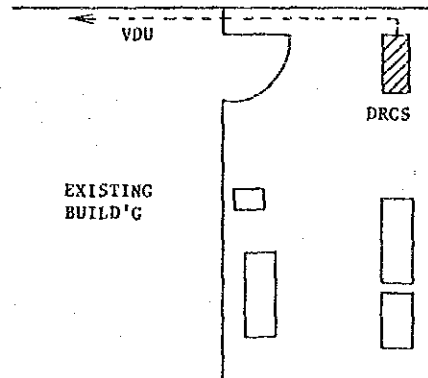
SITE	J. SAID REP.	18
DATE	18, DEC.	1988

TAIZZ BASE



SITE GROUND PLAN

SCALE : 1/200

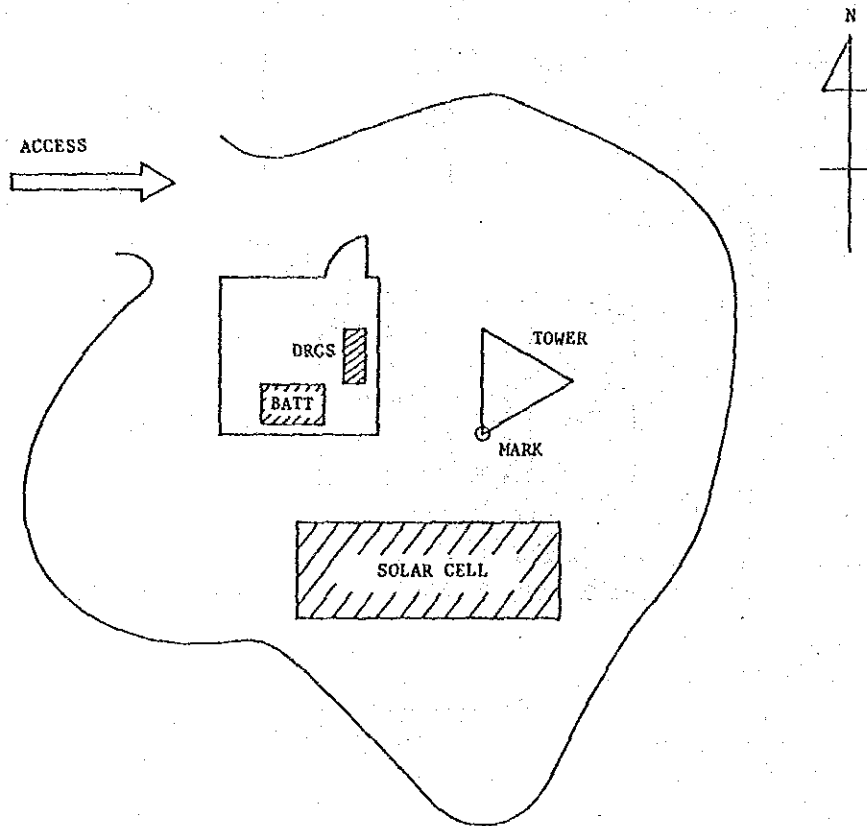


EQUIPMENT LAYOUT PLAN

SCALE : 1/100

SITE	TAIZZ BASE	19
DATE	18. DEC. 1988	

H. OMAIMAH REP.

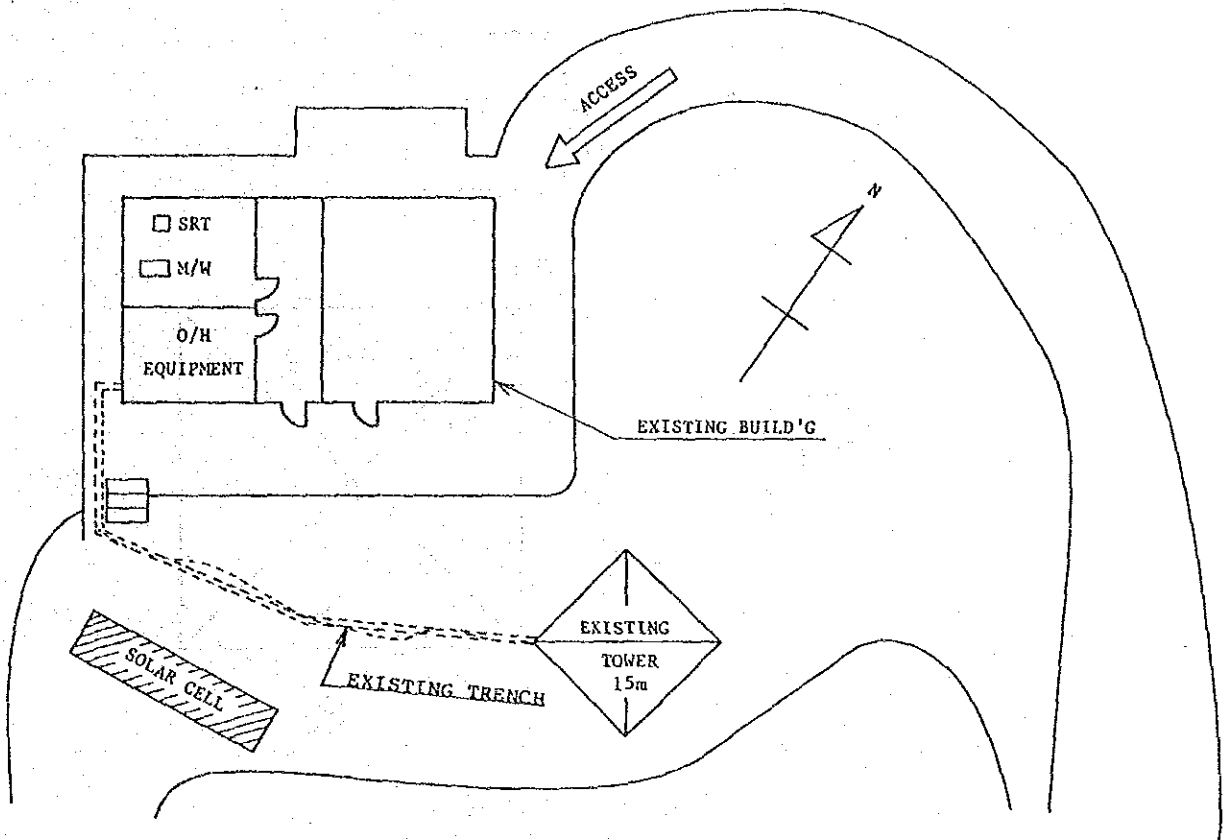


SITE GROUND PLAN AND EQUIPMENT LAYOUT PLANS

SCALE : 1/100

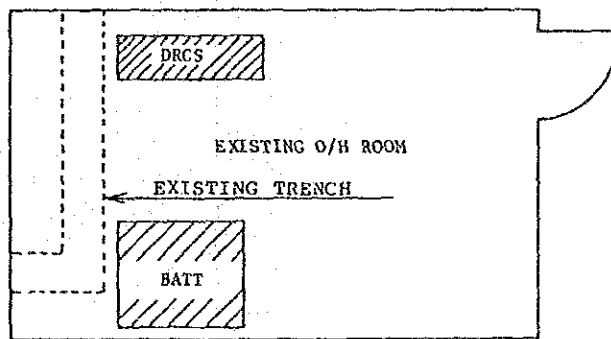
SITE	H. OMAIMAH REP.	20
DATE	18. DEC. 1988	

ARUS (O/H) REP.



