

ANNEX M. PHYSICAL PLAN

M.1 Basic Development Plan

List of Tables

Table M.1-1	Outline of Study Areas (1/12)
Table M.1-1	Outline of Study Areas (2/12)
Table M.1-1	Outline of Study Areas (3/12)
Table M.1-1	Outline of Study Areas (4/12)
Table M.1-1	Outline of Study Areas (5/12)
Table M.1-1	Outline of Study Areas (6/12)
Table M.1-1	Outline of Study Areas (7/12)
Table M.1-1	Outline of Study Areas (8/12)
Table M.1-1	Outline of Study Areas (9/12)
Table M.1-1	Outline of Study Areas (10/12)
Table M.1-1	Outline of Study Areas (11/12)
Table M.1-1	Outline of Study Areas (12/12)
Table M.1-2	Inventory Survey of Agriculture and Rural Infrastructure Facilities (1/2)
Table M.1-2	Inventory Survey of Agriculture and Rural Infrastructure Facilities (2/2)
Table M.1-3	Framework of Proposed Agricultural and Rural Infrastructure Plan

List of Figures

Figure M.1-1	Project Components in Each Model Area (1/12)
Figure M.1-1	Project Components in Each Model Area (2/12)
Figure M.1-1	Project Components in Each Model Area (3/12)
Figure M.1-1	Project Components in Each Model Area (4/12)
Figure M.1-1	Project Components in Each Model Area (5/12)
Figure M.1-1	Project Components in Each Model Area (6/12)
Figure M.1-1	Project Components in Each Model Area (7/12)
Figure M.1-1	Project Components in Each Model Area (8/12)
Figure M.1-1	Project Components in Each Model Area (9/12)
Figure M.1-1	Project Components in Each Model Area (10/12)
Figure M.1-1	Project Components in Each Model Area (11/12)
Figure M.1-1	Project Components in Each Model Area (12/12)

M.2 Feasibility Study

List of Tables

Table M.2-1	Equipment List Owned by Abra Provincial Government(R-CAR)
Table M.2-2	Equipment List Owned by Bangued Municipal Government (R-CAR)
Table M.2-3	Equipment List Owned by Quirino Provincial Government (R-11)
Table M.2-4	Equipment List Owned by Malaybalay Provincial Government (R-X)
Table M.2-5	Equipment list Owned by Hilongos Municipal Government (R-VIII)
Table M.2-6	Equipment List Owned by Malaybalay Provincial Government (R-X)
Table M.2-7	Equipment List Owned by Malaybalay Municipal Government (R-X)
Table M.2-8	Equipment List Owned by Cabanglasan Municipal Government (R-X)
Table M.2-9	Details of Structural Components of SWID and Farm Pond

List of Figures

Figure M.2-1	General Layout of Small Water Impounding Project in Sappaac ARC Bangued (Region-Car)
Figure M.2-2	Reservoir Storage Allocations for SWID in Sappaac ARC
Figure M.2-3	Plan of Small Water Impounding Dam in Sappaac ARC
Figure M.2-4	Standard Cross Section of Provincial Road
Figure M.2-5	Standard Cross Section of Barangay Road
Figure M.2-6	Standard Cross Section of Farm Road
Figure M.2-7	Standard Cross Section of Deep Well
Figure M.2-8	General Layout of Small Water Impounding Project in Cofcaville ARC, Maddela (Region-II)
Figure M.2-9	Reservoir Storage Allocations for SWID in Cofcaville ARC
Figure M.2-10	Plan of Small Water Impounding Dam in Cofcaville ARC
Figure M.2-11	General Layout of Tank Irrigation System in Marangog-Leyte ARC, (Region-VIII)
Figure M.2-12	Standard Plan of Water Tank For Tank Irrigation System in Marangog-Leyte ARC (Region-VIII)
Figure M.2-13	General Layout of Rural Water Supply in Marangog-Leyte ARC (Region-VIII)
Figure M.2-14	General Plan of Spring Box for Rural Water Supply In Marangog-Leyte ARC (Region VIII)

- Figure M.2-15** **Standard Plan of Water Tank for Rural Water Supply in Marangog-Leyte ARC (Region-VIII)**
- Figure M.2-16** **General Layout of Irrigation System in Silae ARC (Dalacutan Area) Malaybalay (Region-X)**
- Figure M.2-17** **Reservoir Storage Allocations for Farm Pond in Silae ARC**
- Figure M.2-18** **Plan of Farm Pond in Silae ARC (Dalacutan Area)**
- Figure M.2-19** **General Layout of Irrigation System in Silae ARC (Silae Area) Malaybalay (Region-X)**

Table M.1-1 Outline of Study Areas (1/12)

Name of Study Area : Sappa-ac ARC, Bangued, Abra, CAR

1. Location		Province		Municipal		Barangay		
Reg. CAR	Abra	Bangued	No.	Name				
375			1	Sappa-ac				
2. Area (ha)								
3. Land Use (ha)								
Cultivated Land								
Rice Land								
Upland with annual crops								
Upland with perennial crops								
Sub-Total								
Cogonal Land/Shrub/Others								
Total								
4. Population and Household								
Total Population								
Household								
Farm Household Population								
Transient Farm Household								
5. Annual Average Income (peso)								
Agricultural Income								
Non-Agricultural Income								
Total								
6. Agricultural Situation								
Major Cultivation Crop								
Paddy Rice, wet Season								
Paddy Rice, dry Season								
Corn, wet Season								
Corn, dry Season								
Banana								
Marketing Conditions								
7. CARP Status (ha)								
OLT								
VLT								
Total Distributed Area								
7.1 Beneficiaries								
CLOA Recipients ARBs								
Owner Cultivator								
Farm Worker FBs								
Total								
8. Water Resources								
Source of Water								
Water Availability								
1 creeks, 2 springs								
Springs are with very small water								
9. Access to the Study Area from Main Road					Provincial			
Length (km)					2.0			
Road Conditions					Good			
10. Institutional Situation					Name of Organization (year)			
People's Organization					Sappa-ac Agrarian Reform Multi-Purpose Cooperative (1			
Non-Government Orga.					Study area: None Within the region: Yes			
Agn. Supporting Services					Relatively adequately provided by the Municipal Agricultural Office			
11. Agri. and Rural Infrastruct.					Soil Erosion		Water Quality	
Agricultural Infrastructures					High		Occurrence of water borne diseases: Moderate, 20 ha cogonal areas associated with shallow well	
Farm-to-Market Roads					Absence of adequate barangay roads			
Irrigation Facilities					No staple irrigation water supply even in wet season			
Post Harvest Facilities					Small farm size with a large idle land			
Rural Infrastructures					Unstable crop production with low yield due to lack of soil moisture			
Village Water Supply					No water to establish mango orchard for young seedlings			
Electricity					Lack of post harvest facilities			
School					High soil erosion			
Medical Facilities								
Others								
12. Environments					Deforestation			
					Occurrence of water borne diseases: Moderate, 20 ha cogonal areas associated with shallow well			
13. Present Problems and Constraints								
					Absence of adequate barangay roads			
					No staple irrigation water supply even in wet season			
					Small farm size with a large idle land			
					Unstable crop production with low yield due to lack of soil moisture			
					No water to establish mango orchard for young seedlings			
					Lack of post harvest facilities			
					High soil erosion			
14. Required and Potential Facilities					Road improvement and new opening			
					Water impounding dams for irrigation			
					Rural water supply facilities			
					Sappa-ac south deep well rehabilitation (level - I)			
					Post harvest facilities			
					1 MPP			
					1 Rice mill			
					1 Corn mill			
					Rice thresher			
					Rural infrastructure			
					Rehabilitation health center			
					Barangay hall/center			
					Rehabilitation school			
					Day care center			
					Latrines			
					Soil and water conservation structures			
					Demonstration farm			
					Nursery stations			
					Paramedic equipment			

Table M.1-1 Outline of Study Areas (2/12)

Name of Study Area : Talugtug ARC, San Juan, La Union, Region I									
1. Location	2. Area (ha)	Access to the Study Area				Provincial	Municipal	Barangay	MARB Total
		Region	Province	Municipal	Barangay				
			La Union	San Juan	Talugtug	None	None	For site 1: Not good For site 2 & 3: Good	
3. Land Use (ha)		167							
4. Population and Household									
5. Annual Average Income (pesos)									
6. Agricultural Situation									
7. CARP Status (ha)									
7.1 Beneficiaries									
8. Water Resources									

Name of Study Area : Cofcaville ARC, Madella, Quirino, Region II

M-3

Outline of Study Areas (4/12)

Table M.1.1-1

Name of Study Area : Montilla ARC, Tuyo, Balanga, Bataan

1. Location		Reg. III	Province	Municipal.	Barangay	
			Bataan	Balanga	No.	Name
2. Area(ha)		108			1	Tuyo
3. Land Use (ha)		0				
- Rice Land		37				
- Upland with annual crops		41				
- Upland with perennial crops		78				
- Sub-Total		30				
- Cogonal Land/Shrub/Others		108				
Total						
4. Population and Household		340				
Total Population		63				
Household		63				
Farm Household Population		47				
Transient Farm Household						
5. Annual Average Income (peso)		13,486				
Agricultural Income		91,890				
Non-Agricultural Income		105,376				
Total						
6. Agricultural Situation		Area(ha)	Yield(ton/ha)			
Major Cultivation Crop		2	1.20			
- Paddy rice, wet season		29	1.00			
- Vegetables, wet season		6	0.01			
- Rootcrops		27	1.20			
- Mango						
Marketing Conditions						
7. CARP Status (ha)		Scope	Distributed			
- VOS		(ha.)	(%)			
Total Distributed Area		104.48	100			
		104.48	100			
7.1 Beneficiaries		63				
CLOA Recipients ARBs		63				
Total						
8. Water Resources		2 creeks and 2 springs				
Source of Water		Water sources are very scarce, but one spring				
Water Availability		water is presently used for drinking purposes				
		with a little quantity.				
9. Access to the Study Area						
- Length (km)						
- Road Conditions						
10. Institutional Situation						
People's Organization						
Non-Government Orga.						
Agri. Supporting Services						
11. Agri. and Rural Infrastructure						
Agricultural Infrastructures						
- Farm-to-Market Roads						
- Irrigation Facilities						
- Post Harvest Facilities						
Rural Infrastructures						
- Village Water Supply						
- Electricity						
- School						
- Medical Facilities						
- Others						
12. Environments						
13. Present Problems and Constraints						
14. Required and Potential Facilities						
Provincial		None				
Municipal		None				
Barangay		2.1 Earth road				
		Participated				
		NARS				
		Total				
		21				
		0				
		21				

Table ML1-1 Outline of Study Areas (5/12)

Name of Study Area : Maulawin ARC, Calauag, Quezon									
1. Location		2. Access to the Study Area		3. Provincial		4. Municipal		5. Barangay	
Reg.	Province	Length (km)	Road Conditions	None	None	None	None	No.	Name
IV	Quezon	1	Maulawin					1	Maulawin
2. Area(ha)		321							
3. Land Use (ha)		62							
Cultivated Land		10							
- Rice Land		82							
- Upland with annual crops		154							
- Upland with perennial crops		167							
Sub-Total		321							
- Coponial Land/Shrub/Others									
Total									
4. Population and Household		1,751							
Household		302							
Farm Household Population		63							
Transient Farm Household									
5. Annual Average Income (pes		21,191							
Agricultural Income		7,243							
Non-Agricultural Income		28,434							
Total									
6. Agricultural Situation		Area(ha)							
Major Cultivation Crop		Yield(ton/ha)							
- Paddy rice, wet season		60							
- Rootcrops		6							
- Paddy rice, dry season		44							
- Corn, dry season		3							
- Citrus		40							
Marketing Conditions									
7. CARP Status (ha)		Scope							
- VOS		(ha.)							
- VLT		312.94							
Total Distributed Area		0.71							
7.1 Beneficiaries		Distributed							
CLOA Recipients ARBs		(ha.)							
Farm Worker FBs		221							
Total		66							
8. Water Resources		287							
Source of Water		River							
Water Availability									

Table M.1-1 Outline of Study Areas (6/12)

Name of Study Area : Pagasa ARC, Tinambac, Camarines Sur				Access to the Study Area from Main Road			Provincial		Municipal		Barangay	
1. Location	Reg.	Province	Municipal	No.	Name	Barangay	17.0	Gravel road	None	5.0	Earth road	
2. Area(ha)	V	Camrines Sur	Tinambac									
3. Land Use (ha)	307											
Cultivated Land												
- Rice Land	22											
- Upland with annual crops	0											
- Upland with perennial crops	155											
- Sub-Total	177											
- Copional Land/Shrub/Others	130											
- Total	307											
4. Population and Household												
Total Population	658											
Household	120											
Farm Household Population	120											
Transient Farm Household	658											
5. Annual Average Income (peso)												
Agricultural Income	21,712											
Non-Agricultural Income	3,128											
Total	24,840											
6. Agricultural Situation												
Major Cultivation Crop	Area(ha)	Yield (ton/ha)										
- Paddy rice, wet season	23	0.88										
- Rootcrops	5	0.76										
- Paddy rice, dry season	21	1.00										
- Coconut	298	0.46										
Marketing Conditions												
7. CDRP Status (ha)												
- Settlement	Scope (ha.)	Distributed (%)										
Total Distributed Area	300	94										
7.1 Beneficiaries	73	74										
CLOA Recipients ARBs	73											
Total												
8. Water Resources												
Source of Water	1 creek and 1 spring											
Water Availability	Water sources are very scarce and difficult to use, due to low elevation of water source.											

Table M.1-1

Name of Study Area : Abiera Estate, Altavas, Aklan									
1. Location		Province		Municipal.		Barangay			
Reg. VI		Altavas		No.		Name			
				2		Dalipid			
				Cabugao					
2. Area(ha)		289							
3. Land Use (ha)		15							
Cultivated Land		6							
• Rice Land		85							
• Upland with annual crops		106							
• Upland with perennial crops		183							
Sub-Total		289							
• Copra Land/Shrub/Others									
Total									
4. Population and Household		1,062							
Total Population		166							
Farm Household		114							
Farm Household Population		38							
Transient Farm Household									
5. Annual Average Income (peso)		6,396							
Agricultural Income		2,022							
Non-Agricultural Income		8,478							
Total									
6. Agricultural Situation		Area(ha)		Yield (ton/ha)		Yield(ton/ha)			
Major Cultivation Crop		18		0.88					
• Paddy rice, wet season		3		0.76					
• Ricecrops		16		1.00					
• Paddy rice, dry season		130		0.46					
• Coconut		54		13.33					
• Barans									
Marketing Conditions									
7. CARP Status (ha)		Scope		Distributed					
• VOS		(ha.)		(ha.)					
Total Distributed Area		249		6.0					
8. Beneficiaries		114							
CLOA Recipients ARBs		26							
Farm Worker FBs		140							
Total									
9. Water Resources		1 creek							
Source of Water		Small amount of creek can be taken by pump.							
Water Availability									

Table M.1-1 Outline of Study Areas (8/12)

Name of Study Area : San Vicente ARC, Trinidad, Bohol									
1. Location		Province		Municipal		Barangay		Access to the Study Area	
Rep. Vn.	Province	Barangay	No.	Name	Length (km)	From Main Road	Length (km)	From Main Road	Length (km)
456	San Vicente	San Roque	2	San Roque	2	San Roque	2	San Roque	2
2. Area (ha)									
3. Land Use (ha)									
4. Population and Household									
5. Annual Average Income (peso)									
6. Agricultural Situation									
7. CARP Status (ha)									
8. Water Resource									
9. Access to the Study Area									
10. Institutional Situation									
11. Agri. and Rural Infrastructure									
12. Environment									
13. Present Problems and Constraints									
14. Required and Potential Facilities									
15. Water Resource									
16. Required and Potential Facilities									
17. Base Facilities									
18. Water Resource									
19. Water Availability									
20. Water Availability									
21. Water Availability									
22. Water Availability									
23. Water Availability									
24. Water Availability									
25. Water Availability									
26. Water Availability									
27. Water Availability									
28. Water Availability									
29. Water Availability									
30. Water Availability									
31. Water Availability									
32. Water Availability									
33. Water Availability									
34. Water Availability									
35. Water Availability									
36. Water Availability									
37. Water Availability									
38. Water Availability									
39. Water Availability									
40. Water Availability									
41. Water Availability									
42. Water Availability									
43. Water Availability									
44. Water Availability									
45. Water Availability									
46. Water Availability									
47. Water Availability									
48. Water Availability									
49. Water Availability									
50. Water Availability									
51. Water Availability									
52. Water Availability									
53. Water Availability									
54. Water Availability									
55. Water Availability									
56. Water Availability									
57. Water Availability									
58. Water Availability									
59. Water Availability									
60. Water Availability									
61. Water Availability									
62. Water Availability									
63. Water Availability									
64. Water Availability									
65. Water Availability									
66. Water Availability									
67. Water Availability									
68. Water Availability									
69. Water Availability									
70. Water Availability									
71. Water Availability									
72. Water Availability									
73. Water Availability									
74. Water Availability									
75. Water Availability									
76. Water Availability									
77. Water Availability									
78. Water Availability									
79. Water Availability									
80. Water Availability									
81. Water Availability									
82. Water Availability									
83. Water Availability									
84. Water Availability									
85. Water Availability									
86. Water Availability									
87. Water Availability									
88. Water Availability									
89. Water Availability									
90. Water Availability									
91. Water Availability									
92. Water Availability									
93. Water Availability									
94. Water Availability									
95. Water Availability									
96. Water Availability									
97. Water Availability									
98. Water Availability									
99. Water Availability									
100. Water Availability									

Table M.1-1 Outline of Study Areas (9/12)

Name of Study Area : Marangog, Hilongos, Leyte

1. Location	Province			Municipal		Barangay		
	Reg. No.	Village	Province	Barangay	Barangay	Barangay	Barangay	Barangay
2. Area (ha)	330							
3. Land Use (ha)								
- Rice Land	21							
- Upland with annual crops	98							
- Upland with perennial crops	126							
- Sub-Total	204							
- Copra Land/Shrub/Others	330							
- Total								
4. Population and Household								
- Total Population	1,293							
- Household	212							
- Farm Household Population	123							
- Transient Farm Household	6							
5. Annual Average Income (peso)								
- Agricultural Income	10,312							
- Non-Agricultural Income	2,939							
- Total	13,251							
6. Agricultural Situation								
- Major Cultivation Crop	Area (ha)	Yield (ton/ha)						
- Paddy rice, wet season	7	0.90						
- Corn, wet season	100	0.70						
- Paddy rice	4	0.46						
- Corn, dry season	100	0.35						
- Coconut	123	0.49						
- Main Farming Conditions								
7. CARP Status (ha)								
- VOS	Scope	Distributed						
- Government Land	(ha.)	(%)						
- Settlement	31.0	0						
- Total Distributed Area	4.4	0						
	264.6	36						
	300.0	36						
7.1 Beneficiaries								
- CLOA Recipients ARBs	73							
- Farm Worker FBs	141							
- Total	214							
8. Water Resources								
- Source of Water	1 creek, 2 springs							
- Water Availability	River water far from study area (about two kilometer) is available, and possible to use it by means of Tank Systems.							

Table M.1-1 Outline of Study Areas (10/12)

Name of Study Area : Silae ARC, Malavbalay, Bukidnon

1. Location	2. Area (ha)	3. Access to the Study Area			4. Name of Organization (year)	5. Municipal	6. Barangay
		Road	Provincial	Municipal			
		Yes	Yes	Yes			
		464					
7. Land Use (ha)							
• Farm Land	6						
• Upland with annual crops	71						
• Upland with perennial crops	0						
• Subtotal	77						
• Copied Land/Straw/Cover	87						
Total	164						
8. Population and Household							
Total Population	1,020						
Household	51						
Farm Household Population	31						
Transient Farm Household	44						
9. Annual Average Income (peso)							
Agricultural Income	23,317						
Non-Agricultural Income	1,319						
Total	24,633						
10. Agricultural Situation							
Major Cultivation Crop							
• Paddy rice, wet season	6						
• Corn, wet season	50						
• Paddy rice, dry season	5						
• Corn, dry season	34						
Majoring Crops							
11. CAGR Status (ha)							
• OLT	78.54						
• VGS	119.22						
Total Distributed Area	197.76						
12.1 Beneficiaries							
CLCA Response ARBs	44						
GP	7						
Farm Worker FAs	20						
Total	71						
13. Water Resources							
Source of Water							
Water Availability							
2. Crops							
Creek water can be used for paddy irrigation by means of small-scale diversion dam through gravity systems.							
10. Access to the Study Area							
From Main Road							
• Length (km)							
• Road Conditions							
11. Institutional Situation							
People's Organization							
Non-Government Orgs.							
Agt. Supporting Services							
12. Agt. and Rural Infrastructure							
Agricultural Infrastructure							
• Farm-to-Market Roads							
• Irrigation Facilities							
• Post-Harvest Facilities							
Rural Infrastructure							
• Village Water Supply							
• Electricity							
• School Facilities							
• Others							
13. Present Problems and Constraints							
• Large area are left as idle land due to lack of arable power, non-accessibility and inadequate soil fertility							
• Soil fertility and are not efficiently utilized							
• Substandard equipment							
• Absence of irrigation facilities							
14. Required and Potential Facilities							
• Nursery station							
• Demonstration farm							
• Oriental of livestock and poultry							
• Soil and water conservation structures							
• Community extension program							
• Preparation of extension materials							
• River station visit for irrigation							
• Road improvement							
15. Water Quality							
Good water quality, abundance of water from spring							
16. Deformation							
Very high deformation, and 6 m, 5000m on hill slope							

Table M.1-1 Outline of Study Areas (11/12)

Name of Study Area : Kibalili ARC, Asuncion, Davao

1. Location	Reg. No.	Province	Municipal.	Barangay		9. Access to the Study Area from Main Road	Provincial	Municipal	Barangay
				No.	Name				
2. Area(ha)	XI	Davao	Asuncion		Kibalili	- Length (km) - Road Conditions	None	None	5.0 Earth road
3. Land Use (ha)				327		10. Institutional Situation			Participated Farmers
- Rice Land				17		People's Organization Non-Government Orga.			ARB's
- Upland with annual crops				28		Agn. Supporting Services			35
- Upland with perennial crops				20					
- Sub-Total				65					
- Coponal Land/Shrub/Others				262					
- Total				327					
4. Population and Household						11. Agri. and Rural Infrastruct.			
- Total Population				770		Agricultural Infrastructures			
- Household				111		- Farm-to-Market Roads			
- Farm Household Population				112		- Irrigation Facilities			
- Transient Farm Household				1		- Post Harvest Facilities			
5. Annual Average Income (peso)						Rural Infrastructures			
- Agricultural Income				10,510		- Village Water Supply			
- Non-Agricultural Income				3,172		- Electricity			
- Total				13,682		- School			
						- Medical Facilities			
						- Others			
6. Agricultural Situation						12. Environments			
- Major Cultivation Crop				Area(ha)	Yield (ton/ha)				
- Paddy rice, wet season				30	4.95				
- Corn, wet season				18	0.42				
- Paddy rice, dry season				8	3.33				
- Corn, dry season				30	0.56				
- Coconut				12	0.31				
- Marketing Conditions									
7. CARP Status (ha)									
- VOS				Scope	Distributed				
- Total Distributed Area				(ha.)	(%)				
				300	100				
				300	100				
7.1 Beneficiaries									
- CLOA Recipients ARBs				119					
- Total				119					
8. Water Resources									
- Source of Water									
- Water Availability									

Table M.1-1 Outline of Study Areas (12/12)

Name of Study Area : Mat-i ARC, Surigao City, Surigao del Norte

1. Location					Province		Municipal		Barangay	
Reg.					XIII		Sungao del Norte		Sungao City	
No.					1		Mat-i			
200										
3. Land Use (ha)										
Cultivated Land										
- Rice Land					0					
- Upland with annual crops					0					
- Upland with perennial crops					75					
Sub-Total					75					
Cogonal Land					125					
Total					200					
4. Population and Household										
Total Population					795					
Household					150					
Farm Household Population					150					
Transient Farm Household					150					
5. Annual Average Income (peso)										
Agricultural Income					16,986					
Non-Agricultural Income					5,197					
Total					22,183					
6. Agricultural Situation										
Major Cultivation Crop					Area (ha)		Yield (ton/ha)			
- Coconut					99		0.20			
- Banana					32		0.42			
- Cacao					13		0.33			
Marketing Conditions										
7. CARP Status (ha)										
- OLT					Scope (ha.)		Distributed (%)			
- VOS										
- VLT										
- CA										
- Government Land										
- XXX Lands										
- Settlement										
Total Distributed Area					0					
7.1 Beneficiaries										
CLOA Recipients ARBs					150					
Total					160					
8. Water Resources										
Source of Water					2 creeks					
Water Availability					No water sources are available.					

