

**LEGEND**

- ▲ ADMINISTRATION & TRAINING BUILDING
- ▲ SIMPLE LODGING FACILITY (A)
- ▲ SIMPLE LODGING FACILITY (B)
- ▲ CANTEEN
- ▲ POTTING HOUSE
- ▲ WORKSHOP WITH SEED STORAGE
- ▲ COMPOST HOUSE
- ▲ GREEN HOUSE
- ▲ OPEN NURSERY
- ▲ CLOSED NURSERY
- ▲ GARAGE
- ▲ WATER SUPPLY FACILITY
- ▲ GUARD HOUSE
- ▲ EXHIBITION HOUSE
- ▲ SEPTIC TANK
- ▲ INNER ROAD(CONCRETE PAVEMENT)
- ▲ INNER ROAD(CRASH STONE)
- ▲ OPEN SPACE
- ▲ FUTURE NURSERY (FOR EXTENSION)
- ▲ DORMITORY (BY LAO P.D.R.)

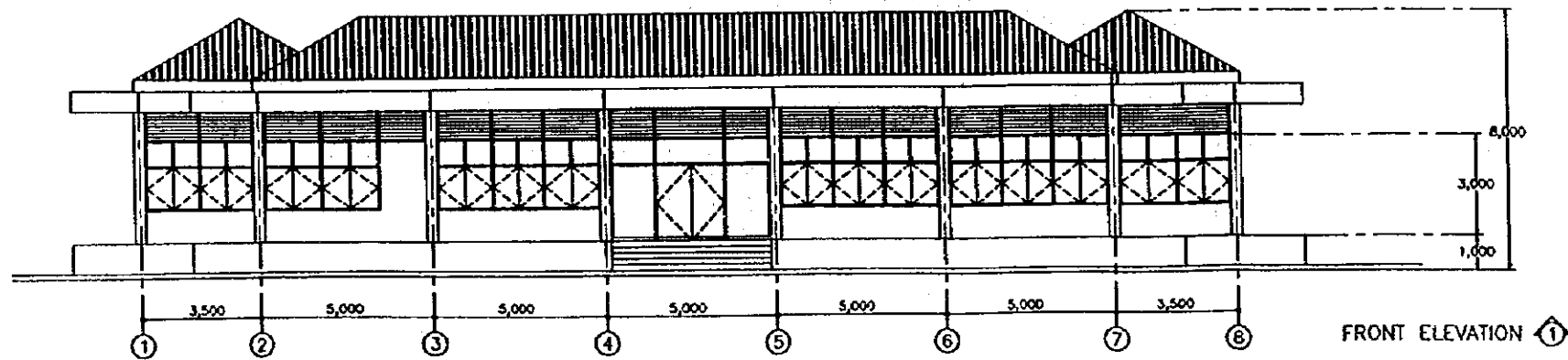
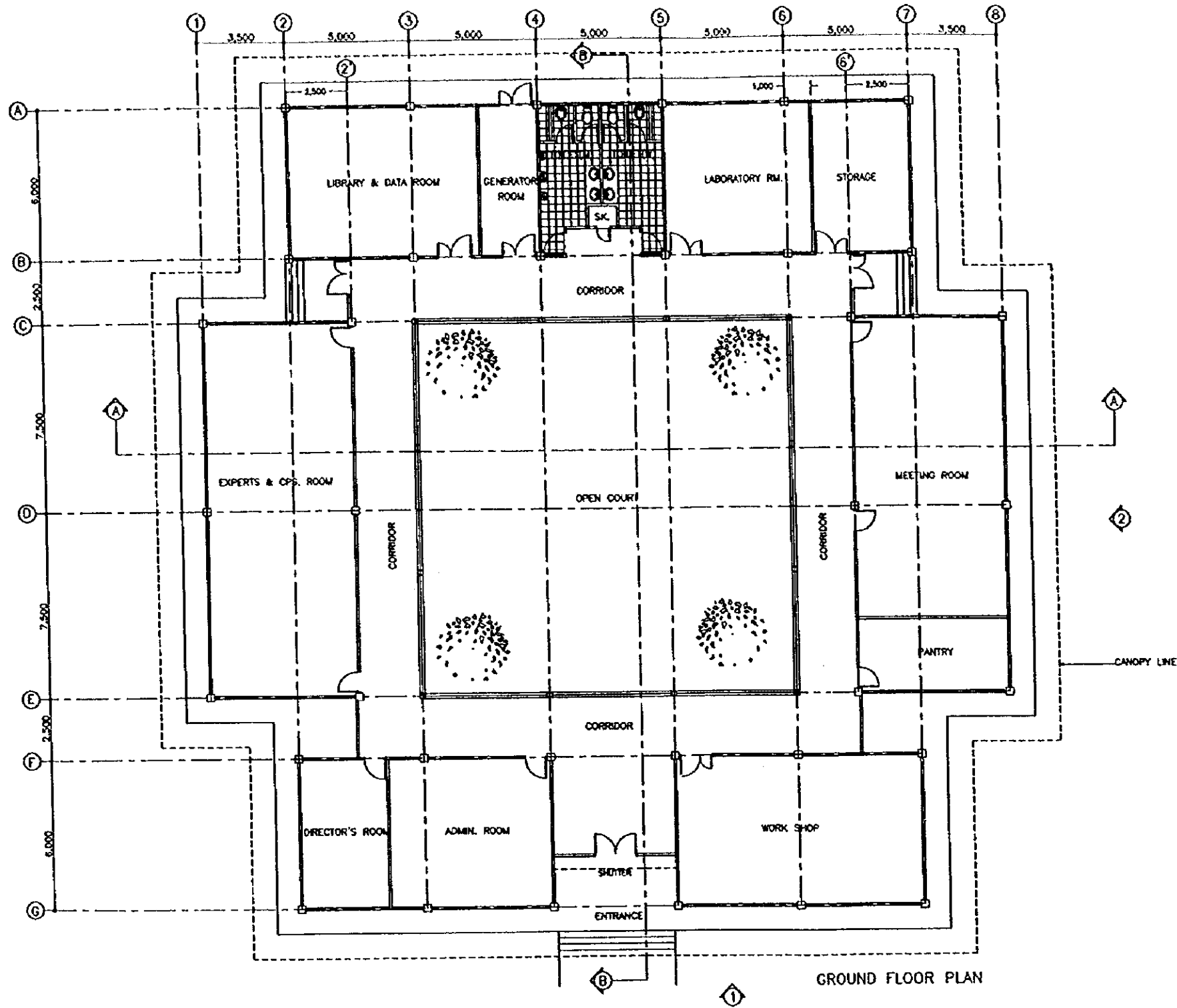
THE PROJECT FOR CONSTRUCTION OF AFFORESTATION CENTER

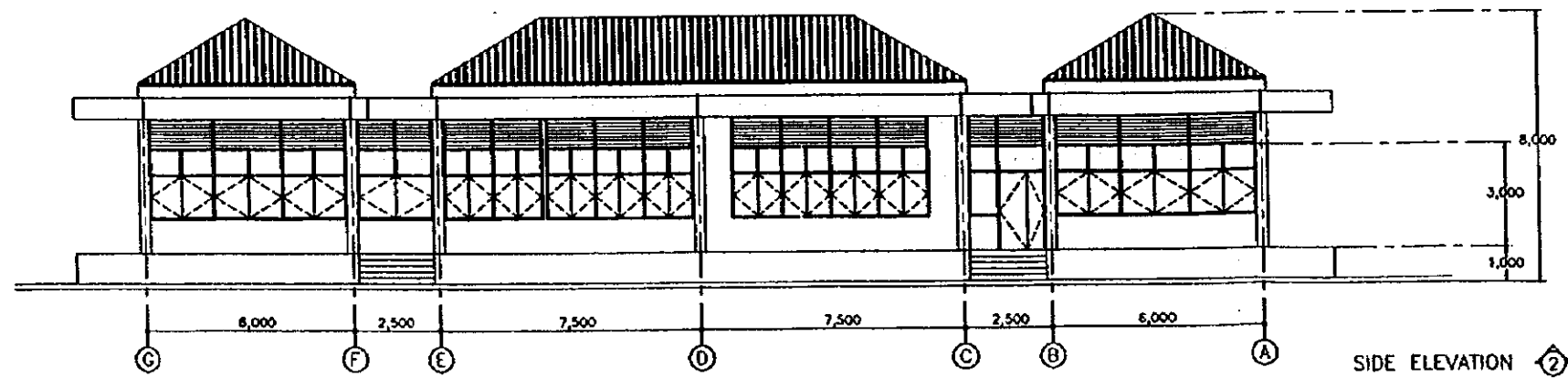
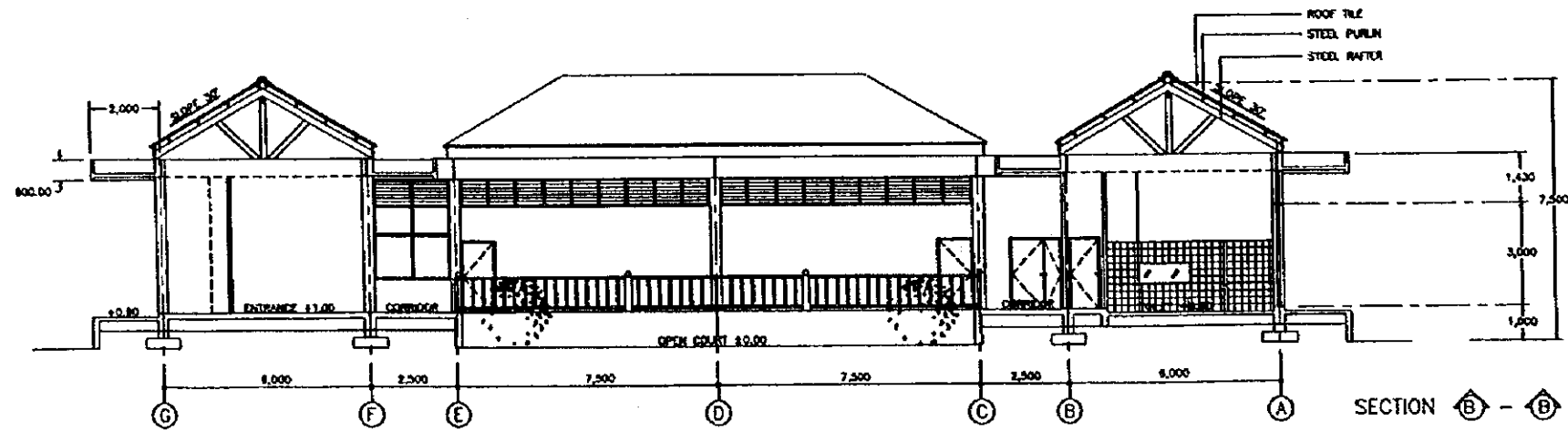
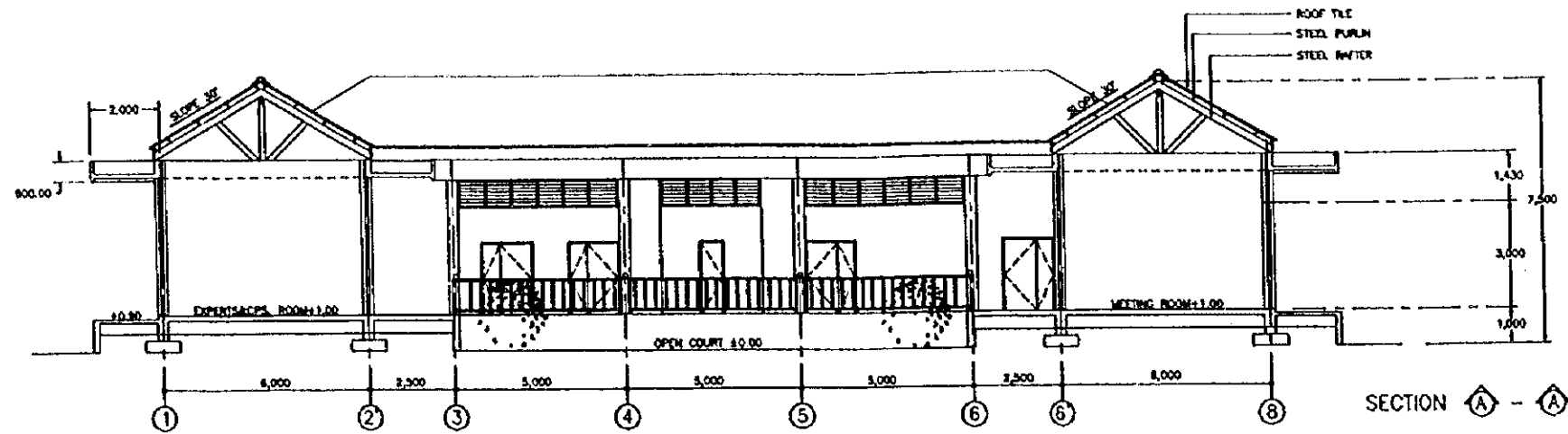
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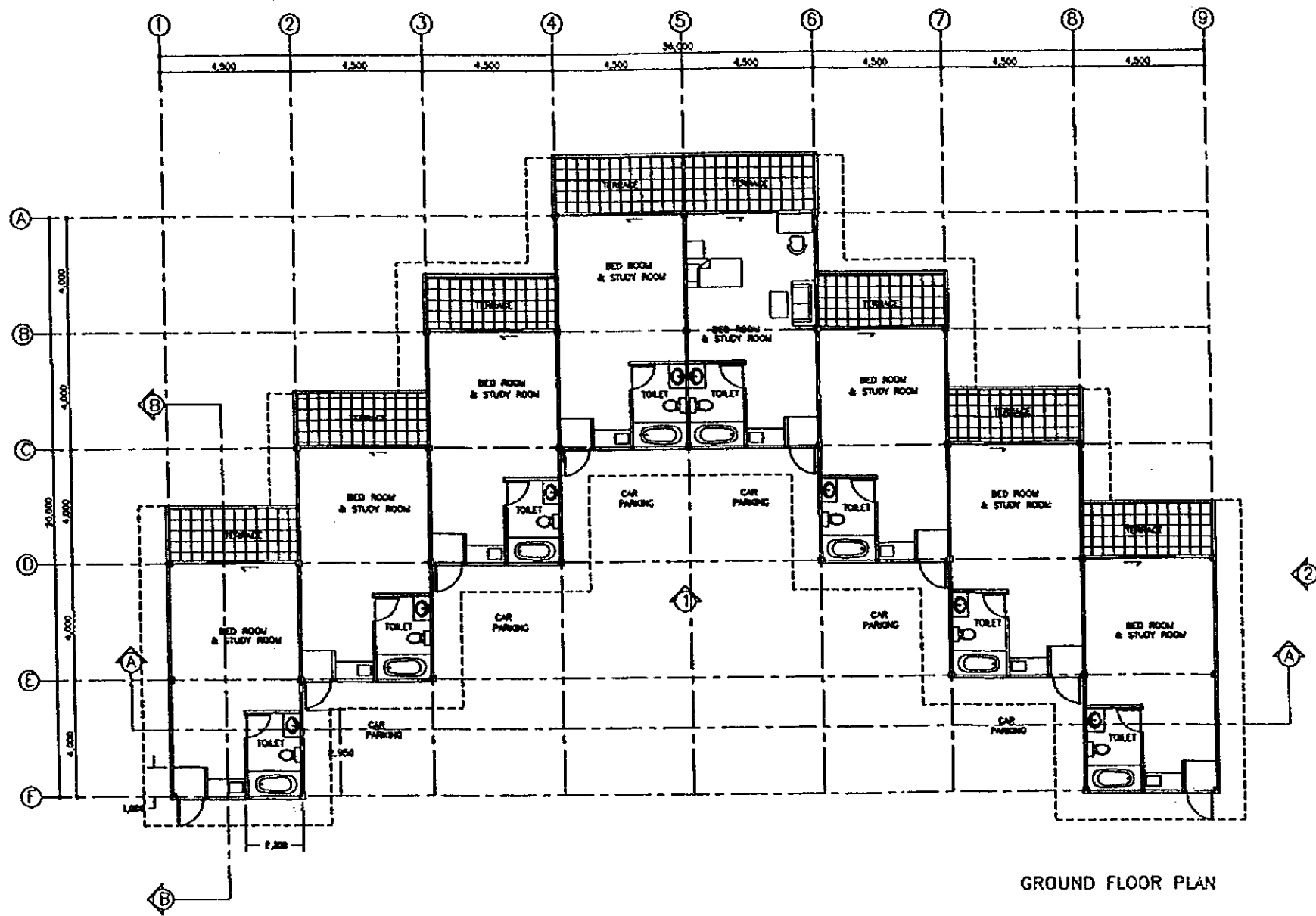


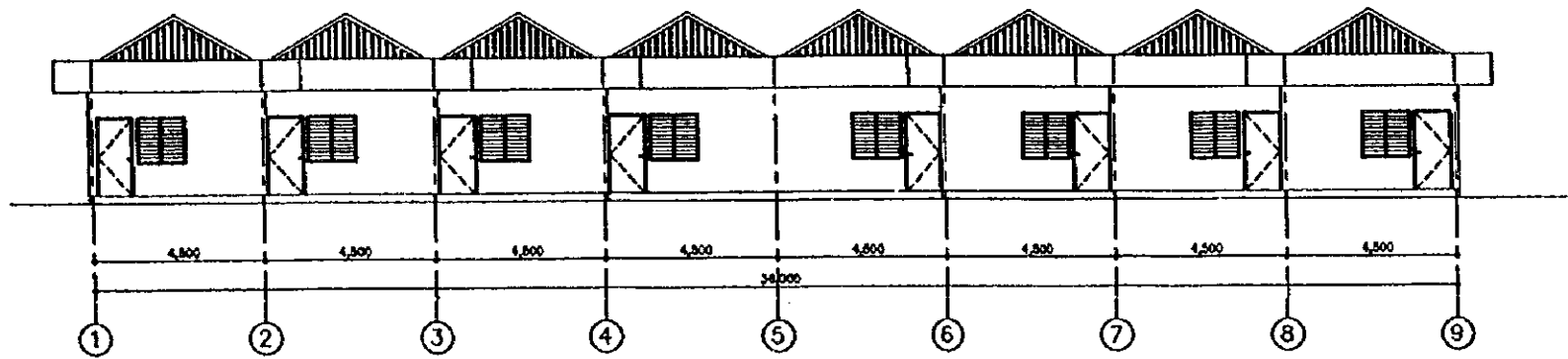
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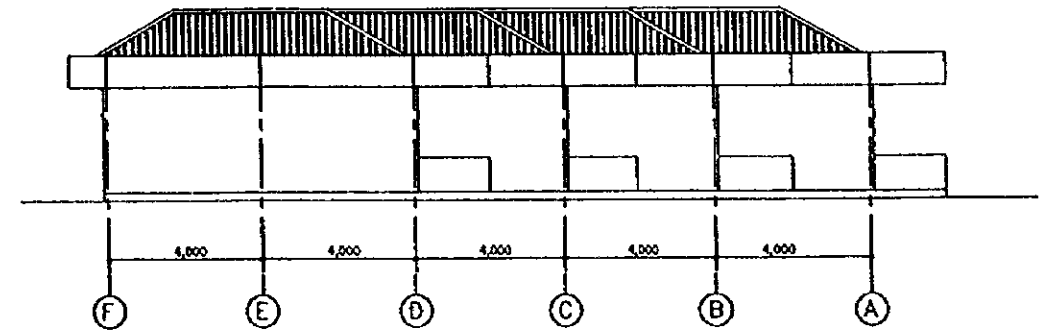