SITE GROUND PLAN

SCALE : 1/200

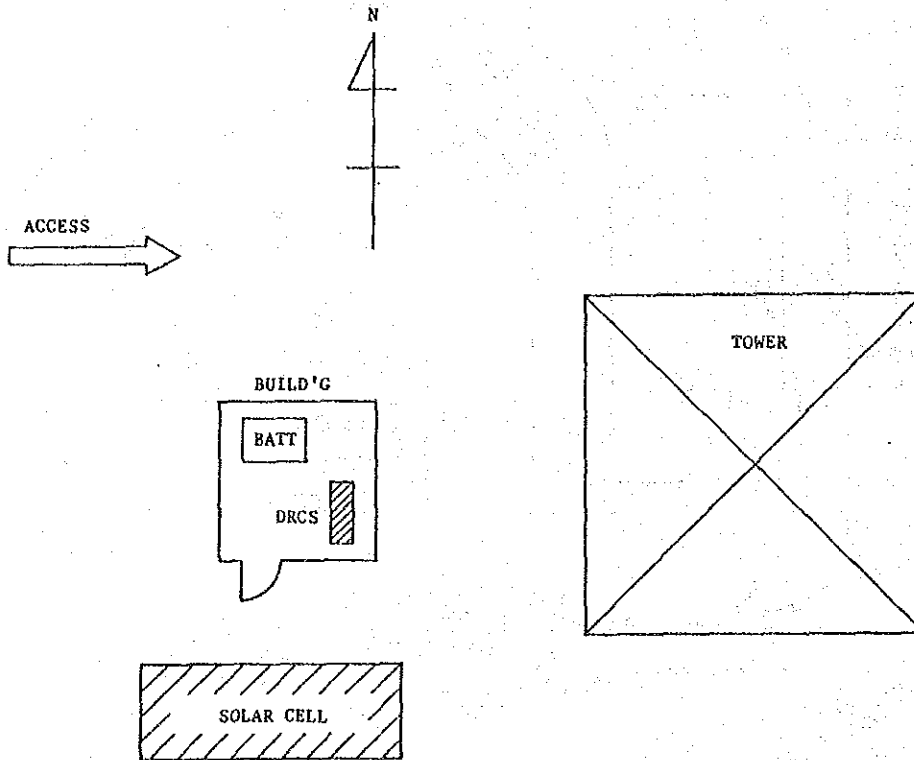


EQUIPMENT LAYOUT PLAN

SCALE : 1/50

SITE	ARUS (O/H) REP. 21
DATE	18. DEC. 1988

J. HABASHI REP.

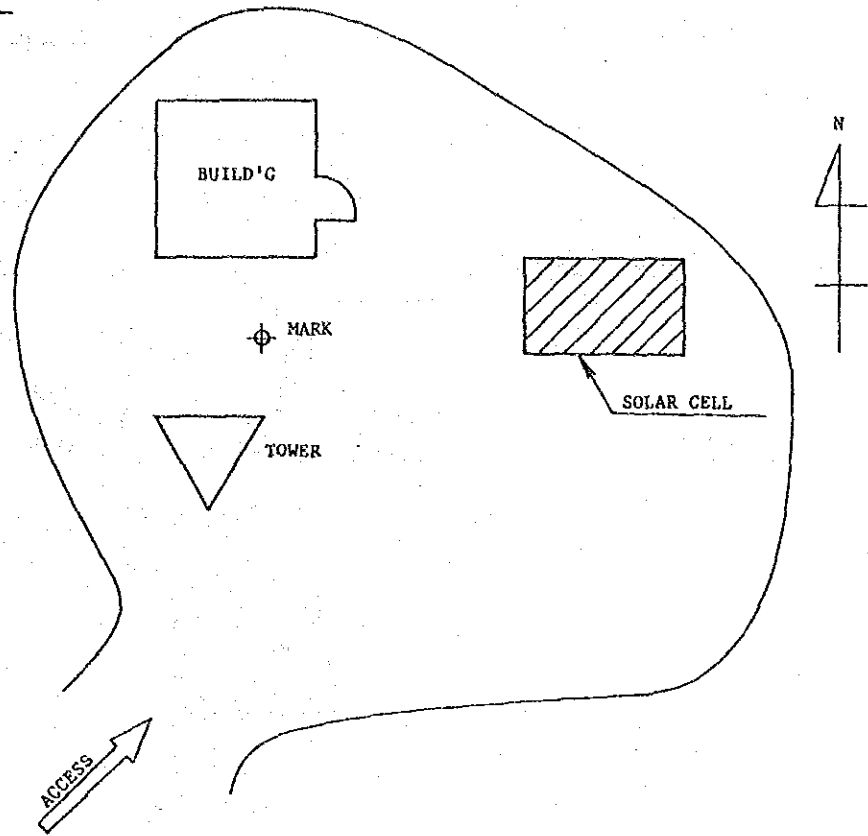


SITE GROUND PLAN AND EQUIPMENT LAYOUT PLAN

SCALE : 1/100

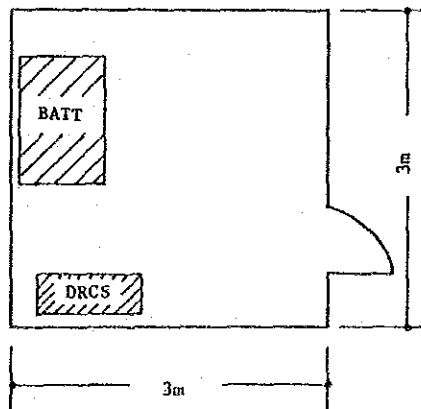
SITE	J. HABASHI REP.	22
DATE	18. DEC. 1988	

H. AN HANAN REP.



SITE GROUND PLAN

SCALE : 1/100

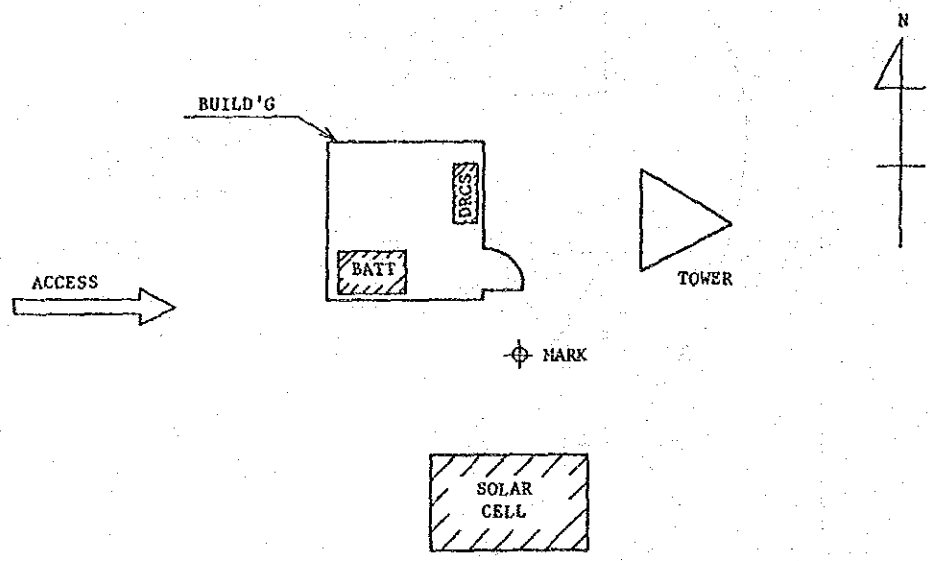


EQUIPMENT LAYOUT PLAN

SCALE : 1/50

SITE	H. AN HANAN REP. 23
DATE	18. DEC. 1988

J. AN NAR REP.

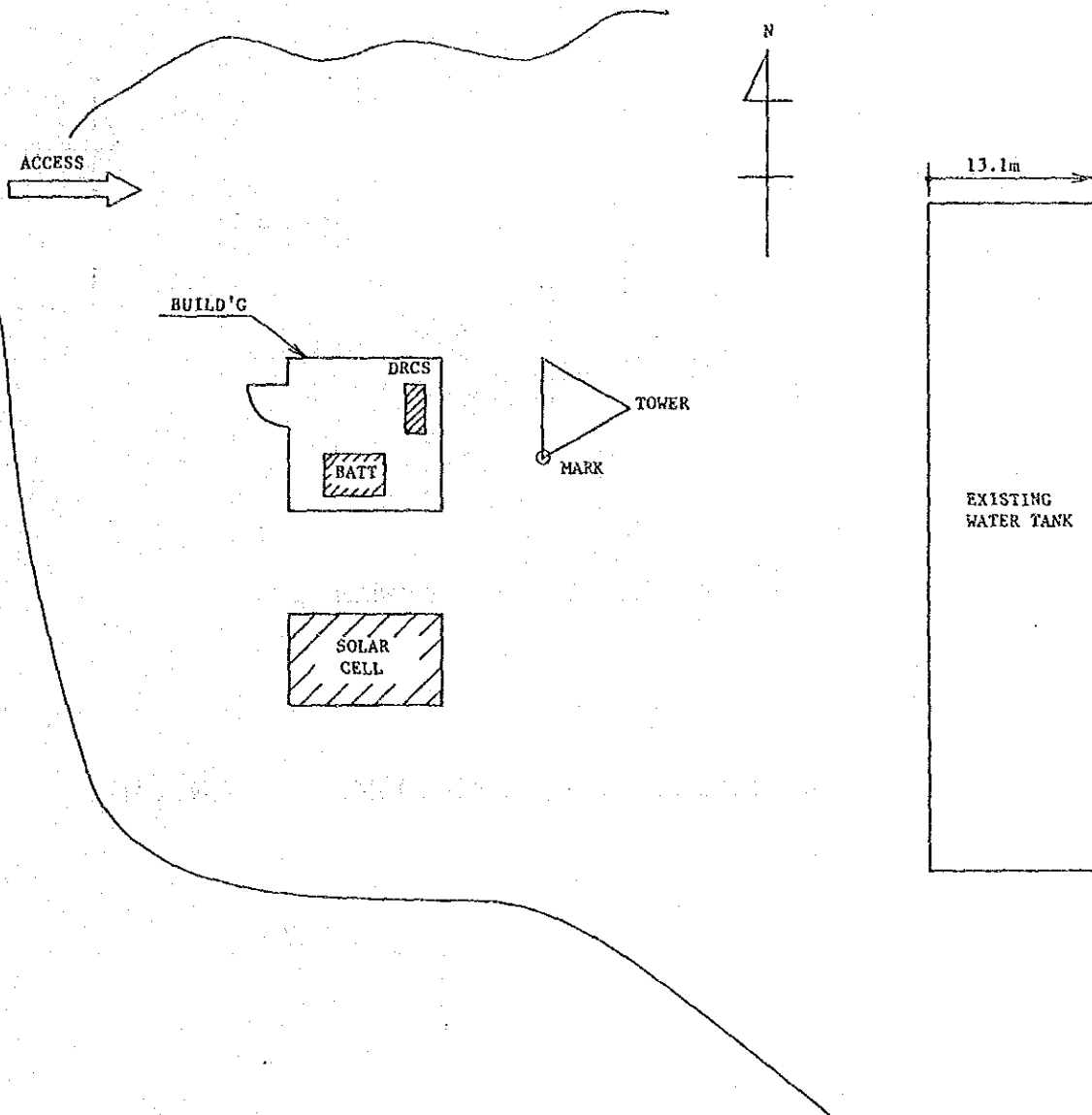


SITE GROUND PLAN AND EQUIPMENT LAYOUT PLAN

SCALE : 1/100

SITE	J. AN NAR REP.	24
DATE	18. DEC. 1988	

J. AL UMARI REP.

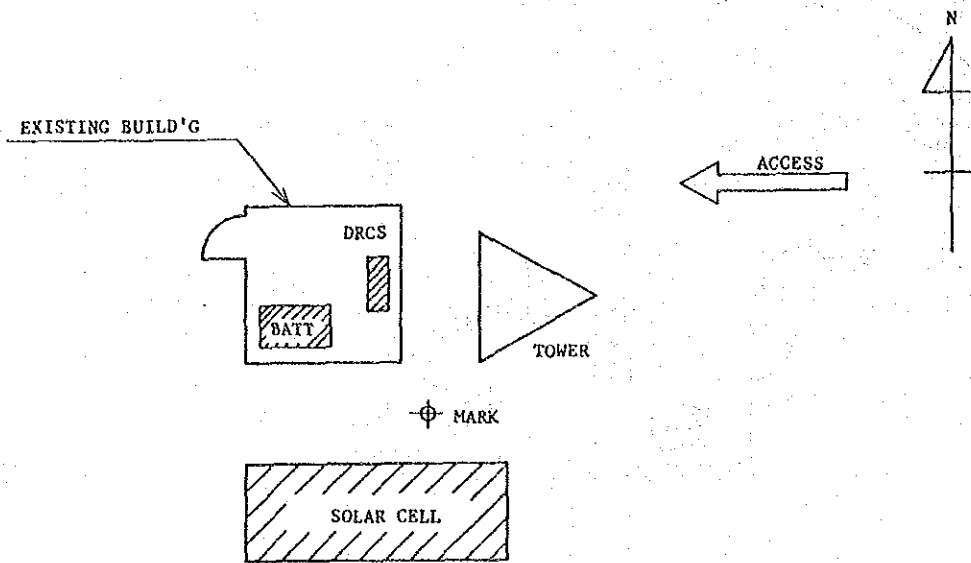


SITE GROUND PLAN AND EQUIPMENT LAYOUT PLAN

SCALE : 1/100

SITE	J. AL UMARI REP. 25
DATE	18. DEC. 1988

ARID REP.