9. Access to the Study Area		Provincial		Municipal		Barangay	
from Main Road		None		None		None	
- Length (km)							
- Road Conditions							
10. Institutional Situation		Name of Organization (year)		ARB's		Total	
People's Organization		Mat-i Farmers Multi-Purpose Coop. (1995)		28		28	
Non-Government Orga.		San Nicolas Faculty and Employees Multi-Purpose Cooperative		0		0	
Agri. Supporting Services		Inadequately provided by Municipal Agricultural Office					
11. Agri. and Rural Infrastruct.							
Agricultural Infrastructures		- No roads are provided to the area.					
- Farm-to-Market Roads		- None					
- Irrigation Facilities		- No particular post harvest facilities					
- Post Harvest Facilities							
Rural Infrastructures		- None					
- Village Water Supply		- None					
- Electricity		- Complete Elementary and Secondary					
- School		- Barangay Health Center					
- Medical Facilities		- Barangay Center, Auditorium, Day Care Center					
- Others							
12. Environments		Soil Erosion		Water Quality		Reforestation	
		Very high		Poor water quality		High 40 ha. cogonal; very high typhoon hazard	
13. Present Problems and Constraints							
		- Conflict with farmer occupants of the land, with a minority group (Lumads)					
		- Lack of technology					
		- Lack of water for irrigation					
		- Lack of farm input					
		- Large area are left as idle land due to non-accessibility, stoney and gravelly soils and inadequate soil fertility					
		- Small cropping intensity and low yield affect crop production					
		- Typhoon hazard; very high soil erosion					
14. Required and Potential Facilities							
		- Nursery station					
		- Demonstration farm					
		- Dispersal of livestock and poultry					
		- Shelter belt establishment					
		- Soil and water conservation structures					
		- Grassland fire control equipment					
		- Paramedic equipment					
		- Access road new opening with river crossing					

Table M.1-2 Inventory Survey of Agriculture and Rural Infrastructure Facilities (1/2)

Items	Sagapac ARC (Region-CAR)	Talugtog ARC (Region-I)	Cotacville ARC (Region-II)	Montilla ARC (Region-III)	Maulawin ARC (Region-IV)	Pag-Asa ARC (Region-V)
1. Rural Roads (Access)						
a) Provincial Roads	2.0 km 5.0 m Concrete - 0.2 km Gravel - 1.8 km	None	5.0 km 8.0 m Gravel - 4.7 km Concrete - 0.3km	None	None	17.0 km 6.0 m Gravel
b) Municipal/City Roads	None	None	None	None	None	None
c) Barangay Roads	6.8 km 5.0 m Earth	4.6 km 6.0 m Concrete - 0.3 km Earth - 4.2 km	3.5 km 6.0 m Earth	4.0 km 6.0 m Earth	6.5 km 6.0 m Earth	5.0 km/3.5 km 6.0 m Earth
2. Irrigation Water Sources						
a) Intake Structures	1 creek, 2 springs Creek is unusable Springs are very small Irrigation (gravity) Minimal in wet season	Ground water Usable with pump Irrigation (pump) 1.5 ha	1 creek/1 spring Spring is usable Irrigation (gravity) Small	2 creeks Unusable No use	1 river No use	1 creek, 1 spring Creek is dried up in dry season Irrigation (gravity) Small
b) Others	4 Water impounding dam Minimal water Pipes are used	None	None	None	None	Earth ditch only Bamboo pipes used
3. Irrigation Facilities						
a) Intake Structures	10 shallow wells 3-9m Used in dry season	3 open wells, pump, pipe 2.5 - 5.6 m 1995-1996 (constructed)	None	None	None	None
b) Others	None	None	None	None	None	None
4. Drainage Facilities						
	None	None	None	None	None	None
5. Farm Roads	Footpath/trail	Footpath	Footpath	Footpath	Footpath	Footpath
6. Rural Water Supply						
a) Operation Level	Level - I & II Ground water/spring	Level - I Ground water/spring DMSU reservoir	Level - I Ground water	Level - I Ground water	Level - I Ground water	Level - I Ground water
b) Water Sources	9 deep wells (all with hand pump)	2 springs for washing 73 Shallow open wells 13 Deep wells (w/ hand pump) 913 persons	1 deep well (motor pump) 28 shallow wells (hand pump) 83 persons	1 level-II system (private) 2 open springs 15 households	8 shallow wells (hand pump)	2 deep wells, insu- fficient (hand pump)
Number of Supply Facilities	189 households					600 persons
7. Electric Power Supply						
a) Electric Cooperative	Supplied	Supplied LUELCO	Supplied	None BATELCO 4.0 km	Supplied QUEZELCO	Supplied, line is cut CASURECO
b) Distance to Existing Line						

Table M.1-2 Inventory Survey of Agriculture and Rural Infrastructure Facilities (2/2)

Items	Abiera Estate (Region-VI)	San Vicente ARC (Region-VII)	Marangog-Leyte ARC (Region-VIII)	Silae ARC (Region-X)	Kipallil ARC (Region-XI)	Mat-i ARC (Region-XIII)
1. Rural Roads (Access) a) Provincial Roads Length Width Kind of Pavement b) Municipal/City Roads Length Width Kind of Pavement c) Barangay Roads Length Width Kind of Pavement	Non-complete access 3.0 km 6.0 m Earth None	None 3.0 km 6.0 m Asphalt - 1.5 km Gravel - 1.5 km 2.0 km 6.0 m Gravel	13.0 km 6.0 m Gravel None 13.0 km/10 km 4.0 m Gravel/Earth	None 3.5 km 6.0 m Gravel 4.0 km 6.0 m Gravel	None None 9.0 km 6.0 m Earth	Non-complete access None 3.0 km 6.0 m Concrete 3.0 km 3.0 m Gravel
2. Irrigation Water Sources Water Sources Discharge Volume/Condition Present Utilization Irrigated Area	1 creek Usable, Located out side of the Area No use Irrigation (gravity)	1 creek (outside area) good No use	2 creeks Usable Irrigation 8.0ha	1 creek Good Irrigation (gravity) 12 ha	2 creeks Unusable No use	
3. Irrigation Facilities a) Intake Structures Type of Structures Intake Discharge Others b) Wells Number of Wells Depth of Wells Others	None Earth ditch only None	None	1 small water pond Earth ditch None	1 intake weir (temp- orary), earth ditch None	None None	
4. Drainage Facilities	None	None	None	None	None	None
5. Farm Roads	Footpath/trail	Footpath	Footpath/trail	Footpath	Footpath/trail	Footpath/trail
6. Rural Water Supply Operation Level Water Sources Number of Supply Facilities Number of Beneficiaries	Open spring Spring 4 open springs (minimal water)	Level-I Ground water 1 deep well (hand pump)	Level-II Spring 1 Level-II system (Most water leaks from pipes) 54 households	Level-I & II Ground water/Spring Deep well (hand pump) 1 Level-II system	Level-I Ground water 2 deep wells (hand pump) 465 persons	None None None
7. Electric Power Supply Electric Cooperative Distance to Existing Line	None AKELCO 1.0 KM	Supplied	None LEYCO 3.0 km	Supplied: Silae Non-supplied: Dalacutan BUSECO 3.5km	None DANECO 4.0 km/3.0 km	None SURNECO 3.0 km

Table M.1-3 Framework of Proposed Agricultural and Rural Infrastructure Plan

Proposed Facilities	Unit	Sappaac ARC (CAR)	Talugtug ARC (R-I)	Cofcaville ARC (R-II)	Montilla ARC (R-III)	Maulawin ARC (R-IV)	Pag-Asa ARC (R-V)	Abiera Estate (R-VI)	San Vicente ARC (R-VII)	Marangog ARC (R-VIII)	Silae ARC (R-IX)	Kipalili ARC (R-XI)	Mat-i ARC (R-XIII)
1. Rural Roads Development													
a) Roads													
Improvement/Rehabilitation	km	4.5	1.2	1.9	4.0	4.7	10.5	4.3	5.7	7.9	—	7.6	—
Upgrading/Concreting	km	2.3	0.3	1.9	—	0.3	0.5	0.5	0.3	1.7	—	0.4	—
New construction (Gravel)	km	—	—	—	—	—	—	1.0	3.6	—	—	—	2.0
do- (Concrete)	km	—	—	—	—	—	—	—	0.4	—	—	—	0.5
b) River crossing	place	1	1	8	—	—	—	5	1	2	—	—	1
c) Multipurpose pavement	place	—	2	—	2	3	4	3	3	—	—	6	1
d) Strengthening motor pool	lot	1	1	1	1	1	1	1	1	1	1	1	—
e) Public transport	lot	1	1	1	1	1	1	1	1	1	2	1	—
2. Irrigation Development													
— Irrigable area & crops	ha	30.0	44.0	7.0	7.0	20	12.0	—	10	15.0	13.2	12.0	—
a) Surface water													
Small water impounding dam	place	1	—	1	—	1	1	—	1	—	1	—	—
River intake/Diversion dam	place	1	—	—	—	—	—	—	—	2	2	1	—
Tank irrigation system	ha	—	—	—	7	—	—	—	—	15	—	—	—
Spring development	place	—	—	—	2	—	—	—	—	—	—	—	—
b) Ground water													
Shallow open well	place	—	20	—	—	—	—	—	—	—	—	—	—
3. Drainage Improvement													
a) Drainage canals	ha	25	44	7	7	20	12	—	10	—	13.2	12	—
4. Farm Roads Development													
a) New construction (Gravel)	km	1.84	3.0	7.25	2.2	2.4	4.5	—	4.0	1.95	2.2	6.0	—
b) do- (Concrete)	km	1.46	—	1.40	0.4	0.4	1.0	—	0.8	1.25	0.5	0.6	—
c) River crossing	place	—	—	4	1	1	2	—	2	4	7	2	—
5. Farm Land Conservation													
a) Contour tree planting	ha	40	20	50	10	30	30	30	40	30	20	30	20
6. Rural Water Supply Dev.													
a) Deep wells - level-I	place	9	5	—	—	4	9	4	2	—	5	7	—
b) Springs - level-I	place	—	—	—	2	—	—	2	—	—	—	—	—
c) Springs - level-II	place	—	—	—	1	—	—	—	—	1	—	—	—
c) Water treatment plant	place	—	5	—	—	4	—	6	—	—	—	—	—
7. Rural Electrification Dev.													
a) Electric power line	km	—	—	—	4.0	—	—	5.5	—	—	3.5	9.0	—

FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (1/12)

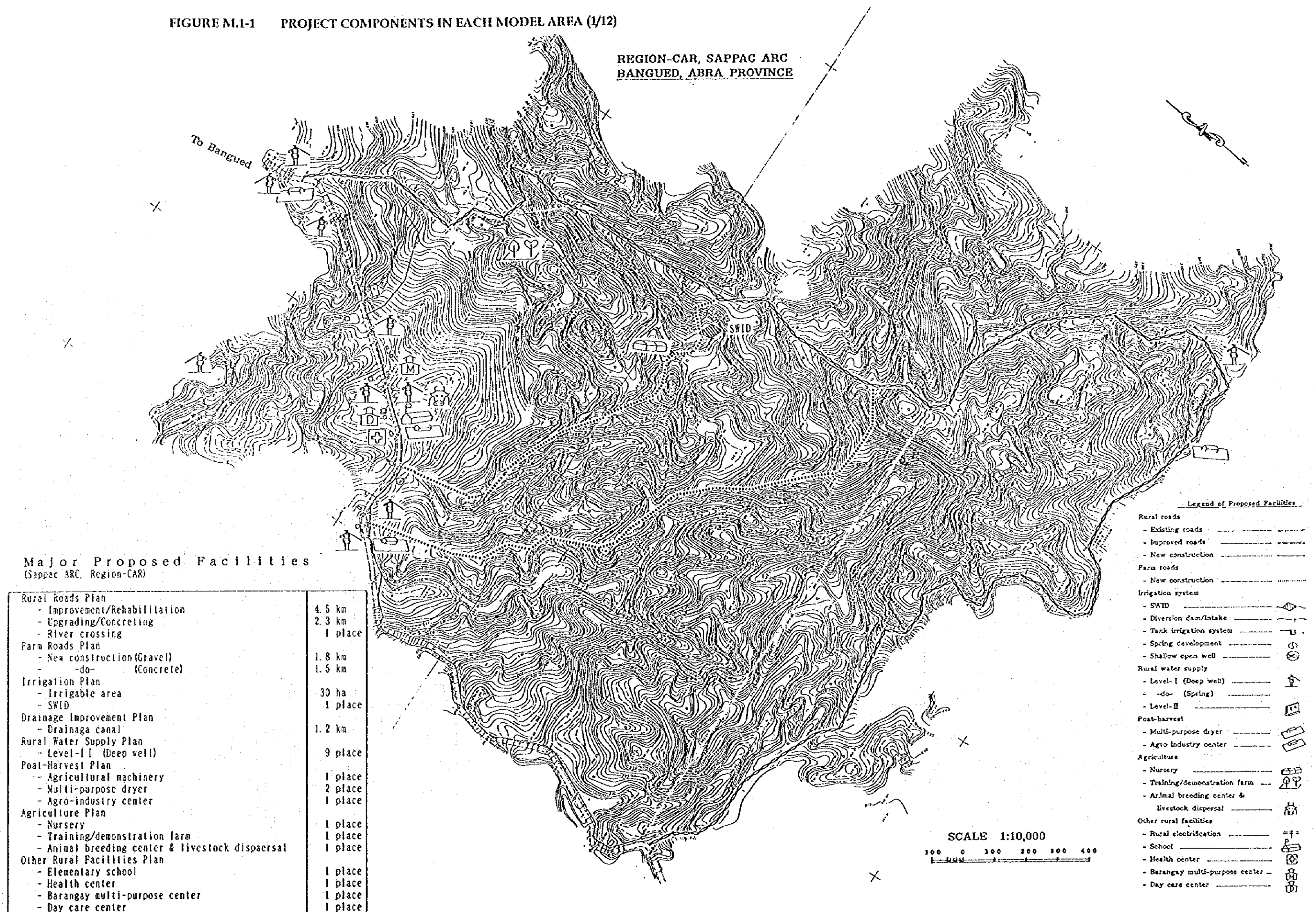


FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL ARFA (2/12)

REGION- I, TALUGTOG ARC
SAN JUAN, LA UNION PROVINCE

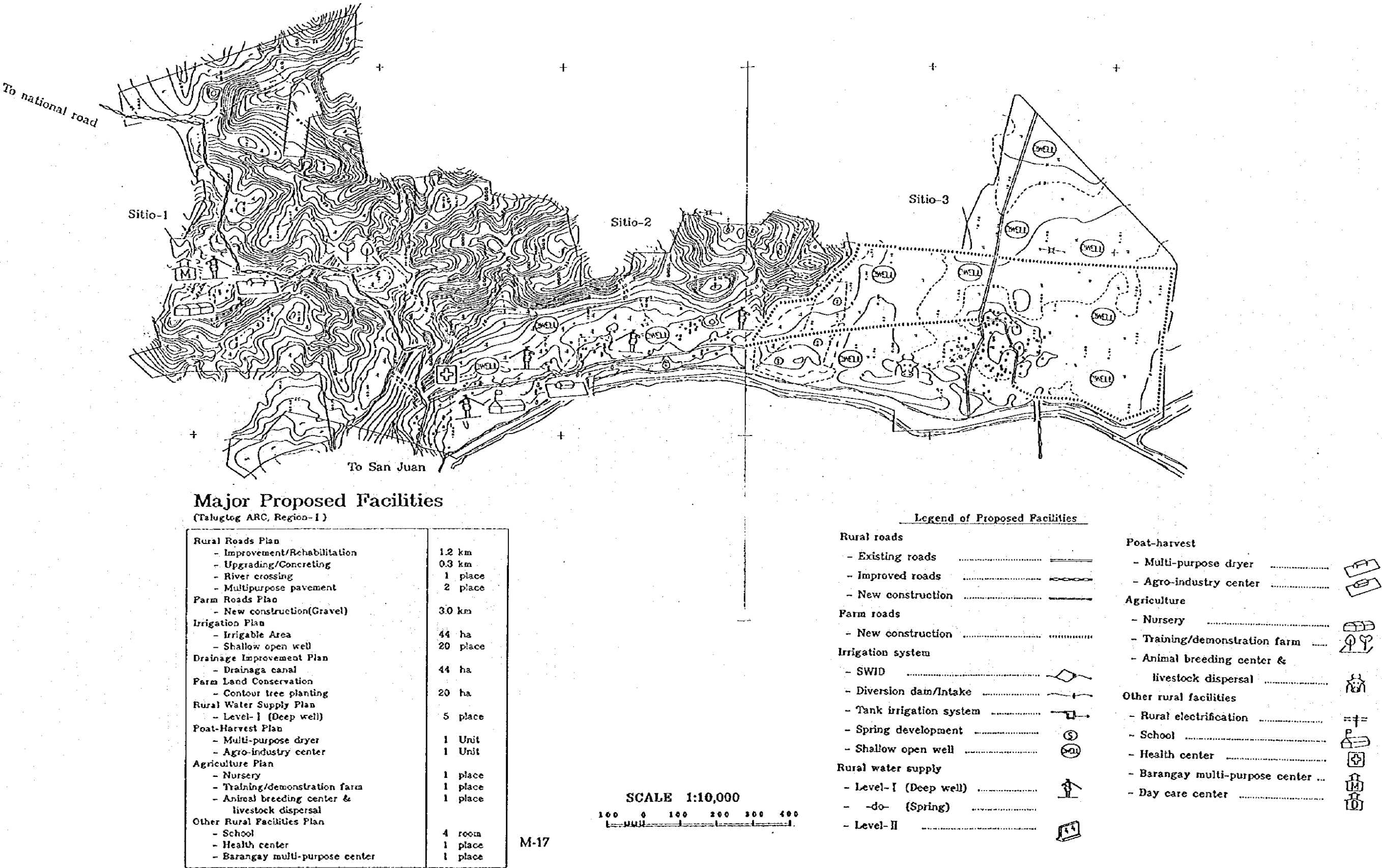


FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (3/12)

REGION-II, COFCVILLE ARC
MADDELA, QUIRINO PROVINCE



Major Proposed Facilities
(Cofcaville ARC, Region-II)

Rural Roads Plan	
- Improvement/Rehabilitation	1.9 km
- Upgrading/Concreting	1.9 km
- River crossing	8 place
Farm Roads Plan	
- New construction (Gravel)	7.3 km
- do- (Concrete)	1.4 km
- River crossing	4 place
Irrigation Plan	
- Irrigable Area	7 ha
- SWID	1 place
Drainage Improvement Plan	
- Drainage canal	0.7 km
Post-Harvest Plan	
- Agricultural machinery	1 place
- Multi-purpose dryer	2 place
- Agro-industry center	1 place
Agriculture Plan	
- Nursery	1 place
- Training/demonstration farm	1 place
- Animal breeding center & livestock dispersal	1 place
Other Rural Facilities Plan	
- Elementary school	1 place

Legend of Proposed Facilities

Rural roads	
- Existing roads	—
- Improved roads	—
- New construction	—
Farm roads	
- New construction	—
Irrigation system	
- SWID	—
- Diversion dam/intake	—
- Tank irrigation system	—
- Spring development	—
- Shallow open well	—
Rural water supply	
- Level-I (Deep well)	—
- do- (Spring)	—
- Level-II	—
Post-harvest	
- Multi-purpose dryer	—
- Agro-industry center	—
Agriculture	
- Nursery	—
- Training/demonstration farm	—
- Animal breeding center & livestock dispersal	—
Other rural facilities	
- Rural electrification	—
- School	—
- Health center	—
- Barangay multi-purpose center	—
- Day care center	—

SCALE 1:10,000

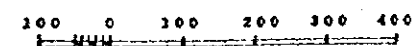


FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (4/12)