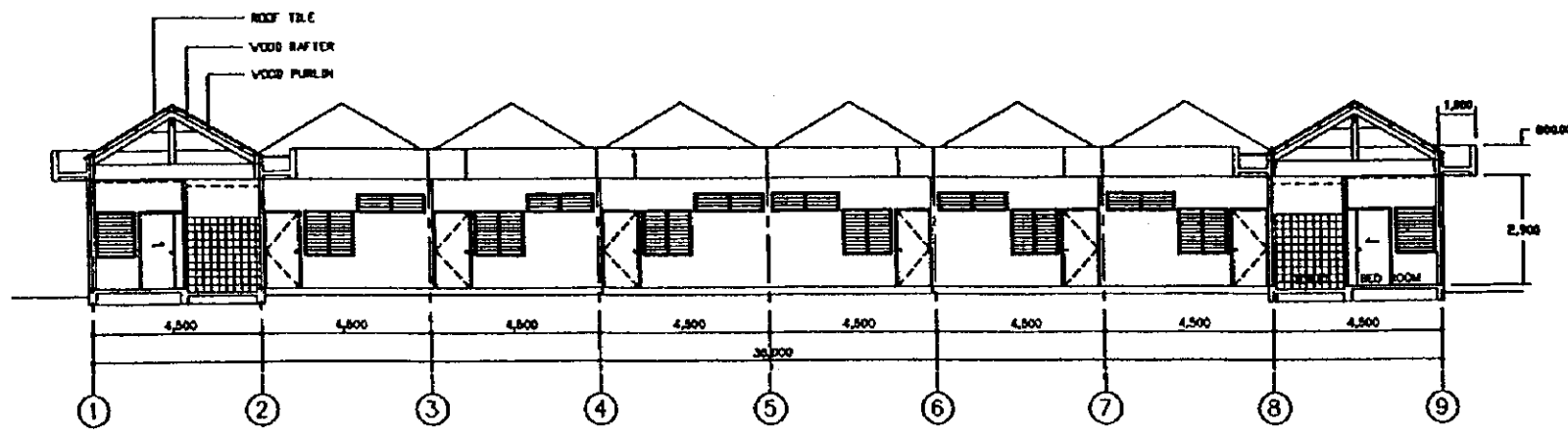




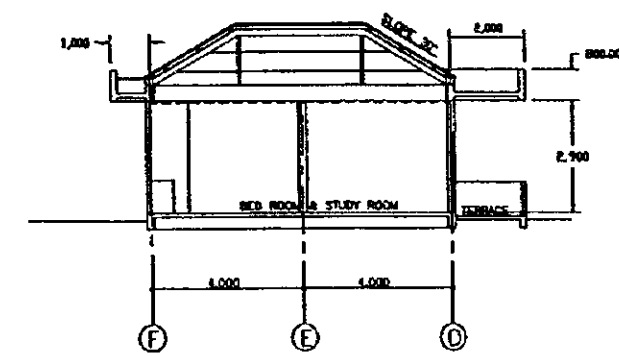
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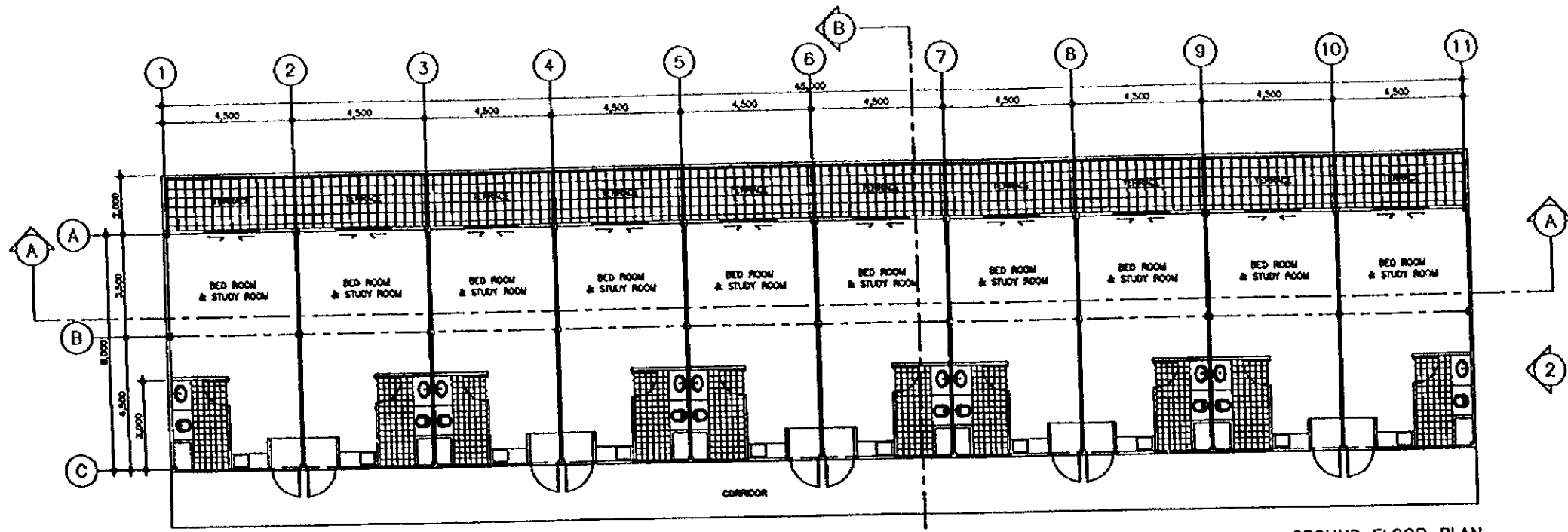
SIDE ELEVATION ②



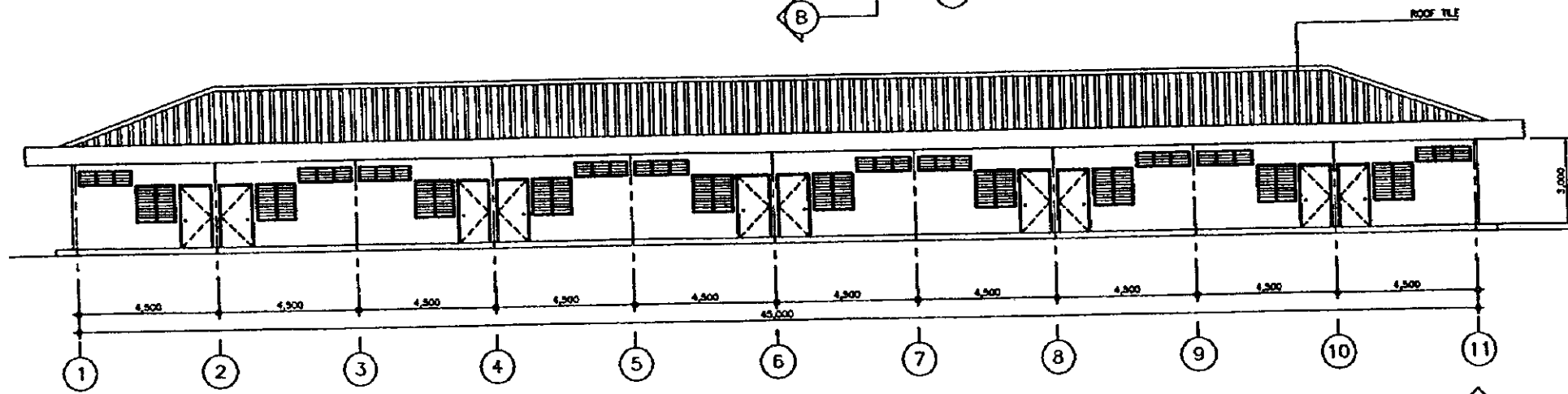
SECTION A-A



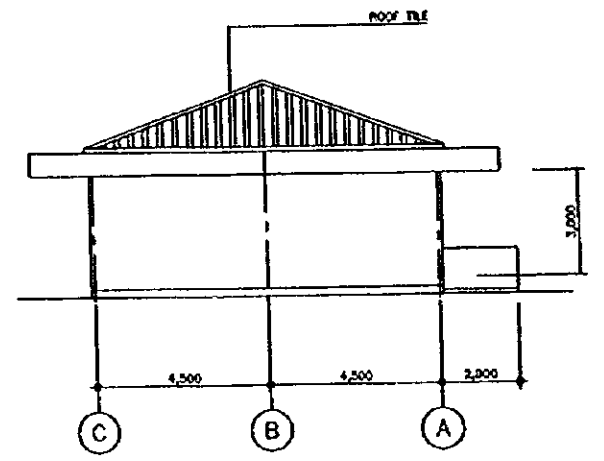
SECTION B-B



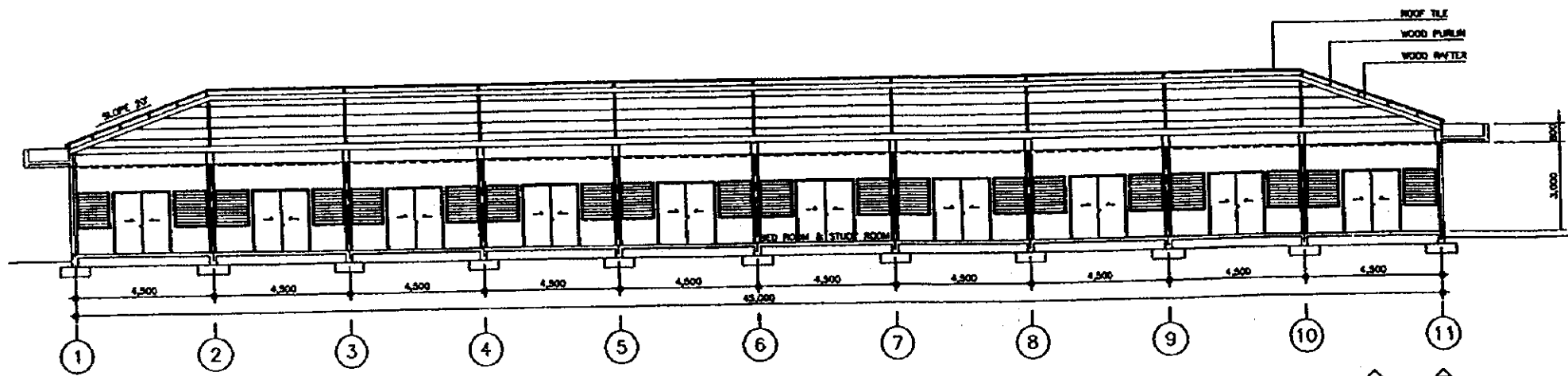
GROUND FLOOR PLAN



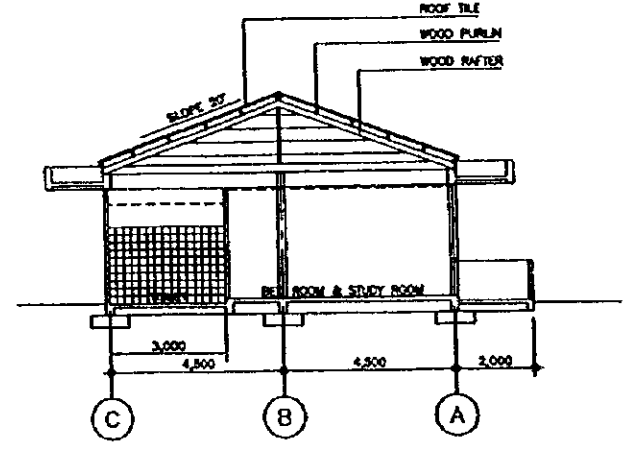
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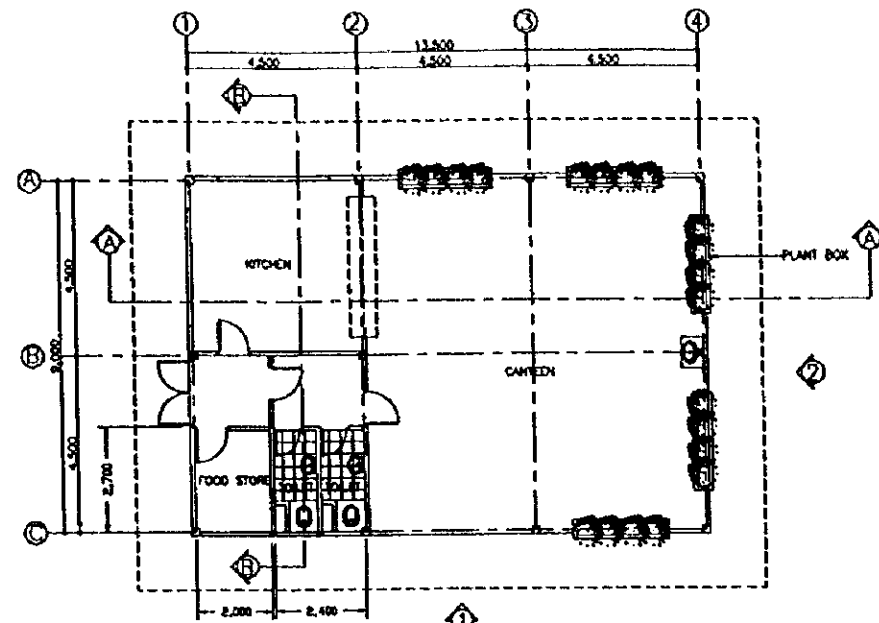
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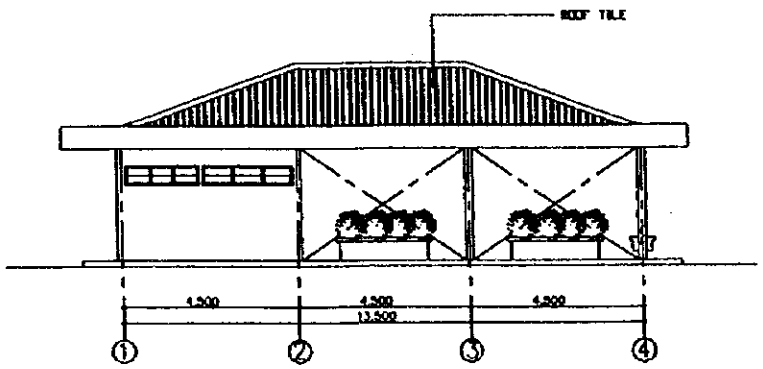
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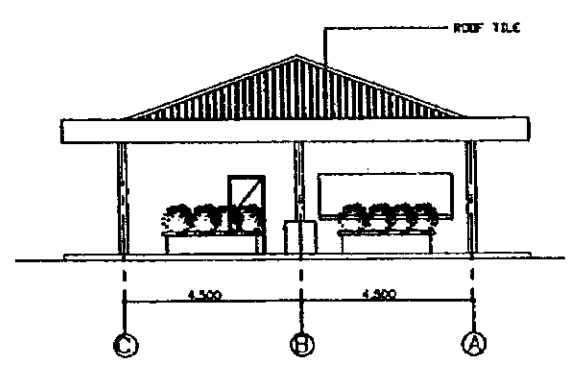
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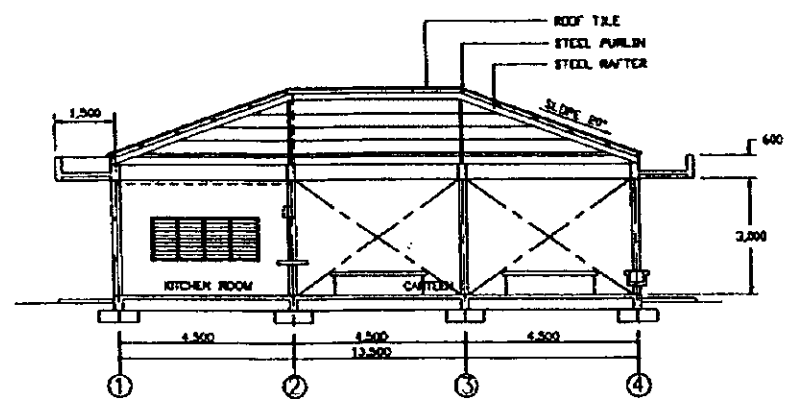
GROUND FL. PLAN