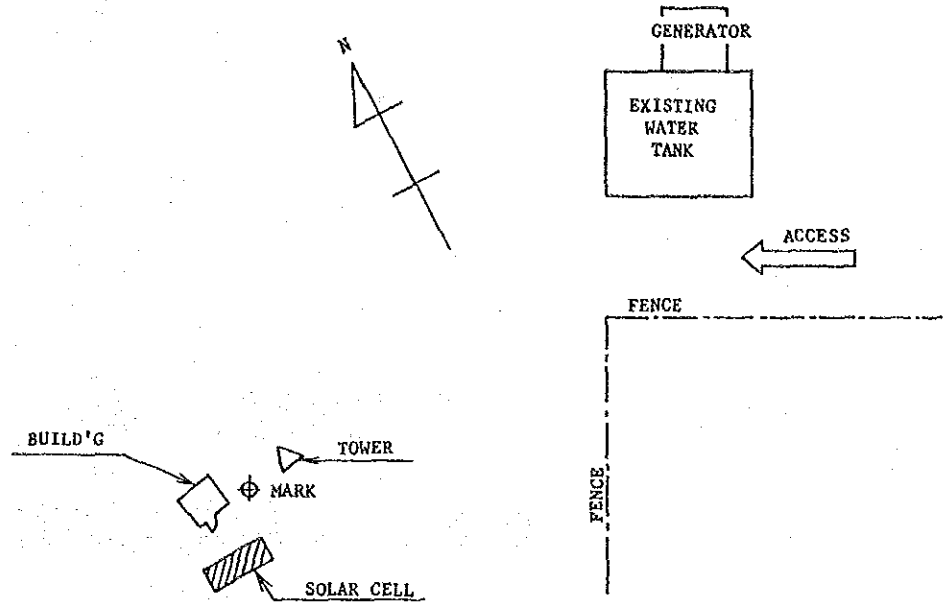


SITE GROUND PLAN AND EQUIPMENT LAYOUT PLAN

SCALE : 1/100

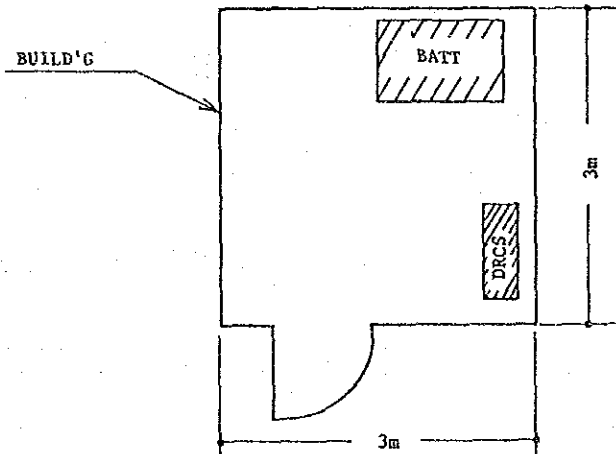
SITE	ARID REP.	26
DATE	18. DEC. 1988	

J. SABARAN REP.



SITE GROUND PLAN

SCALE : 1/400



EQUIPMENT LAYOUT PLAN

SCALE : 1/50

SITE	J. SABARAN REP. 27
DATE	18. DEC. 1988

基本設計図 7

施設負担概要一覧表

凡 例

- ※ : 既設機器使用
- : 北イエメン側負担分
- 1 or 2 : 日本側負担機器数
- A. r. : 北イエメン側負担分で必要な範囲

Scope of Provision (Base, Repeater Station) — |

Site Name	Land	Access	Building	Switch	Base Unit	Repeater Unit	Drop Out Unit	D.C Power	Solar Power	Tower
SANA'A BS.	*		*	*	1			*		*
J. DAYN	*		*			1		*	1	*
J. IYAL YAZID	0	0	0			1			1	0
J. AYBAN	*		*			1		*	1	*
J. QUYFAN	*	*	*			1			1	*
MASAR	*		*			1	1	*	1	*
J. HARWAH	0	0	0			1	1		1	0
J. KANAN	0	0	0			1			1	0
DHAMAR BS.	*		*	*	1			*		*
J. YASLAH	*		*			1		*	1	*
J. AL MODB-A'AH	0	0	0			1	1		1	0
ABU ATIF	0	0	0			1	1		1	0
J. MANARA	*		*			1	1		1	*
AD DANN	0	0	0			1	1		1	0
J. AL LISI	*		*			1		*	1	*
AL HIJRAH	0	0	0			1	1		1	0
BAYT ASH SHAMI	0	0	0			1	1		1	0
HUDAYDAH BS.	*		*	*	1			*		0
DAYR KHALIL	0	0	0			1			1	0
AL KAIB	0	0	0			1			1	0
AZ ZAYDIYAH	*		*			1	1		1	0
DAYR AKHRASH	0		0			1	1		1	0
AL ABBASI	0	0	0			1	1		1	0
TAIZZ BS.	*		*	*	1			*		*
ARUS(O/H)	*		*			1	1	*	1	*
H. OMAIMAH	0	0	0			1	1		1	0
J. HABASHI	0	0	0			1	1		1	0
ARID	0	0	0			1	1		1	0
J. SABARAN	0	0	0			1	1		1	0
H. AN HANAN	0	0	0			1			1	0
J. AN NAR	0	0	0			1			1	0
J. AL UMARI	0	0	0			1			1	0
IBB BS.	*		*	*	1			*		*
J. AL QABRAYN	*		*			1	1	*	1	*
J. SAID	0	0	0			1	1		1	0
MASHWARAH	0	0	0			1	1		1	0
J. SUMARAH	*		*			1	1	*	1	*

Scope of Provision (Subscriber Station) — 3

Site Name	Land	Access	Building	Subscriber Unit	Drop-out Sub.line	Entrance Cable	Drop Wire	Telephone Set
DHAMAR BS.								
J.YASLAN REP.								
AITHAYN	0	A.r.	0	1	5	A.r.	0	0
ASAM	0	A.r.	0	1	5	A.r.	0	0
AL MADARAH	0	A.r.	0	1	5	A.r.	0	0
J.AL MODBA'AH REP.								
ABU ATIF REP.								
BAYHAN	0	A.r.	0	1	5	A.r.	0	0
J.MANARA REP.								
AHLAL	0	A.r.	0	1	5	A.r.	0	0
AL HARF	0	A.r.	0	1	5	A.r.	0	0
HIJRAT ADH DHARI	0	A.r.	0	1	5	A.r.	0	0
BANI MUWALLAD	0	A.r.	0	1	5	A.r.	0	0
AD DANN REP.								
BANI AS SAMHI	0	A.r.	0	1	5	A.r.	0	0
BANI MUSLIM	0	A.r.	0	1	5	A.r.	0	0
BANI ALI	0	A.r.	0	1	5	A.r.	0	0
ATH THULUTH	0	A.r.	0	1	5	A.r.	0	0
J.AL LISI REP.								
AD DARAH	0	A.r.	0	1	5	A.r.	0	0
ABASIR	0	A.r.	0	1	5	A.r.	0	0
ASH SHAQIB	0	A.r.	0	1	5	A.r.	0	0
AMID	0	A.r.	0	1	5	A.r.	0	0
AS SANAM	0	A.r.	0	1	5	A.r.	0	0
SANAH	0	A.r.	0	1	5	A.r.	0	0
AL HIJRAH REP.								
AL MUGHADIYAH	0	A.r.	0	1	5	A.r.	0	0
BYT ASH SHAMI REP.								
ARAM	0	A.r.	0	1	5	A.r.	0	0

Scope of Provision (Subscriber Station) - 6

TAIZZ

Site Name	Land	Access	Building	Subscriber Unit	Drop-out Sub.line	Entrance Cable	Drop Wire	Telephone Set
TAIZZ BS.								
ARUS O/H REP.								
HADNAN	0	A.r.	0	1	5	A.r.	0	0
AL HUSAYN	0	A.r.	0	1	5	A.r.	0	0
AL AMAKIR	0	A.r.	0	1	5	A.r.	0	0
AL AMAQI	0	A.r.	0	1	5	A.r.	0	0
QARAMAH	0	A.r.	0	1	5	A.r.	0	0
AS SAMKAR	0	A.r.	0	1	5	A.r.	0	0
AZ ZAHRAH	0	A.r.	0	1	5	A.r.	0	0
ARABAH	0	A.r.	0	1	5	A.r.	0	0
H.OMAIMAH REP.								
BAYT JARANI	0	A.r.	0	1	5	A.r.	0	0
QARYAT JARANI	0	A.r.	0	1	5	A.r.	0	0
J.HABASHI REP.								
ARID REP.								
YUFRUS	0	A.r.	0	1	5	A.r.	0	0
AL MUDAYHIS	0	A.r.	0	1	5	A.r.	0	0
J.SABARAN REP.								
ASH SHARAF	0	A.r.	0	1	5	A.r.	0	0
HAYFAN	0	A.r.	0	1	5	A.r.	0	0
SHAWHAT	0	A.r.	0	1	5	A.r.	0	0
H.AN HANAN REP.								
J.AN NAR REP.								
J.WADI BISYAN	0	A.r.	0	1	5	A.r.	0	0
YAKHTUL	0	A.r.	0	1	5	A.r.	0	0
ATH THAWBANI	0	A.r.	0	1	5	A.r.	0	0
J.AL UMARI REP.								
DHUBAB	0	A.r.	0	1	5	A.r.	0	0
BAB AL MANDAB	0	A.r.	0	1	5	A.r.	0	0