REGION-III, MONTILLA ARC
BALANGA, BATAAN PROVINCE

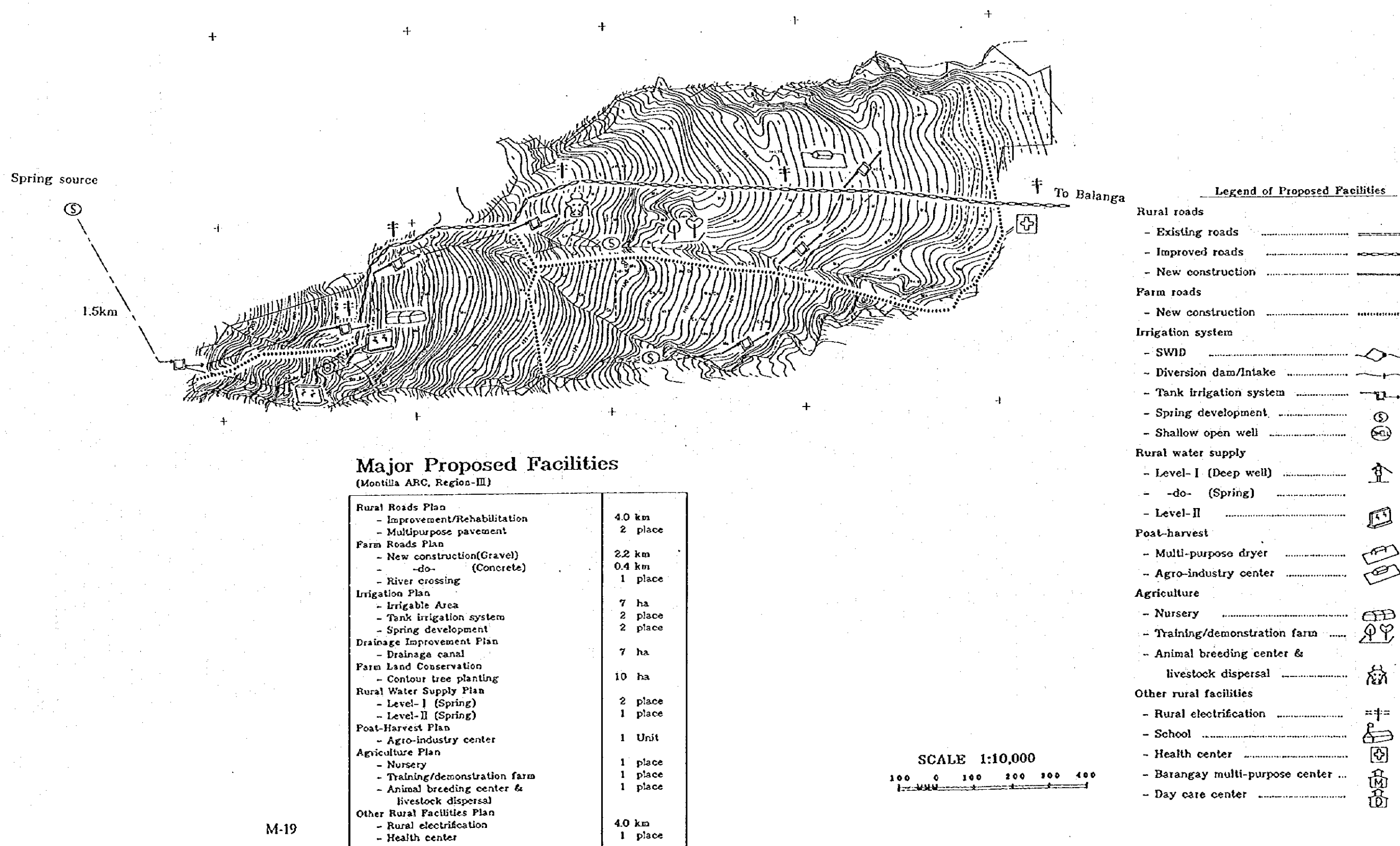
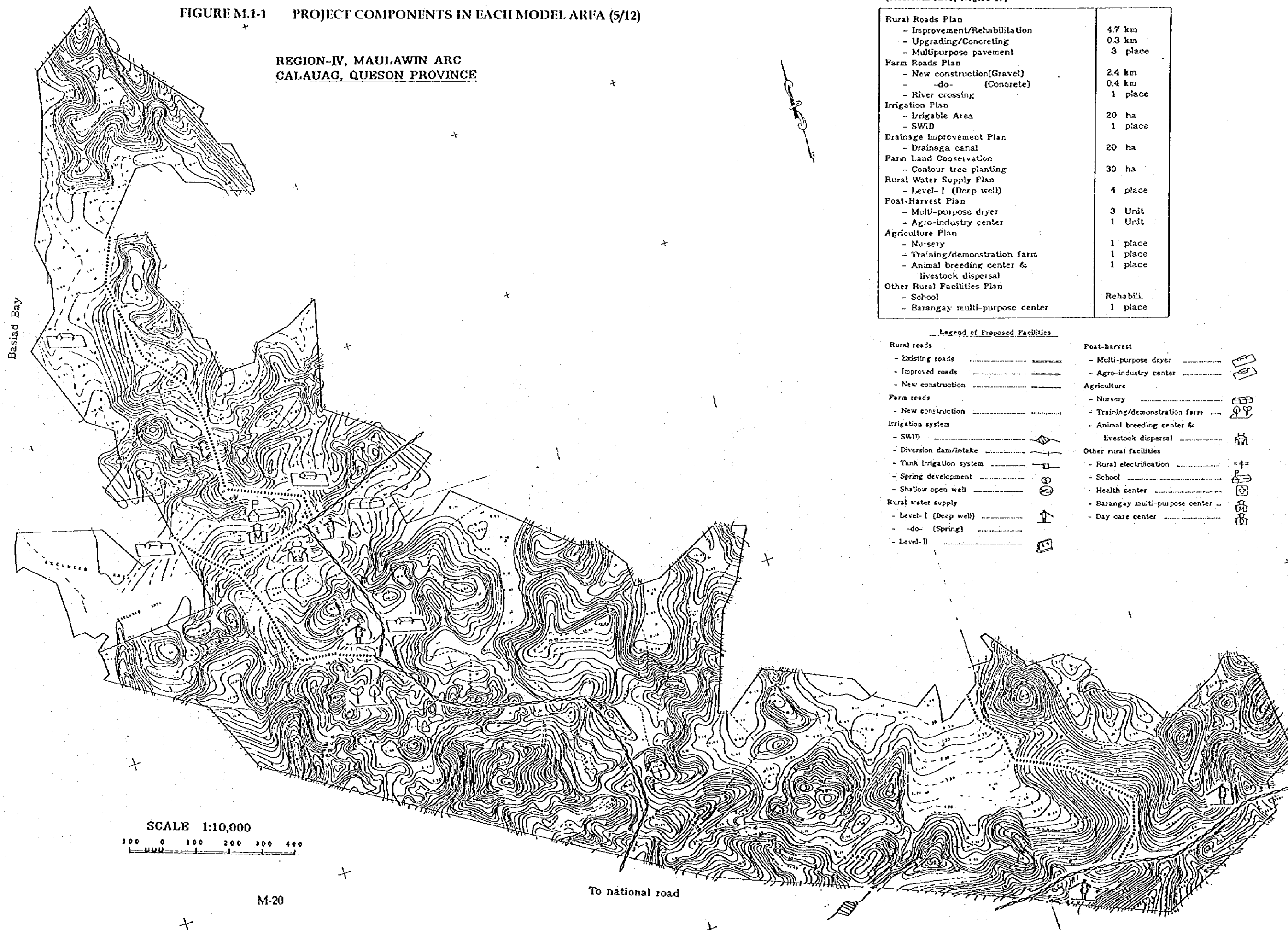


FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (5/12)

REGION-IV, MAULAWIN ARC
CALAUAG, QUESON PROVINCE



Major Proposed Facilities

(Maulawin ARC, Region-IV)

Rural Roads Plan	
- Improvement/Rehabilitation	4.7 km
- Upgrading/Concreting	0.3 km
- Multipurpose pavement	3 place
Farm Roads Plan	
- New construction(Gravel)	2.4 km
- -do- (Concrete)	0.4 km
- River crossing	1 place
Irrigation Plan	
- Irrigable Area	20 ha
- SWID	1 place
Drainage Improvement Plan	
- Drainage canal	20 ha
Farm Land Conservation	
- Contour tree planting	30 ha
Rural Water Supply Plan	
- Level-I (Deep well)	4 place
Post-Harvest Plan	
- Multi-purpose dryer	3 Unit
- Agro-industry center	1 Unit
Agriculture Plan	
- Nursery	1 place
- Training/demonstration farm	1 place
- Animal breeding center & livestock dispersal	1 place
Other Rural Facilities Plan	
- School	Rehabili.
- Barangay multi-purpose center	1 place

Legend of Proposed Facilities

Rural roads		Post-harvest	
- Existing roads	-----	- Multi-purpose dryer	-----
- Improved roads	-----	- Agro-industry center	-----
- New construction	-----	Agriculture	
Farm roads		- Nursery	-----
- New construction	-----	- Training/demonstration farm	-----
Irrigation system		- Animal breeding center & livestock dispersal	-----
- SWID	-----	Other rural facilities	
- Diversion dam/intake	-----	- Rural electrification	-----
- Tank irrigation system	-----	- School	-----
- Spring development	-----	- Health center	-----
- Shallow open well	-----	- Barangay multi-purpose center	-----
Rural water supply		- Day care center	-----
- Level-I (Deep well)	-----		
- -do- (Spring)	-----		
- Level-II	-----		

FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (6/12)

REGION-V, PAG-ASA ARC
TINAMBAC, CAMARINES SUR PROVINCE



Major Proposed Facilities
(Pag-asa ARC, Region-V)

Rural Roads Plan	
- Improvement/Rehabilitation	105 km
- Upgrading/Concreting	0.5 km
- Multipurpose pavement	4 place
Farm Roads Plan	
- New construction(Gravel)	4.5 km
- -do- (Concrete)	1.0 km
- River crossing	2 place
Irrigation Plan	
- Irrigable Area	12 ha
- SWID	1 place
Drainage Improvement Plan	
- Drainage canal	12 ha
Farm Land Conservation	
- Contour tree planting	30 ha
Rural Water Supply Plan	
- Level- I (Deep well)	9 place
Post-Harvest Plan	
- Multi-purpose dryer	2 Unit
- Agro-industry center	1 Unit
Agriculture Plan	
- Nursery	1 place
- Training/demonstration farm	1 place
- Animal breeding center & livestock dispersal	1 place
Other Rural Facilities Plan	
- School	3 room
- Health center	1 place
- Barangay multi-purpose center	1 place

Legend of Proposed Facilities

Rural roads	
- Existing roads	=====
- Improved roads	-----
- New construction	-----
Farm roads	
- New construction	-----
Irrigation system	
- SWID	=====
- Diversion dam/Intake	=====
- Tank irrigation system	=====
- Spring development	=====
- Shallow open well	=====
Rural water supply	
- Level- I (Deep well)	=====
- -do- (Spring)	=====
- Level-II	=====
Post-harvest	
- Multi-purpose dryer	=====
- Agro-industry center	=====
Agriculture	
- Nursery	=====
- Training/demonstration farm	=====
- Animal breeding center & livestock dispersal	=====
Other rural facilities	
- Rural electrification	=====
- School	=====
- Health center	=====
- Barangay multi-purpose center	=====
- Day care center	=====

SCALE 1:10,000

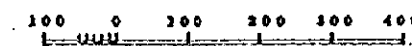
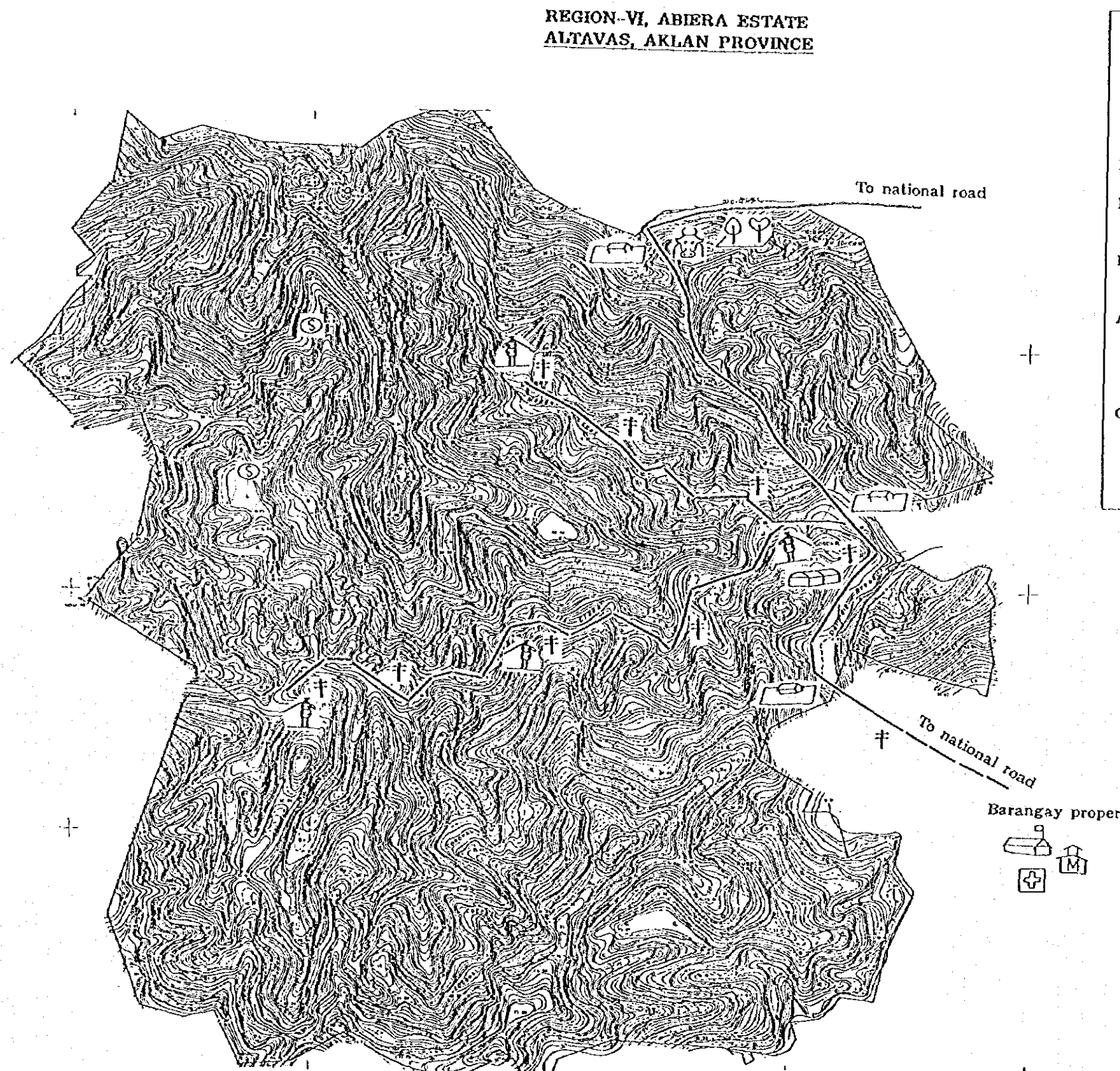


FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (7/12)



Major Proposed Facilities

(Abiera Estate, Region-VI)

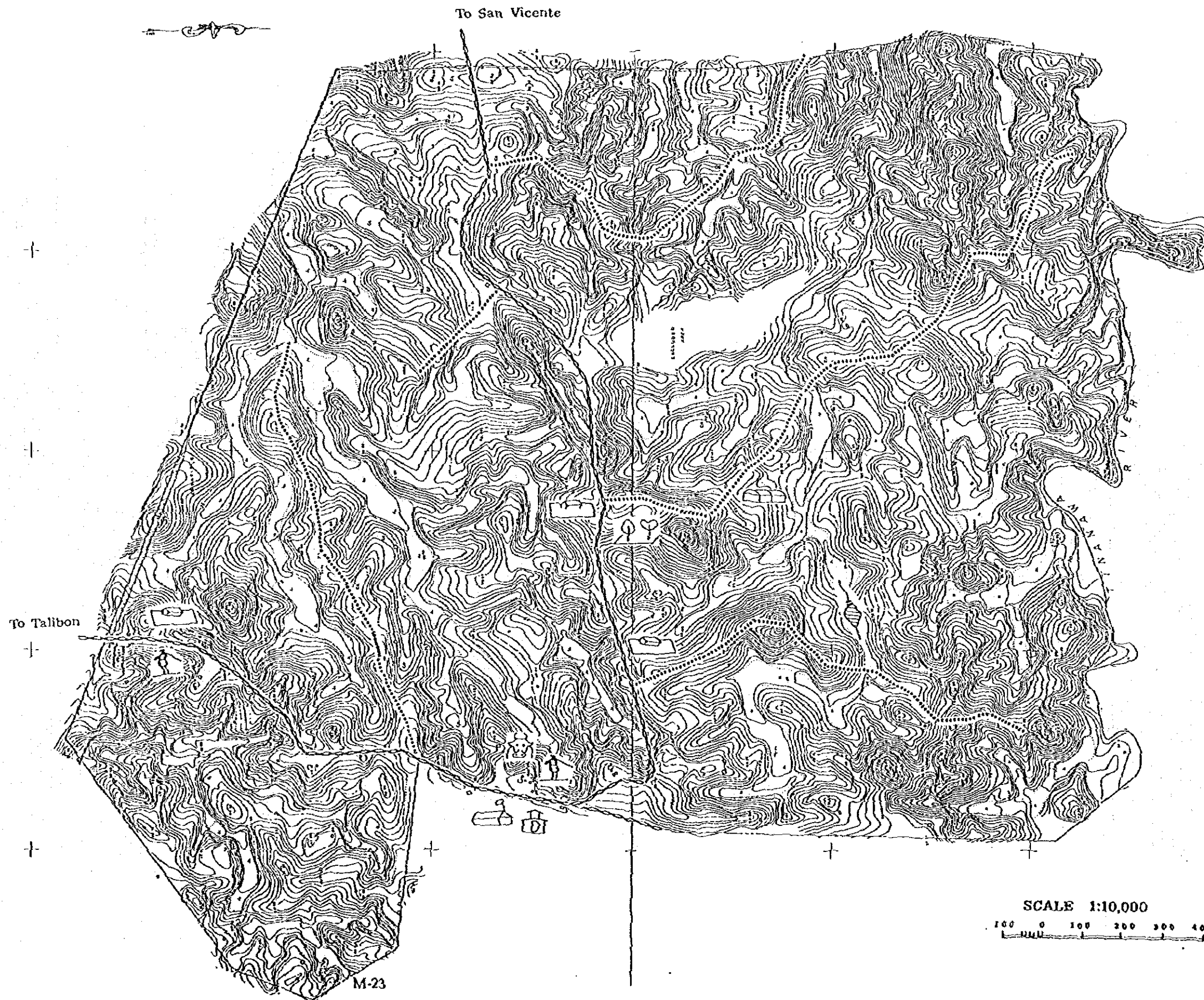
Rural Roads Plan	
- Improvement/Rehabilitation	4.3 km
- Upgrading/Concreting	0.5 km
- New construction(Gravel)	6.4 km
- -do- (Concrete)	1.0 km
- River crossing	5 place
- Multipurpose pavement	3 place
Farm Land Conservation	
- Contour tree planting	30 ha
Rural Water Supply Plan	
- Level- I (Deep well)	4 place
- Level- I (Spring)	2 place
Post-Harvest Plan	
- Multi-purpose dryer	2 Unit
- Agro-industry center	1 Unit
Agriculture Plan	
- Nursery	1 place
- Training/demonstration farm	1 place
- Animal breeding center & livestock dispersal	1 place
Other Rural Facilities Plan	
- Rural electrification	5.5 km
- School	3 room
- Health center	1 place
- Barangay multi-purpose center	1 place

Legend of Proposed Facilities

Rural roads	
- Existing roads	.....
- Improved roads	.....
- New construction	.....
Farm roads	
- New construction	.....
Irrigation system	
- SWID	.....
- Diversion dam/Intake	.....
- Tank irrigation system	.....
- Spring development	.....
- Shallow open well	.....
Rural water supply	
- Level- I (Deep well)	.....
- -do- (Spring)	.....
- Level- II	.....
Post-harvest	
- Multi-purpose dryer	.....
- Agro-industry center	.....
Agriculture	
- Nursery	.....
- Training/demonstration farm	.....
- Animal breeding center & livestock dispersal	.....
Other rural facilities	
- Rural electrification	.....
- School	.....
- Health center	.....
- Barangay multi-purpose center	.....
- Day care center	.....

FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (8/12)

REGION-V II, SAN VICENTE ARC
TRINIDAD, BOHOL PROVINCE



Major Proposed Facilities

(San Vicente ARC, Region-VII)

Rural Roads Plan	
- Improvement/Rehabilitation	5.7 km
- Upgrading/Concreting	0.3 km
- New construction(Gravel)	3.6 km
- -do- (Concrete)	0.4 km
- River crossing	1 place
- Multipurpose pavement	3 place
Farm Roads Plan	
- New construction(Gravel)	4.0 km
- -do- (Concrete)	0.8 km
- River crossing	2 place
Irrigation Plan	
- Irrigable Area	10 ha
- SWID	1 place
Drainage Improvement Plan	
- Drainage canal	10 ha
Farm Land Conservation	
- Contour tree planting	40 ha
Rural Water Supply Plan	
- Level-I (Deep well)	2 place
Post-Harvest Plan	
- Multi-purpose dryer	1 Unit
- Agro-industry center	2 Unit
Agriculture Plan	
- Nursery	1 place
- Training/demonstration farm	1 place
- Animal breeding center & livestock dispersal	1 place
Other Rural Facilities Plan	
- School	4 room
- Day care center	1 place

Legend of Proposed Facilities

Rural roads	
- Existing roads	=====
- Improved roads	=====
- New construction	-----
Farm roads	
- New construction	-----
Irrigation system	
- SWID	=====
- Diversion dam/Intake	=====
- Tank irrigation system	=====
- Spring development	=====
- Shallow open well	=====
Rural water supply	
- Level-I (Deep well)	=====
- -do- (Spring)	=====
- Level-II	=====
Post-harvest	
- Multi-purpose dryer	=====
- Agro-industry center	=====
Agriculture	
- Nursery	=====
- Training/demonstration farm	=====
- Animal breeding center & livestock dispersal	=====
Other rural facilities	
- Rural electrification	=====
- School	=====
- Health center	=====
- Barangay multi-purpose center	=====
- Day care center	=====

FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (9/12)