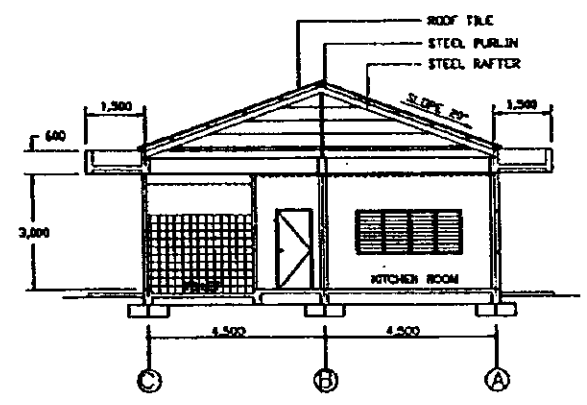
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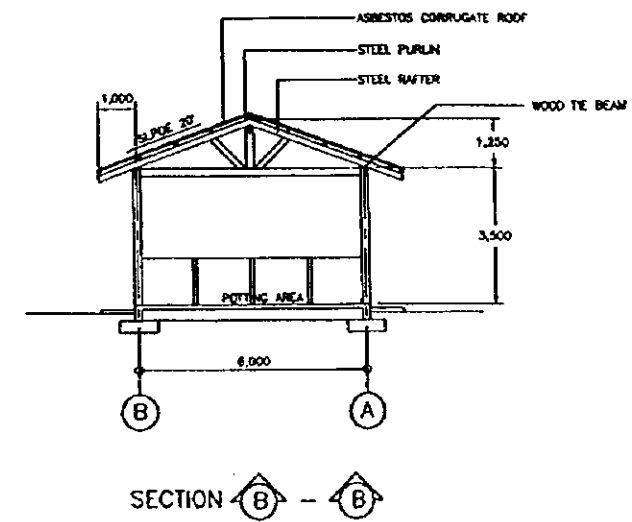
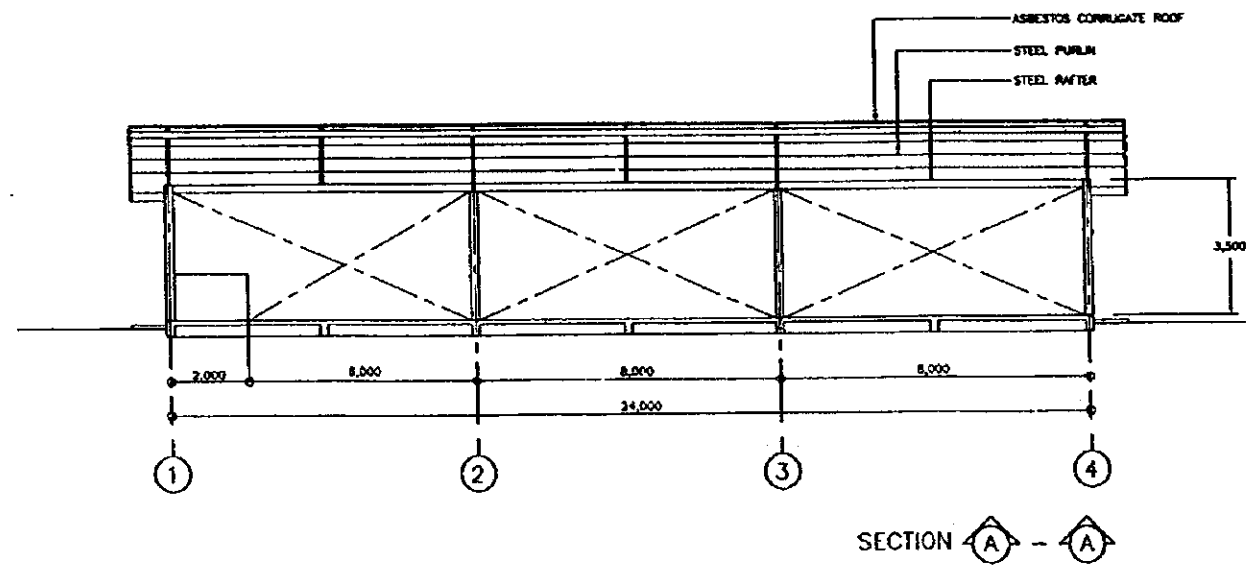
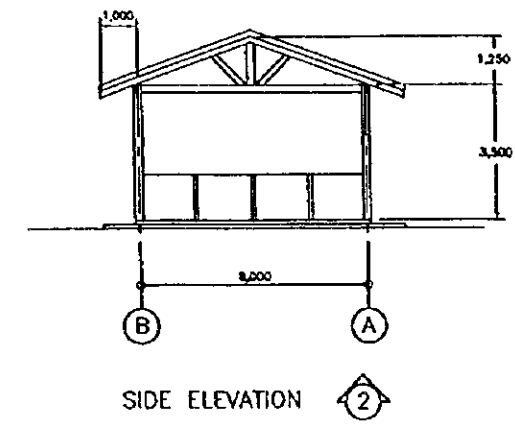
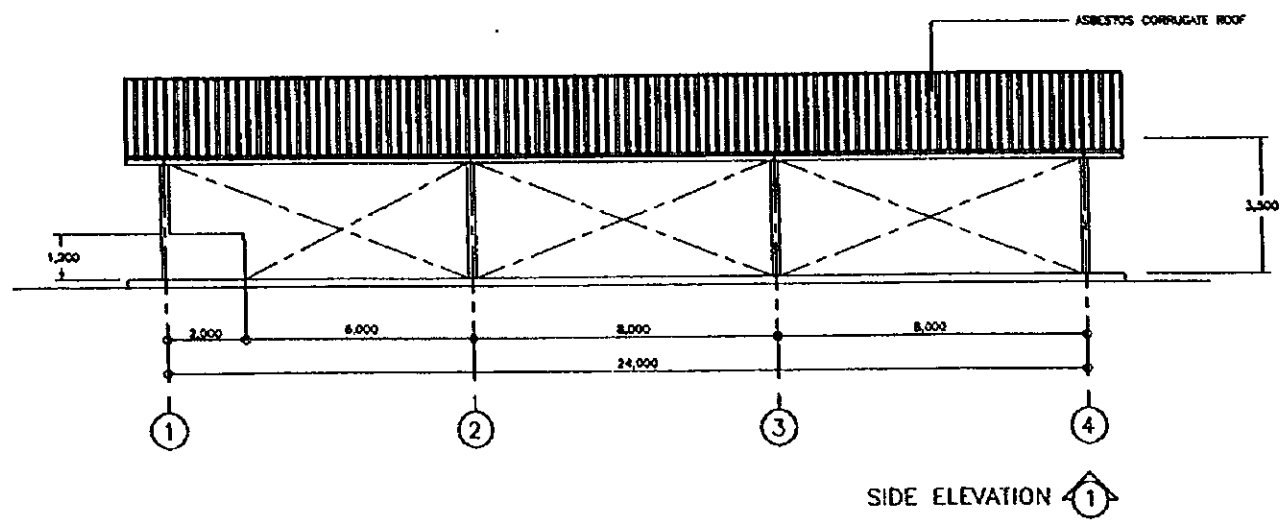
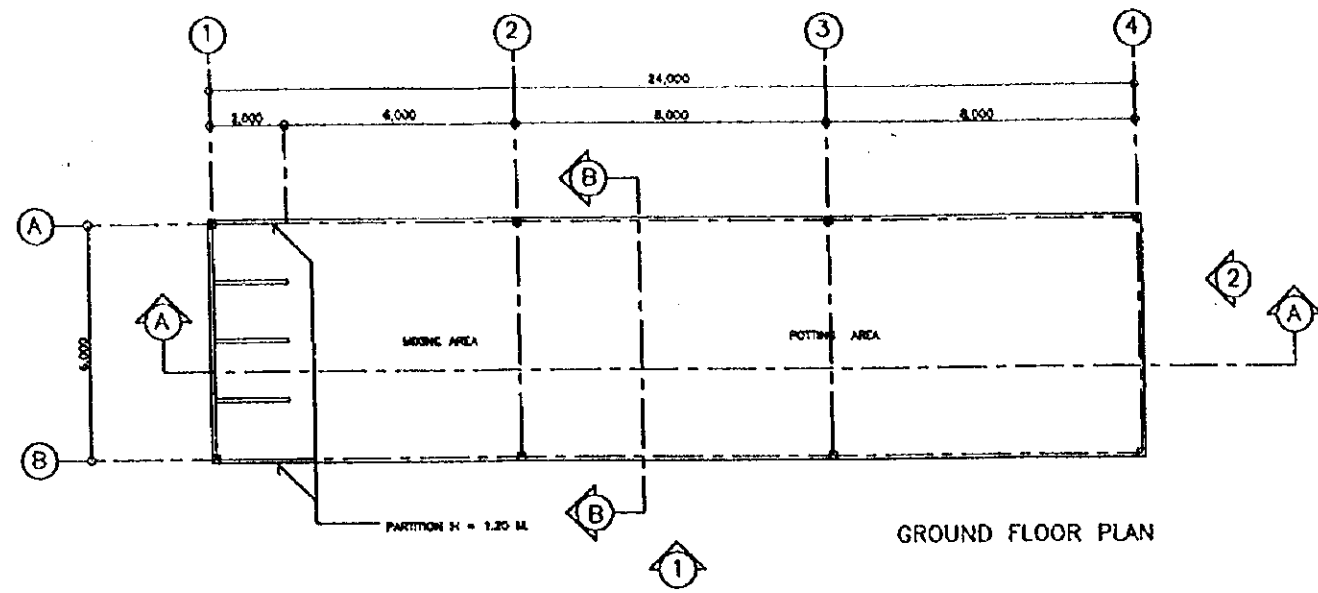
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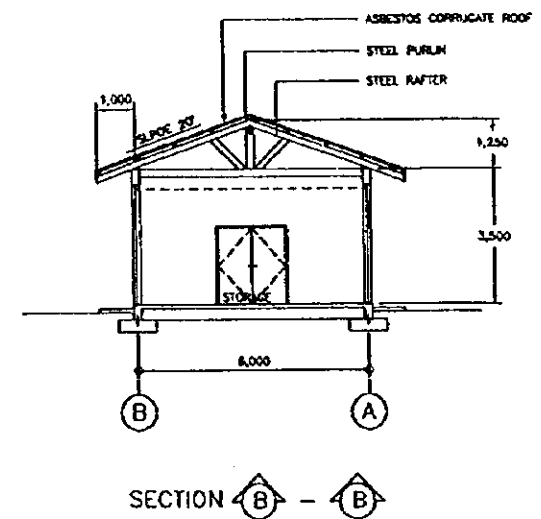
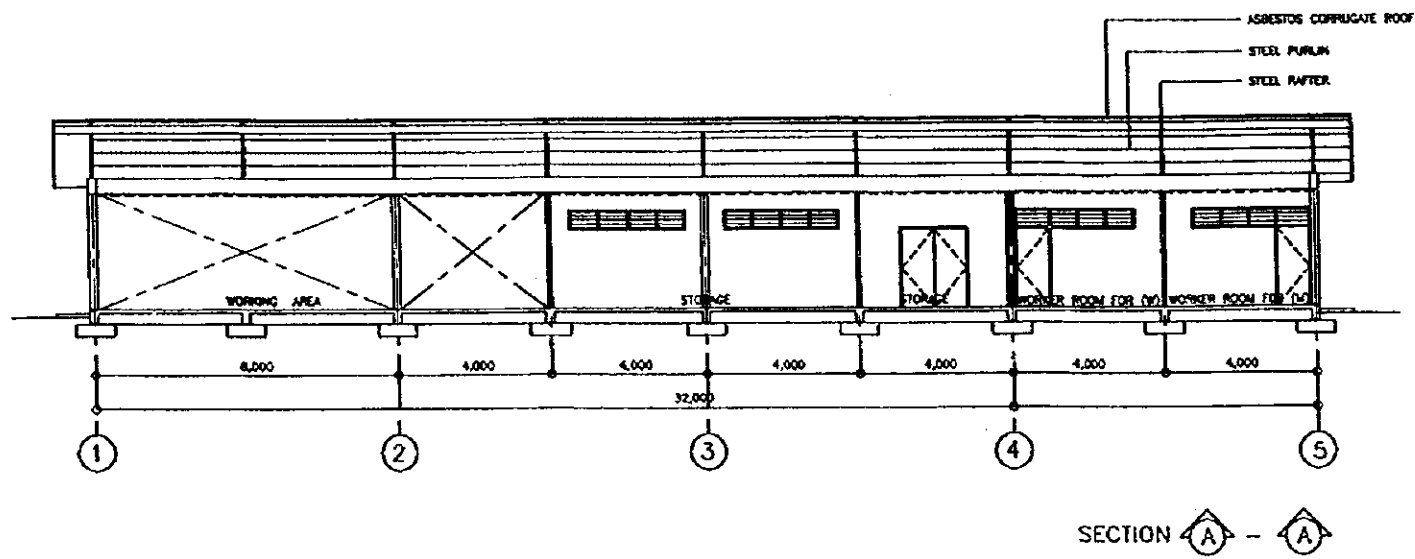
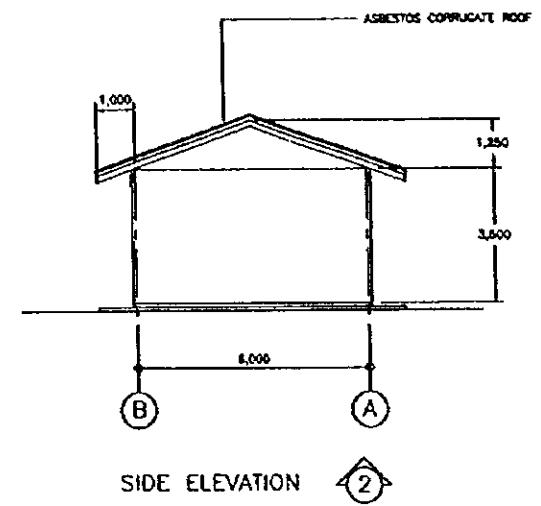
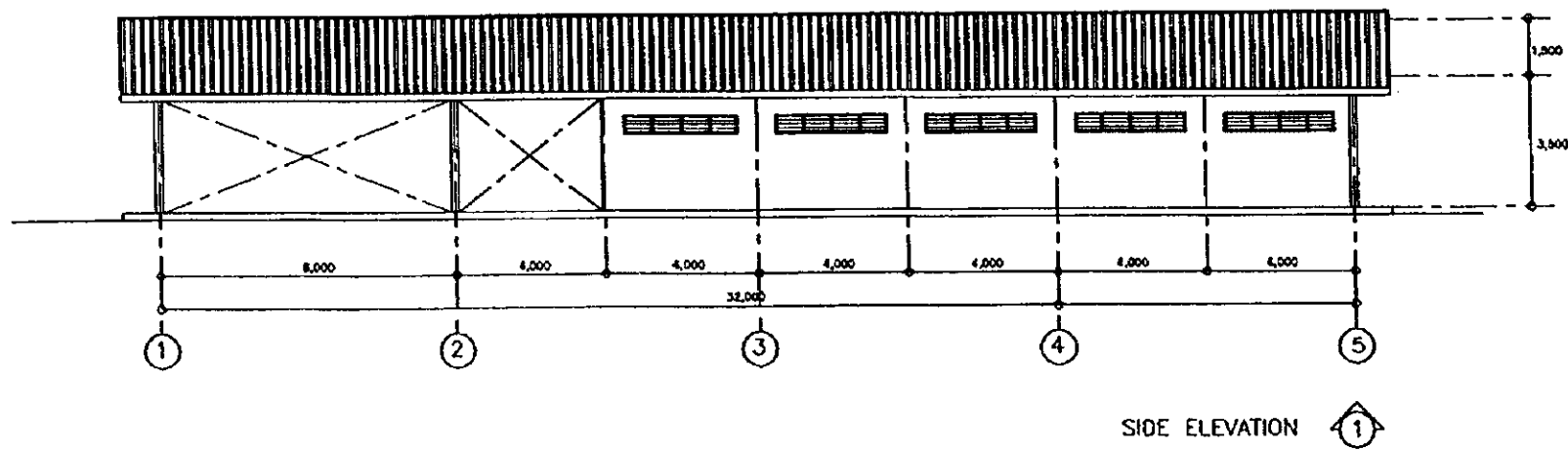
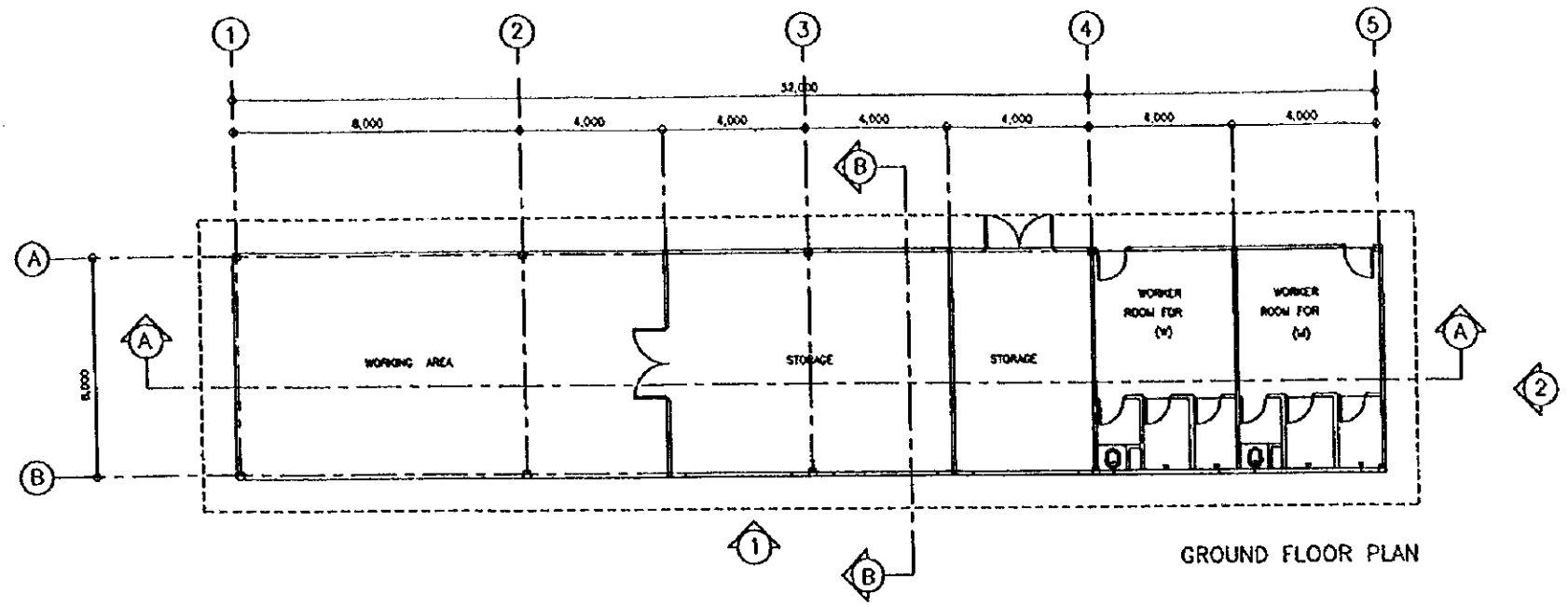
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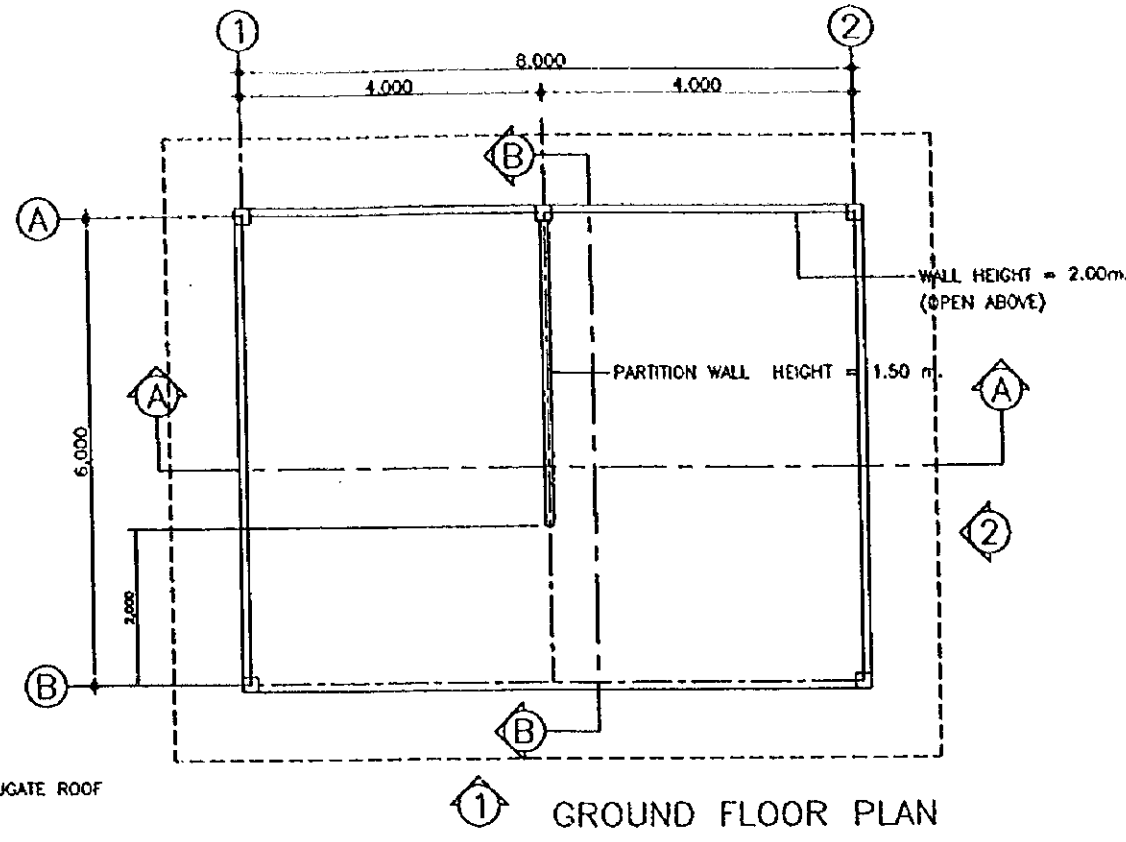