基本設計図 8

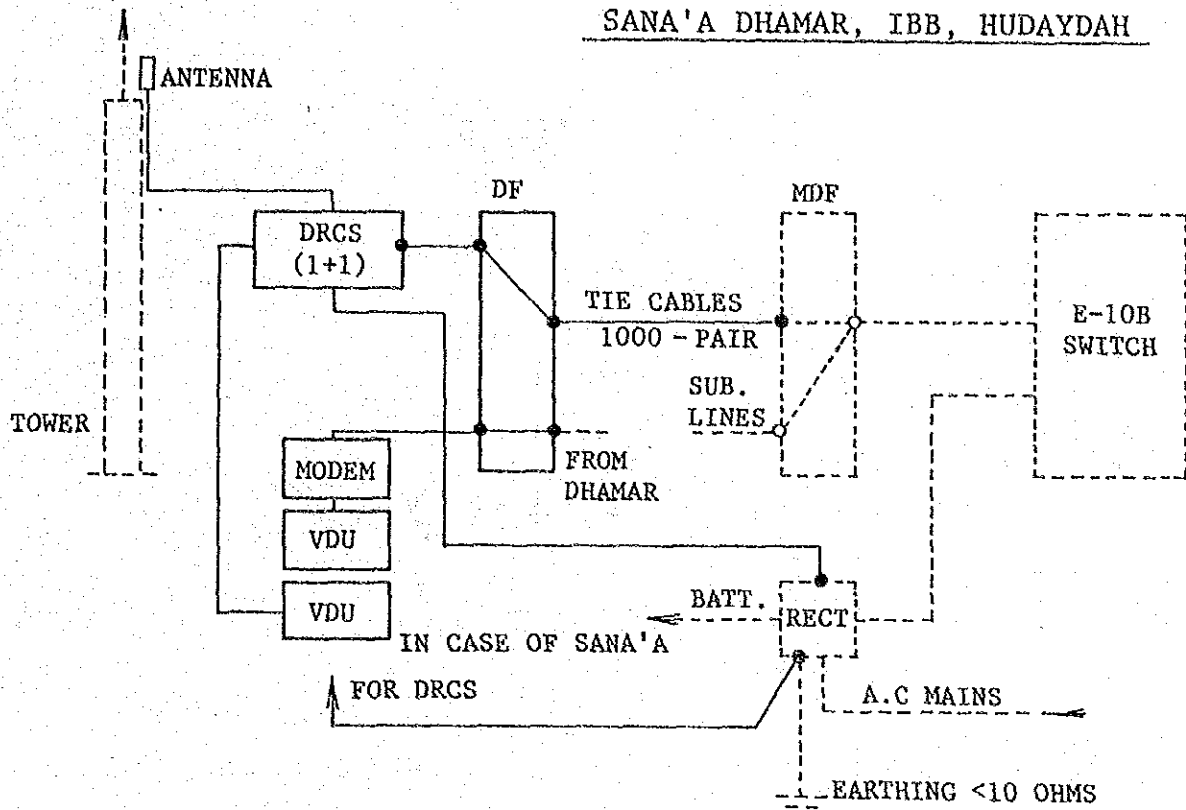
施設負担の分界

凡 例

- : 端子 (北イエメン側負担分)
- : 端子 (日本側負担分)
- : 施設 (北イエメン側負担分)
- : 施設 (日本側負担分)

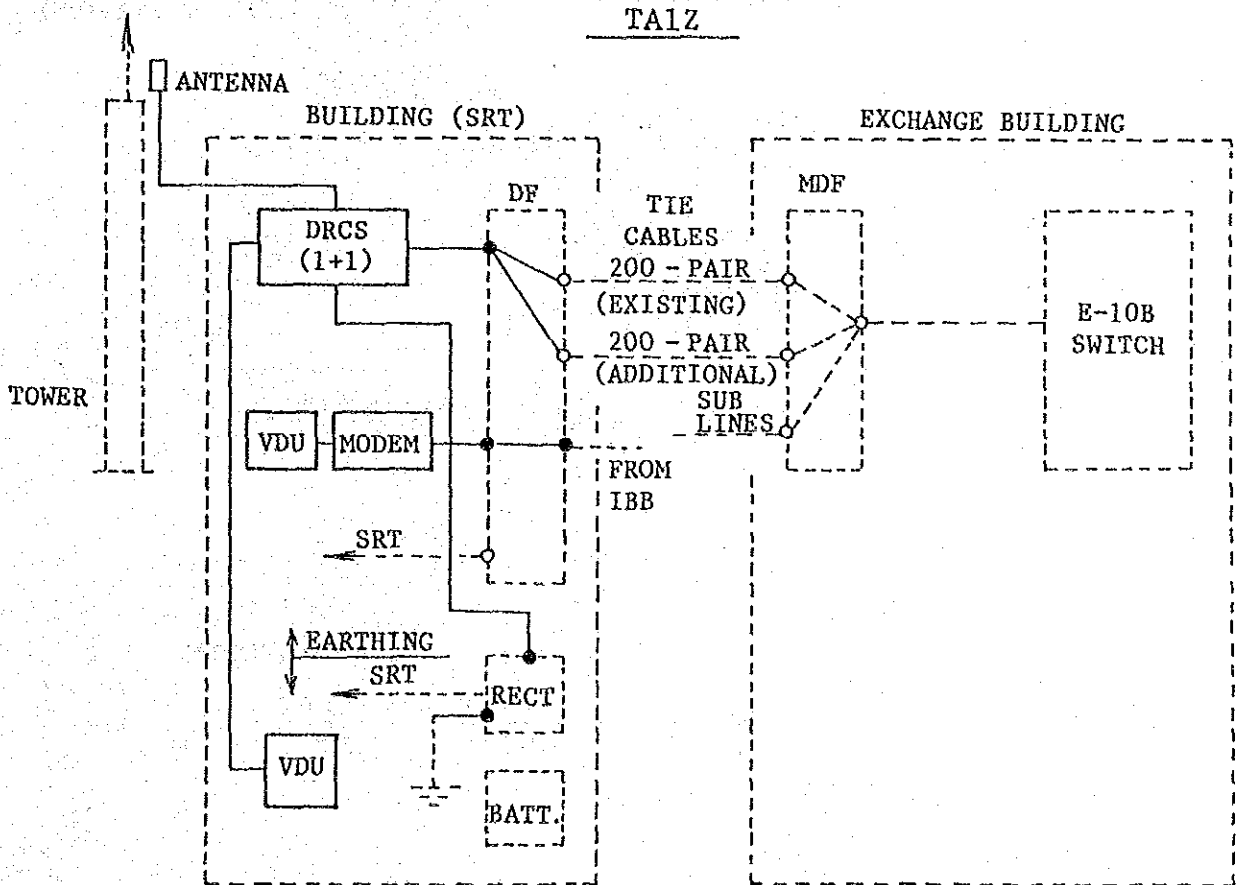
LIGHTNING ARRESTER

SANA'A DHAMAR, IBB, HUDAYDAH



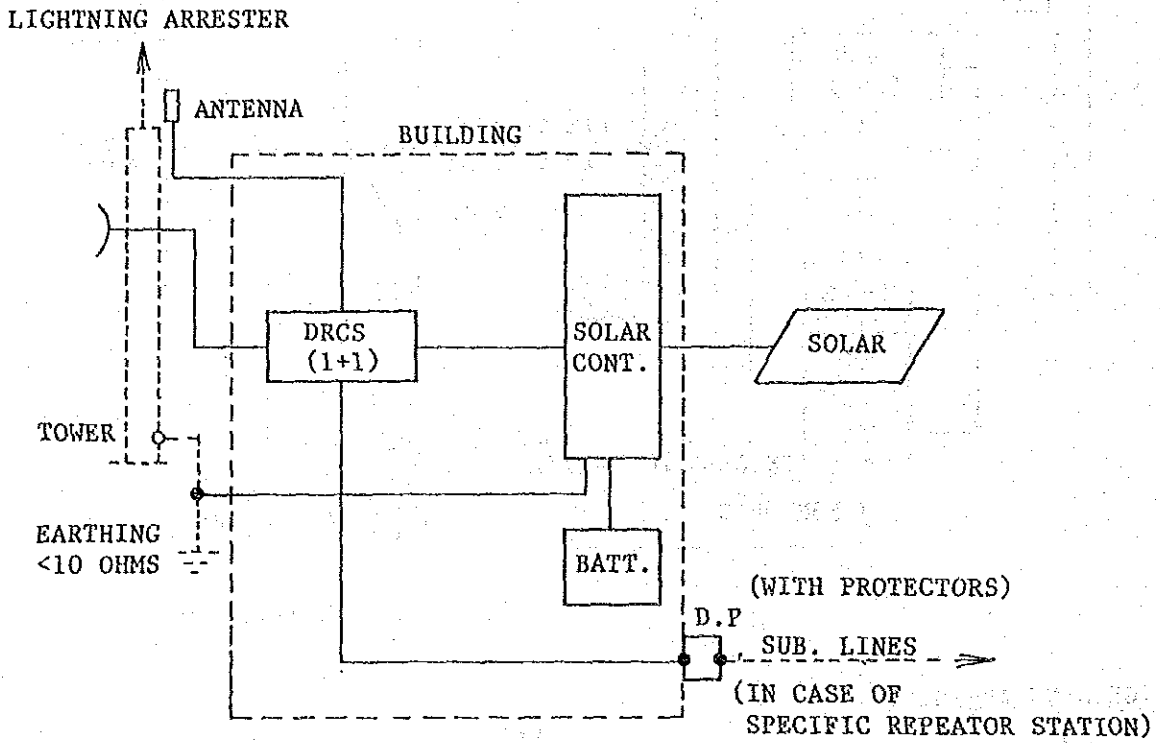
LIGHTNING ARRESTER

TA1Z

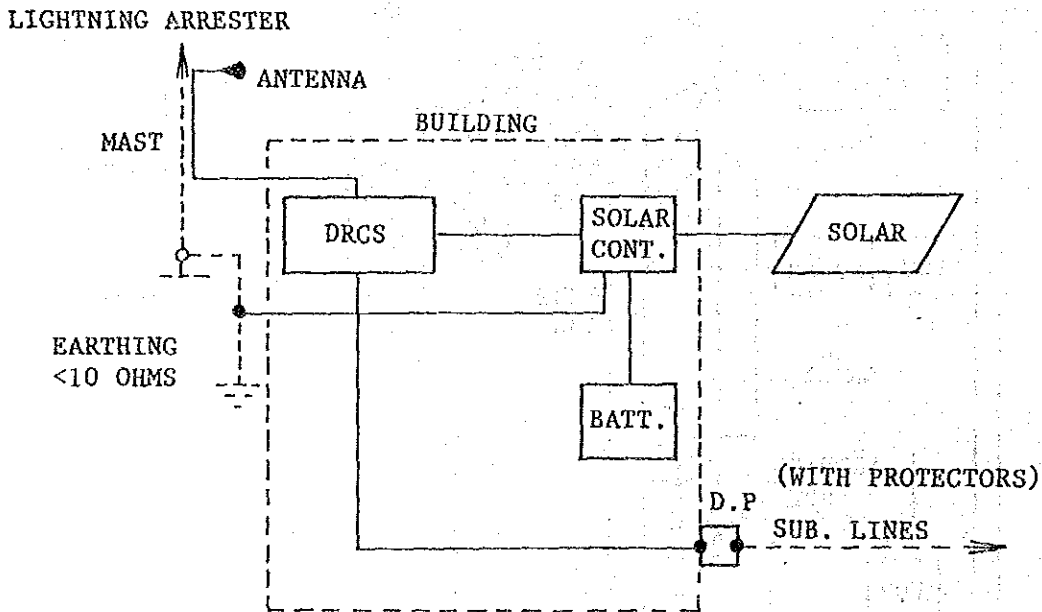


SCOPE OF PROVISION - 1

NEW REPEATER STATIONS



SUBSCRIBER STATIONS



SCOPE OF PROVISION - 2

付 属 資 料 1

- 付属資料1-1 協議議事録 (Minutes of Discussions) 昭和63年12月
- 付属資料1-2 協議議事録 (Minutes of Discussions) 平成元年3月
- 付属資料1-3 現地調査団の構成
- 付属資料1-4 面会者リスト
- 付属資料1-5 現地調査日程
- 付属資料1-6 収集資料リスト

MINUTES OF DISCUSSIONS
ON
THE RURAL TELECOMMUNICATION NETWORK EXPANSION PROJECT
IN
YEMEN ARAB REPUBLIC

In response to the request of the Government of Yemen Arab Republic, The Government of Japan decided to conduct a Basic Design Study (hereinafter referred to as "the Study") on the Rural Telecommunication Network Expansion Project (hereinafter referred to as "the Project") and entrusted the Study to the Japan International Cooperation Agency (JICA). JICA sent the Study Team headed by Mr. Akira Okura, Senior Official of International Cooperation Division, Communications Policy Bureau, Ministry of Posts & Telecommunications to Yemen Arab Republic from 26th November to 6th December, 1988.