REGION-VIII, MARANGOG-LEYTE ARC
HILONGOS, LEYTE PROVINCE

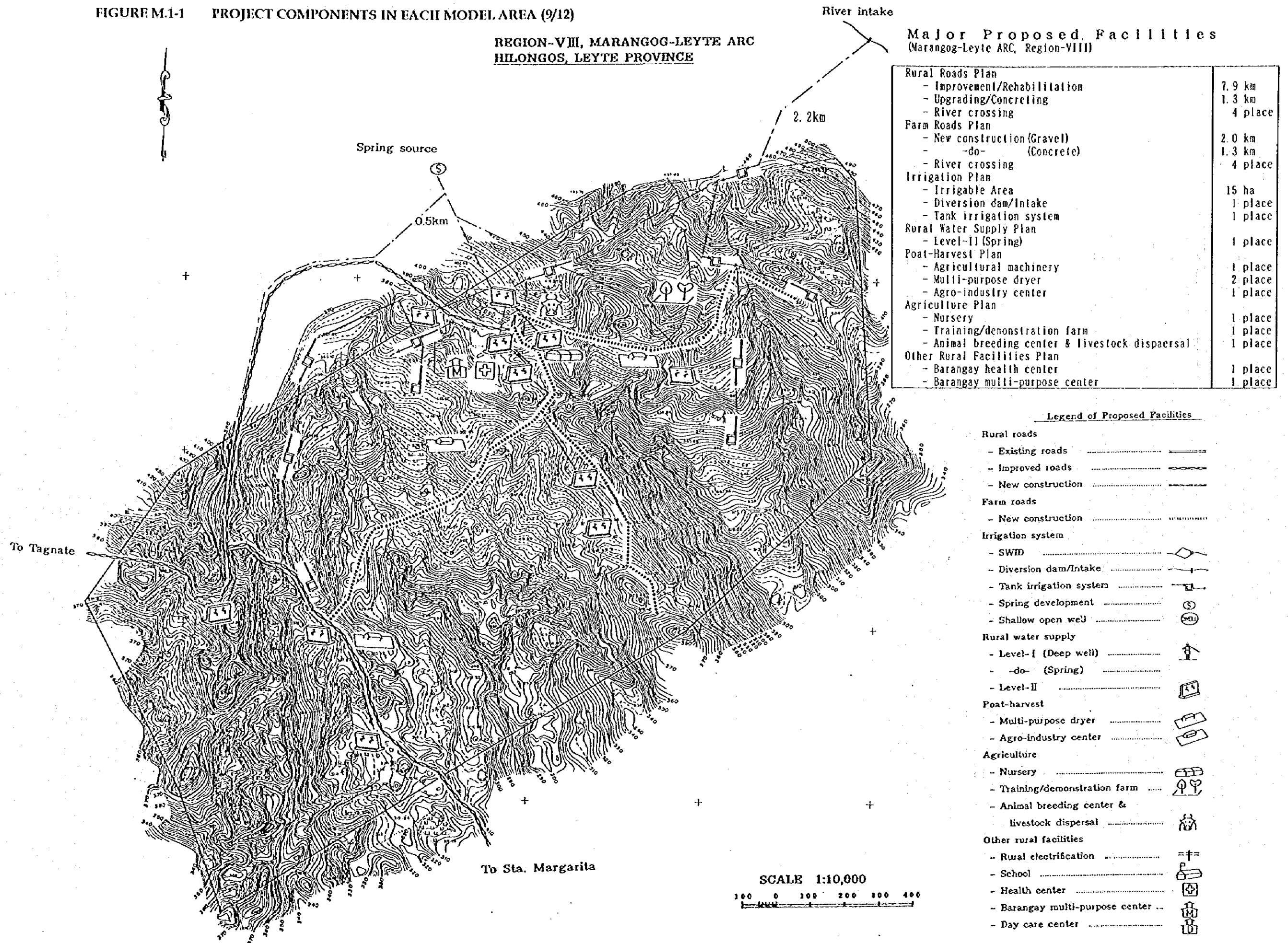


FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (10/12)

REGION-X, SILAE ARC
MALAYBALAY, BUKIDNON PROVINCE

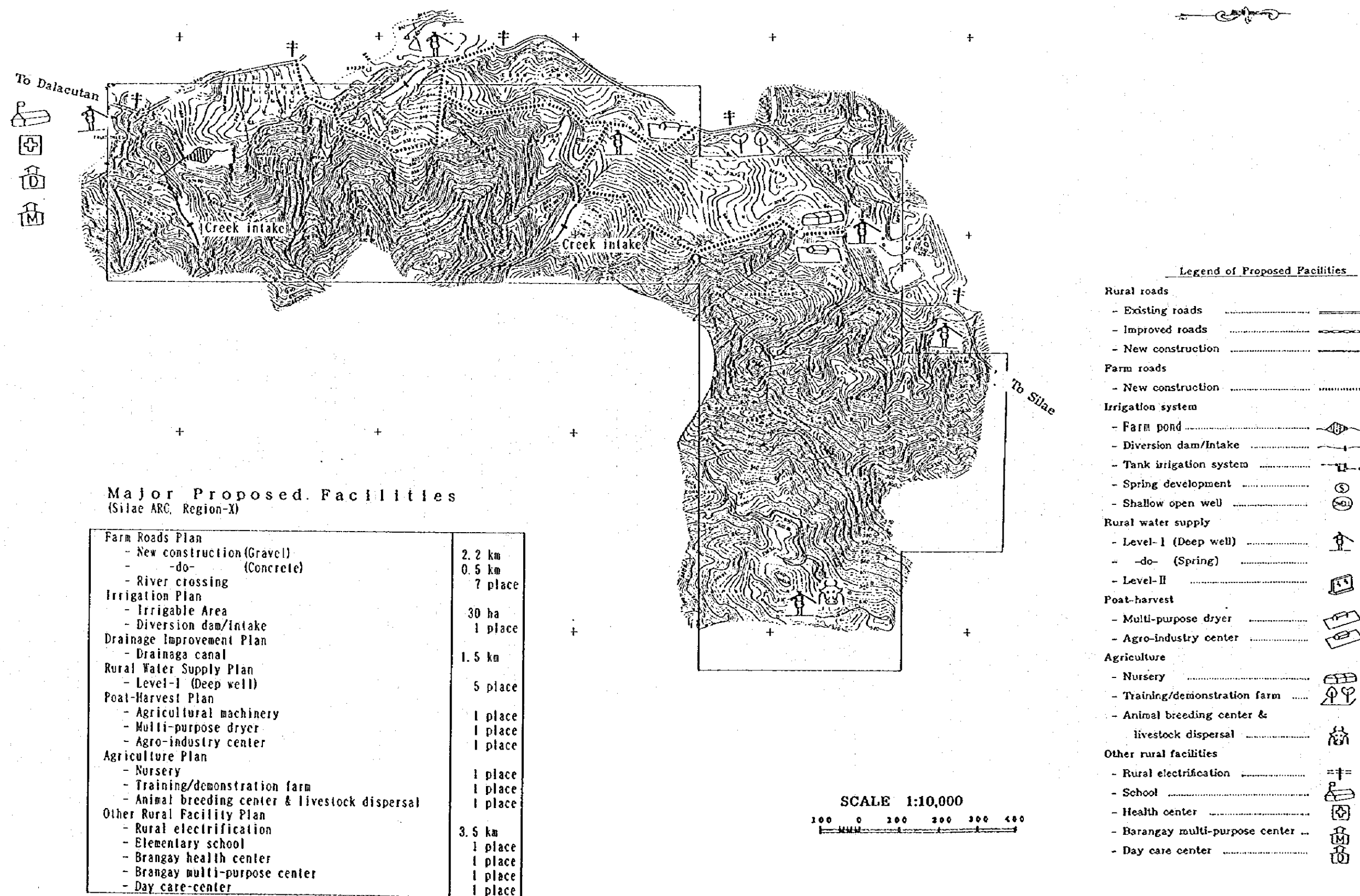


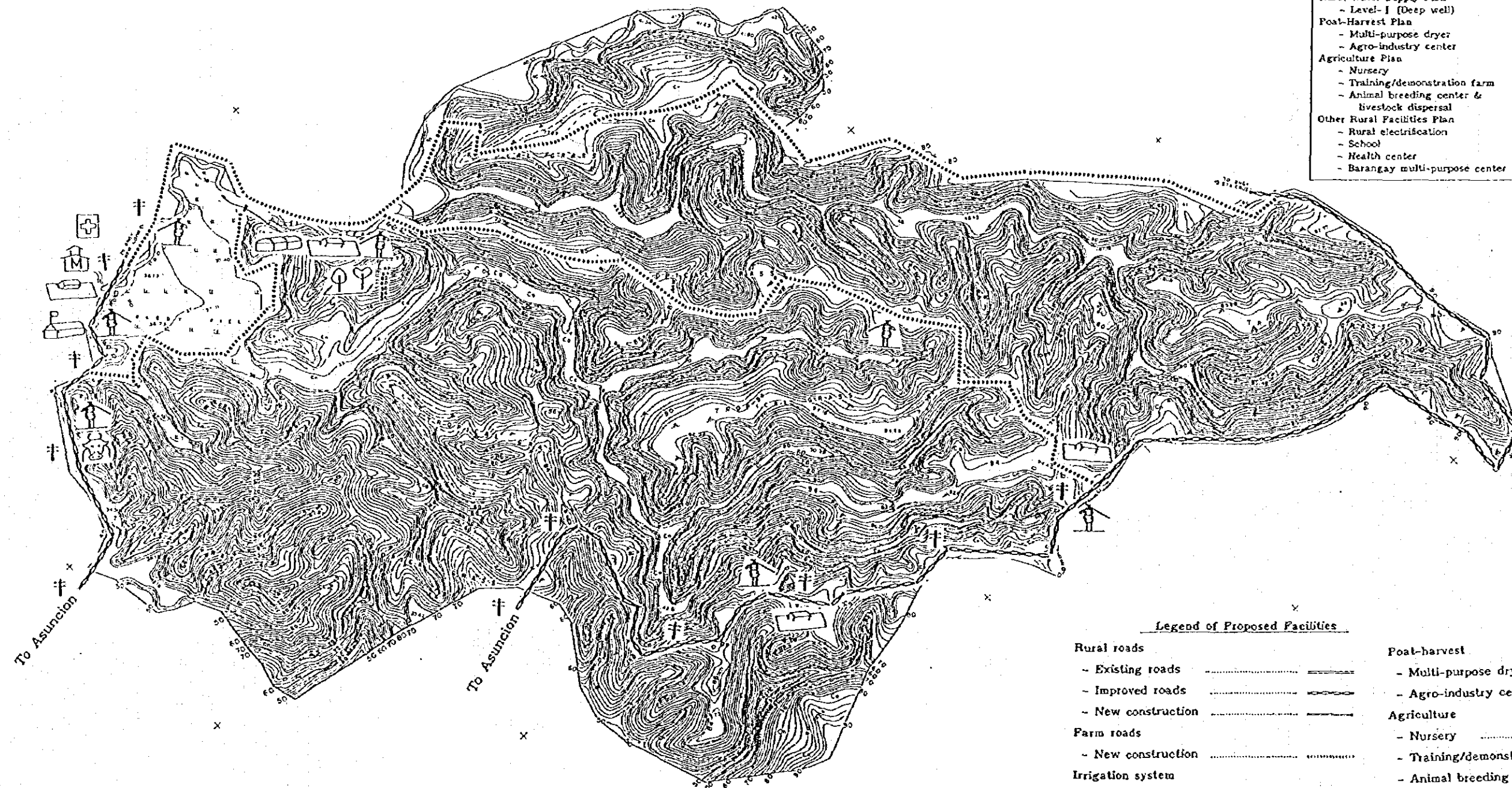
FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (11/12)

REGION-X I, KIPALILI ARC
ASUNCION, DAVAO PROVINCE

Major Proposed Facilities

(Kipalili ARC, Region-X I)

Rural Roads Plan	
- Improvement/Rehabilitation	7.6 km
- Upgrading/Concrete	0.4 km
- Multipurpose pavement	8 place
Farm Roads Plan	
- New construction(Gravel)	6.0 km
- -do- (Concrete)	0.6 km
- River crossing	2 place
Irrigation Plan	
- Irrigable Area	12 ha
- Diversion dam/Intake	1 place
Drainage Improvement Plan	
- Drainage canal	12 ha
Farm Land Conservation	
- Contour tree planting	30 ha
Rural Water Supply Plan	
- Level-I (Deep well)	7 place
Post-Harvest Plan	
- Multi-purpose dryer	3 Unit
- Agro-industry center	1 Unit
Agriculture Plan	
- Nursery	1 place
- Training/demonstration farm	1 place
- Animal breeding center & livestock dispersal	1 place
Other Rural Facilities Plan	
- Rural electrification	9.0 km
- School	3 room
- Health center	1 place
- Barangay multi-purpose center	1 place



Legend of Proposed Facilities

Rural roads		Post-harvest	
- Existing roads	=====	- Multi-purpose dryer	=====
- Improved roads	=====	- Agro-industry center	=====
- New construction	-----	Agriculture	
Farm roads		- Nursery	=====
- New construction	-----	- Training/demonstration farm	=====
Irrigation system		- Animal breeding center & livestock dispersal	=====
- SWID	=====	Other rural facilities	
- Diversion dam/Intake	=====	- Rural electrification	=====
- Tank irrigation system	=====	- School	=====
- Spring development	=====	- Health center	=====
- Shallow open well	=====	- Barangay multi-purpose center	=====
Rural water supply		- Day care center	=====
- Level-I (Deep well)	=====		
- -do- (Spring)	=====		
- Level-II	=====		

SCALE 1:10,000

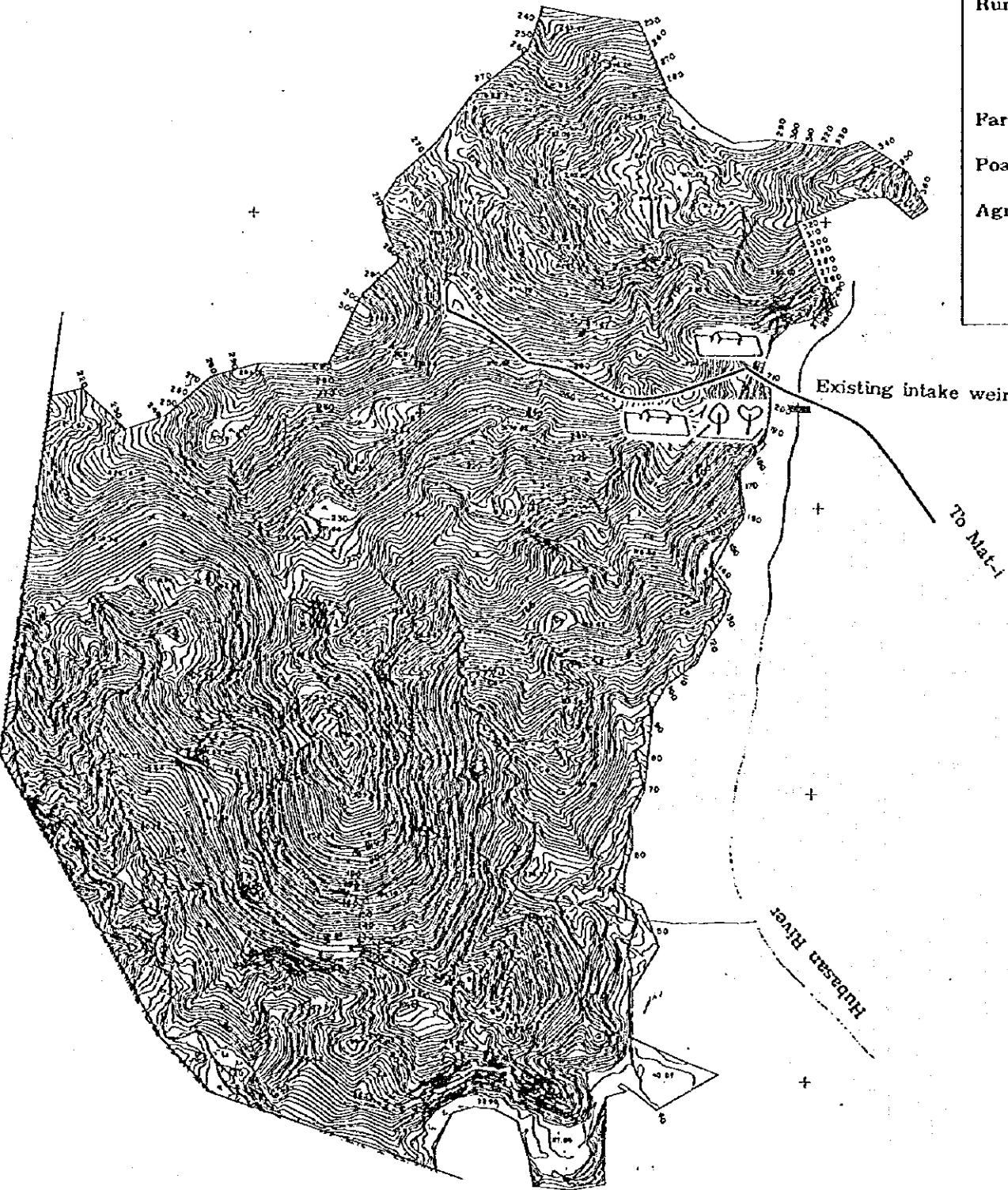
100 0 100 200 300 400

FIGURE M.1-1 PROJECT COMPONENTS IN EACH MODEL AREA (12/12)

REGION-XIII, MAT-I ARC
SURIGAO CITY, SURIGAO DEL NORTE PROVINCE

Major Proposed Facilities
(Mat-i ARC, Region-XIII)

Rural Roads Plan	
- New construction(Gravel)	2.0 km
- -do- (Concrete)	0.5 km
- River crossing	1 place
- Multipurpose pavement	1 place
Farm Land Conservation	
- Contour tree planting	20 ha
Post-Harvest Plan	
- Multi-purpose dryer	2 Unit
Agriculture Plan	
- Nursery	1 place
- Training/demonstration farm	1 place
- Animal breeding center & livestock dispersal	1 place



Legend of Proposed Facilities	
Rural roads	
- Existing roads	=====
- Improved roads	-----
- New construction	-----
Farm roads	
- New construction	-----
Irrigation system	
- SWID	-----
- Diversion dam/Intake	-----
- Tank irrigation system	-----
- Spring development	-----
- Shallow open well	-----
Rural water supply	
- Level- I (Deep well)	-----
- -do- (Spring)	-----
- Level- II	-----
Post-harvest	
- Multi-purpose dryer	-----
- Agro-industry center	-----
Agriculture	
- Nursery	-----
- Training/demonstration farm	-----
- Animal breeding center & livestock dispersal	-----
Other rural facilities	
- Rural electrification	-----
- School	-----
- Health center	-----
- Barangay multi-purpose center	-----
- Day care center	-----

Table M. 2-1 Equipment List Owned by Abra Provincial Government (R-CAR)

As of Oct. 1996

No.	Name of Equipment	Description (Make, Model, Size)	No. of Unit	Year Acquired	Condition
1	Dump Truck	Nissan, TK-20	7	1990	Operational
2	Payloader	Kawasaki, 60Z-II	2	1990	-do-
3	Bulldozer	Fiat Allis, FD-20	2	1990	-do-
4	Grader	Mitsubishi, MG-330	2	1990	-do-
5	Water Truck	Nissan, TK-80	2	1990	-do-
6	Road Roller	Cummins, SD-100	2	1990	-do-

Table M. 2-2 Equipment List Owned by Bangued Municipal Government (R-CAR)

As of Oct. 1996

No.	Name of Equipment	Description (Make, Model, Size)	No. of Unit	Year Acquired	Condition
		None			

Table M. 2-3 Equipment List Owned by Quirino Provincial Government (R-II)

As of Oct. 1996

No.	Name of Equipment	Description (Make, Model, Size)	No. of Unit	Year Acquired	Condition
1	Dump Truck	Isuzu, 10-Wheeler	5		Operational
2	Dump Truck	Nissan, 6-Wheeler	4		-do-
3	Dump Truck	Hino, 6-Wheeler	1		-do-
4	Motor Grader	Mitsubishi	3		-do-
5	Wheel Loader	Furukawa	1		-do-
6	Wheel Loader	Kawasaki	1		-do-
7	Wheel Loader	Komatsu, WA-400	1		-do-
8	Bulldozer	Komatsu, D65-A	1		-do-
9	Bulldozer	Komatsu, D60	1		-do-
10	Road Roller	Ingersoll Rand	1		-do-
11	Tractor Head	Fuso, Low bed	1		-do-
12	Pick-up	Nissan	2		-do-

Table M. 2-4 Equipment List Owned by Maddela Municipal Government (R-II)

As of Oct. 1996

No.	Name of Equipment	Description (Make, Model, Size)	No. of Unit	Year Acquired	Condition
1	Owner Jeep	Renegade type	1	1994	Operational
2	Garbage Dump Truck	6x6, D.T.	1	1994	-do-
3	Dump Truck	Isuzu-V10, 10-Wheeler	2	1996	-do-
4	Payloader	JH-63, 2.5 cu.m	1	1996	-do-
5	Grader	L-26H, W=3.0m	1	1996	-do-
6	Back-hoe	0.2 cu.m	1	1996	-do-

Table M. 2-5 Equipment List Owned by Hilongos Municipal Government (R-VIII)

As of Oct. 1996

No.	Name of Equipment	Description (Make, Model, Size)	No. of Unit	Year Acquired	Condition
1	Dump Truck	6-Wheeler, 10 cu.m	2		
2	Payloader	G-60	1		
3	Bulldozer	D-80	1		
4	Grader	G-31	1		

Table MI. 2-6 Equipment List Owned by Malaybalay Provincial Government (R-X)

As of Oct. 1996

No.	Name of Equipment	Description (Make, Model, Size)	No. of Unit	Year Acqu.	Condition
1	Jeep	Wrangler, Samurai	2		Operational
2	Pick-up	Ford, Isuzu	8		6 Operational 2 Under repair
3	Van Dodge		2		1 Operational 1 Under repair
4	Dump Truck	Mitsubishi, Isuzu, Hino	10		4 Operational 6 Under repair
5	Grader	Mitsubishi	3		Operational
6	Bulldozer	Komatsu, D80A, D65,	4		2 Operational 2 Under repair
7	Fork Lift		1		Operational
8	Tractor	Lawn Mower	1		Operational
9	Stake Truck	6BB1			Operational
	Others				

Table MI. 2-7 Equipment List Owned by Malaybalay Municipal Government (R-X)

As of Oct. 1996

No.	Name of Equipment	Description (Make, Model, Size)	No. of Unit	Year Acquired	Condition
1	Dump Truck	10-Wheeler, 10cu.m	3		Operational
2	Grader	W=3.0m	1		-do-
3	Payloader	2.5 cu.m	1		-do-
4	Bulldozer	D80-A	1		-do-

Table MI. 2-8 Equipment List Owned by Cabanglasan Municipal Government (R-X)