SECTION B-B

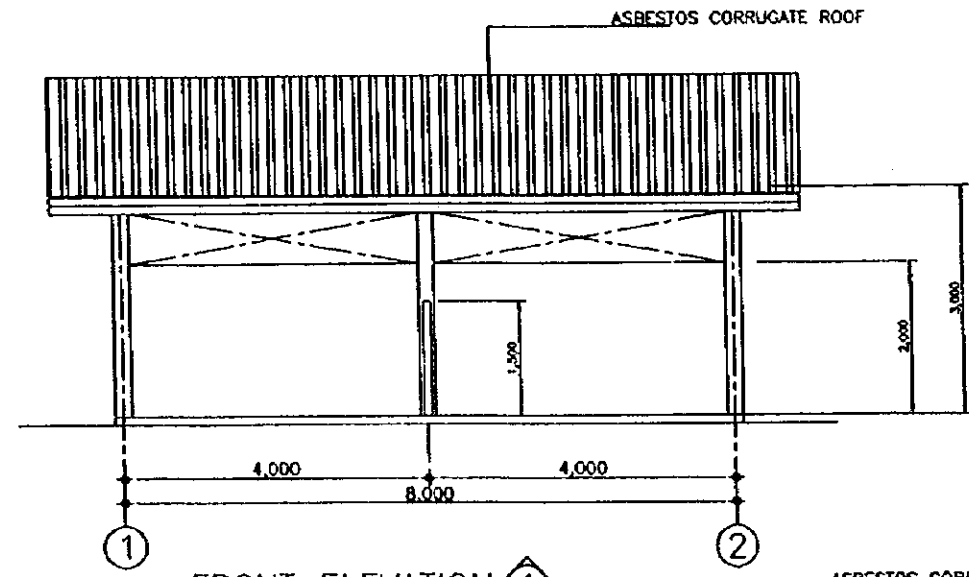




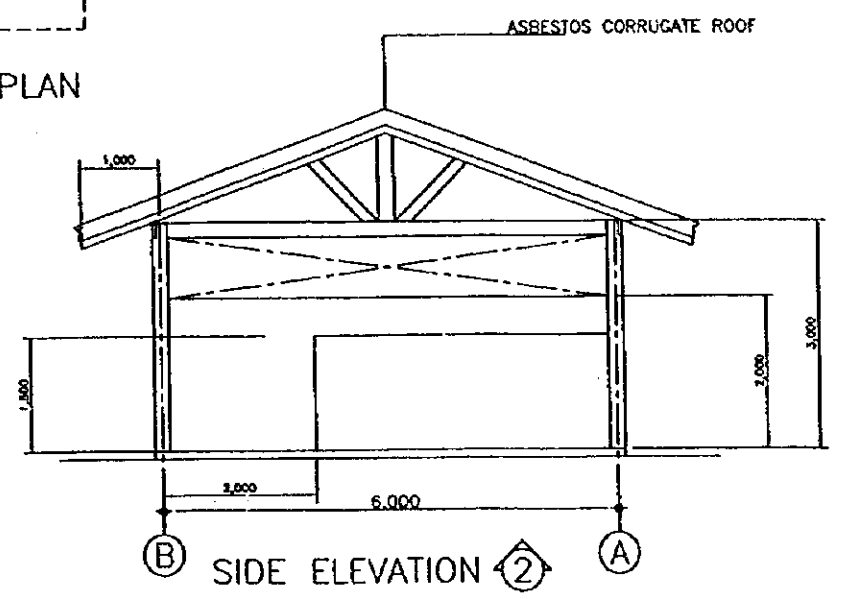




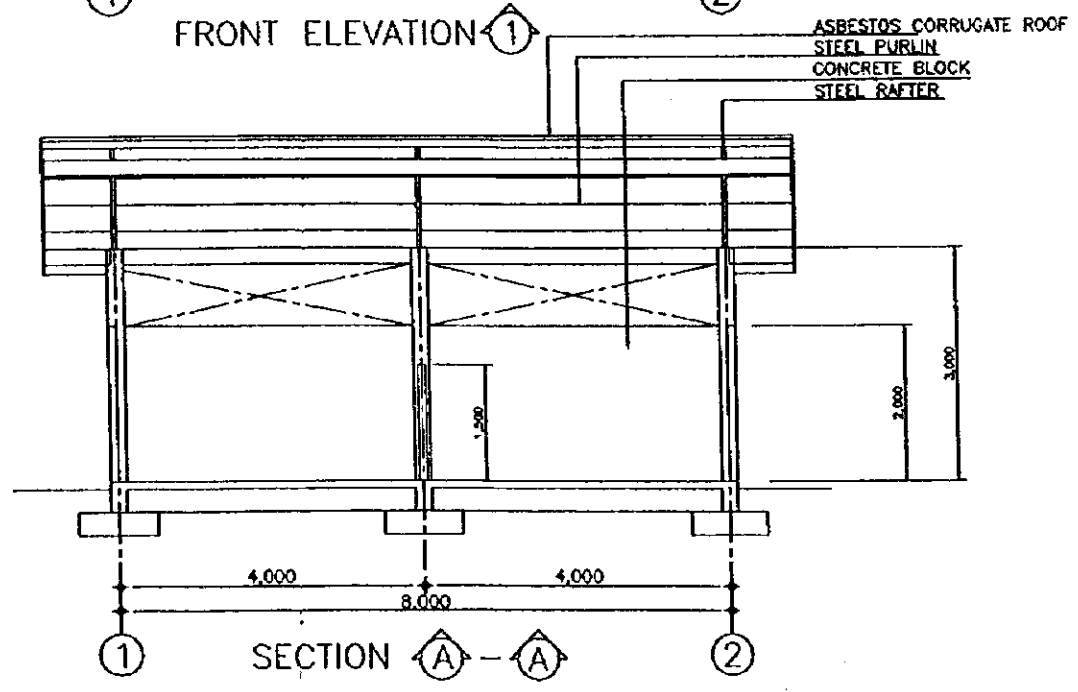
① GROUND FLOOR PLAN



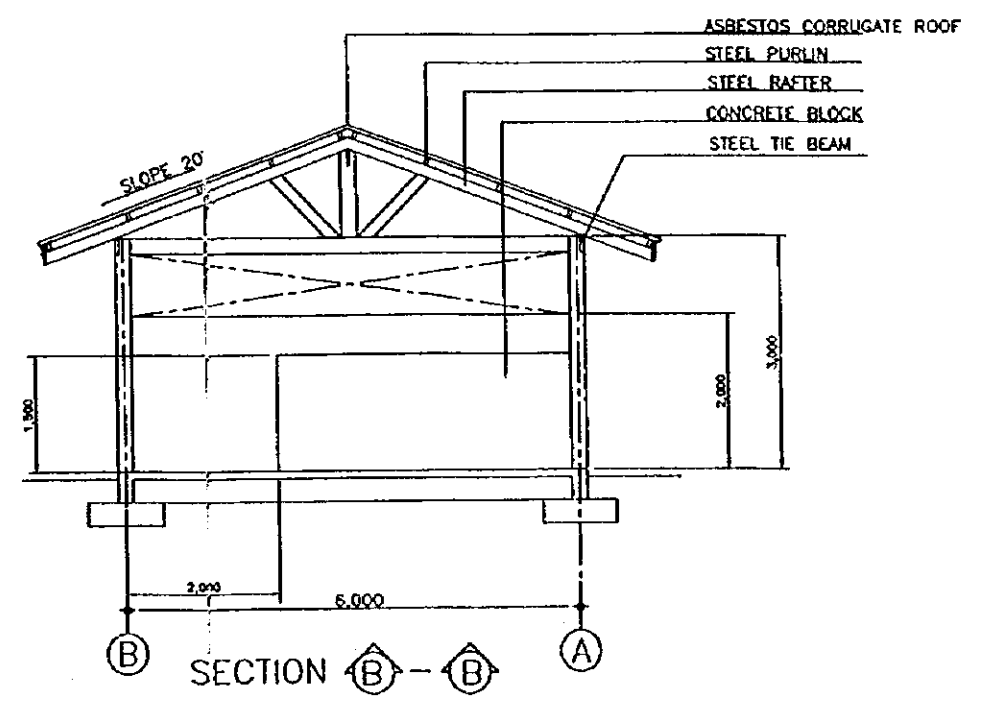
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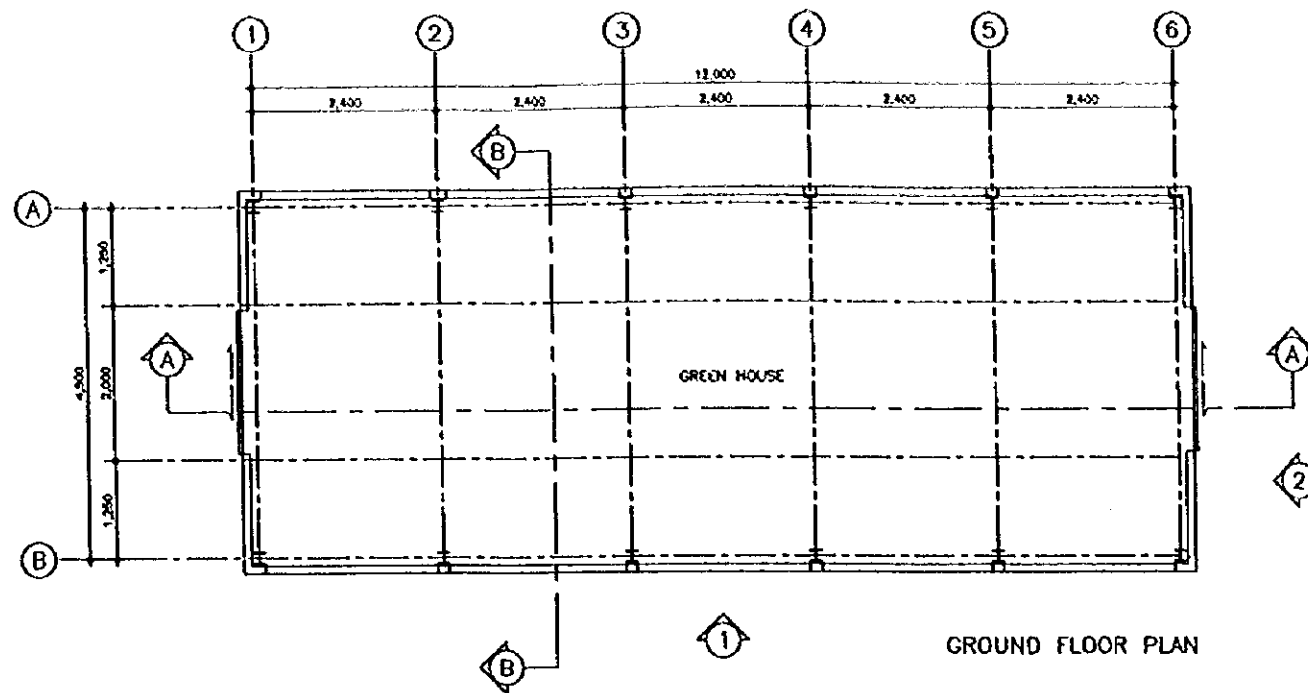
SIDE ELEVATION ②



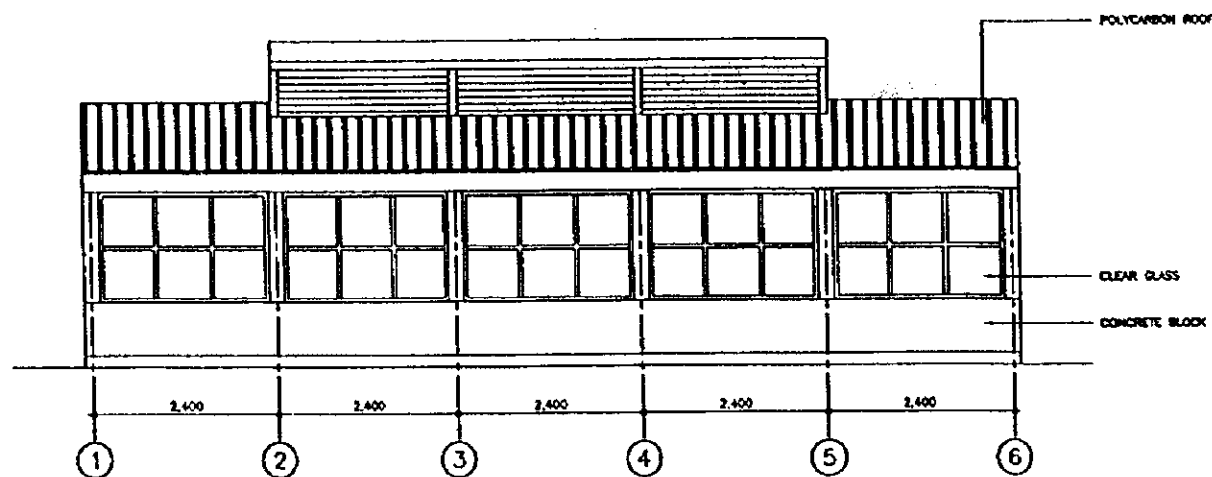
SECTION A-A ①



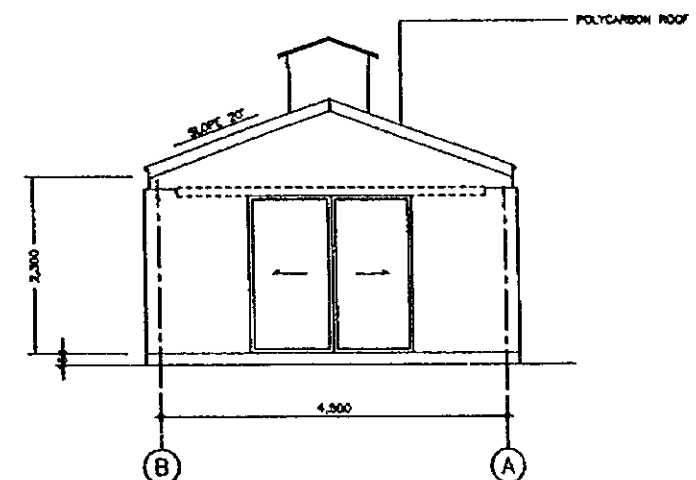
SECTION B-B ②



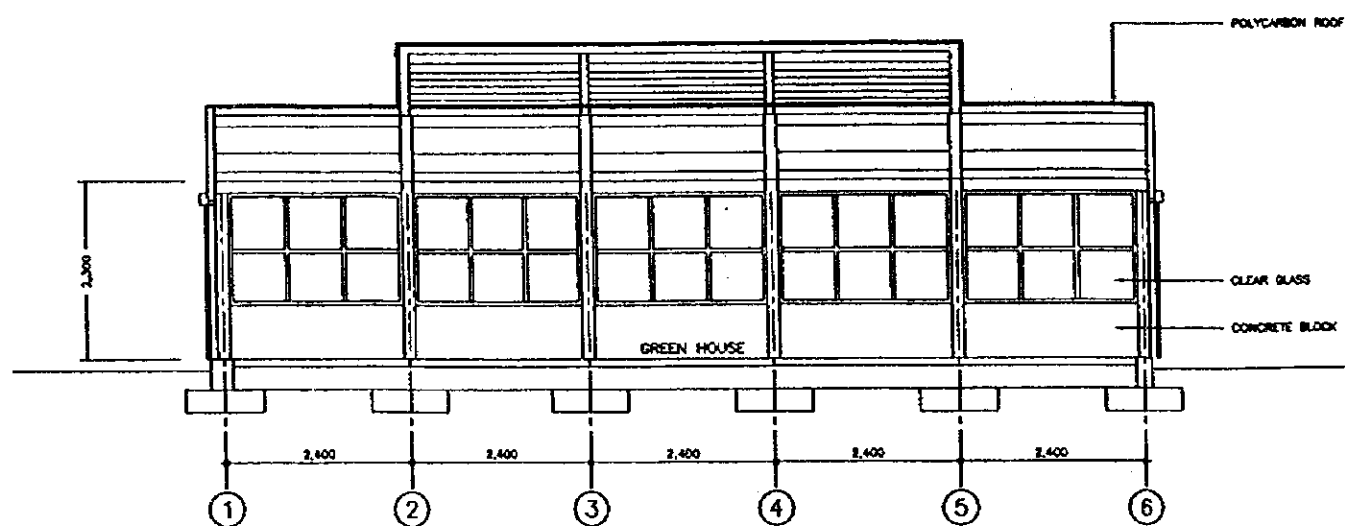
GROUND FLOOR PLAN



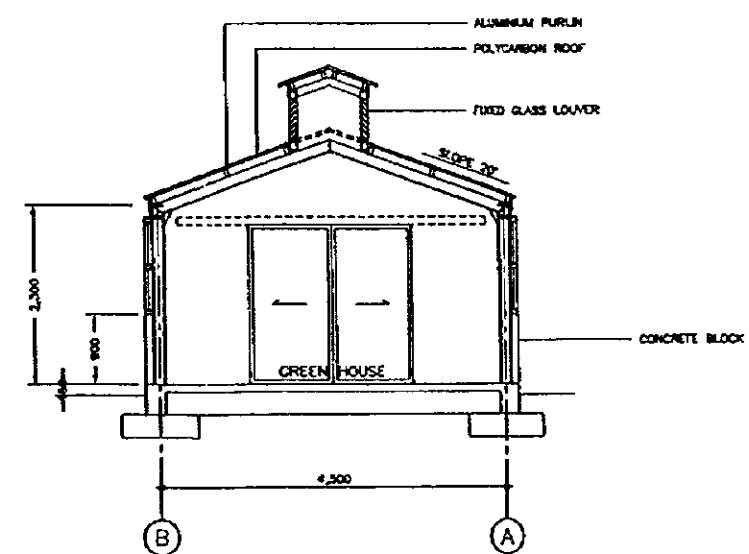
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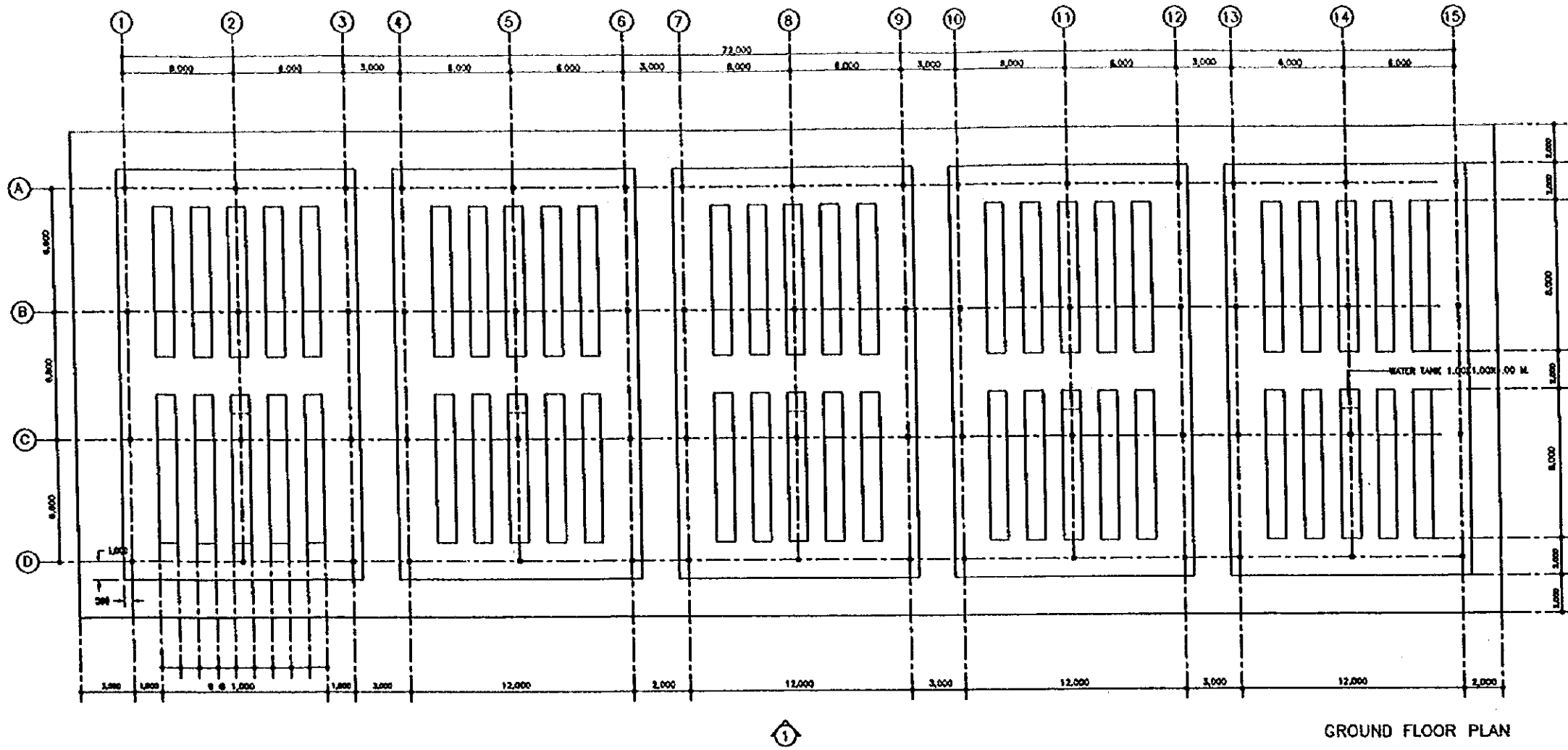
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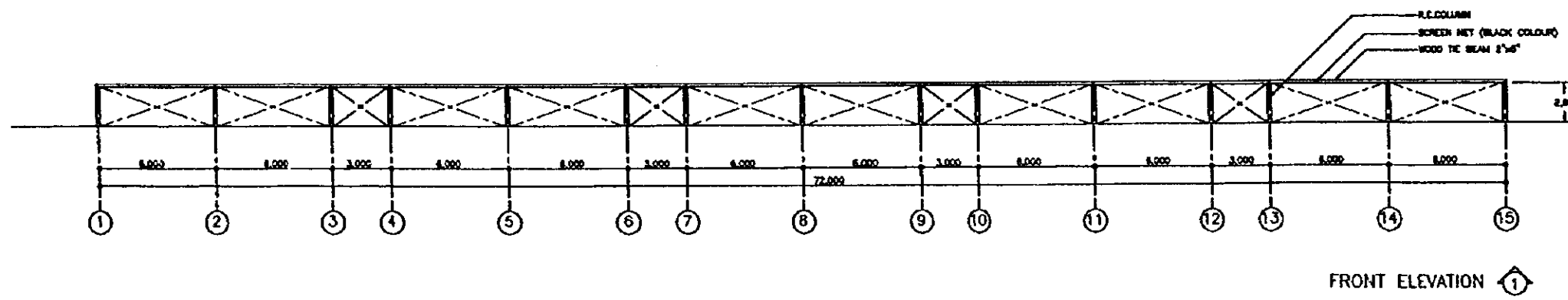
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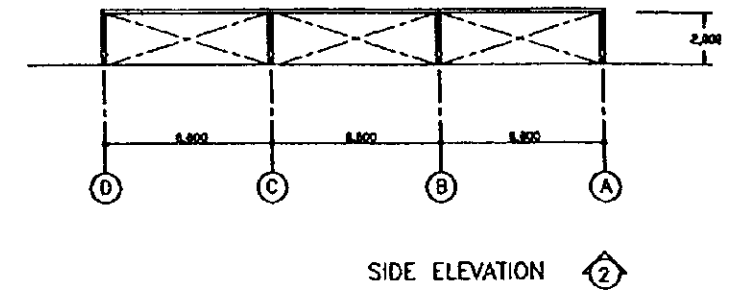
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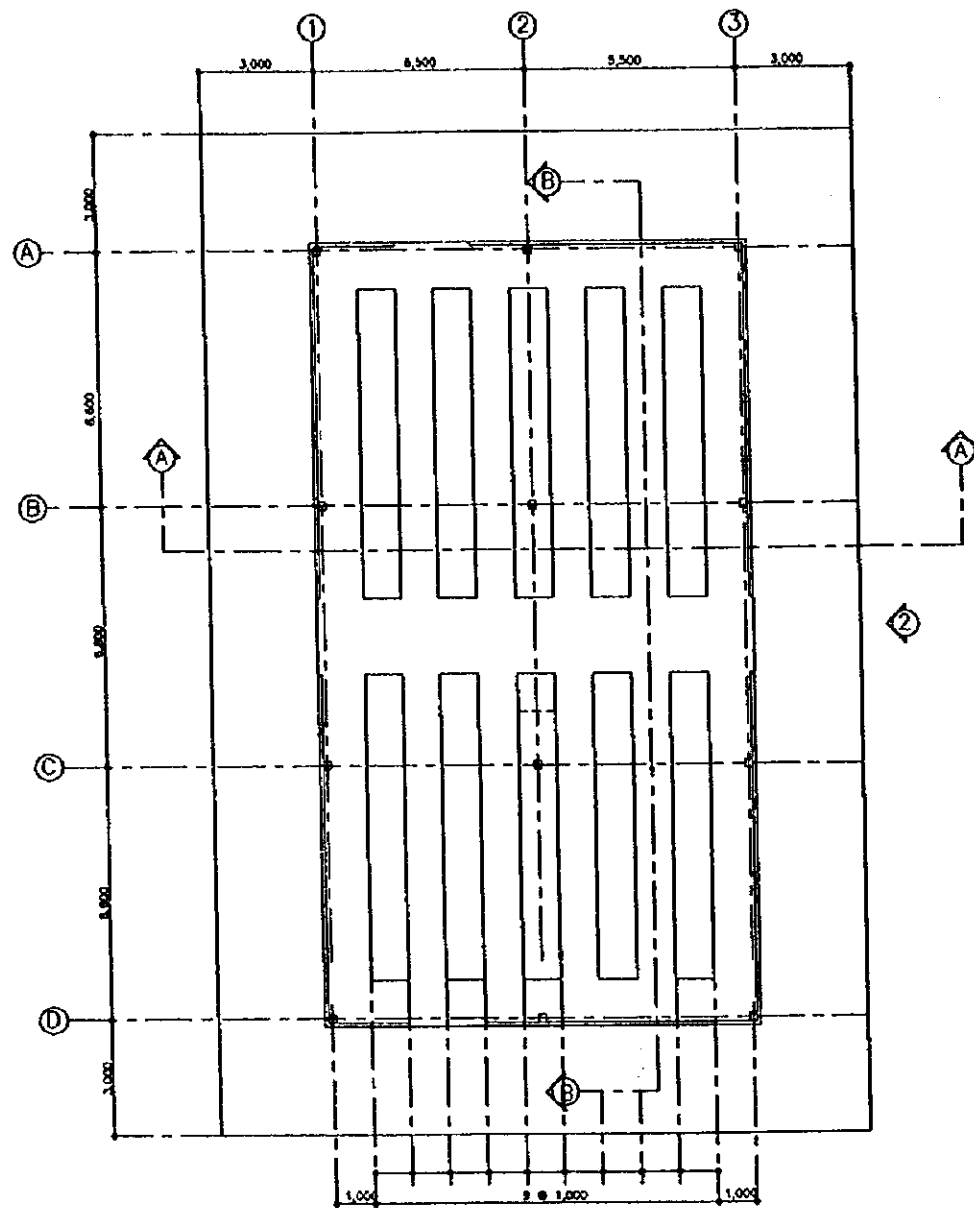
GROUND FLOOR PLAN