The Study Team had a series of discussions on the Project with the officials concerned with the Government of Yemen Arab Republic headed by Mr. Mohamed Al-Kassous, Deputy Director General of Public Telecommunication Corporation.

As a result of the discussion, both parties agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined towards the realization of the Project.

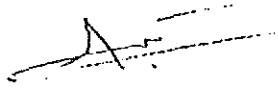
Sana'a 6th December, 1988

大蔵 啓

Akira Okura
Leader,
Basic Design Study Team
JICA



Mohamed Al-Kassous
Deputy Director General
Public Telecommunication
Corporation
Yemen Arab Republic.



1. The objective of the Project is to improve the present conditions of rural telecommunications services in the rural areas and to support consequently the social and economic development as well as promotion of social welfare for the people and stabilization of their lives.
2. As a result of discussions between the Study Team and the Public Telecommunication Corporation, Yemen Arab Republic (hereinafter referred to as "PTC") in relation to the necessity and appropriateness of providing the telephone services for the one hundred villages proposed initially by the Government of Yemen Arab Republic, eighty-two villages out of them have been finally selected to be studied by the Study Team.

PTC requested the Study Team to include newly selected eighteen villages in the Study in view of the rapid circumstantial changes in the rural areas on the condition that the number of villages to be studied remains one hundred. The study of those eighteen villages will be conducted by the Team within the limits of technical possibility.

The villages listed in ANNEX I have been confirmed as final by PTC. The villages are located at strategically important places with regard to the social and economic aspects.

The provision of the telephone facilities for those villages will contribute to the development of the areas concerned as well as catering to administrative requirements.

3. Priority of the introduction of rural telephone network for each governorate will be given as per following order:

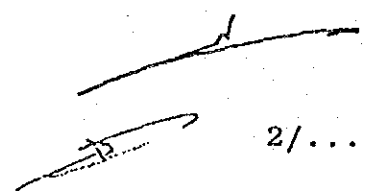
(1) Sana'a (2) Dhamar (3) Hudaydah (4) Taiz (5) Ibb

4. The Project consists of the following components:

(1) Installation of Digital Radio Concentration System (DRCS) to serve all the subscribers consisting of;

- 1) DRCS facilities including power supply and aerial facilities at base stations, repeater stations and subscriber stations respectively.

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- 2) Aerial supporting structures required (towers and masts) at the stations;
- 3) Voice Frequency (VF) cables between subscriber stations and distribution points at the villages, and
- 4) Drop wires, internal wires in subscribers' premises and telephone sets.

(2) Construction of supporting facilities necessary for the DRCS installation consisting of;

- 1) Securing of land for the sites and the ground development,
- 2) Provision of access to the sites, and
- 3) Buildings.

(3) Provision for necessary facilities including equipment for operation and maintenance required for the DRCS network consisting of;

- 1) Tools and test equipment required for normal maintenance work,
- 2) Spares, and
- 3) One set of DRCS network facilities with testing equipment for repairing of the supplied DRCS equipment.

5. The Government of Yemen Arab Republic will take necessary measures listed in ANNEX II on conditions that the Grant Aid would be extended to the Project.

6. The Public Telecommunication Corporation is responsible for the administration and execution of the Project.

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7. The Study Team will convey to the Government of Japan the desire of the Government of Yemen Arab Republic that the former takes necessary measures to cooperate by providing the items listed in ANNEX III within the scope of Japanese Economic Co-operation Programme in Grant form.

8. The Government of Yemen Arab Republic has understood the Japan's Grant Aid System explained by the Study Team which includes a principle of use of Japanese consultant firm and Japanese contractor for the implementation.

9. The Government of Yemen Arab Republic desired to be provided with training course for operation and maintenance of the DRCS in Japan under the Japanese Technical Cooperation Programme.

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ANNEX I

NAME OF VILLAGE

Sana'a

Dhamar

<u>Station No.</u>	<u>Name of Village</u>	<u>Station No.</u>	<u>Name of Village</u>
1.	Sayyan	1.	Amid
2.	Bayt Hadir	2.	Ash Shaqib
3.	Al-Marbak	3.	A Drah
4.	Jihanah	4.	Abasir
* 5.	Ghayman	* 5.	Bani Muwallad
* 6.	Al-Kibs	6.	Bayhan
7.	Shaban	7.	Al Mughadiyah
* 8.	Al Khadarah	* 8.	Ath Thalooth
9.	Khalaqah	9.	Hijrat Adh Dhari
(K) *10.	Bani Athman Al Hawri	10.	Aishayn
*11.	Zala	*11.	Bani Ali
*12.	Markaz Bilad Attaam	12.	Ahlal
(K) 13.	Bani Athman Bani Maymun	*13.	Bani Mosleem
14.	Haz	14.	Al Harf
15.	Al Munagqab	15.	Assan
16.	Ar Rawnah	16.	Madarah
*17.	Kusma	17.	As Sanam
18.	Ghadran (Bayt Athran)	18.	Sanah
19.	Thila	19.	Aram
*20.	Al Khamis	*20.	Samh

Note: New villages are indicated with asterisk

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IbbTaiz

<u>Station No.</u>	<u>Name of Village</u>	<u>Station No.</u>	<u>Name of Village</u>
1.	Al Hamami	1.	Al Amakir
2.	Qaryat As Sanahi	2.	Al Husayn
3.	Al Waqash	3.	Qaramah
4.	Mabar	4.	Al Amaqi
5.	Al Mabar	5.	Arabah
6.	Ar Rabai	6.	As Samker
7.	Al Jahasi	7.	Hadnan
8.	Akamat As Safani	8.	Al Mudayhish
9.	Ad Duhra	9.	Shawhat
10.	Al Udayn	10.	Yufrus
11.	Al Marakit	11.	Qaryat Jarani
12.	Dhi Sarif	12.	Bayt Ubaydan
13.	Dakhlat Uwadayn	*13.	Ash Sharaf
14.	J. Mutayr	14.	Az Zhahrah
15.	Haddat Ghlays	15.	Yakh Tul
16.	Al Maqalih	*16.	Haifan
17.	As Misqah	17.	Ath Thawbani
18.	Bayt Al Ashwal	18.	J. Wadi Bisyan
*19.	Murais	19.	Bab Al Mundab
*20.	Najd Al Jumai	20.	Dhubab

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Hudaydah

<u>Station No.</u>	<u>Name of Village</u>
1.	Dayr Al Mudaawwar
2.	Ad Dawm
3.	Luhayyah
4.	Az Zubayrah
5.	Mawr
6.	Al Qanamah
7.	Al Humasiyah
8.	Az Zuhrah
9.	Al Mutarid
10.	Dayr Dukhnah
11.	Dayr Al Wali
12.	Dayr Al Mahadi
13.	Al Hashabirah
14.	Al Qanawis
15.	Daudiyah
16.	Dayr Kuzabah
17.	Dayr Abdullah
*18.	Al Miglaf
19.	Al Munirah
20.	Al Mughaydifiyah

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ANNEX II.

UNDERTAKING BY THE GOVERNMENT OF YEMEN ARAB REPUBLIC

1. To secure all the sites. . .
2. To clear, level and reclaim the sites prior to commencement of the construction.
3. To undertake incidental outdoor works such as fencing and gate.
4. To provide the access required to the sites prior to commencement of the construction.
5. To provide the following facilities;
 - (1) Buildings for all the stations
 - (2) Towers and masts for all the stations
 - (3) VF cables for villages
 - (4) Drop wires and telephone sets
6. To bear commissions to the Japanese foreign exchange bank for banking services based upon the Banking Arrangement.
7. To exempt customs duties and to take necessary measures for customs clearance of the materials and equipment brought for the Project at the port of disembarkation.
8. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Yemen Arab Republic and stay therein for the performance of their work.

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9. To maintain and use properly and effectively the facilities constructed and equipment purchased under the Grant.

10. To bear all the expenses other than those to be borne by the Grant, necessary for installation of the facilities as well as for the transportation.

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ANNEX III

DESIRE OF YEMEN ARAB REPUBLIC FOR JAPAN

1. To install following components for establishment of the DRCS network to serve the subscribers at one hundred villages;
 - (1) DRCS facilities for all the DRCS stations,
 - (2) Power supply equipment for all the stations excepting the base stations, and
 - (3) Aerial facilities for all the stations.

2. To supply following items for normal operation and maintenance work;
 - (1) Tools and test equipment,
 - (2) Spares, and
 - (3) One set of DRCS network facilities with testing equipment for repairing of the supplied DRCS equipment.

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付 属 資 料 1 - 2

MINUTES OF DISCUSSIONS
ON
THE RURAL TELECOMMUNICATIONS NETWORK EXPANSION PROJECT
IN
YEMEN ARAB REPUBLIC.

In response to the request of the Government of Yemen Arab Republic for the Rural Telecommunication Network Expansion Project (hereinafter referred to as "the Project"), the Government of Japan decided to conduct a basic design study on the project and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent the study team headed by Mr. Akira Okura, Senior official of International Cooperation Division, Communications Policy Bureau, Ministry of Posts & Telecommunication to Yemen Arab Republic from 26th November to 27th December 1988.

As a result of the basic design study, JICA prepared a draft report and dispatched a team headed by Mr. Akira Okura, to discuss with Yemen Arab Republic from 13th March to 23rd March, 1989.