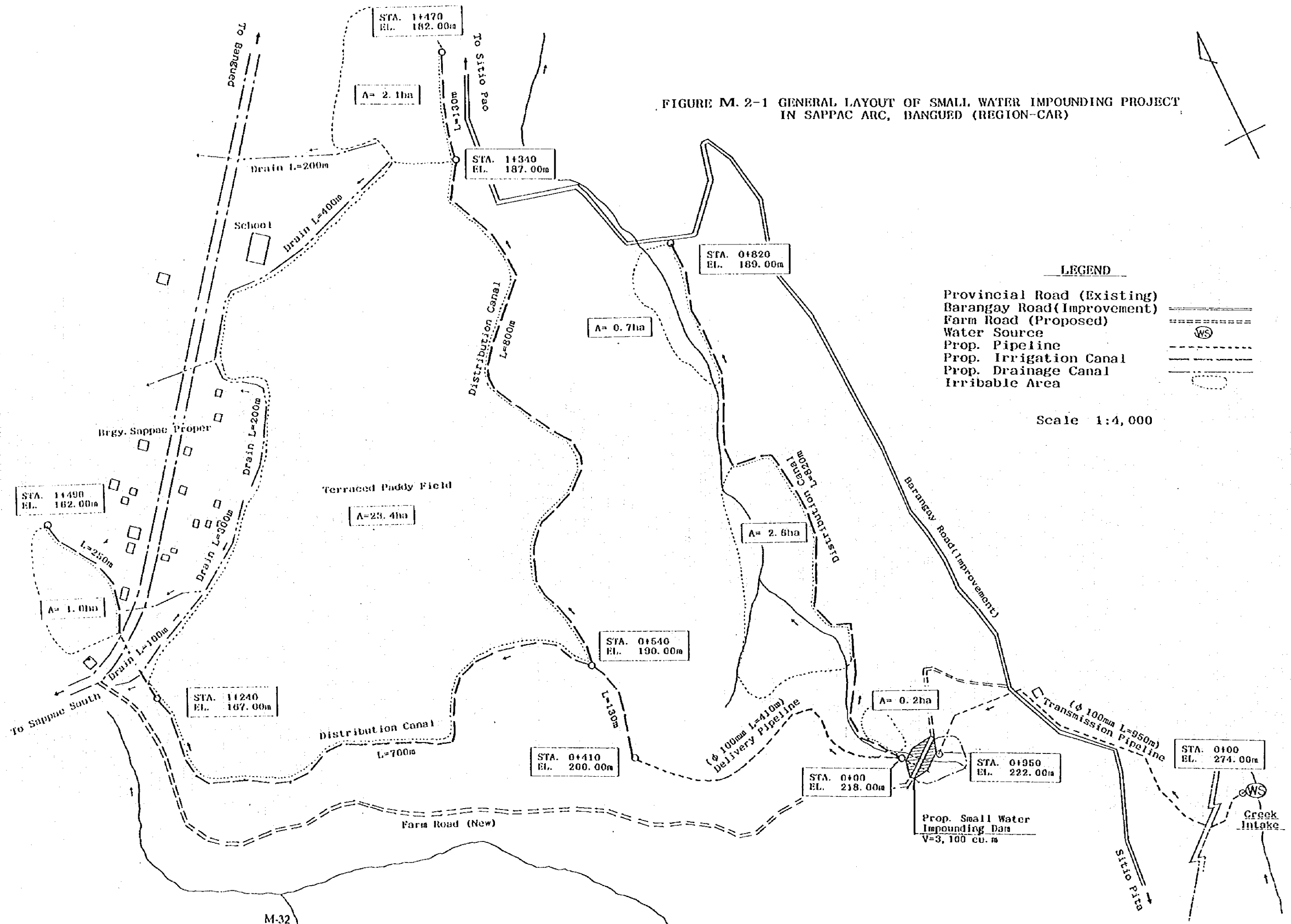
As of Oct. 1996

No.	Name of Equipment	Description (Make, Model, Size)	No. of Unit	Year Acquired	Condition
1	Grader		1		

Table M. 2-9 Details of Structural Components of SWID and Farm Pond

Particulars	Sappac ARC (R-CAR)	Cofcavill ARC (R-II)	Silae ARC (R-X)
1. Dam			
a. Dam Type	Homogeneous Earthfill		
b. Dam Height (m)	4.40	3.40	3.50
c. Crest Width (m)	5.00	6.00	2.00
d. Crest Length (m)	52.00	71.00	136.00
e. Catchment Area (ha)	7.20	6.25	--
f. Reservoir Area (sq.m)	2,900	5,200	3,800
g. Effective Storage Capacity (cu.m)	3,100	3,000	2,900
h. Sediment Volume (cu.m)	930	800	--
i. Dam Embankment Volume (cu.m)	2,500	2,200	2,300
j. Upstream Slope	2.5:1	2.5:1	2.0:1
k. Downstream Slope	2.5:1	2.5:1	2.0:1
2. Spillway			
a. Spillway Width (m)	2.50	2.00	1.00
b. Spillway Length (m)	40.00	45.00	14.20
c. Overflow Depth (m)	0.50	0.50	--
d. Design Flood Discharge (cu.m/sec)	1.40	1.10	--
e. Stilling Basin Type	Hydraulic Jump Type		
3. Outlet Works			
a. Type	Inlet concrete structure, steel pipes with gate valve and impact type outlet box		
b. Pipe Diameter (ϕ m)	0.20	0.15	0.15
c. Pipe Length	25.00	24.00	12.00
d. Gate Valve Diameter (ϕ m)	0.20	0.15	0.15
4. Purpose of Dam	Irrigation and fish culture		

FIGURE M. 2-1 GENERAL LAYOUT OF SMALL WATER IMPOUNDING PROJECT
IN SAPPAC ARC, BANGUED (REGION-CAR)



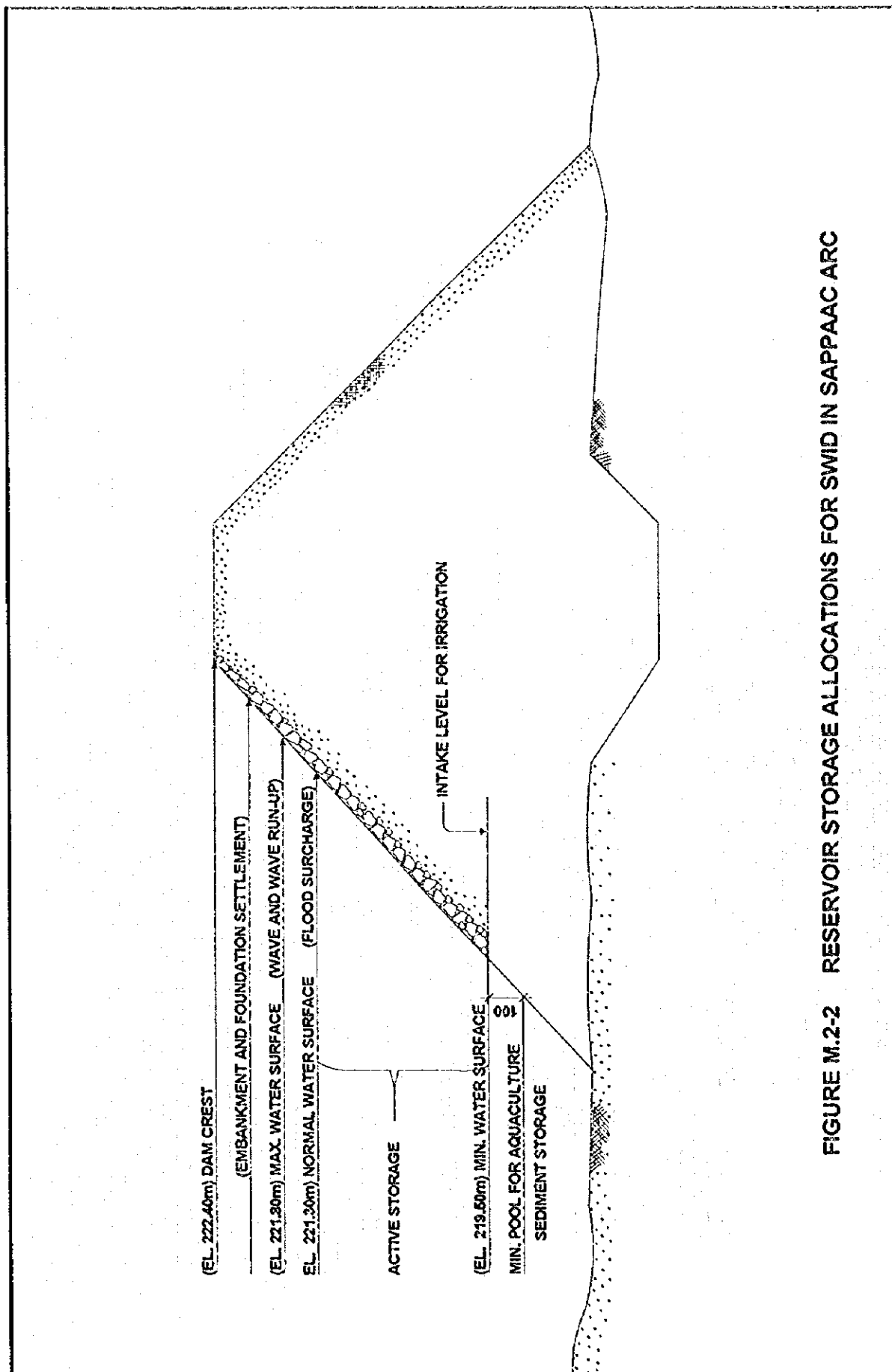
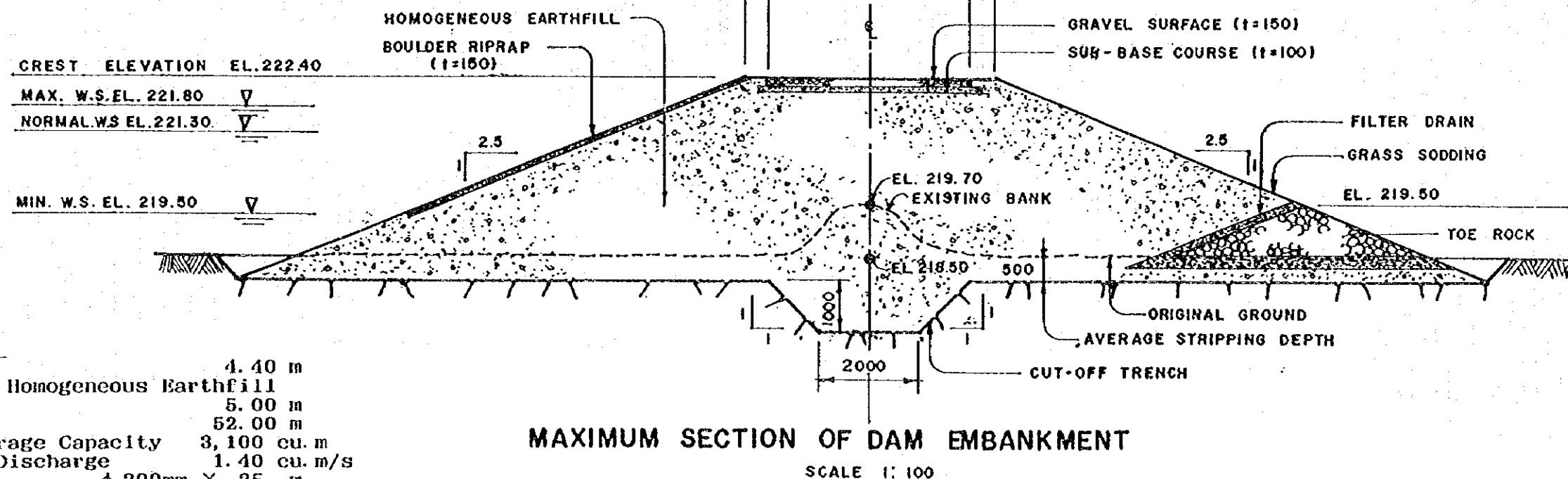
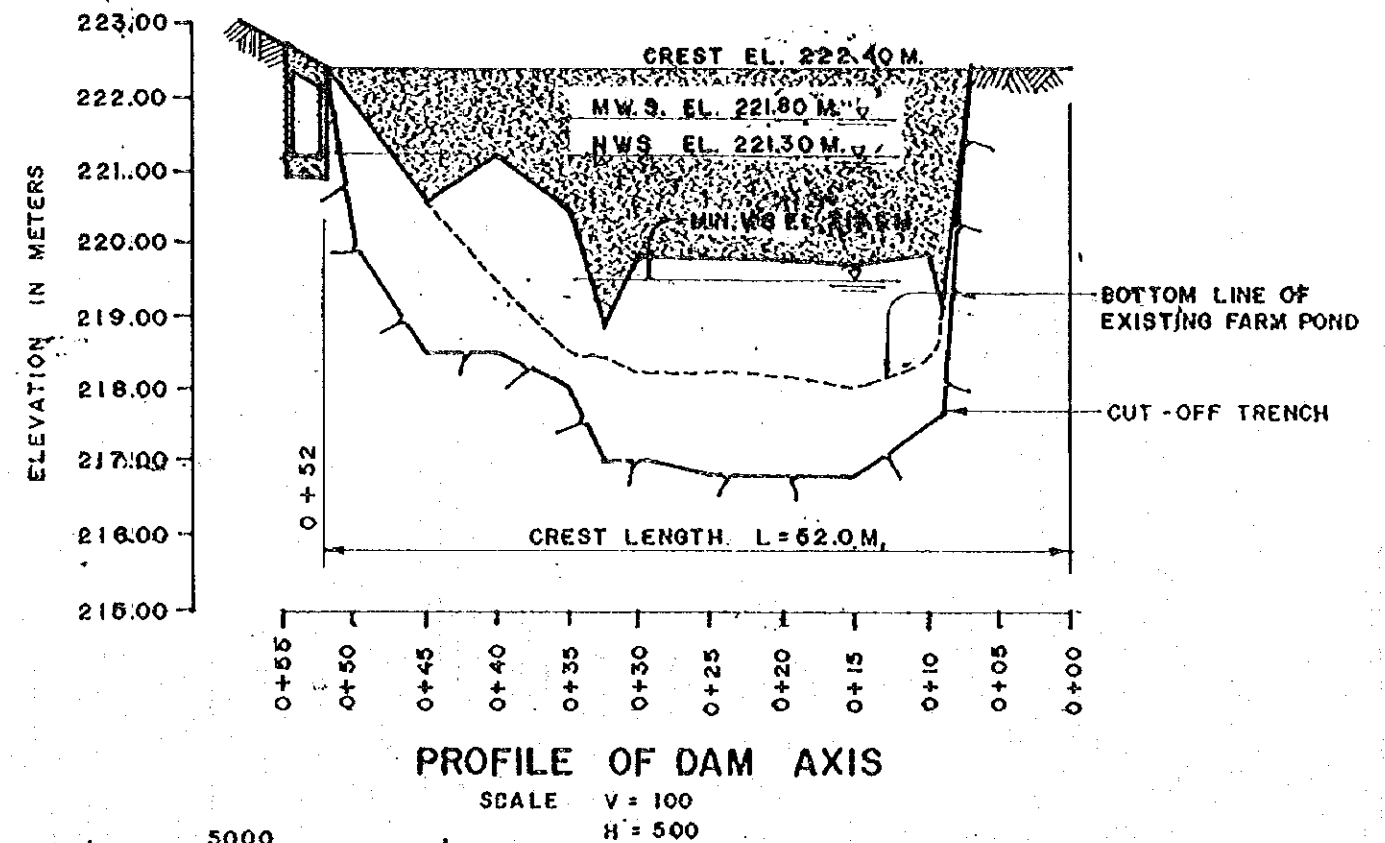
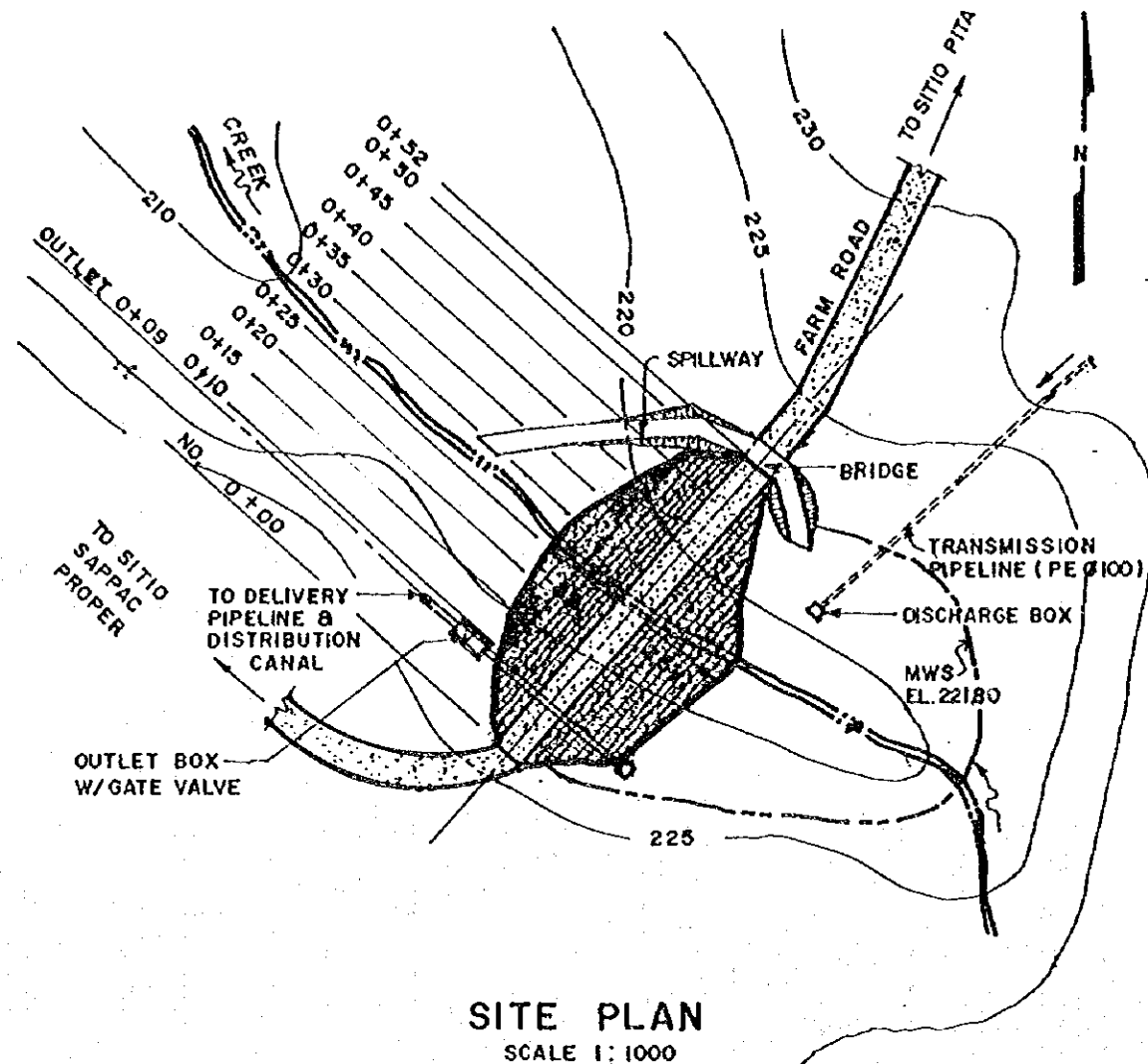


FIGURE M.2-2 RESERVOIR STORAGE ALLOCATIONS FOR SWID IN SAPPAAC ARC

FIGURE M. 2-3 PLAN OF SMALL WATER IMPOUNDING DAM IN SAPPAC ARC



Dam Description

Dam Height	4.40 m
Dam Type	: Homogeneous Earthfill
Crest Width	5.00 m
Crest Length	52.00 m
Effective Storage Capacity	3,100 cu. m
Design Flood Discharge	1.40 cu. m/s
Outlet Pipe	φ 200mm X 25 m
Irrigation Area	30.0 ha
Watershed Protection Area	7.2 ha