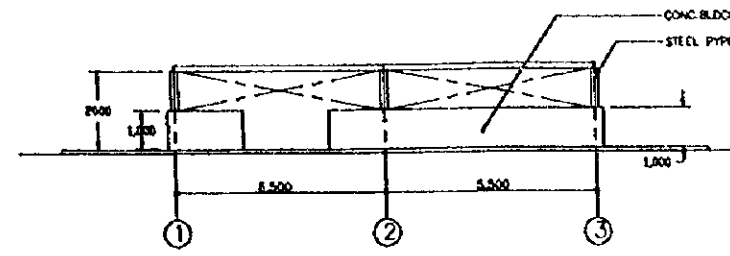
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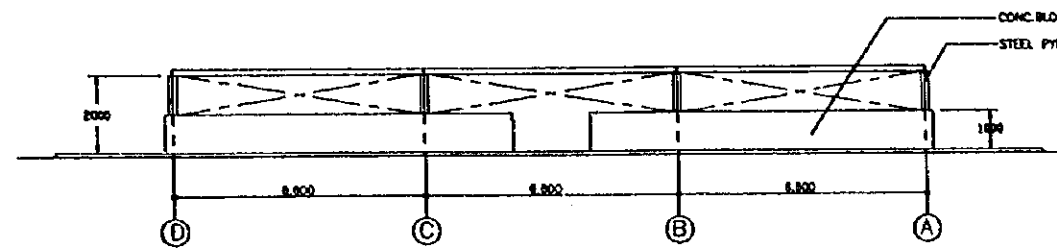
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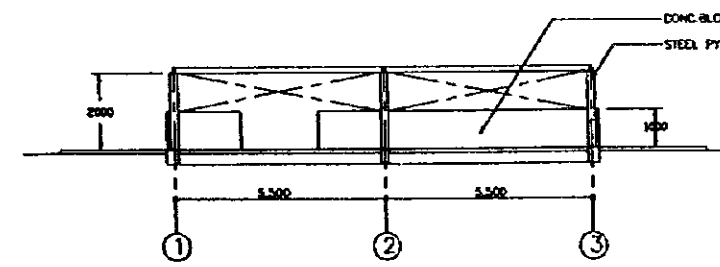
① GROUND FLOOR PLAN



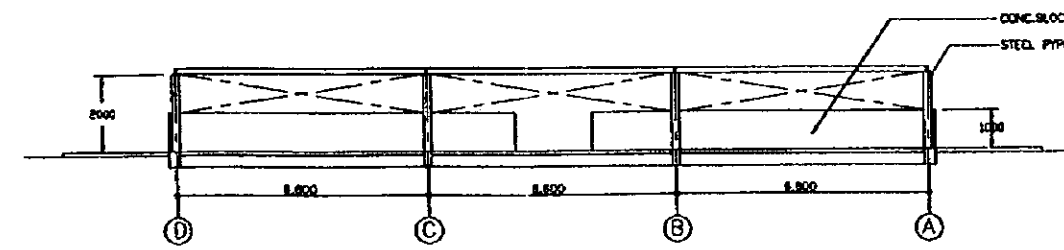
ELEVATION ①



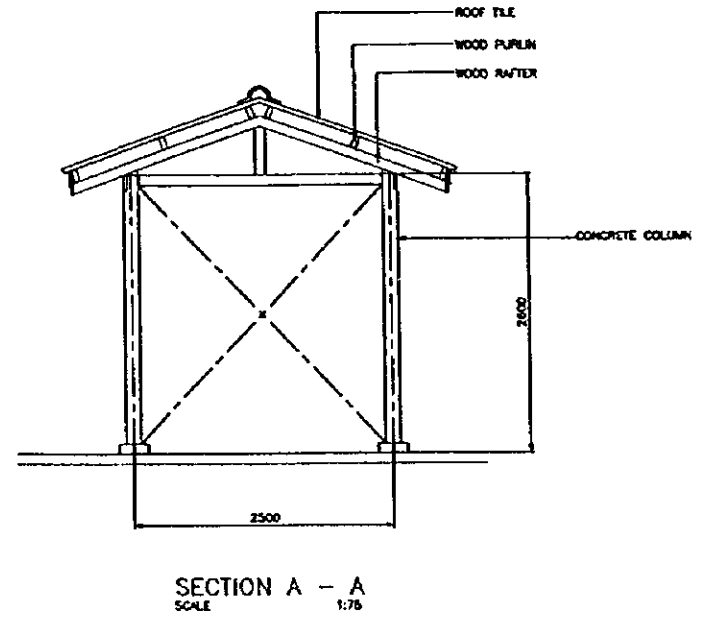
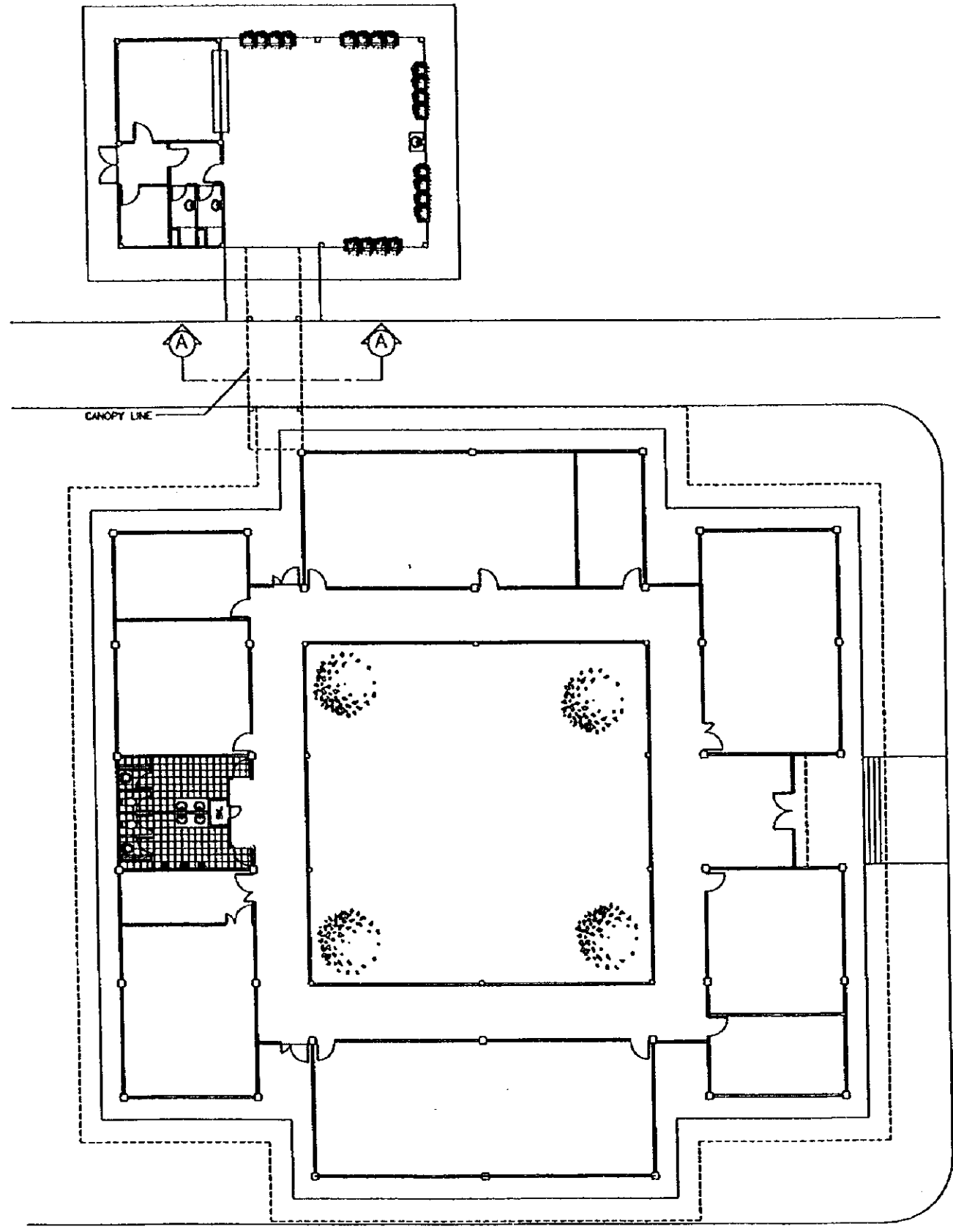
ELEVATION ②

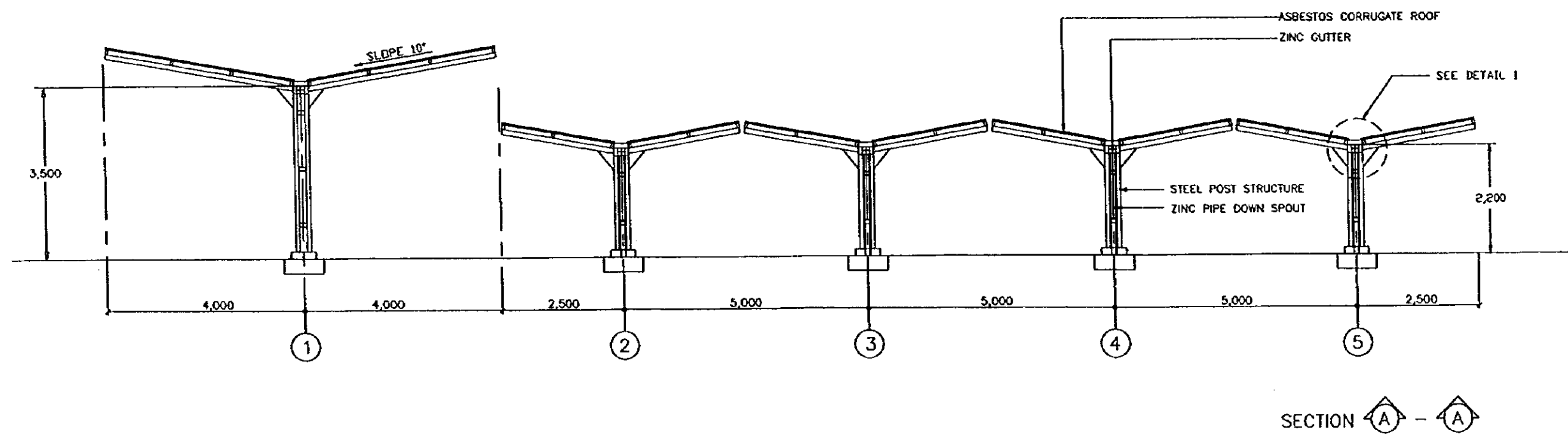
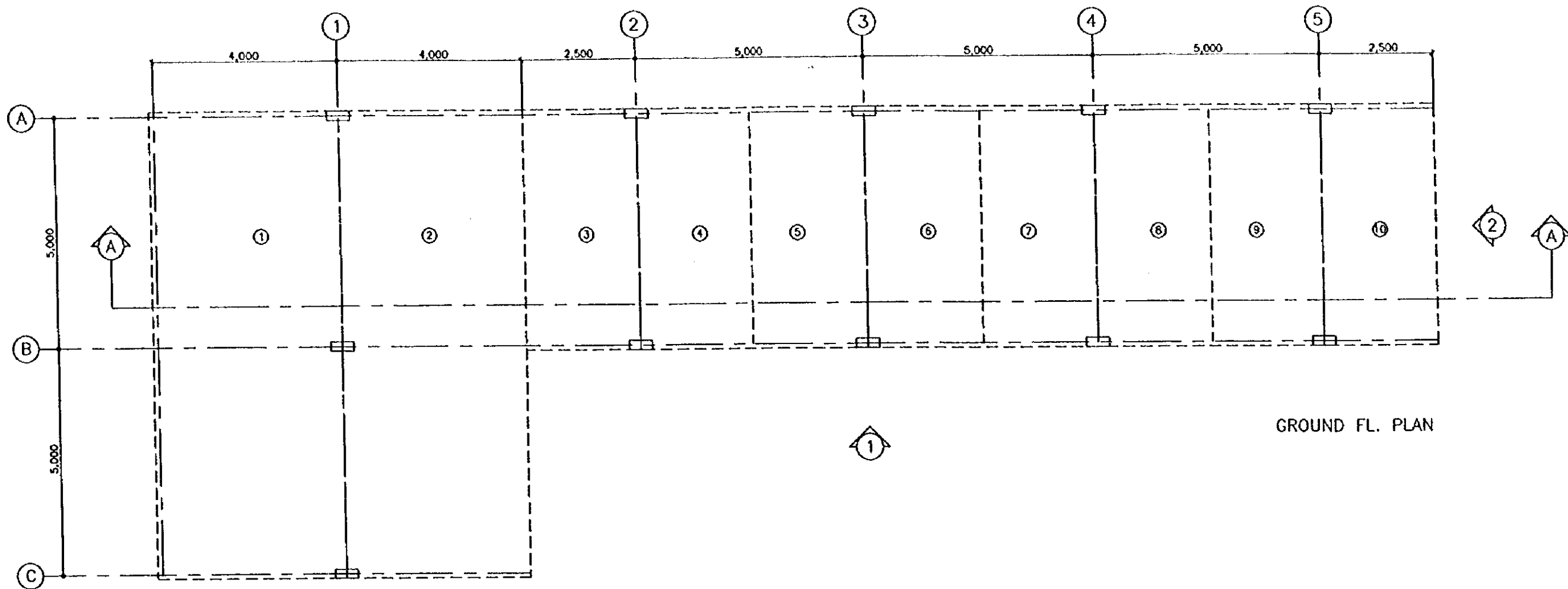