Both parties had a series of discussions on the report and agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined towards the realization of the Project.

Sana'a 21st March, 1989

大 蔵 啓

(Akira Okura)
Team Leader
Basic Design Study Team
JICA

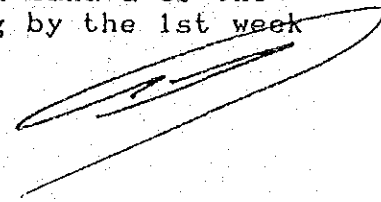
(Abdullah Al-Hammami)
Director General
Public Telecom Corp.

(2)

MAJOR POINTS OF UNDERSTANDING

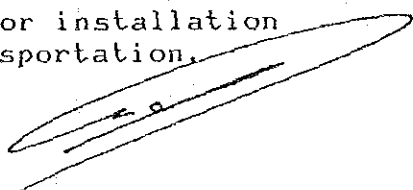
1. Yemen Arab Republic (hereinafter abbreviated Y.A.R.) side has agreed to the basic design proposed by Japan side with the following modifications to be incorporated in the final report;
 - (1) To allocate 2.4GHz and 4MHz spacing,
 - (2) To supply DC 48V power from existing Microwave repeater station to the DRCS equipment,
 - (3) To provide DC 12V power supply equipment with 4-days autonomy for the subscriber station,
 - (4) To provide DRCS equipment with capability for more than 500 lines, and with intracall facility,
 - (5) To provide antenna towers within 60m height.
2. The project implementation schedule attached herewith has been agreed by both parties.
3. Y.A.R. side has agreed to secure necessary local finance to provide the following facilities:
 - (A) All the buildings to accomodate all the telecommunication equipments,
 - (B) All the antenna towers and masts including lightning arresters,
 - (C) Warehouse and yard for the DRCS equipment and installation materials at Sana'a, Dhamar, Hodaydah, Ibb and Taizz,
 - (D) All the subscriber line networks.
4. Y.A.R. side will inform Embassy of Japan in Sana'a of the situation of the local financing in writing by the 1st week of April 1989.

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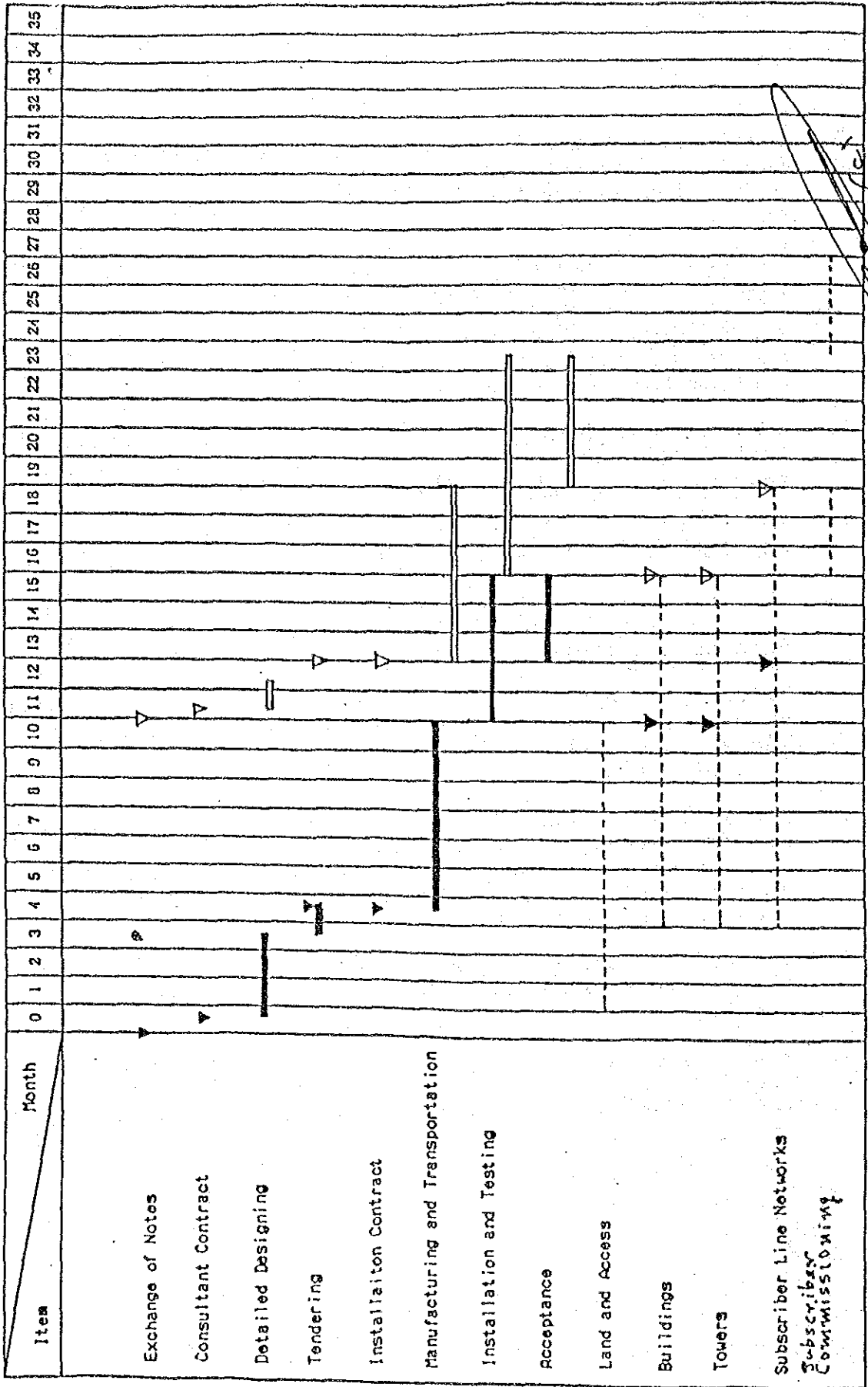
5. Y.A.R. side has agreed to provide the above mentioned facilities except the item 1-(D) in time for the implementation as per the project implementation schedule agreed.
6. The DRCS equipment including antennas feeders and power plant will be provided by Japan side.
7. Y.A.R. side strongly desired that the installation, testing and commissioning of DRCS facilities of Phase 2 will be done by YAR side under the supervision of Japan side.
8. On- the- Job-Training for PTC technical staff shall be done during installation period to secure smooth operation and maintenance of DRCS facilities installed.
9. Japan side will provide 10 copies of the final report in English to Y.A.R. side at the beginning of May, 1989.
10. Y.A.R. side agreed to bear commissions to the Japanese foreign exchange bank for banking services based upon the Banking Agreement.
11. Y.A.R. side agreed to exempt customs duties and to take necessary measures for customs clearance of the materials and equipment brought for the Project at the port of disembarkation.
12. Y.A.R. side agreed to accord Japanese Nationals whose services may be requested in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Y.A.R. and stay therein for the performance of their work.
13. Y.A.R. side agreed to use properly and effectively the facilities constructed and equipment purchased under the Grant.
14. Y.A.R. side agreed to bear all the expenses other than those to be borne by the Grant necessary for installation for the facilities as well as for the transportation.

(大)



Tentative Project Implementation Schedule

..... Y.A.R
 = Phase I by Japan
 = Phase II by Japan



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(H)

付 属 資 料 1 - 3

調査団の構成

(1) 基本設計調査 (自 昭和63年11月26日 至同年12月27日)

氏 名	担 当	所 属
大 蔵 啓	総括	郵政省通信政策局国際協力課 第二国際協力係長
清 水 剛	地方通信計画	国際電信電話株式会社関連事業部 調査役
松 本 明 博	計画管理	国際協力事業団無償資金協力計画部 基本設計調査第二課
木 村 重 人	通信網設計	日本通信協力株式会社
張 間 勉	電源設備	日本通信協力株式会社
藤 波 征 四 郎	局舎設備 A	日本通信協力株式会社
上 原 正 喜	伝送機器 A	日本通信協力株式会社
桑 原 和 幸	伝送機器 B	日本通信協力株式会社
紺 野 悦 郎	局舎設備 B	日本通信協力株式会社
大 竹 口 和 宏	積算	日本通信協力株式会社

(2) ドラフトファイナルレポート説明 (自 平成元年3月13日 至同年3月23日)

氏 名	担 当	所 属
大 蔵 啓	総括	郵政省通信政策局国際協力課 第二国際協力係長
松 本 明 博	計画管理	国際協力事業団無償資金協力計画部 基本設計調査第二課
木 村 重 人	通信網設計	日本通信協力株式会社
藤 波 征 四 郎	局舎設備	日本通信協力株式会社

付 属 資 料 1 - 4

面 会 者 リ ス ト

(1) 北イエメン国側関係者

H.E. MOTAHER AL-SAIDI	Deputy Minister of CPO (中央企画庁次官)
H.E. MOHAMED AL KAHADEM AL-WAJIH	Minister of MOC (通信大臣)
H.E. MOHAMED AL-ARASHI	Deputy Minister of MOC (通信省次官)
Mr. ABDULLAH AL-HAMAMI	Director General of PTC (通信公社総裁)
Mr. MOHD AL-KASSOUS	Deputy D. G of PTC (通信公社副総裁)
Mr. MOHAMED AL-NAHARI	Director of Statistic/Planning, PTC (通信公社計画局長)
Mr. ABDOL KARIM MOTAIR	Director of Administration, PTC (通信公社経営局長)
Mr. MOHAMED A. ABDO	Director of Sana'a Rigion, PTC (通信公社サナ通信局長)
Mr. MOHD AL-GEEZ	Director of Project, PTC (通信公社建設局長)
Mr. TAHER A. AL-FAKIH	Public Relation, PTC (通信公社広報課長)
Mr. V. D. SAXENA	Consultant of PTC (通信公社コンサルタント)
Mr. AHMED AL-HADDAD	Eng. of Microwave, PTC (通信公社無線技師)
Mr. AHMED ABDULAGANI	Eng. of Transmission, PTC (通信公社伝送技師)
Mr. HASSAN AL-WADAY	Eng. of Rural Telecom, PTC (通信公社ルーラル通信技師)
Mr. YOUSEF AL-SLWY	Eng. of Transmission, PTC (通信公社伝送技師)
Mr. AHMED AL-SABAHI	-do- (全上)
Mr. AL MGHAFY	Director of Taizz Region, PTC (通信公社タイズ通信局長)
Mr. ABDOL RAHMAN AL-MOAIN	Chief of Transmission, Trizz (タイズ伝送部長)
Mr. MOHSEN AL-DHMARY	Director of Ibb Region, PTC (通信公社イブ通信局長)
Mr. DAMIN AL-HADAD	Chief of Transmission, Ibb (イブ伝送部長)
Mr. AHMED NASSER	Director of Hudaydah Regin, PTC (通信公社ホデイダ通信局長)
Mr. AHMED AL-WARAGI	Director of Dhamar Region, PTC (通信公社ダマール通信局長)