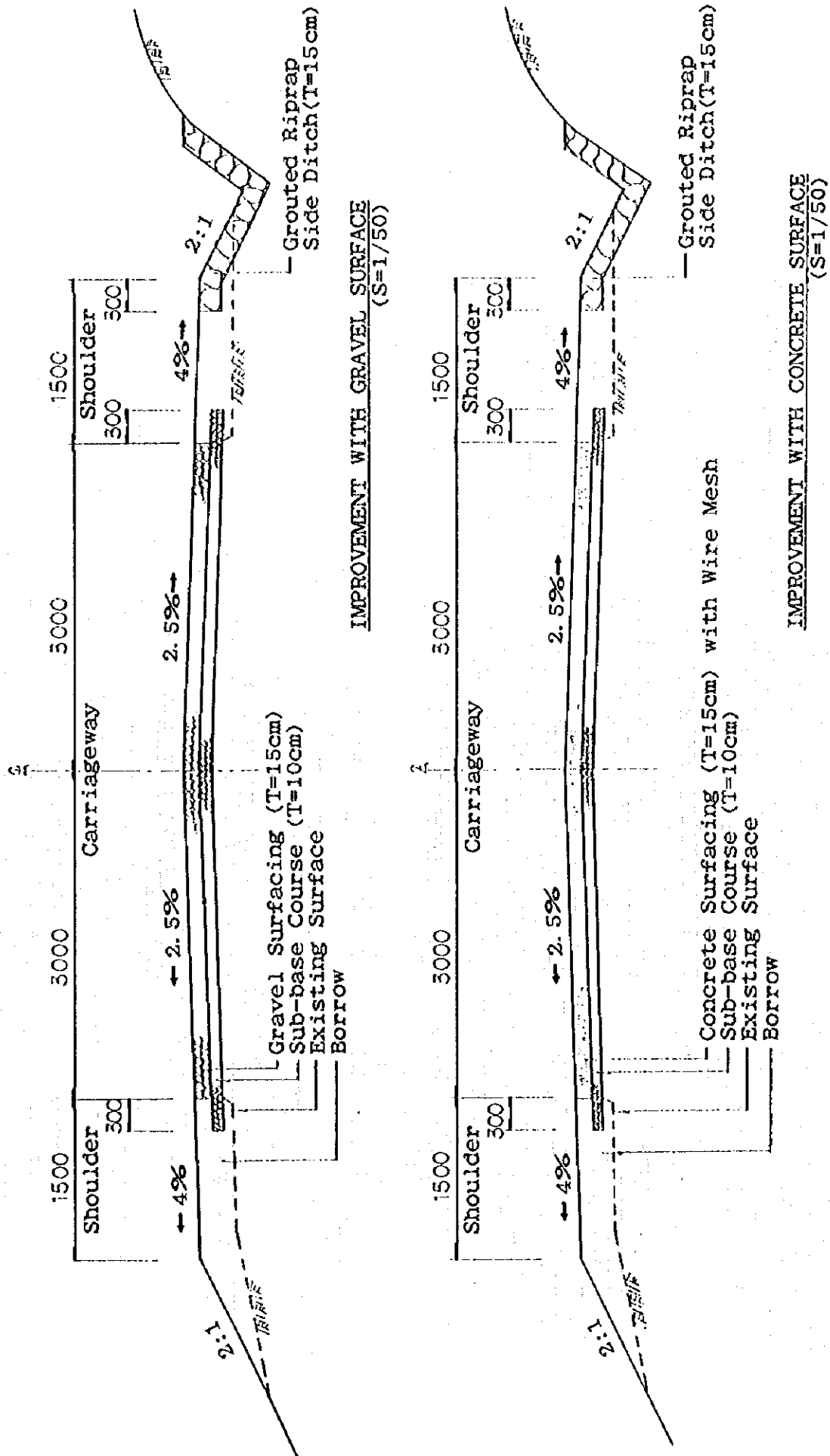


FIGURE M. 2-4 STANDARD CROSS SECTION OF PROVINCIAL ROAD

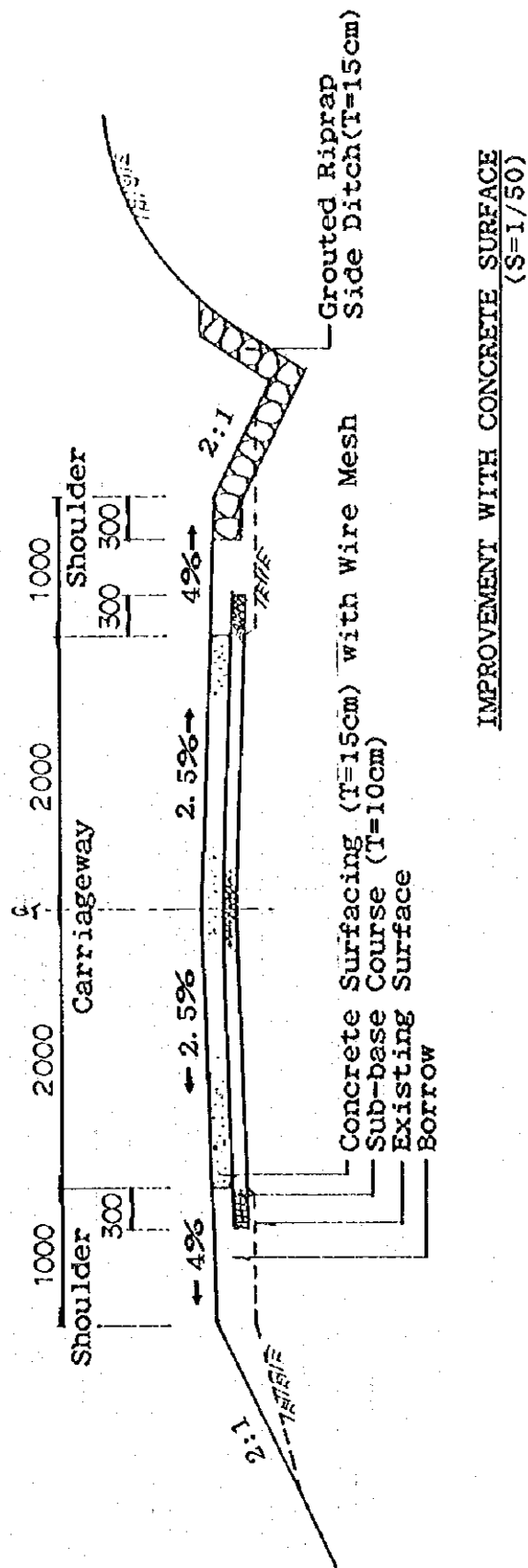
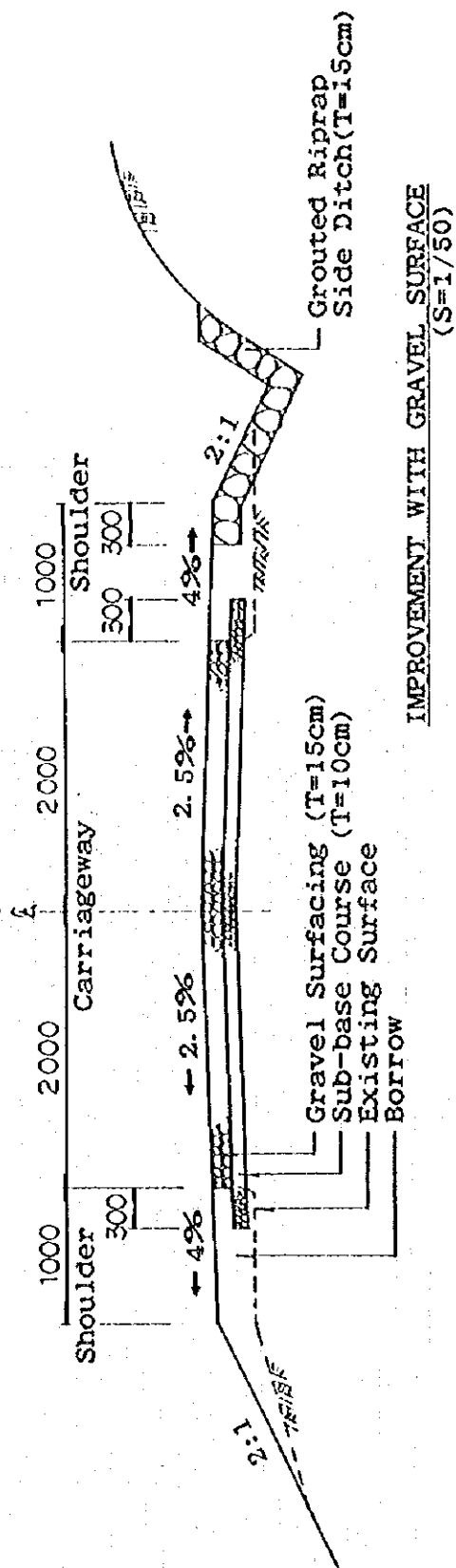


FIGURE M.2-5 STANDARD CROSS SECTION OF BARANGAY ROAD

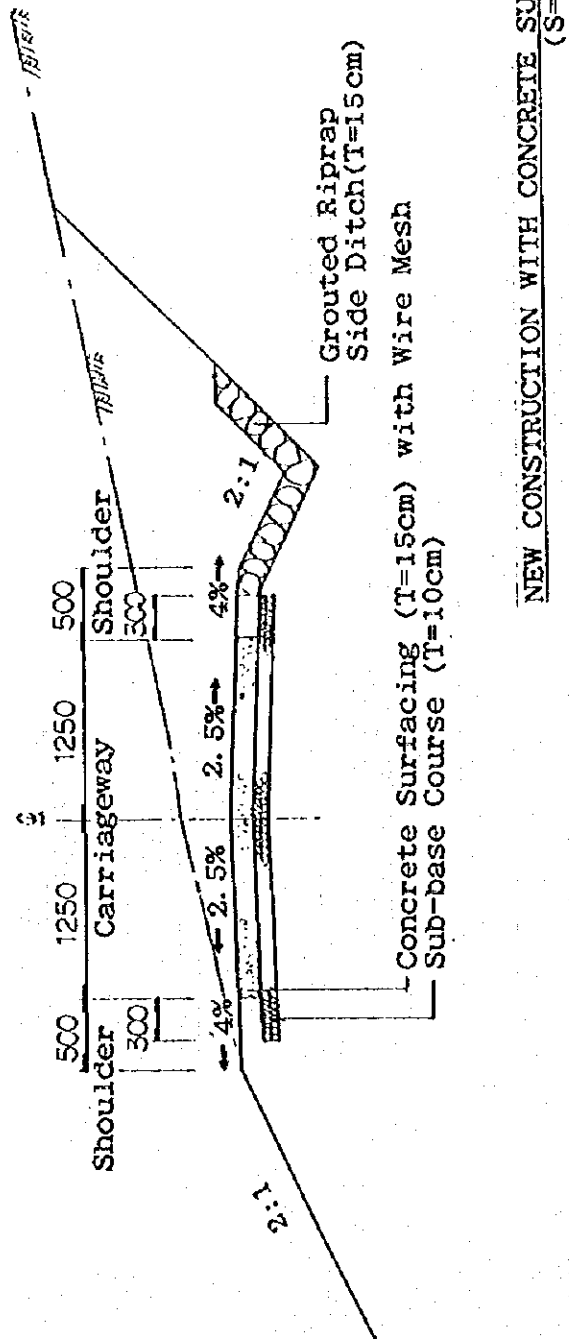
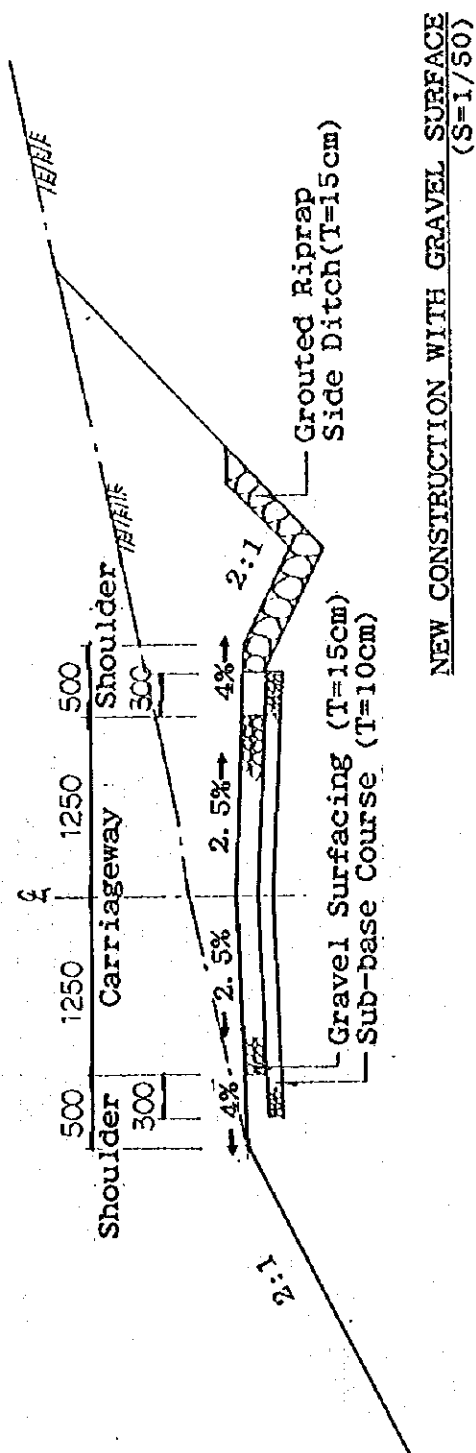


FIGURE M. 2-6 STANDARD CROSS SECTION OF FARM ROAD

FIGURE M.2-7 STANDARD CROSS SECTION OF DEEP WELL

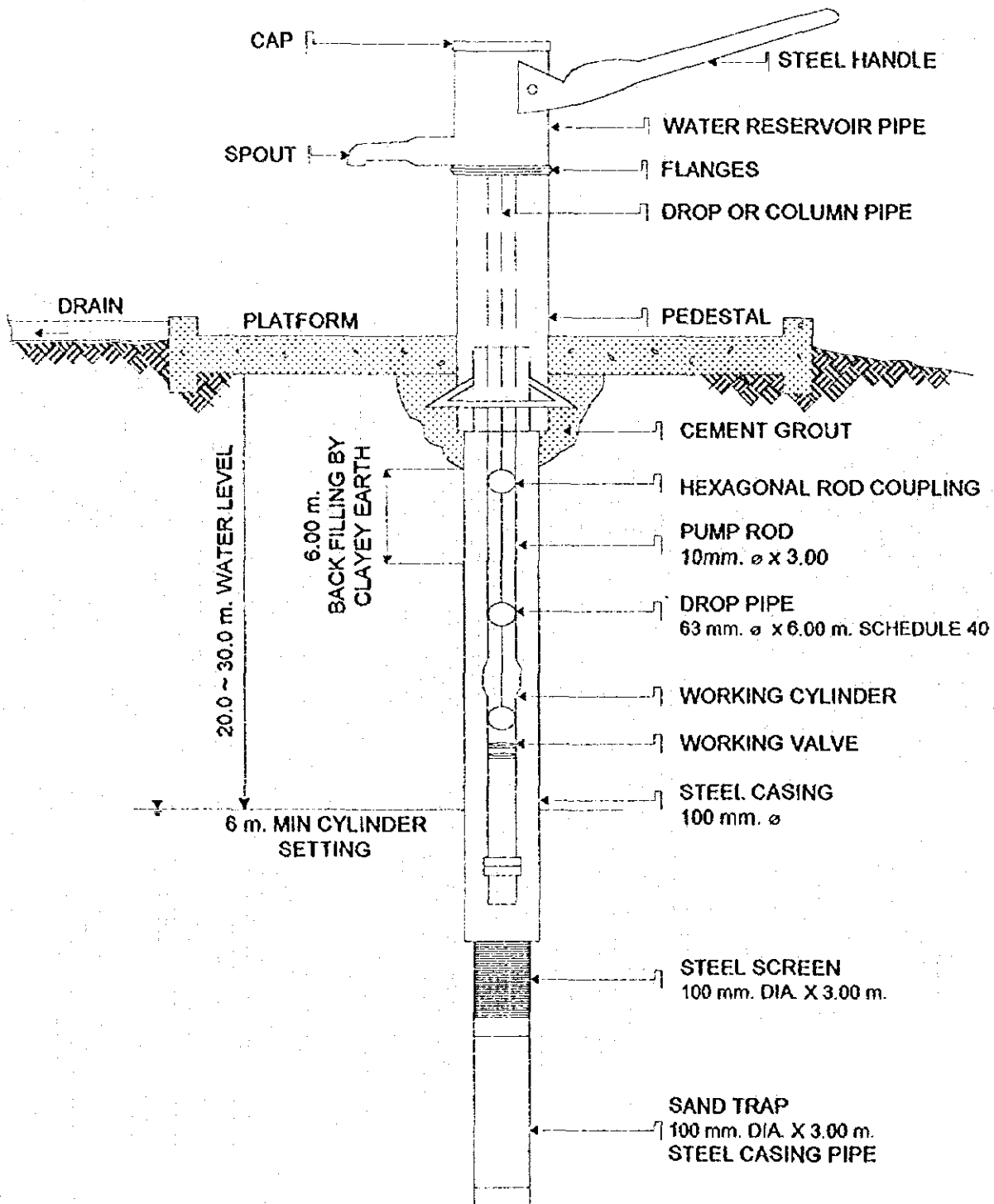
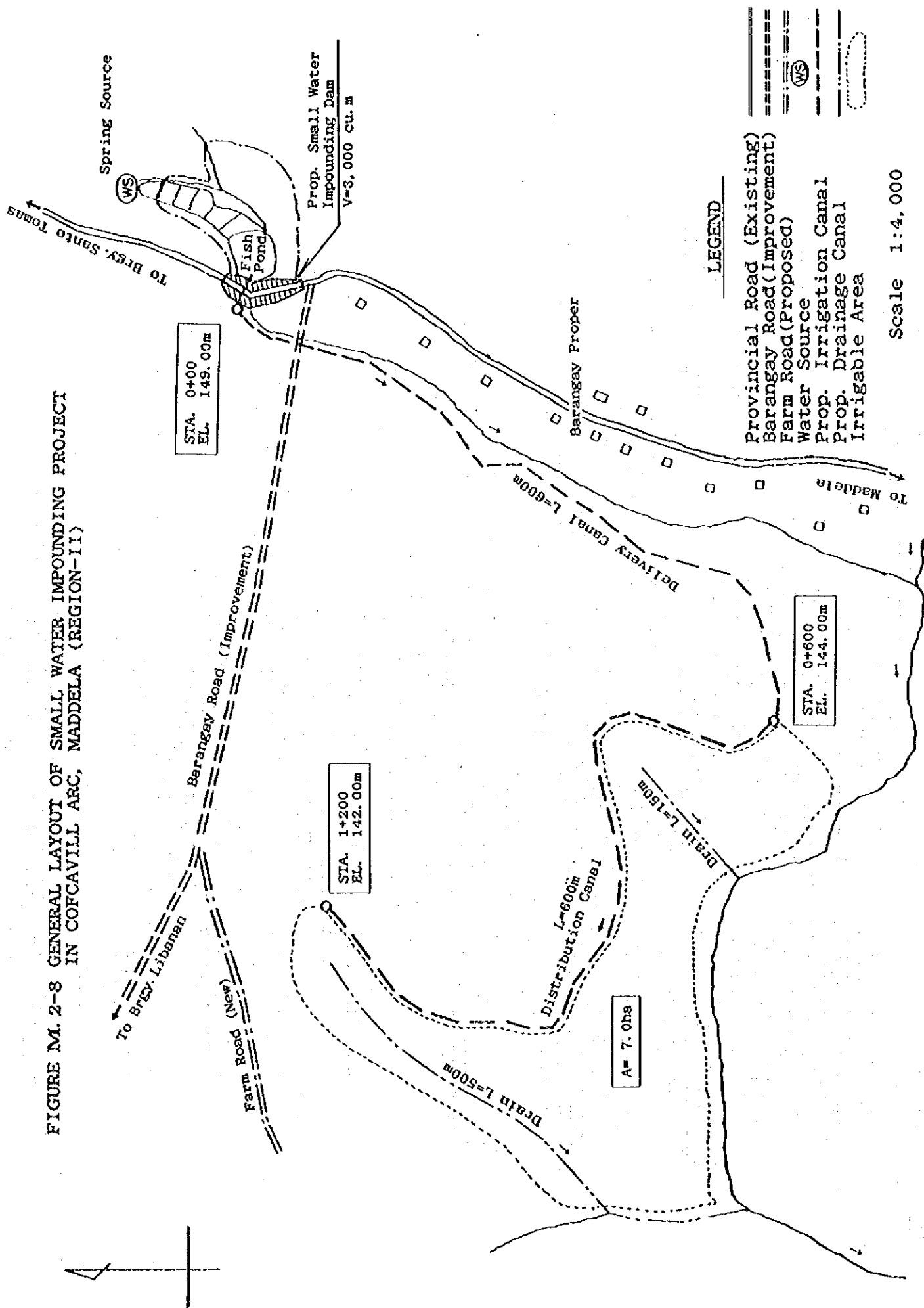


FIGURE M. 2-8 GENERAL LAYOUT OF SMALL WATER IMPOUNDING PROJECT
IN COFCAVILL ARC, MADDELA (REGION-II)



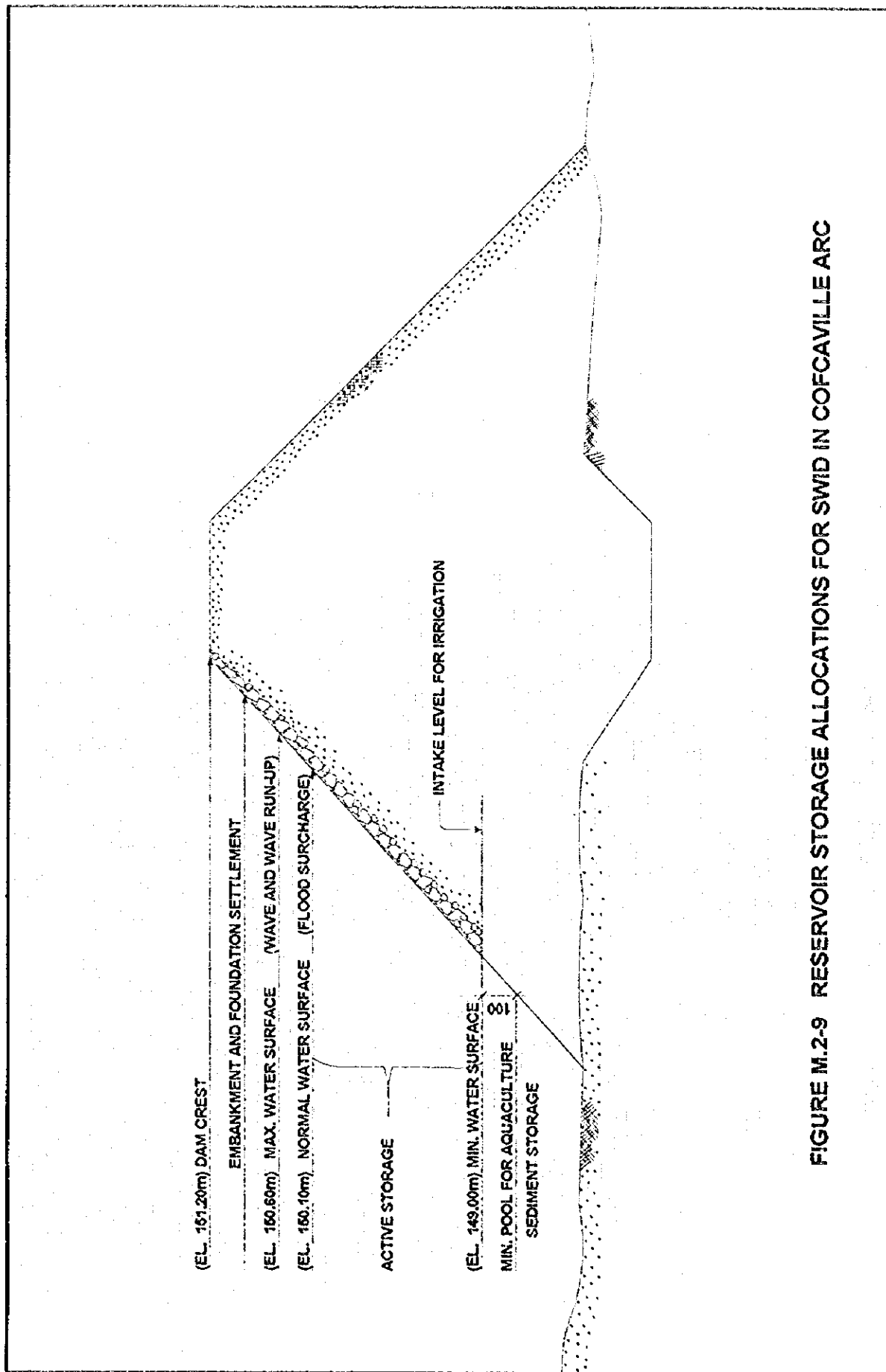
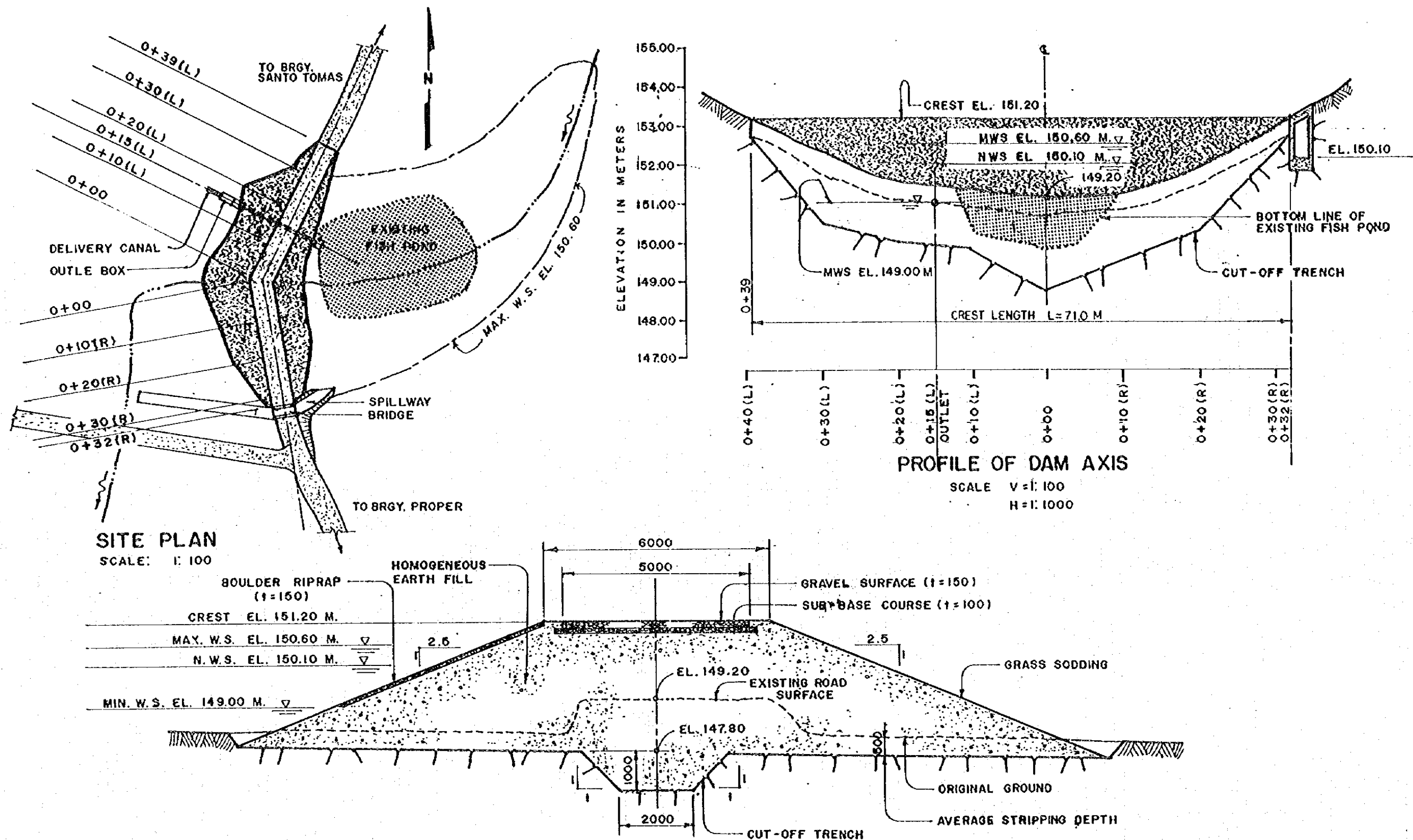