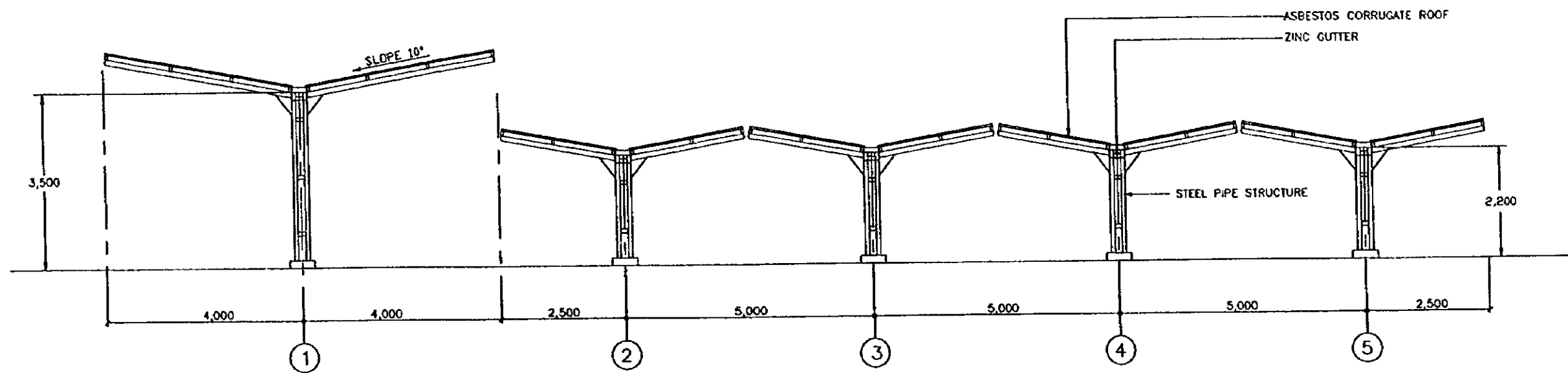
SECTION A-A



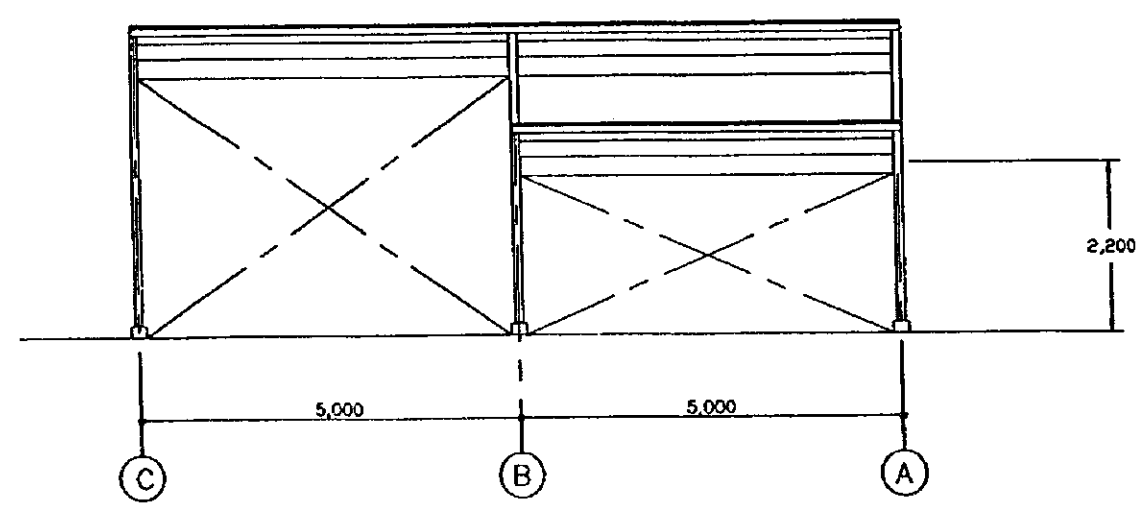
SECTION B-B



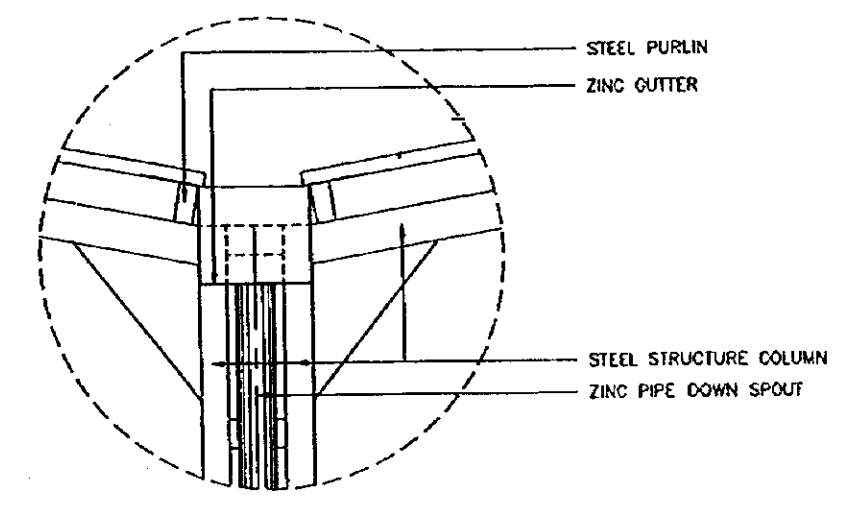




FRONT ELEVATION ①

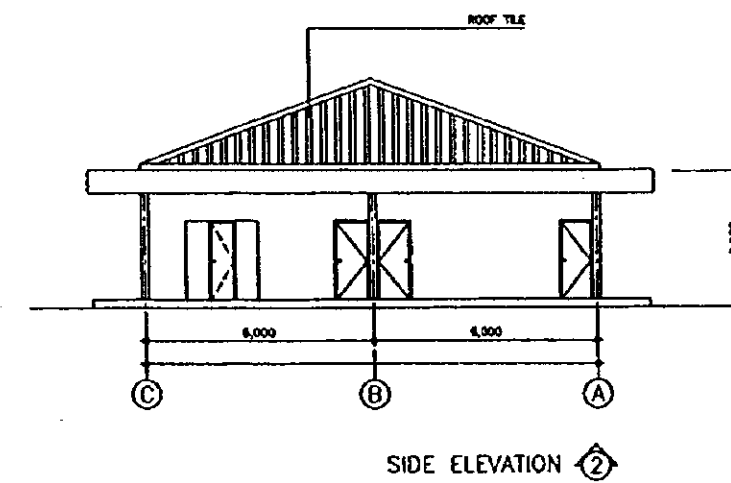
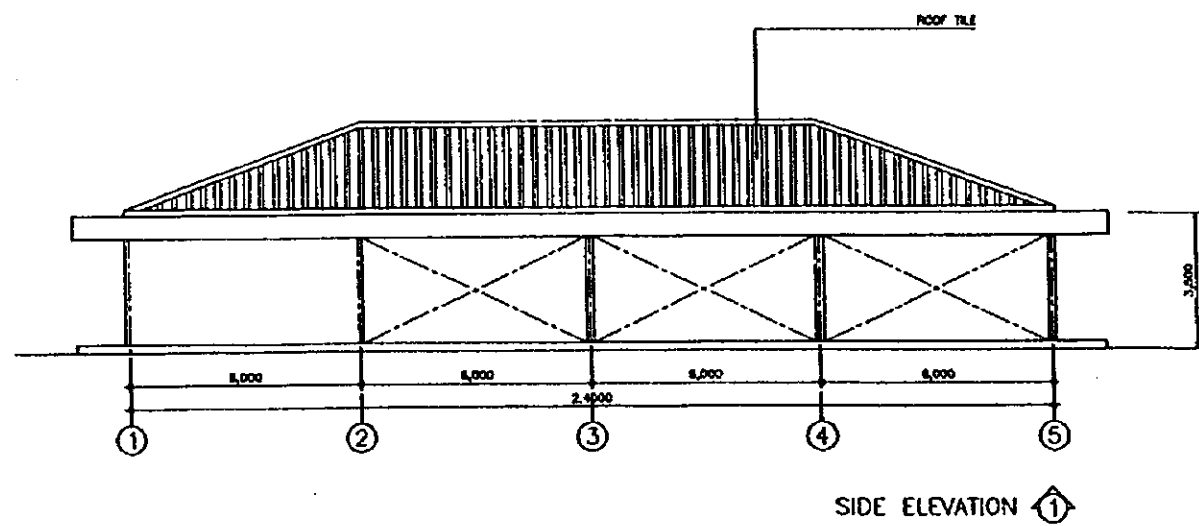
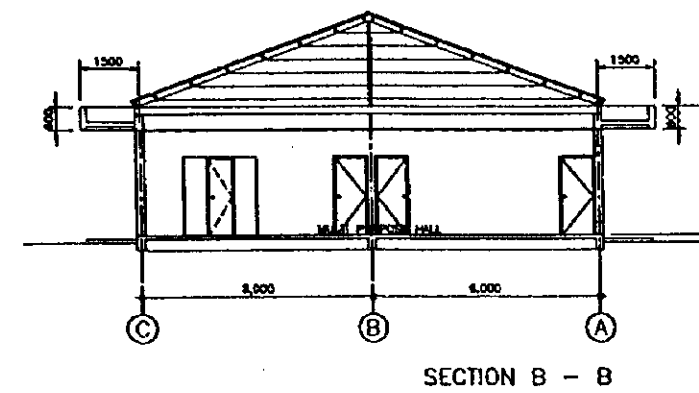
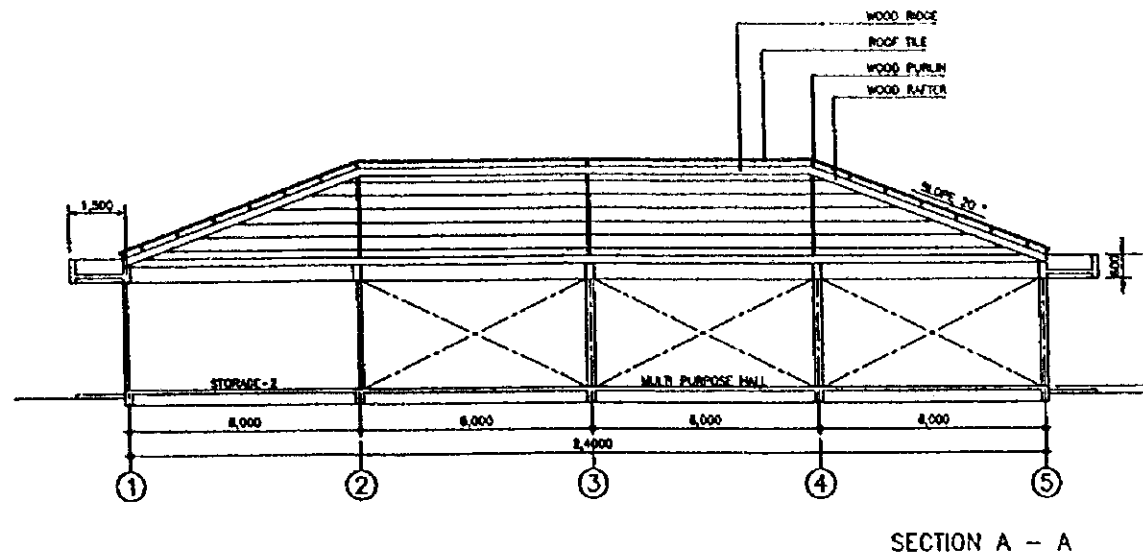
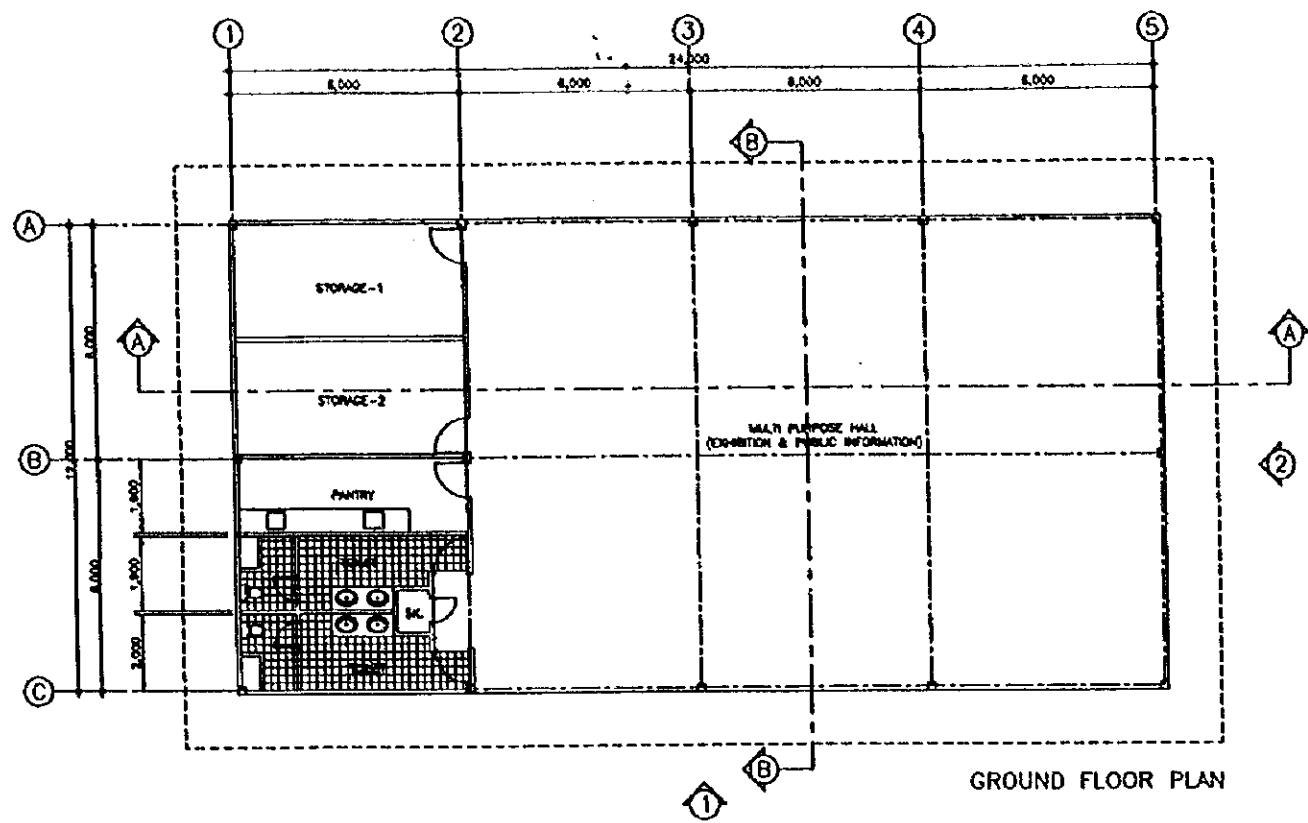