(2) 日本国側関係者

石 井 祐 一	在北イエメン日本大使館臨時代理大使
斎 藤 竹 雄	在北イエメン日本大使館一等書記官

付 属 資 料 1 - 5

(1) 現地調査日程

- 63.11. 26 (土) 東京発、フランクフルト着
27 (日) フランクフルト発
28 (月) サナア着
MOCの大臣に表敬挨拶
日本大使館に表敬挨拶
CPO次官に表敬挨拶
29 (火) インセプション・レポートについてPTCと協議
30 (水) インセプション・レポートについてPTCと協議
現地調査の準備
- 63.12. 1 (木) 現地調査の準備
2 (金) 議事録ドラフト打ち合わせ
現地調査の準備
3 (土) 議事録について協議
現地調査の準備
4 (日) 地図上の調査
5 (月) 地図上の調査
6 (火) 協議した議事録の調印
地図上の調査
7 (水) サナアより帰国 (大蔵、清水、松本の3氏)
現地調査、A/Bグループ：SANA'A、A、AYABAN
8 (木) 現地調査、A：HUDAYDAH地区、B：TAIZZ地区
9 (金) 現地調査、A：HUDAYDAH地区、B：TAIZZ地区
10 (土) 現地調査、A：HUDAYDAH地区、B：TAIZZ地区
11 (日) 現地調査、A：SANA'A地区、B：TAIZZ地区
12 (月) 現地調査、A：SANA'A地区、B：TAIZZ地区
13 (火) 現地調査、A：DHAMAR地区 B：IBB地区
14 (水) 現地調査、A：DHAMAR地区 B：IBB地区
15 (木) 現地調査、A：DHAMAR地区 B：IBB地区
16 (金) 現地調査、A：DHAMAR地区
17 (土) 調査結果のまとめ
18 (日) 調査結果のまとめ
19 (月) 調査結果のまとめ
20 (火) 調査結果のまとめ
21 (水) 調査結果のまとめ
22 (木) 調査結果のまとめ
23 (金) 調査結果のまとめ
24 (土) 帰国準備
25 (日) PTC、日本大使館に報告
26 (月) サナア発
27 (火) 東京着

(2) ドラフトファイナルレポート説明日程

- 元. 3. 13 (月) 東京発
14 (火) カイロ着
15 (水) カイロ発、サナ着
16 (木) 日本大使館表敬、打合せ
17 (金) サナ州サイト視察
18 (土) 通信大臣表敬、通信公社関係者へドラフトレポート説明
19 (日) 中央企画庁次官表敬、ドラフトレポート説明
20 (月) ドラフトレポート説明、議事録協議
21 (火) 議事録
22 (水) サナ発
23 (木) 東京着

付属資料 1-6

収集資料リスト

1. 第2次国家開発5ヶ年計画に対する評価 (アラビア語) cpo
2. 第3次国家開発5ヶ年計画 (アラビア語) cpo
3. 統計資料 (Statistical Year Book, 1987 cpo)
4. 気象データ

付 属 資 料 2-1

計画地の位置および対象村落の人口

COORDINATES AND GROUND ELEVATION OF SITES - |

Base & Repeater Station (SANA'A)

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Remark
SANA'A BS.	44° 12' 17"	15° 21' 22"	2242	1544-C1	
J.DAYN REP.	44° 02' 45"	15° 35' 50"	3010	1544-A3	
J.AYBAN REP.	44° 07' 25"	15° 17' 47"	3186	1544-C1	
J.HARWAH REP.	44° 20' 10"	15° 13' 38"	2700	1544-C4	
J.KANAN REP.	44° 20' 24"	15° 07' 13"	2720	1544-C4	
J.QUYFAN REP.	43° 59' 57"	15° 11' 47"	3000	1543-D4	
MASAR REP.	43° 40' 41"	15° 04' 44"	2750	1543-D3	
J.IYAL YAZID REP.	43° 51' 33"	15° 45' 51"	2830	1543-B2	

Subscriber Station

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Population
THILA	43° 54' 08"	15° 34' 27"	2780	1543-B4	3343
KHALAQAH	43° 56' 01"	15° 29' 34"	2560	1543-D2	1632
AL MUNAQQAB	44° 01' 14"	15° 28' 33"	2720	1544-C1	1020
GHADRAN	44° 20' 13"	15° 29' 04"	2220	1544-C2	1170
BANI MAYMUN	44° 01' 43"	15° 35' 09"	2660	1544-A3	1210
HAZ	44° 00' 05"	15° 31' 00"	2580	1544-A3	1521
AL HAWIRI	44° 01' 18"	15° 38' 10"	2230	1544-A3	1146
AL KHADARAH	43° 55' 12"	15° 44' 39"	2700	1543-B4	952
AL MARBAK	44° 28' 27"	15° 23' 24"	2680	1544-C2	1047
BAYT HADIR	44° 20' 08"	15° 20' 42"	2400	1544-C2	1044
AR RAWNAH	44° 20' 47"	15° 25' 07"	2480	1544-C2	1511
ZALA	43° 38' 18"	15° 04' 24"	2040	1543-D3	1051
AL KHAMIS	43° 56' 17"	15° 08' 46"	2280	1543-D4	1121
GHAYMAN	44° 21' 15"	15° 16' 22"	2460	1544-C2	983
JIHANAH	44° 28' 51"	15° 13' 33"	2250	1544-C4	1553
AL KIBS	44° 26' 10"	15° 06' 11"	2320	1544-C4	1151
SAYYAN	44° 19' 35"	15° 10' 06"	2460	1544-C4	909
SHABAN	44° 18' 08"	15° 03' 08"	2760	1544-C4	1141

COORDINATES AND GROUND ELEVATION OF SITES - 2

Base & Repeater Station (DHAMAR)

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Remark
DHAMAR BS.	44° 24' 26"	14° 32' 38"	2430	1444-A4	
J.YASLAH REP.	44° 16' 39"	14° 56' 54"	2894	1444-A2	
J.AL MODBAAH REP.	44° 25' 49"	14° 48' 42"	2380	1444-A2	
ABU ATIF REP.	44° 31' 47"	14° 50' 15"	2480	1444-B1	
J.MANARA REP.	44° 06' 36"	14° 30' 29"	2960	1444-A3	
AD DANN REP.	43° 51' 13"	14° 21' 08"	2480	1443-D2	
J.AL LISI REP.	44° 32' 04"	14° 32' 42"	2852	1444-B3	
AL HIJAH REP.	44° 37' 01"	14° 38' 43"	2540	1444-B3	
BYT ASH SHAMI REP.	44° 25' 59"	14° 20' 07"	2600	1444-C2	

Subscriber Station

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Population
AITHAYN	44° 12' 12"	14° 52' 55"	2440	1444-A1	2529
ASAM	44° 19' 46"	14° 45' 10"	2330	1444-A2	1196
AL MADARAH	44° 18' 56"	14° 50' 42"	2340	1444-A2	772
BAYHAN	44° 37' 38"	14° 59' 26"	2200	1444-B1	1050
AHLAL	44° 10' 52"	14° 50' 10"	2480	1444-A1	1248
AL HARP	44° 10' 25"	14° 49' 26"	2280	1444-A1	1142
HIJRAT ADH DHARI	44° 12' 09"	14° 40' 27"	2200	1444-A3	750
BANI MUWALLAD	44° 07' 17"	14° 28' 16"	1920	1444-C1	830
BANI AS SAMHI	43° 54' 52"	14° 28' 56"	2680	1443-D2	956
BANI MUSLIM	43° 47' 22"	14° 24' 09"	2120	1443-D2	793
BANI ALI	43° 40' 01"	14° 19' 21"	1520	1443-D1	860
ATH THULUTH	43° 44' 00"	14° 18' 03"	1120	1443-D1	753
AD DARAH	44° 35' 49"	14° 23' 52"	2600	1444-D1	1782
ABASIR	44° 30' 22"	14° 25' 37"	2500	1444-D1	1110
ASH SHAQB	44° 28' 38"	14° 21' 52"	2540	1444-C2	799
AMID	44° 20' 21"	14° 28' 15"	2540	1444-C2	1296
AS SANAM	44° 15' 54"	14° 33' 10"	2400	1444-A4	1143
SANAH	44° 18' 21"	14° 35' 08"	2520	1444-A4	991
AL MUGHADIYAH	44° 39' 15"	14° 41' 41"	2280	1444-B3	743
ARAM	44° 32' 26"	14° 17' 24"	2400	1444-D1	1341

COORDINATES AND GROUND ELEVATION OF SITES - 3

Base & Repeater Station (HUDAYDAH)

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Remark
HUDAYDAH BS.	42° 57' 00"	14° 48' 05"	6	1442-B2	
DAYR KHALIL REP.	43° 13' 18"	14° 54' 24"	140	1443-A1	
AL KAIB REP.	43° 09' 05"	15° 05' 52"	100	1543-C3	
AZ ZAYDIYAH REP.	43° 00' 34"	15° 19' 57"	60	1543-C1	
DAYR AKHRASH REP.	42° 59' 16"	15° 37' 00"	60	1542-B4	
AL ABBASI REP	43° 16' 14"	14° 35' 03"	90	1443-A4	