FIGURE M.2-9 RESERVOIR STORAGE ALLOCATIONS FOR SWID IN COFCVILLE ARC



Dam Description

Dam Height	3.40 m
Dam Type	: Homogeneous Earthfill
Crest Width	6.00 m
Crest Length	71.00 m
Effective Storage Capacity	3,000 cu. m
Design Flood Discharge	1.10 cu. m/s
Outlet Pipe	φ 150mm X 24 m
Irrigation Area	7.0 ha
Watershed Protection Area	6.25 ha

FIGURE M. 2-10 PLAN OF SMALL WATER IMPOUNDING DAM IN COPCAVILL ARC

FIGURE M. 2-11 GENERAL LAYOUT OF TANK IRRIGATION SYSTEM
IN MARANGOG-LEYTE ARC (REGION-VIII)

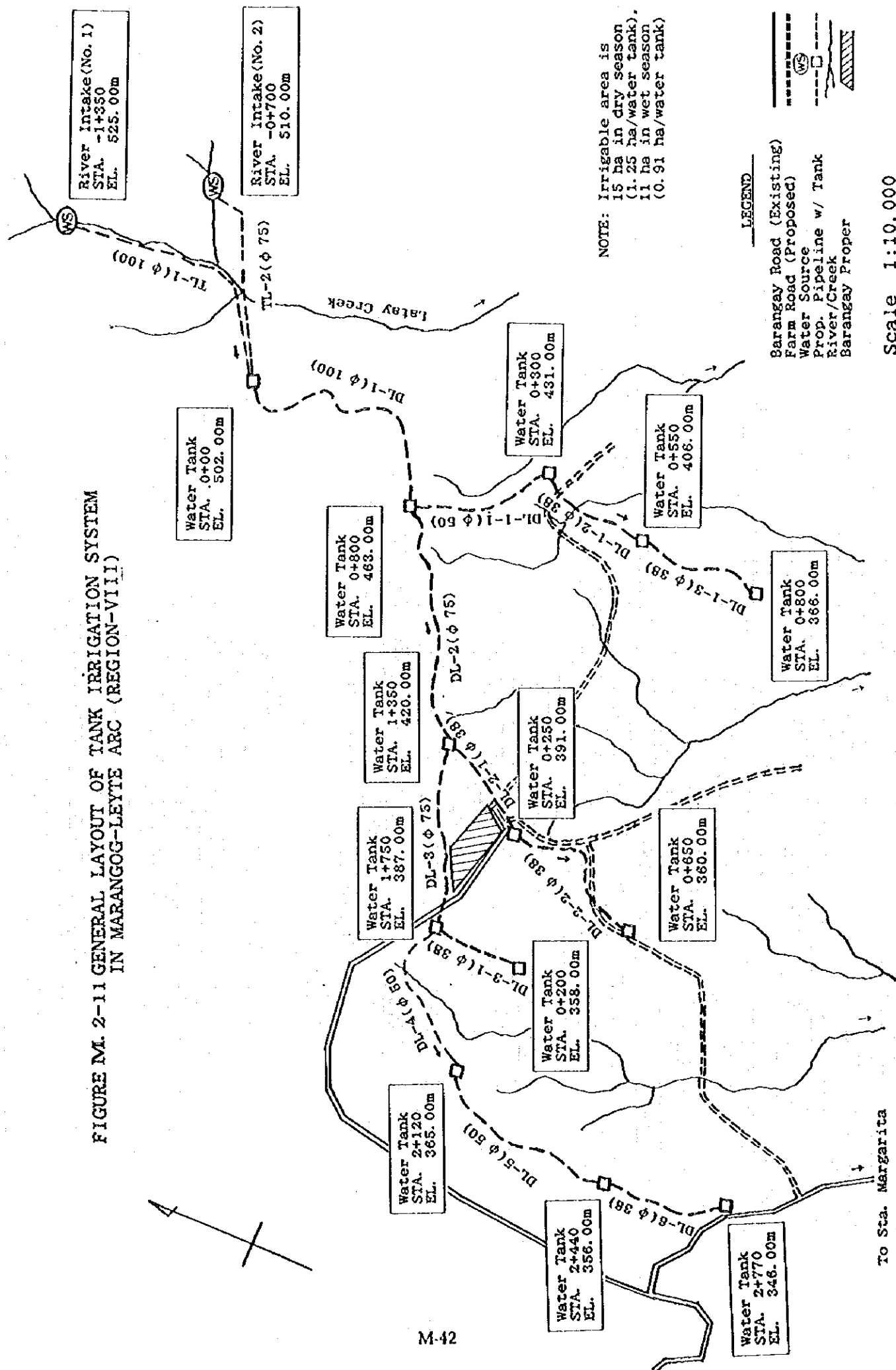
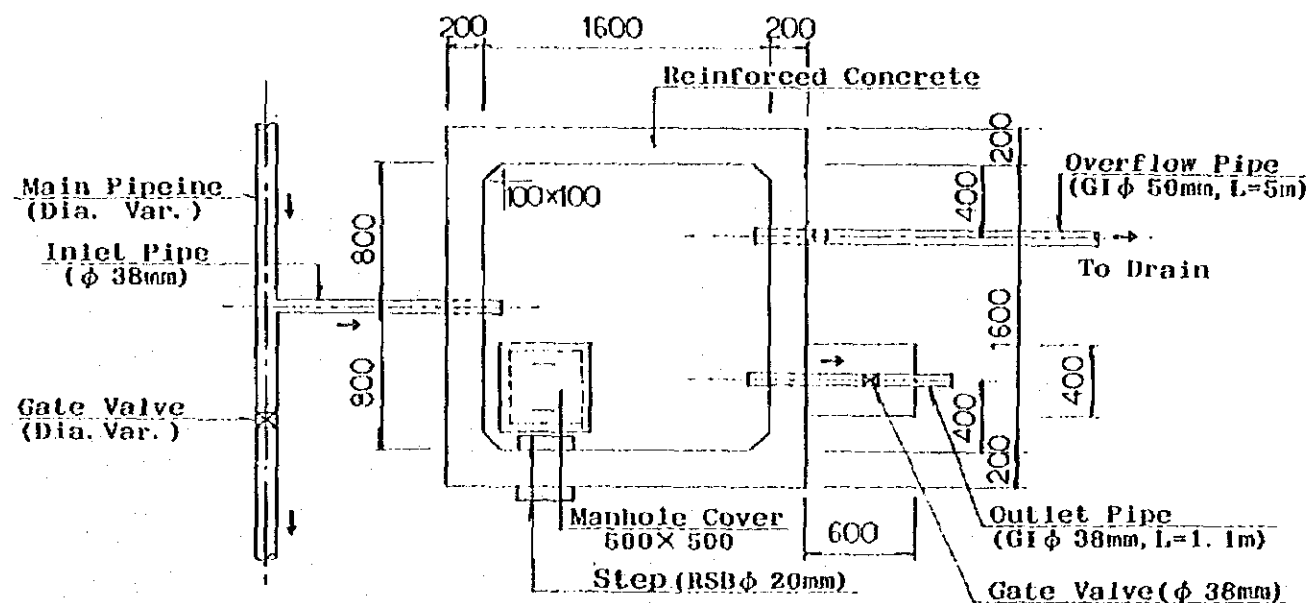
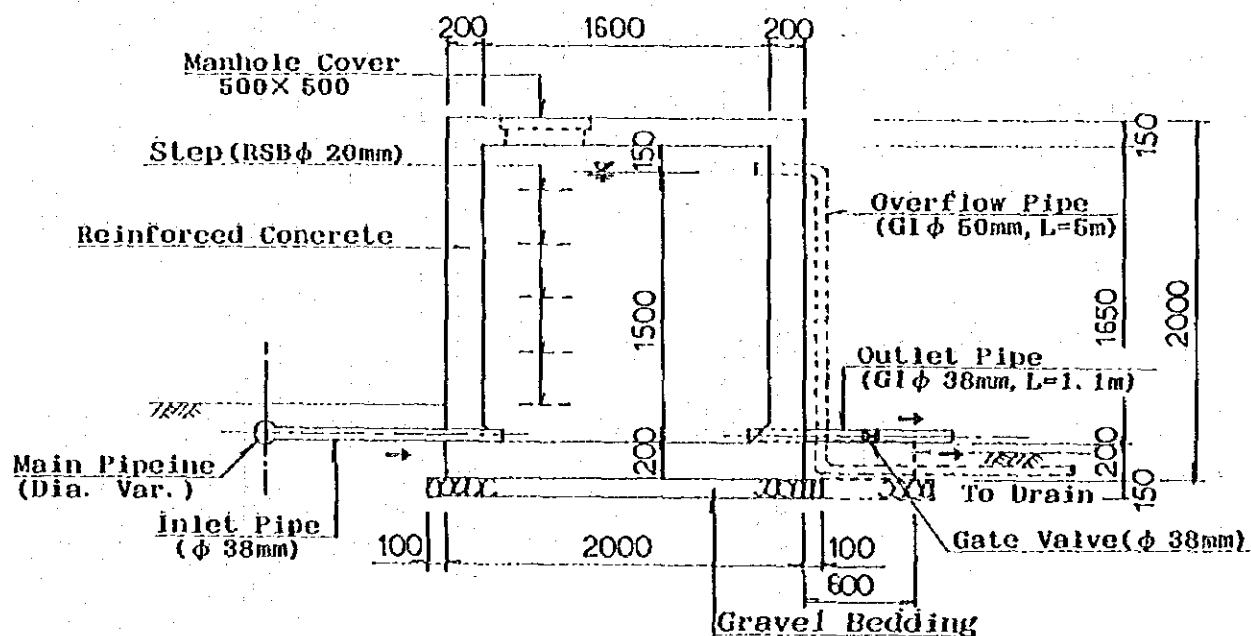


FIGURE M.2-12 STANDARD PLAN OF WATER TANK FOR TANK IRRIGATION SYSTEM
IN MARANGOG-LEYTE ARC (REGION-VIII)



P L A N

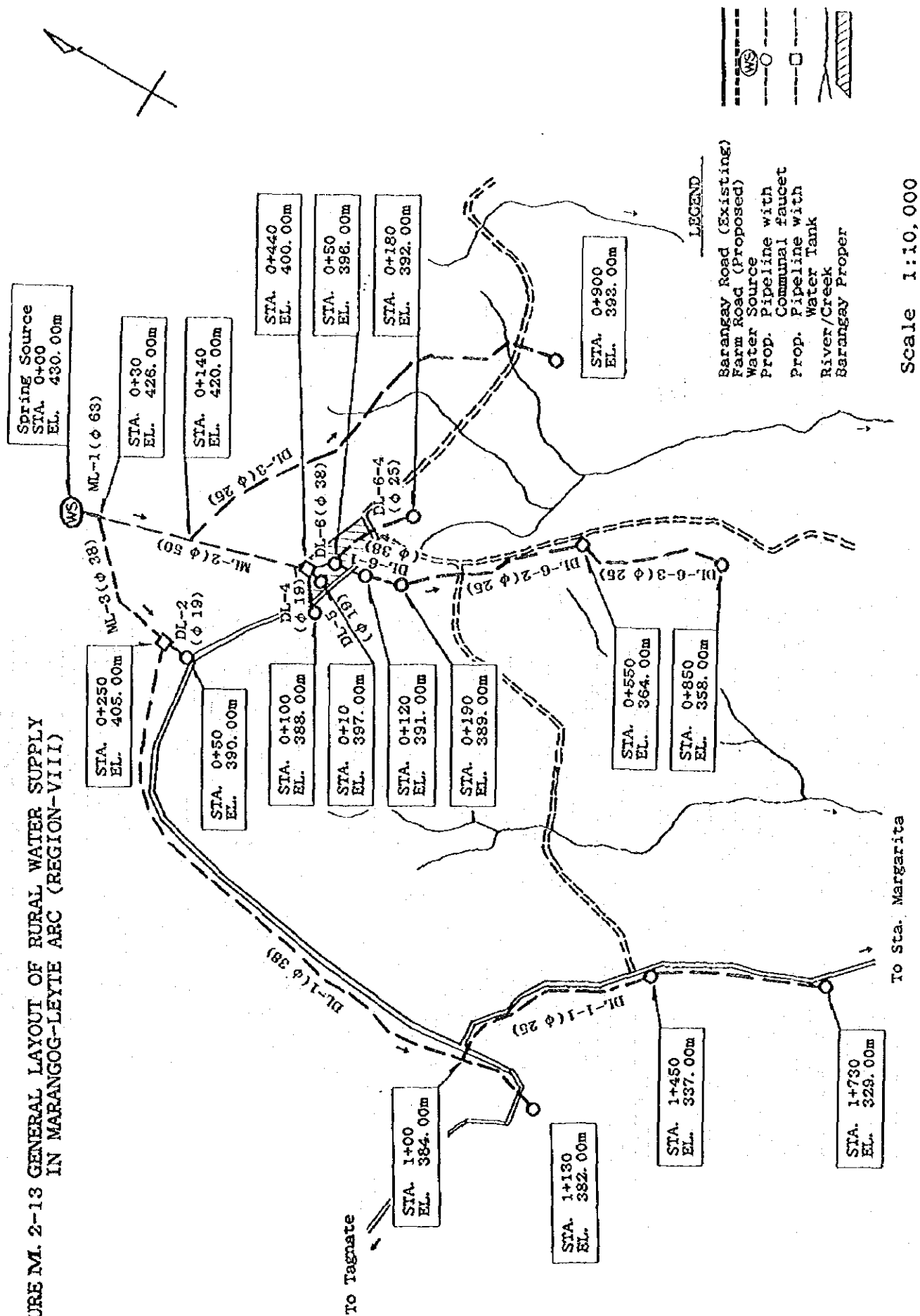
(S=1:40)



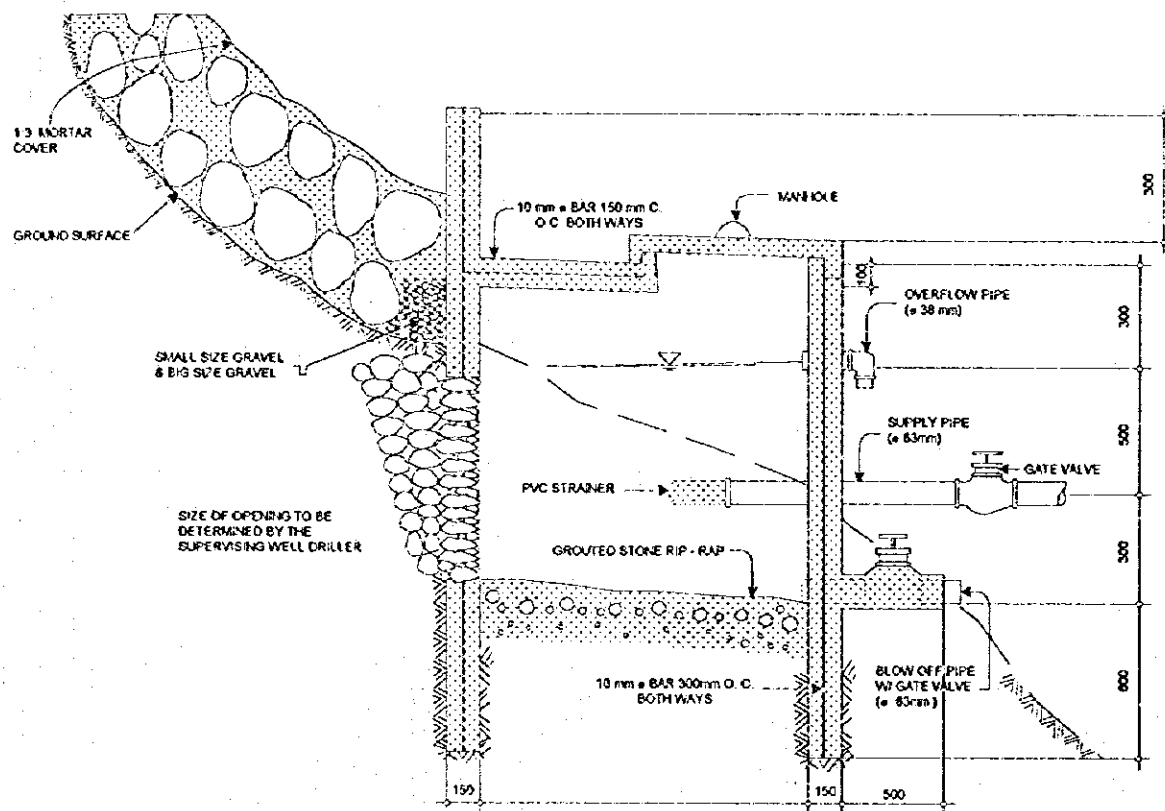
S E C T I O N

(S=1:40)

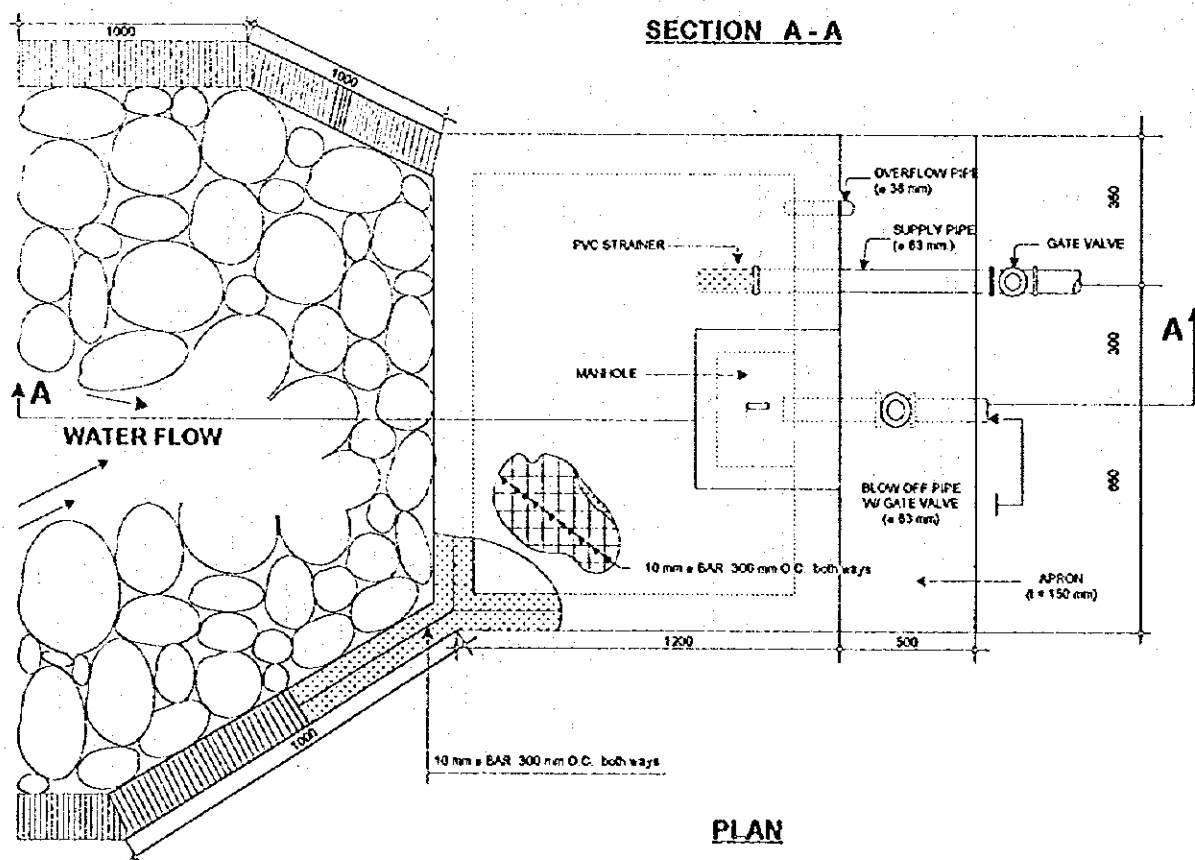
FIGURE M. 2-13 GENERAL LAYOUT OF RURAL WATER SUPPLY
IN MARANGOG-LEYTE ARC (REGION-VIII)