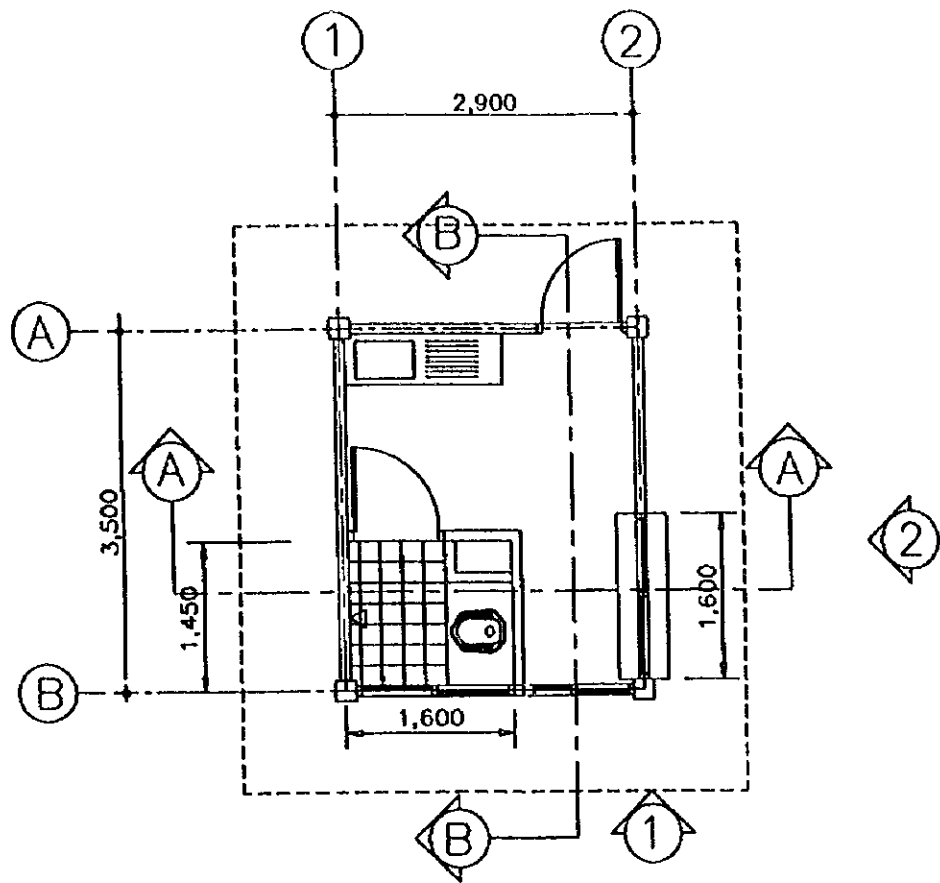
SIDE ELEVATION ②



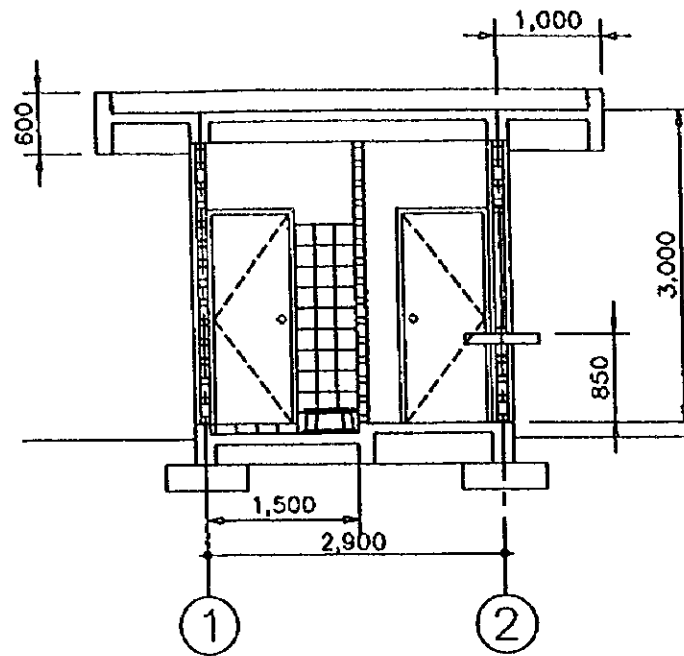
SEE DETAIL 1  
SCALE 1:20



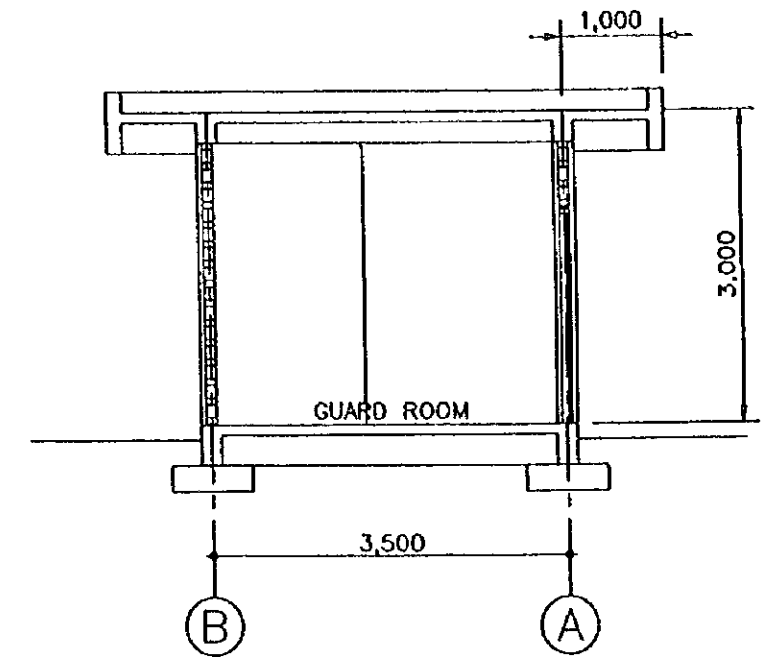




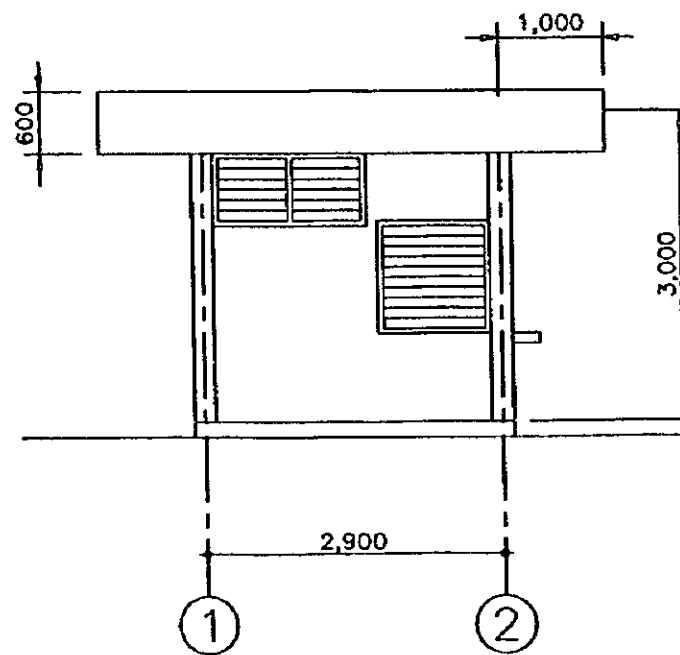
GROUND FLOOR PLAN



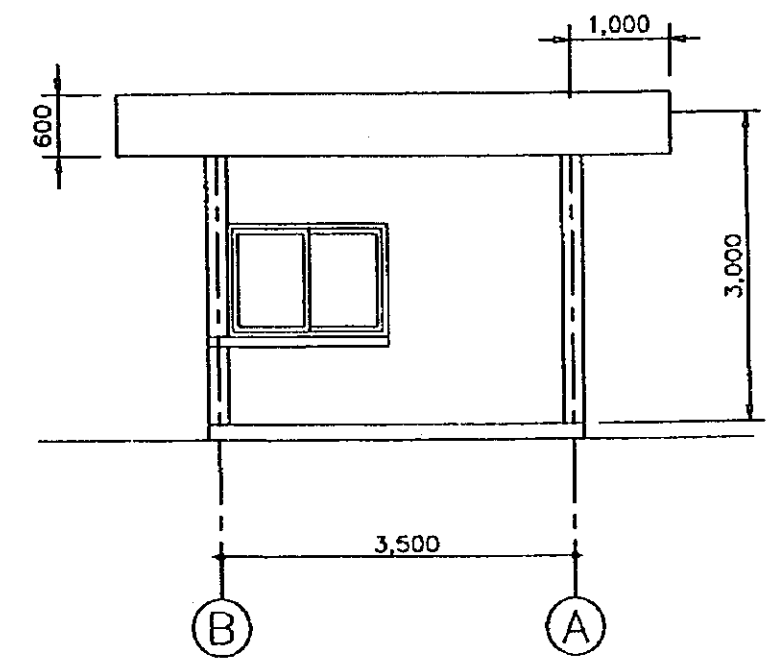
SECTION A



SECTION B

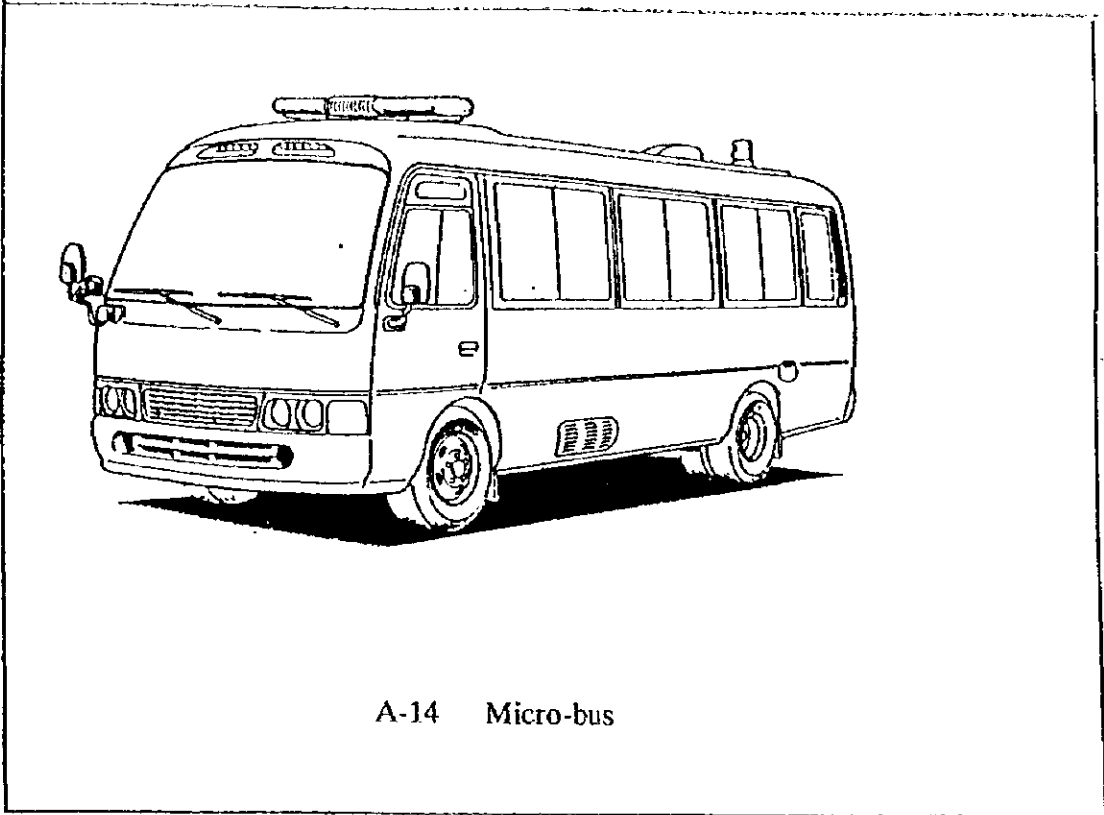


ELEVATION 1

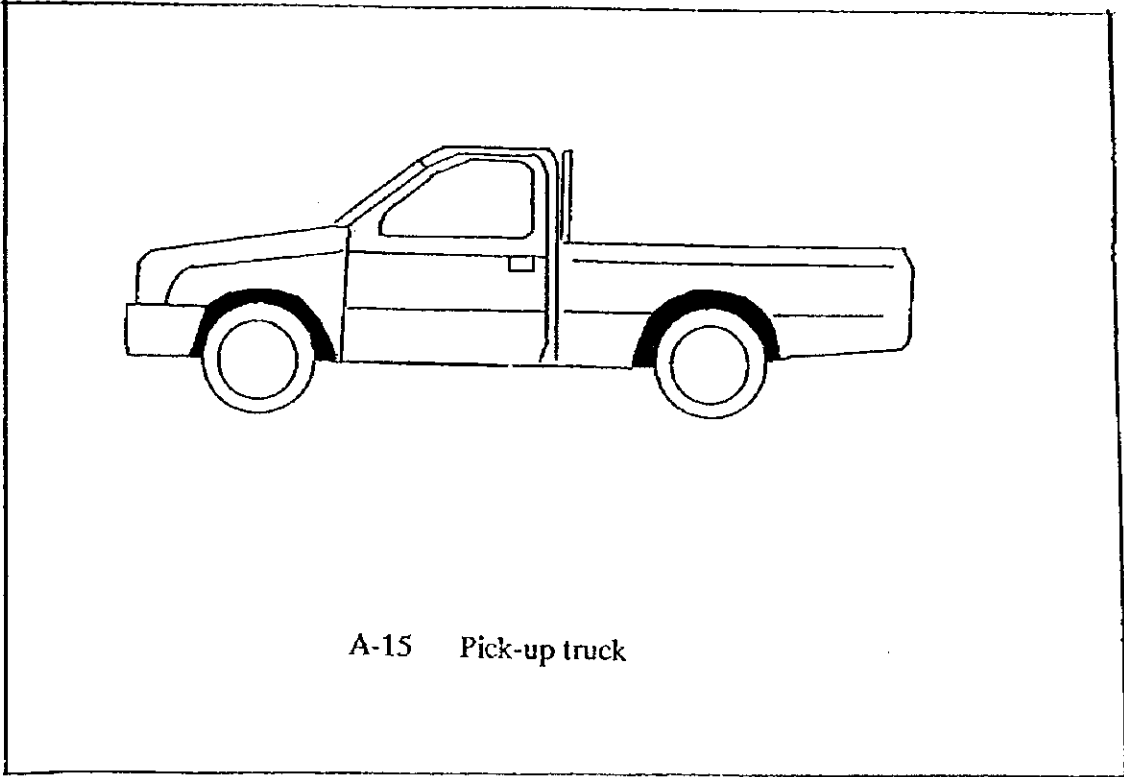


ELEVATION 2

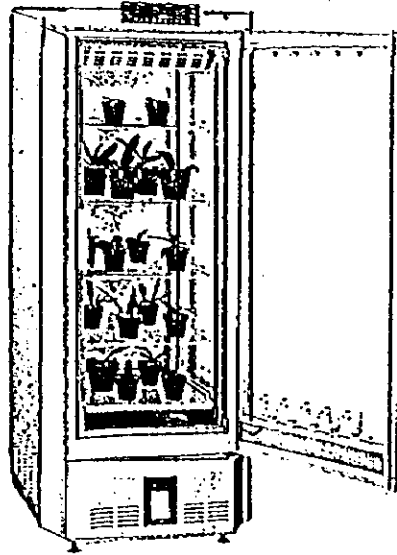




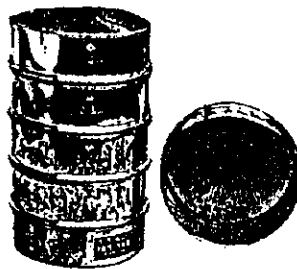
A-14 Micro-bus



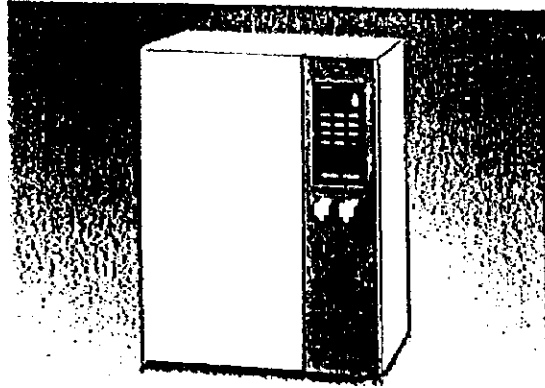
A-15 Pick-up truck



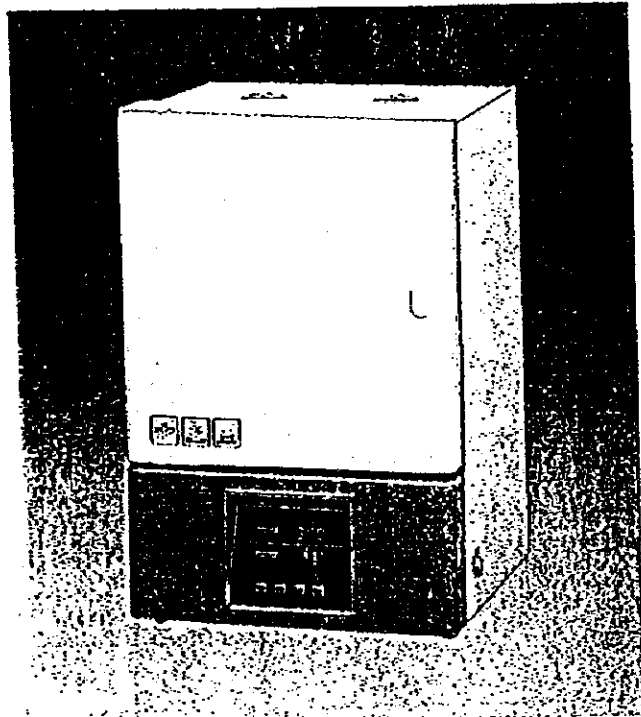
B-20 Germination Tester



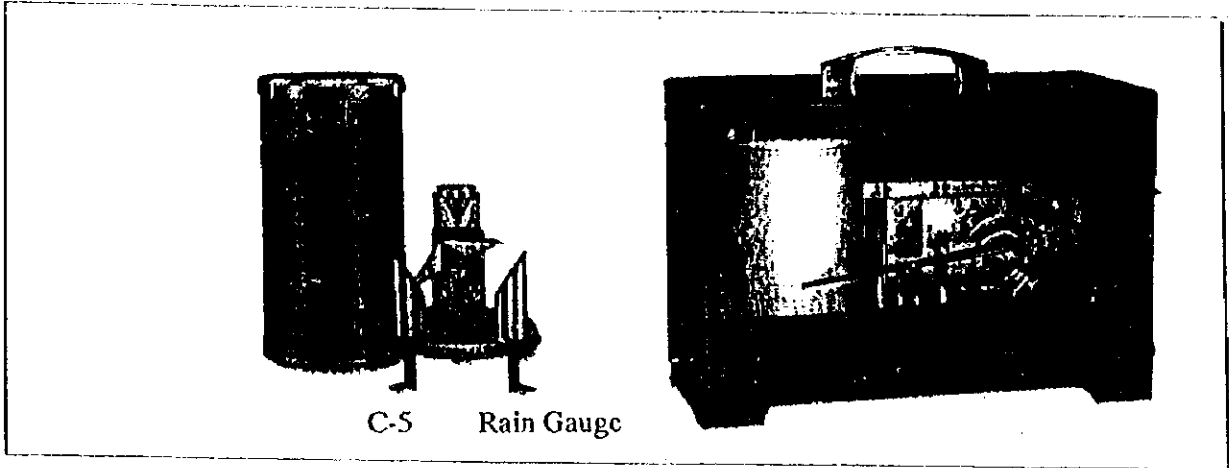
B-24 Soil Sieve



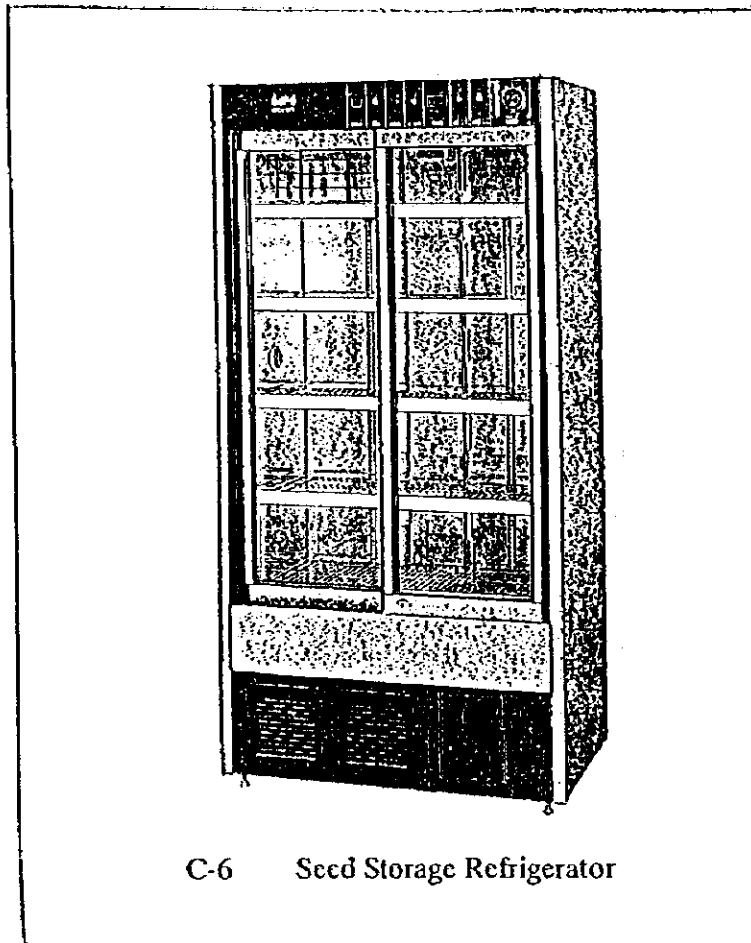
B-29 Water Purifier



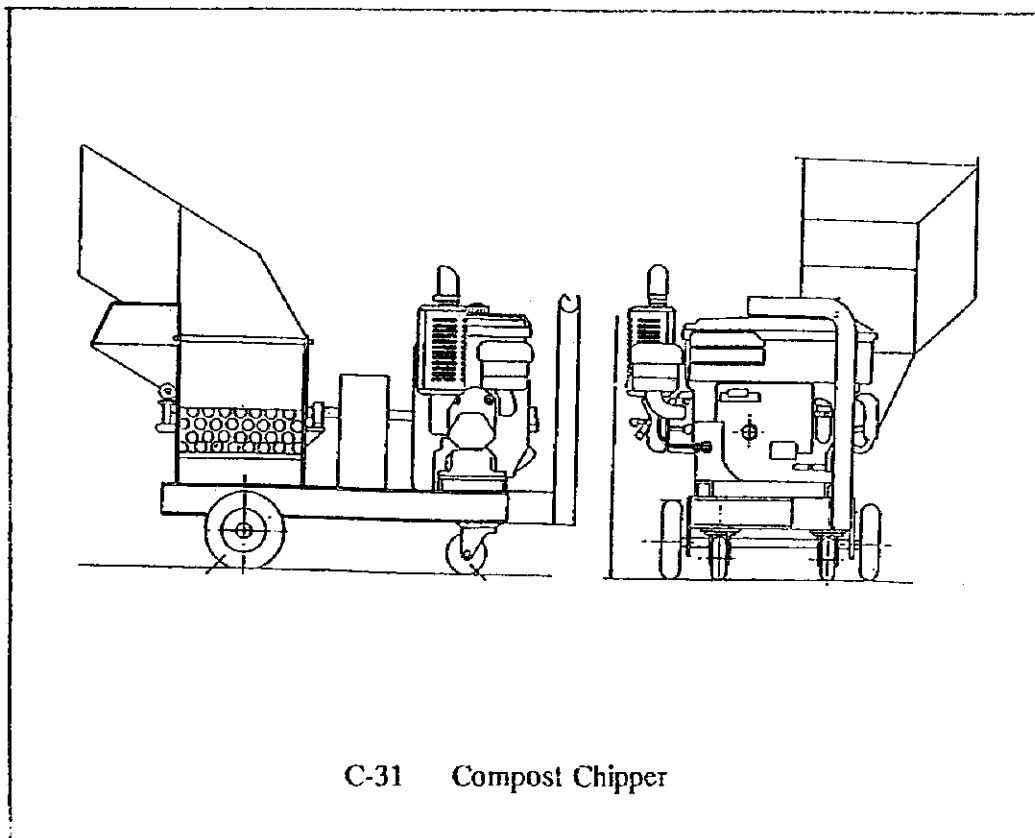
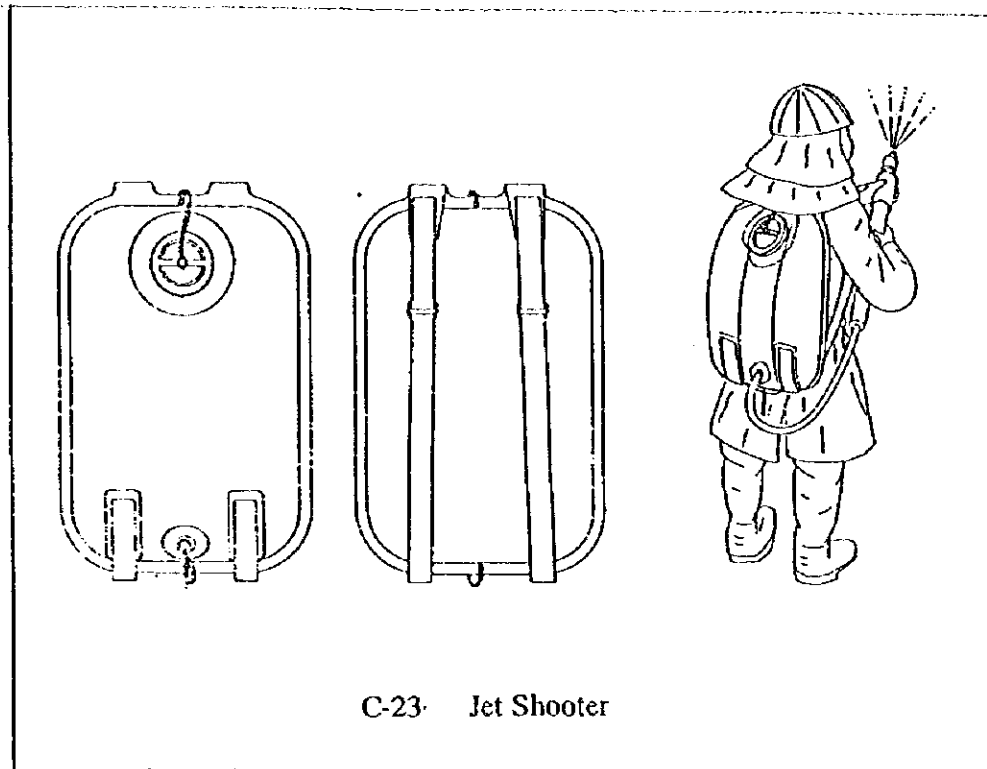
B-30 Drying Oven