Subscriber Station

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Population
AD DAWM	43° 15' 28"	14° 50' 05"	100	1443-A2	1509
AZ ZUBAYRIYAH	43° 12' 43"	14° 50' 35"	90	1443-A1	838
DAYR AL MUDAWWAR	43° 14' 08"	14° 58' 11"	130	1443-A1	843
AL MUGHAYDIFIYAH	42° 57' 27"	15° 25' 26"	40	1542-D2	1074
AL QANAWIS	43° 08' 00"	15° 29' 32"	90	1543-C1	1384
DAUDIYAH	43° 07' 20"	15° 24' 25"	80	1543-C1	1007
DAYR AL MAHADI	43° 06' 03"	15° 21' 47"	80	1543-C1	1168
DAYR AL WALI	43° 09' 23"	15° 22' 03"	100	1543-C1	1123
AL MIGHLAR	43° 11' 23"	15° 17' 20"	130	1543-C1	1053
AL HASHABIRAH	42° 59' 52"	15° 16' 41"	50	1542-D2	1240
AL MUNIRAH	42° 55' 45"	15° 19' 21"	40	1542-D2	3872
AL LUHAYYAH	42° 41' 30"	15° 41' 57"	5	1542-B3	2029
AL HUMASTIYAH	42° 54' 22"	15° 43' 29"	40	1542-B4	1607
AL QANAMAH	42° 56' 26"	15° 44' 27"	60	1542-B4	1811
MAWR	42° 58' 07"	15° 40' 04"	60	1542-B4	1577
AZ ZUHRAN	42° 59' 47"	15° 43' 29"	60	1542-B4	3695
AL MUTARID	43° 01' 41"	15° 43' 32"	80	1543-A3	1989
DAYR DUKHNAH	43° 07' 31"	15° 34' 21"	100	1543-A3	1312
DAYR KUZABAH	43° 05' 16"	15° 30' 52"	80	1543-A3	1206
DAYR ABDALLAH	43° 03' 34"	15° 30' 15"	70	1543-A3	1450
KUSMA	43° 38' 16"	14° 34' 56"	2680	1443-B3	1231
MARKAZ BILAD ATTAAM	43° 32' 11"	14° 50' 02"	1680	1443-B1	856

COORDINATES AND GROUND ELEVATION OF SITES - 4

Base & Repeater Station (IBB)

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Remark
IBB BS.	44° 11' 04"	13° 58' 35"	1985	1344-A1	
J.AL QABRAYN REP.	44° 06' 07"	13° 53' 26"	2948	1344-A1	
J.SAID REP.	44° 17' 57"	13° 55' 27"	2480	1344-A2	
NASHWARAH REP.	44° 06' 09"	13° 58' 22"	2300	1344-A1	
J.SUMARAH REP.	44° 16' 27"	14° 10' 58"	2973	1444-C4	

Subscriber Station

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Population
AL WAQASH	44° 07' 53"	13° 54' 38"	2240	1344-A1	1218
AD DUHRAH	44° 06' 40"	13° 57' 48"	2360	1344-A1	704
MABARI	44° 06' 41"	13° 56' 05"	2400	1344-A1	807
AL HAMMAHI	44° 09' 24"	13° 59' 09"	2040	1344-A1	821
AL MABAR	44° 14' 17"	13° 58' 12"	2520	1344-A1	730
AL JAHSHI	44° 14' 06"	13° 57' 18"	2440	1344-A1	744
AR RABAI	44° 15' 57"	13° 56' 33"	2400	1344-A2	730
QARYAT AS SANABI	44° 16' 50"	13° 55' 44"	2400	1344-A2	1484
NAJD AL JUMAI	44° 19' 27"	13° 54' 53"	1960	1344-A2	852
MURRAYSI	44° 43' 16"	13° 57' 38"	2200	1344-B1	752
AL UDAYN	43° 59' 53"	13° 58' 06"	1320	1343-B2	1776
AL MARAKIB	44° 02' 52"	13° 57' 20"	1520	1344-A1	803
AKAMAT AS SAFANI	44° 09' 25"	13° 57' 41"	2000	1344-A1	765
DAKHLAT UWAYDAYN	44° 20' 31"	14° 17' 22"	2640	1444-C2	847
DHI SARIF	44° 22' 00"	14° 14' 22"	2560	1444-C4	842
J.MUTAYR	44° 23' 00"	14° 14' 04"	2840	1444-C4	852
HADDAT ULAYS	44° 24' 09"	14° 13' 15"	2660	1444-C4	1008
BAYT AL ASHWAL	44° 24' 44"	14° 11' 23"	2760	1444-C4	904
AL MISQAH	44° 26' 38"	14° 08' 20"	2800	1444-C4	884
AL MAQALIH	44° 24' 51"	14° 06' 17"	2760	1444-C4	1301

COORDINATES AND GROUND ELEVATION OF SITES - 5

Base & Repeater Station (TAIZZ)

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Remark
TAIZZ BS.	44° 01' 04"	13° 34' 34"	1345	1344-A3	
ARUS (O/H) REP.	44° 02' 52"	13° 32' 25"	2820	1344-A3	
H.OMAIMAH REP.	44° 17' 34"	13° 39' 04"	1320	1344-A4	
J.HABASHI REP.	43° 52' 38"	13° 27' 43"	2320	1343-D2	
ARID REP.	43° 55' 35"	13° 20' 46"	1600	1343-D2	
J.SABARAN REP.	44° 08' 53"	13° 14' 01"	2080	1344-C3	
H.AN HANAN REP.	43° 40' 48"	13° 24' 28"	460	1343-D1	
J.AN NAR REP.	43° 28' 40"	13° 19' 10"	340	1343-C2	
J.AL UMARI REP.	43° 28' 52"	13° 01' 23"	300	1343-C4	

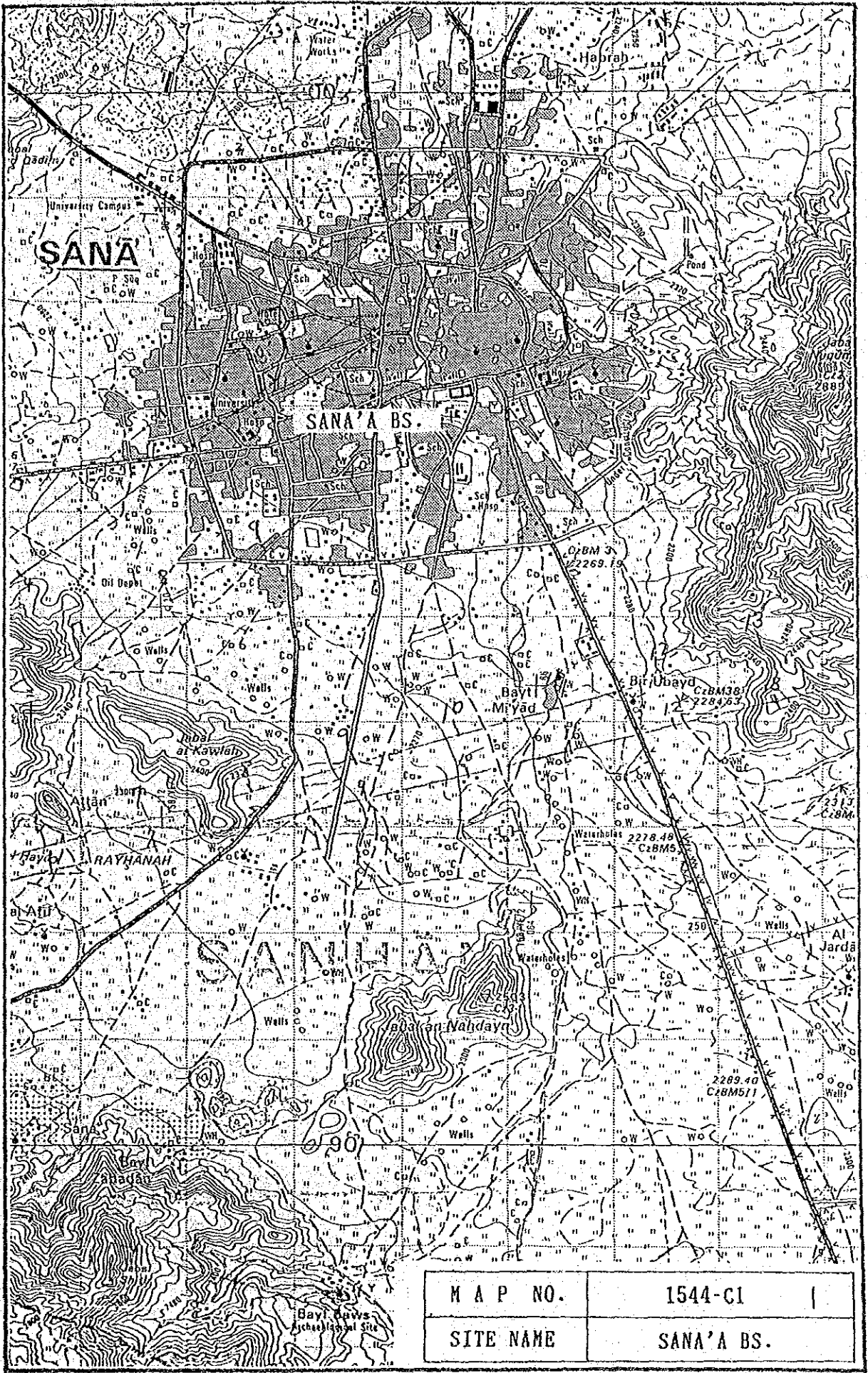
Subscriber Station

Site Name	Longitude	Latitude	Ground Elevation(m)	Map No.	Population
HADNAN	44° 00' 12"	13° 32' 03"	2400	1344-A3	1101
AL HUSAYN	43° 55' 28"	13° 42' 43"	1160	1343-B4	836
AL AMAKIR	44° 05' 33"	13° 45' 07"	1640	1344-A1	715
AL AMAQI	44° 07' 19"	13° 42' 25"	1480	1344-A3	1144
QARAMAH	44° 07' 26"	13° 40' 34"	1440	1344-A3	897
AS SAMKAR	44° 07' 53"	13° 38' 05"	1440	1344-A3	848
AZ ZAHRAH	44° 11' 15"	13° 40' 29"	1420	1344-A3	847
ARABAH	44° 10' 18"	13° 38' 25"	1420	1344-A3	1093
BAYT UBAYDAN	44° 20' 23"	13° 39' 52"	1380	1344-A4	804
QARYAT JARANI	44° 19' 40"	13° 36' 48"	1420	1344-A4	1103
YUFRUS	43° 56' 48"	13° 27' 13"	1240	1343-D2	1306
AL MUDAYHIS	43° 55' 43"	13° 11' 24"	1040	1343-D4	744
ASH SHARAF	44° 10' 58"	13° 22' 44"	1850	1344-C1	853
HAYFAN	44° 16' 49"	13° 19' 05"	1680	1344-C2	910
SHAWHAT	44° 01' 17"	13° 12' 57"	1480	1344-C3	736
J.WADI BISYAN	43° 32' 28"	13° 26' 23"	240	1343-D1	868
YAKHTUL	43° 16' 10"	13° 26' 49"	5	1343-C2	2007
ATH THAWBANI	43° 26' 48"	13° 17' 38"	140	1343-C2	812
DHUBAB	43° 24' 27"	12° 56' 35"	5	1243-A2	1446
BAB AL MANDAB	43° 30' 20"	12° 40' 46"	5	1243-A2	708

付 属 資 料 2-2

計 画 地 案 内 図

SANA'A AREA



MAP NO.	1544-C1
SITE NAME	SANA'A BS.