**FIGURE M.2-14 GENERAL PLAN OF SPRING BOX FOR RURAL WATER SUPPLY
IN MARANGOG - LEYTE ARC (REGION VIII)**

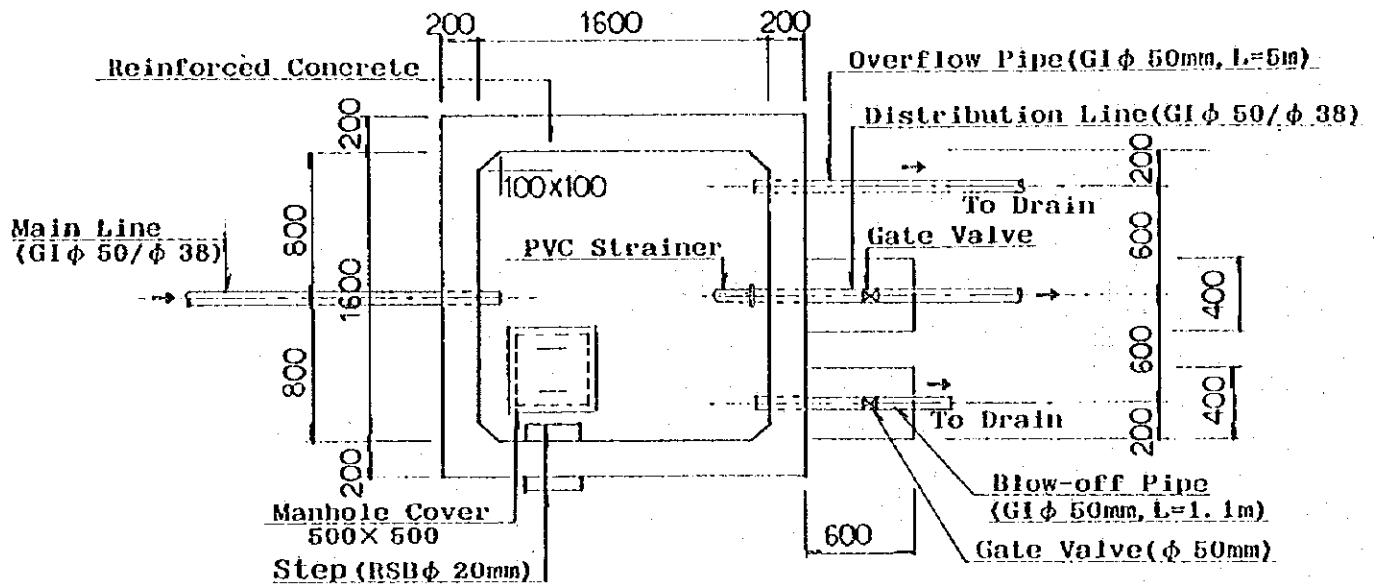


SECTION A-A



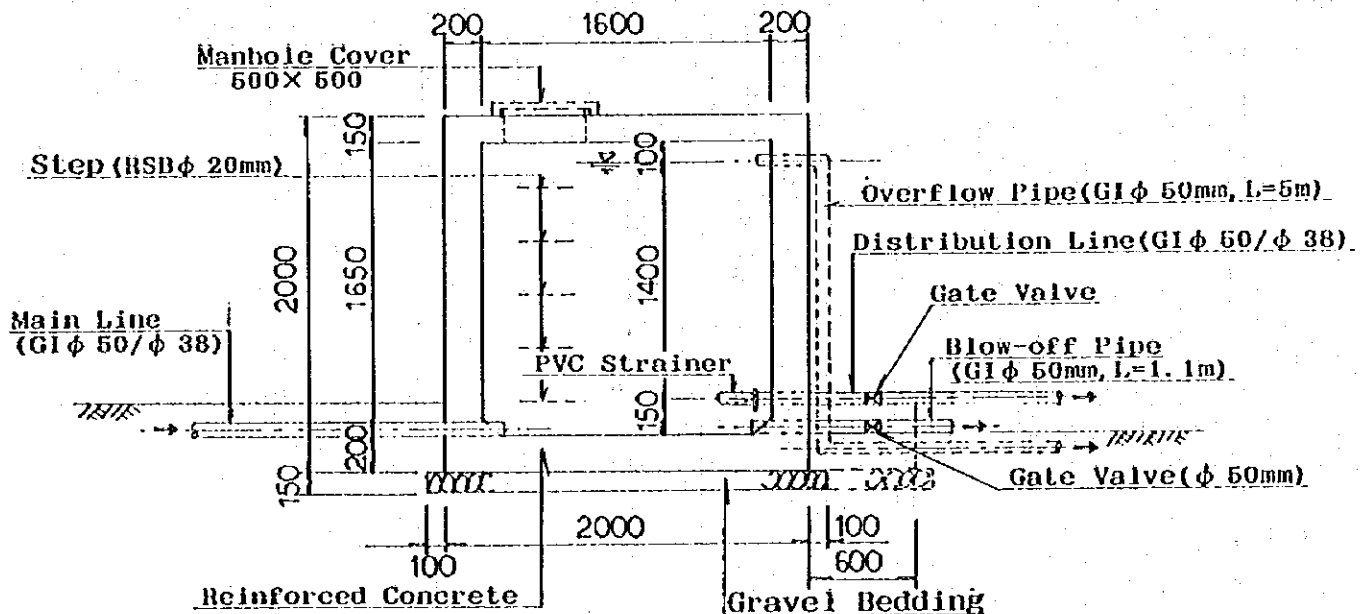
PLAN

FIGURE M. 2-15 STANDARD PLAN OF WATER TANK FOR RURAL WATER SUPPLY
IN MARANGOG-LEYTE ARC (REGION-VIII)



P L A N

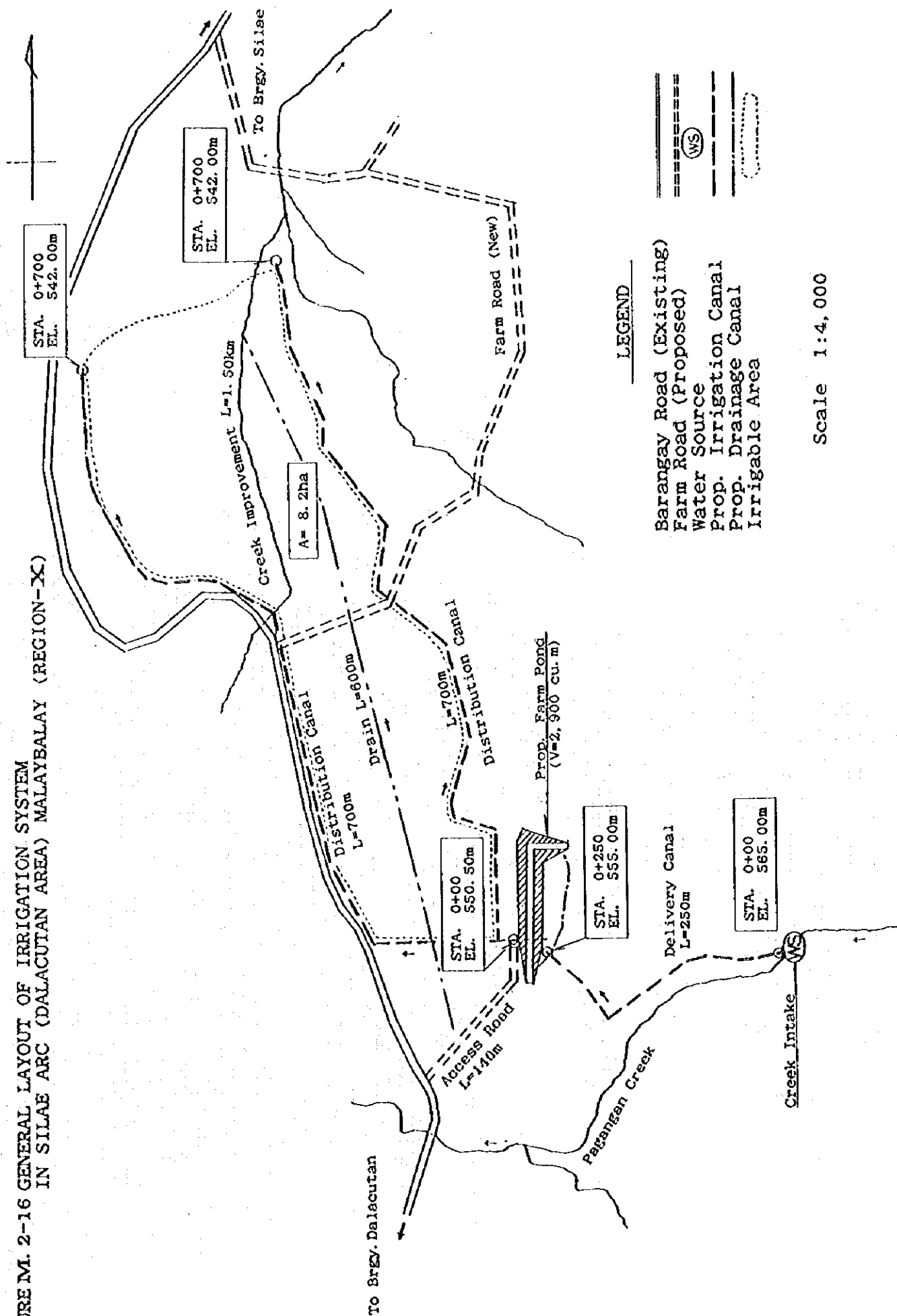
(S=1:40)



S E C T I O N

(S=1:40)

FIGURE M. 2-16 GENERAL LAYOUT OF IRRIGATION SYSTEM
IN SILAE ARC (DALACUTAN AREA) MALAYBALAY (REGION-XC)



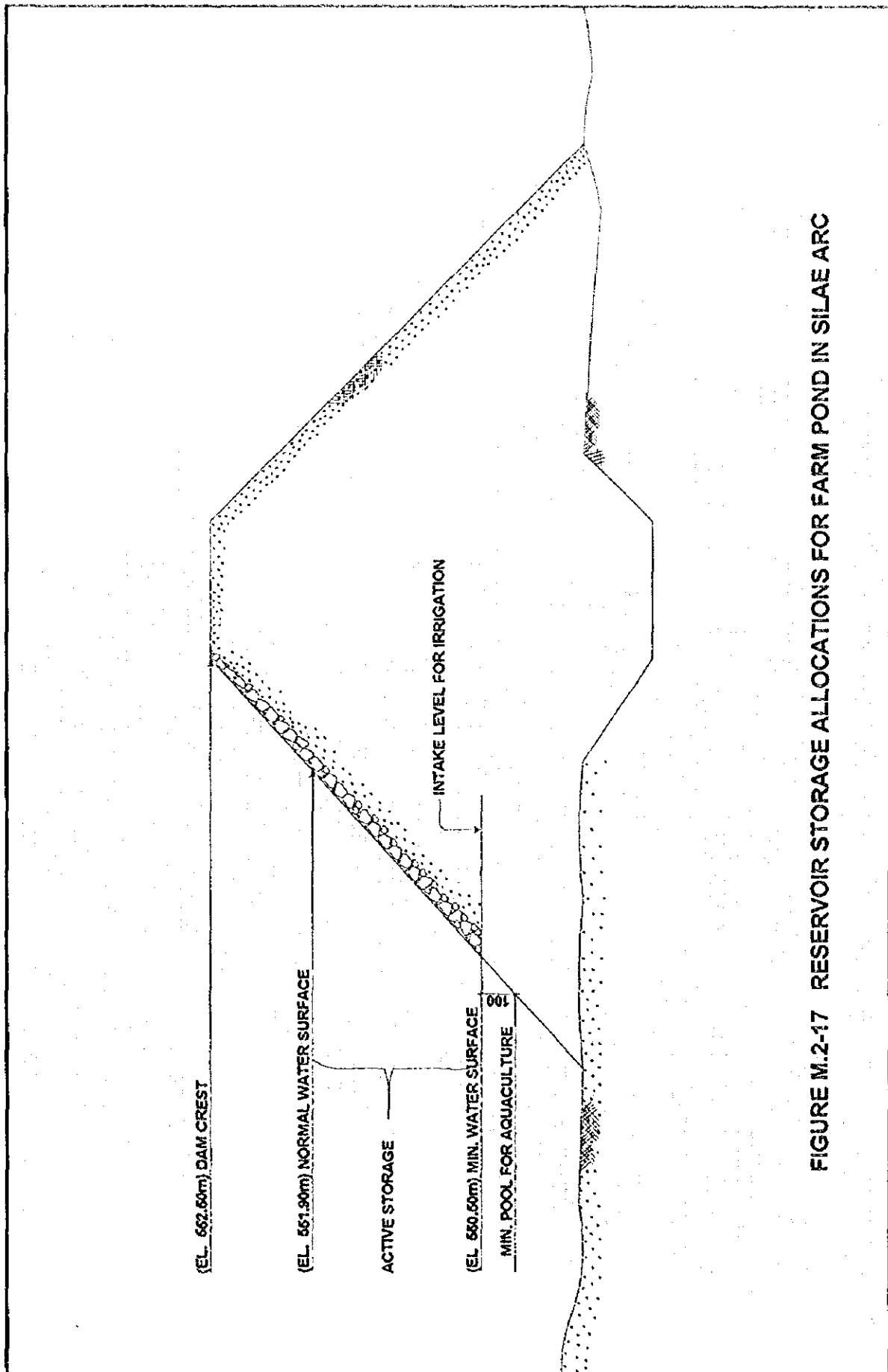
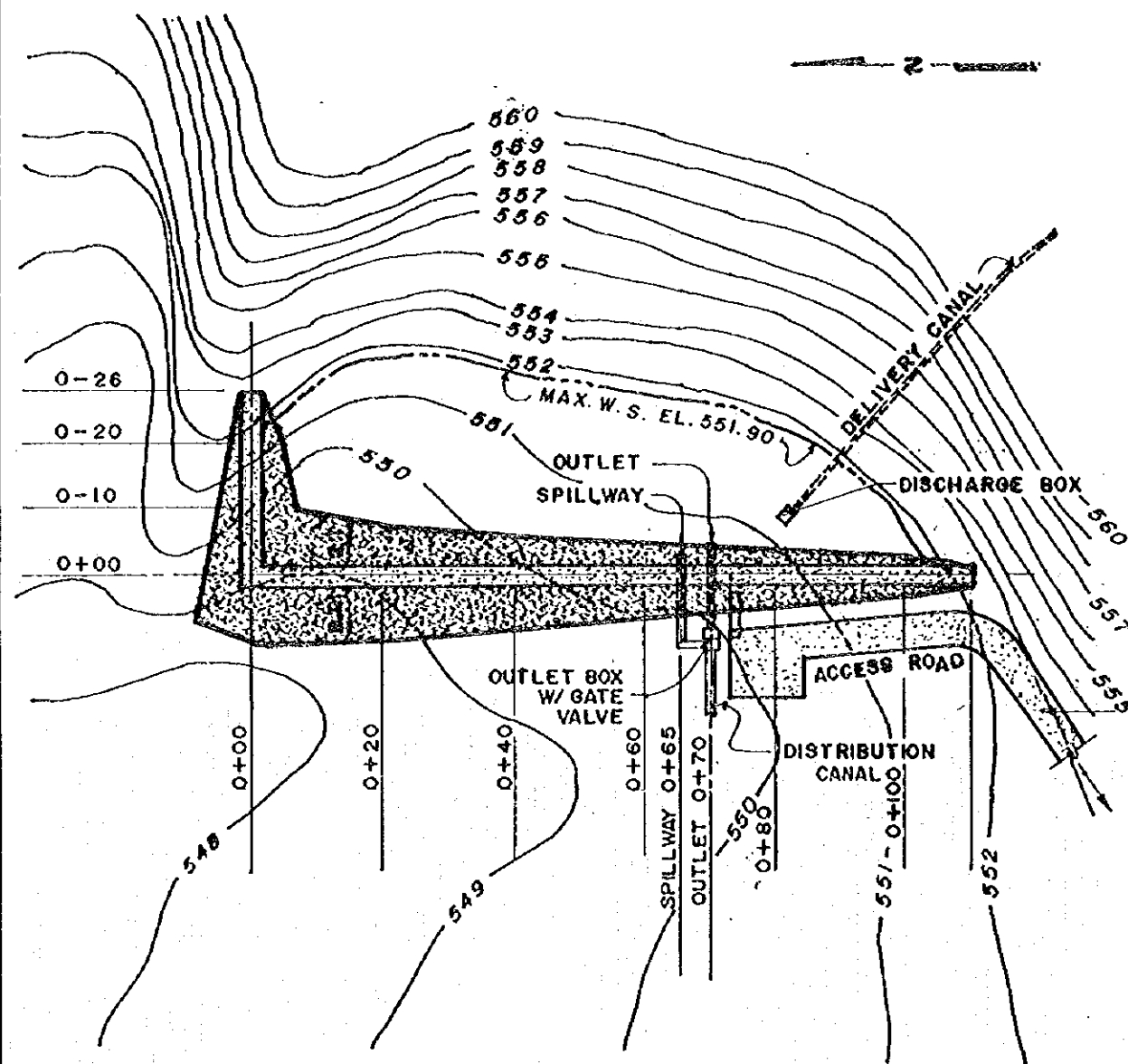


FIGURE M.2-17 RESERVOIR STORAGE ALLOCATIONS FOR FARM POND IN SILAE ARC

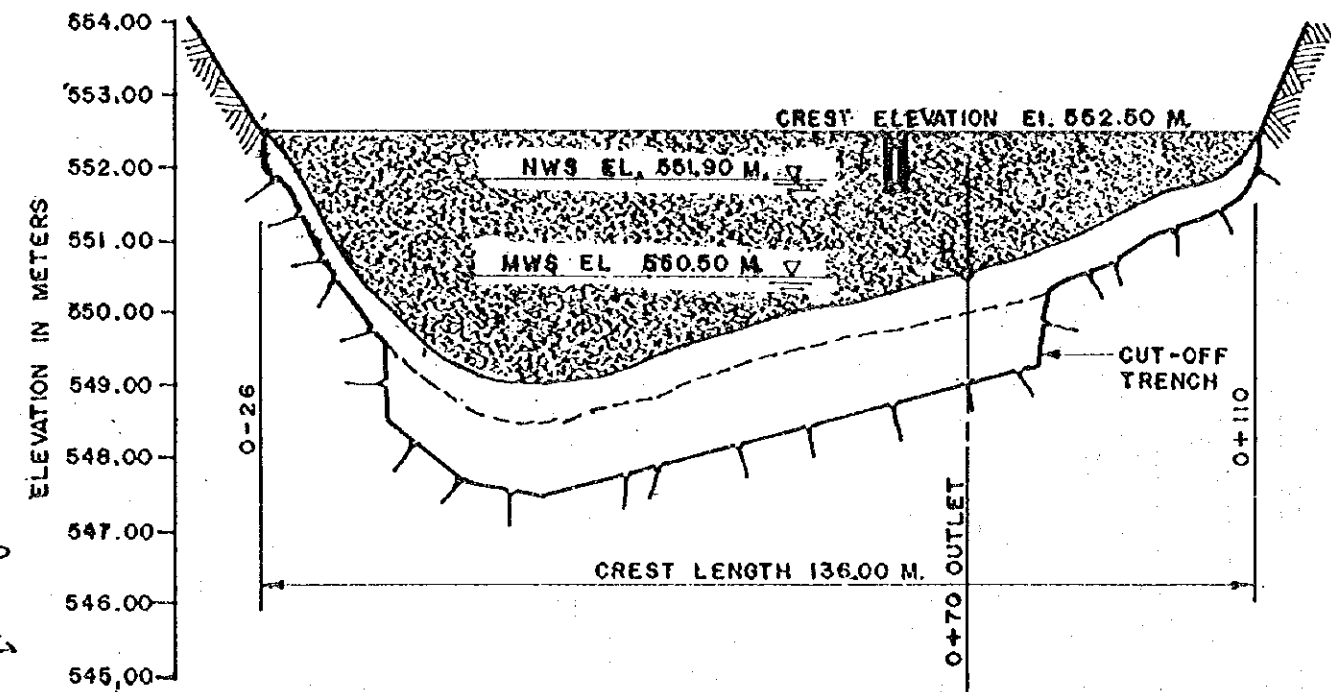
FIGURE M. 2-18 PLAN OF FARM POND IN SILAE ARC (DALACUTAN AREA)



SITE PLAN
SCALE: 1:1000

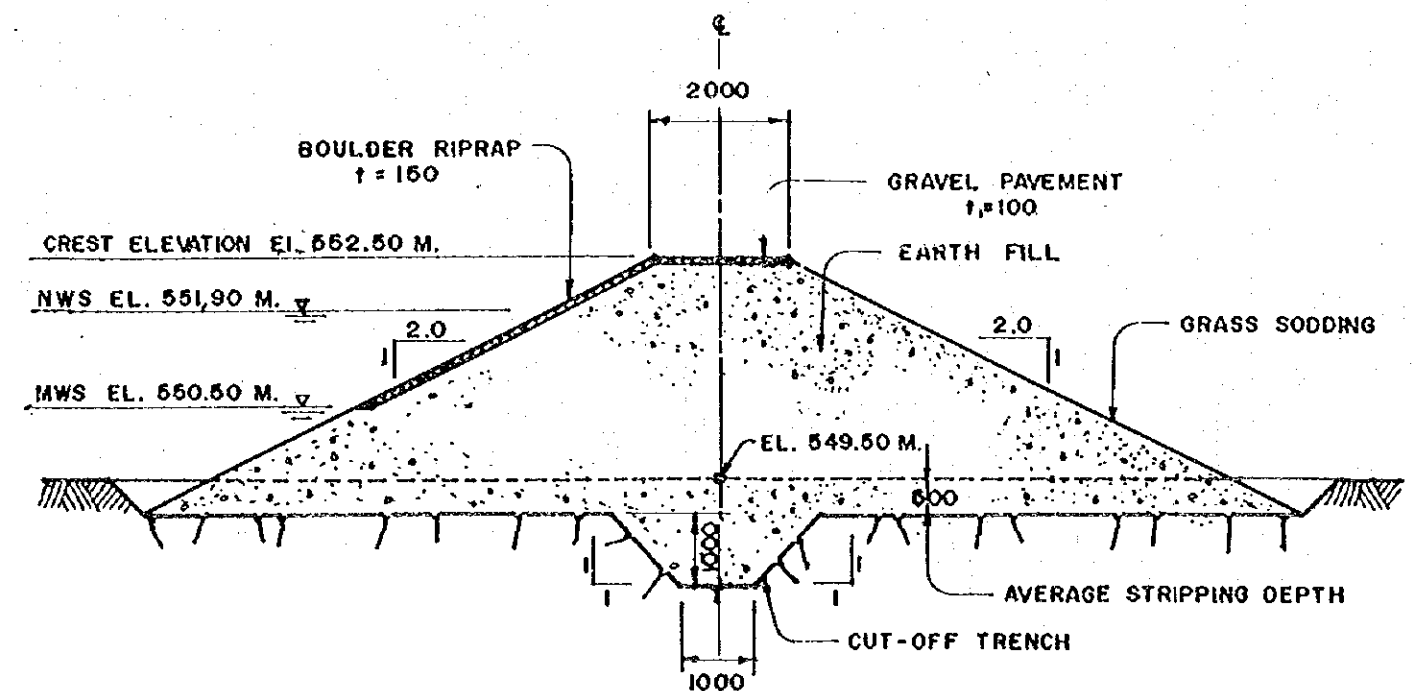
Farm Pond Description

Height	3.50 m
Crest Width	2.00 m
Crest Length	136.00 m
Effective Storage Capacity	2,900 cu. m
Outlet Pipe	ϕ 150mm X 12 m
Irrigation Area	8.2 ha



PROFILE ON CENTERLINE OF FARM POND

SCALE V = 1:100
H = 1:1000



MAXIMUM SECTION OF EMBANKMENT

SCALE: 1:100

FIGURE
 M. 2-19
 GENERAL LAYOUT OF IRRIGATION SYSTEM
 IN SILAE ARC (SILAE AREA) MALAYBALAY (REGION-X)