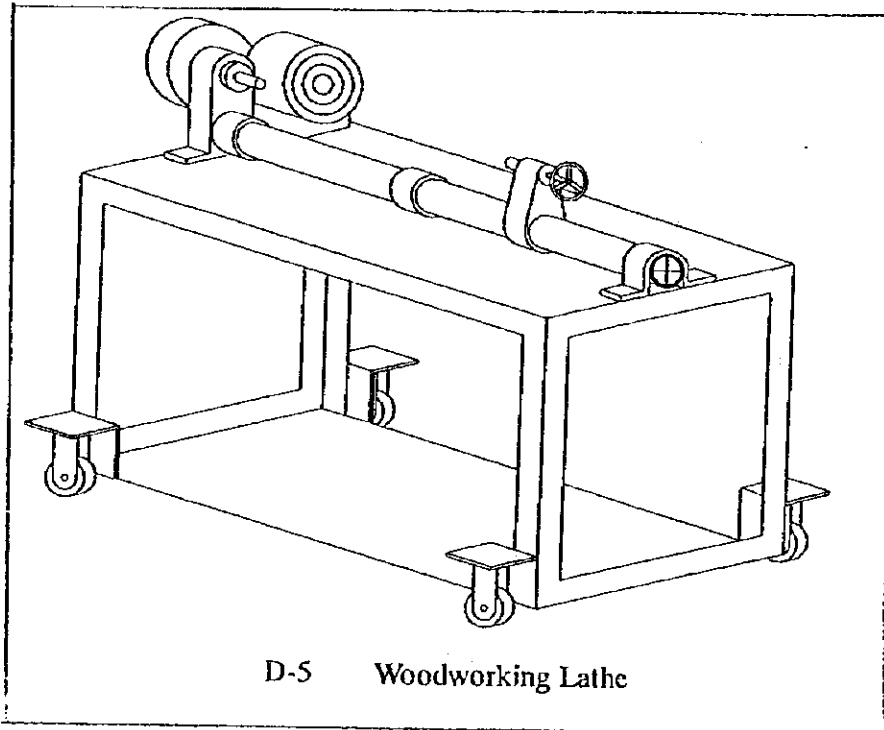
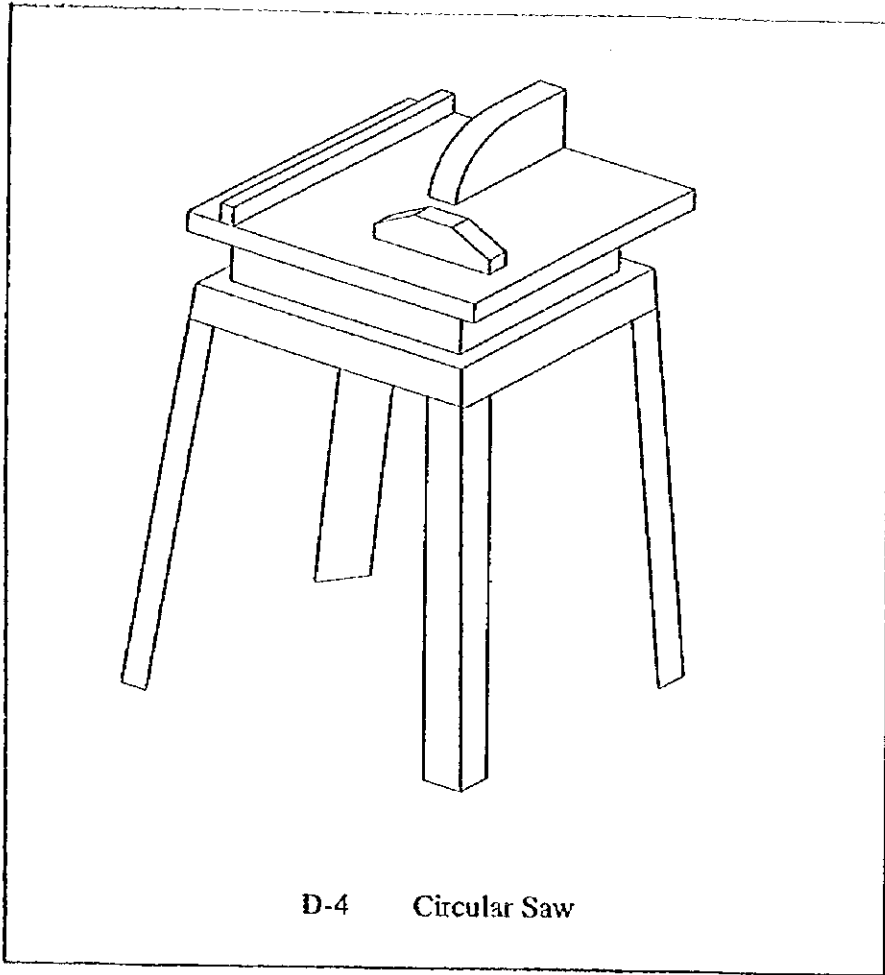
C-5 Rain Gauge

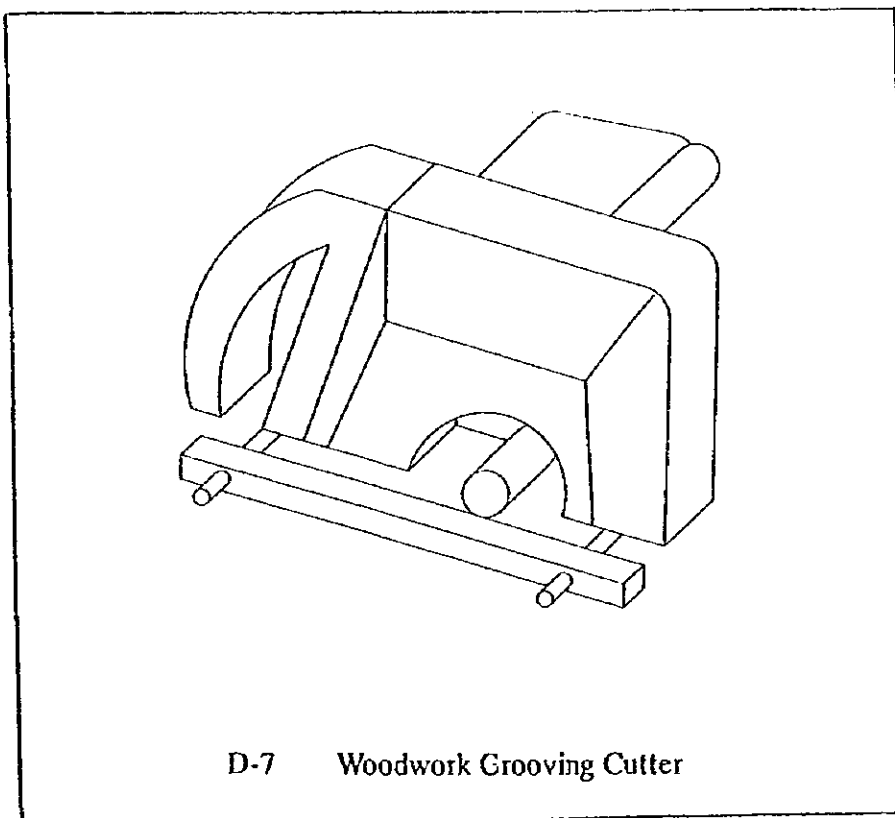
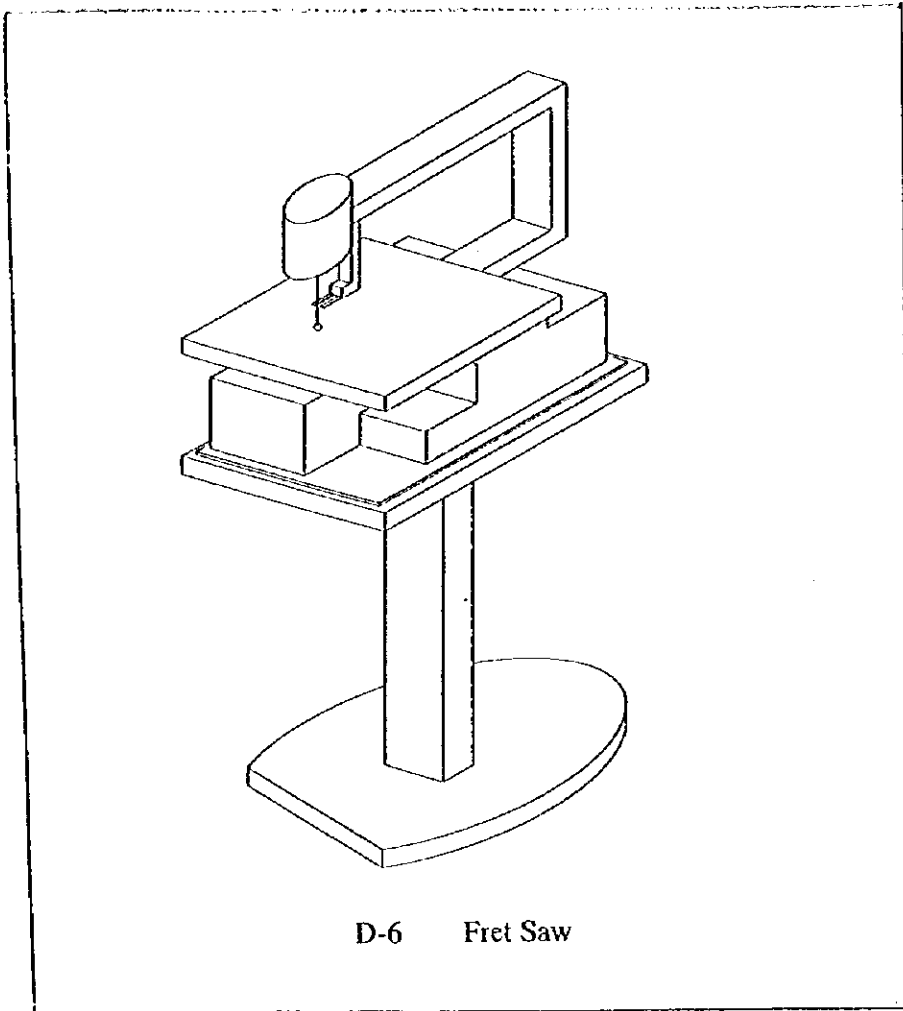


C-6 Seed Storage Refrigerator









## **CHAPTER 3 IMPLEMENTATION PLAN**

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### **3-1 Implementation Plan**

#### **3-1-1 Implementation Concept**

After signing the Exchange of Notes (E/N) with the Government of Japan, the Government of Lao PDR will enter into an agreement with a Japanese consulting firm recommended by JICA for the detailed design, preparation of tender and contract documents, and supervision of the construction work for this project.

After completing the detailed design, tender and contract documents based on the Agreement, the Consultant will conduct a tender to select the Contractor for the construction of the Afforestation Center and the procurement of equipment and materials, with the attendance of representatives of the Government of Lao PDR.

The selected Contractor will construct the Afforestation Center and procure the equipment and materials under the guidance and supervision of the Consultant.

The construction, procurement and supervision work will be carried out based on the following policies:

- (1) From the signing of the contract, the project will require thirteen (13) months to complete. The construction work will be executed within the first year (one fiscal year).
- (2) In order to successfully complete the construction of a great number of facilities within the designated period, a Japanese construction firm with great experience in construction work and various experiences in similar projects in Southeast Asian countries, including Lao PDR, will be selected.
- (3) Prior to the commencement of the project, the Government of Lao PDR must complete its undertakings, such as the acquisition of construction site and construction of facilities for electrical supply, and deliberations should be closely carried out with relevant agencies to prevent any delay in the progress of the work.
- (4) For the smooth implementation of the project, the Government of Lao PDR shall take the following necessary measures:
  - \* Issue long-term visas for the Japanese Consultant and Contractor.
  - \* Exempt equipment and materials necessary for the project from taxes, duties and relevant charges.
  - \* Provide working permits for engineers and workers of a third country for the

construction work.

\* Provide import and export permits for equipment and materials from a third country.

- (5) A project office will be established on site, with close communication links with FORCAP and the JICA Vientiane Office.
- (6) The Consultant and the Contractor shall station personnel in charge of the construction work in the project site.
- (7) The construction of the administration/training building of the Afforestation Center will be given priority, as it will be the base for the educational activities.
- (8) Permanent work supervision by the Consultant

Constant supervision will be provided from the beginning until the completion of the construction work. This project involves various undertakings, such as the: 1) construction of numerous facilities, e.g. administration/training building for afforestation guidance and educational activities, lodging facility, a canteen and a nursery, 2) construction of engineering facilities, and 3) procurement of all the necessary equipment and materials.

The works will be constantly inspected for quality control. Various inspections will be carried out throughout the project to confirm the layout of all facilities, concrete placement, arrangement of reinforcement, material testing work, and the finishing works.

The guidance and supervision services to be extended by the Consultant to the Contractor, as well as the regular communication and provision of reports on the progress of the works to the representatives of the Government of Lao PDR and JICA, are also extremely important.

### **3-1-2 Implementation Conditions**

#### **(1) Transportation and Communication**

The project site is located 130km north of Vientiane City along National Highway 13. The section of the highway from the capital is paved, however, it gets flooded in the rainy season when the water level rises due to heavy rain. Therefore, the construction schedule, including the transport of equipment and materials, should take into consideration local conditions in the dry and rainy seasons.

Locally, there are no telephone and facsimile facilities, and all communications to Vientiane City can only be made by radio. Consequently, radio equipment will be required during the implementation of the project.

(2) Electricity

The hydropower station of Nam Ngum dam supplies the local households with 220V-50Hz. The power supply is sometimes cut during the dry season, even to hotels and guesthouses, when the water level is low.

As 22,000V high-tension electric cables are installed along National Highway 13, a three-phase transformer will be installed in the site to provide electricity to the Center (220V).

(3) Construction Materials

Wood, sand, gravel, aggregate, and PVC pipes are available in Laos, but cement, reinforcing bars, steel frames and tiles, including electrical and plumbing materials and air-conditioning equipment, are imported from Thailand and Vietnam. Therefore, most of the Thai equipment and materials necessary for construction will be purchased in Laos.

(4) Construction Methods

All facilities for the project will be constructed based on the methods widely used in Laos (reinforced concrete, rammed structure, bricks, etc.).

(5) Construction of the Center

The land secured for the construction of the Center is big enough to accommodate the administration/training building, lodging facilities, canteen and nursery. There are currently no problems in the site ground level. However, because of flooding possibilities due to the overflowing of the Nam Son diversion channel during the rainy season, the ground will be raised to about 50cm.

The construction design will be in harmony with local conditions and local architectural standards, and one that would facilitate the use, operation and maintenance of the facilities.

(6) Water supply facilities

A submersible motor pump will be installed at the bottom of the Nam Son diversion channel for the supply of water to the Center. Water will be pumped up to a receiving basin, then to an elevated tank, from where it will be distributed by gravity to all the facilities.

Great care will be applied to the construction work for the surrounding of the pump to prevent the perforation of muddy water into the receiving basin during pumping. Furthermore, water in the receiving basin will be sterilized (freed of algae) and purified before it is conveyed to the elevated tank.

(7) Procurement of Equipment and Materials

The equipment models to be chosen must be easy to operate and maintain for the convenience of executing agency officials. They must also be easy to repair, with easily available spare parts.

**3-1-3 Scope of Work**

In case the project is implemented under the Grant Aid Program of the Government of Japan, the scope of work of both Japan and Laos is as shown in the following table.

**Table 3-1 Scope of Work**

<b>Work Items</b>	<b>Japanese Side</b>	<b>Laotian Side</b>
1. Construction of the Afforestation Center	<ul style="list-style-type: none"><li>• Construction of all facilities, such as administration and training building, A &amp; B lodging facilities, nursery, canteen, guardhouse, display building and water supply facilities. Construction of roads within the Center.</li><li>• Completion of the power and water supply system for all buildings and the nursery.</li></ul>	<ul style="list-style-type: none"><li>• Acquisition of land for construction of the Center.</li><li>• Acquisition of storage area for Contractor's equipment and materials.</li><li>• Removal of tombs</li><li>• Leveling of ground</li><li>• Erection of fences</li><li>• Planting</li></ul>
2. Procurement of Equipment and Materials	<ul style="list-style-type: none"><li>• Procurement of necessary equipment and materials from Japan or a third country for the Center's administration/training building, nursery, workshop and testing activities.</li><li>• Shoulder sea, air or land freight expenses (within Japan, Laos or a third country) to designated sites in Laos.</li></ul>	<ul style="list-style-type: none"><li>• Issue exemption from customs clearance and related necessary expenses.</li><li>• Facilitation of necessary procedures.</li></ul>

**3-1-4 Detailed Design and Supervision of Construction Work**

Consulting services will be divided into the detailed design stage and supervision stage, as shown below:

## (1) Detailed design

During the detailed design stage, the services to be rendered by the Consultant are as follows:

- Provision of the detailed design drawings.
- Provision of technical specifications for the construction work, and the equipment and materials to be procured.
- Provision of a tentative construction and procurement schedule.
- Provision of tender documents.
- Estimation of tender price.
- Execution of tender.
- Provision of contract documents.

### (On the site)

- Survey and investigation of the construction site.
- Verification of land for all facilities (administration/training building, lodging facilities, nursery, etc.).
- Survey and investigation of the sites for water tanks and pipe installation.
- Site survey for the installation of sewer pipes and sewage treatment facilities.
- Site survey for the installation of a radio antenna.
- Investigation of the transportation route (including loading/unloading port).
- Investigation of other unconfirmed items.

## (2) Supervision

During the supervision stage, the services to be rendered are as follows:

- Examination and approval of execution drawings, and of equipment and materials to be procured.
- Inspection and approval of materials to be used and shop drawings for construction.
- Confirmation of the shipment of equipment and materials.
- Confirmation of items undertaken by the Government of Lao PDR.
- Supervision of progress of construction work.
- Supervision of facility finishing work.
- Report to concerned Laos and Japanese agencies on the progress of the work.
- Inspection of completed work.
- Inspection of equipment and materials procured, and confirmation of their delivery to the designated site.
- Cooperation in the issuance of certificates of payment to the Contractor, and in other procedures.



### (3) Consulting experts

The consulting experts required for the above services are as follows:

#### A) Detailed Design Stage

Chief Engineer	1	Overall management
Architect (design) and Designer (drawing, etc.)	3	Design of administration/training building, lodging facilities, etc.
Architect (construction) and Designer	2	Design of administration/training building, lodging facilities, etc.
Civil Engineer	1	Design of nursery, roads within the facilities, water supply facilities
Electrical and Mechanical Design Engineer	2	Detailed design for electrical and machinery installation
Engineer for materials design	1	Design of materials to be procured
Tender Documents Expert	1	Preparation of Tender and Contract Documents
Specifications and Cost Estimate Expert	1	Preparation of specifications and cost estimate

#### B) Supervision Stage

Chief Engineer	1	Required only at the start of the works, intermediate stage and completion period
Architect and Designer	1	Required only at the color planning stage, intermediate stage and completion period
Civil Engineer	1	For the construction of the nursery (only at the start and intermediate stage)
Electrical and Mechanical Engineer	1	For the installation of electricity, radio facilities, etc.
Supervisor for construction of facilities	1	Stationed permanently (from beginning to end of construction, and at the handing over stage)

### 3-1-5 Procurement Plan for Equipment and Materials

All the equipment and materials to be procured for this Project will be used for the Afforestation Center. Hence, the procurement plan, covering the time of order until the time of delivery of the equipment and materials, will take into account the construction schedule.

Many different types of equipment will be procured, but most will be cheap and the quantity to be procured is small. Separate procurement of equipment by usage or model would drive the costs up, so procurement by bulk must be considered.

The usage of the equipment is as specified in preceding sections. However, the frequency of use, ease in future procurement, technical level of the workers, etc., should be considered for an appropriate selection.

As most equipment in FORCAP were procured through Pro-Tech, the equipment to be procured for this project must be either compatible or complementary to the existing ones, and easy to operate.

1) Administration and Training Equipment

The office equipment, such as computers, scanner, and printer, must be compatible with existing ones. The copy machine, digital camcorder, television, etc., to be procured will be made in Japan or in Thailand by a Japanese manufacturer. The installation of the radio equipment will be performed with great care.

Since many vehicles such as minibuses and pickup trucks in Vientiane are made in Japan, Japan-made vehicles shall be procured because of the local availability of service and spare parts through numerous dealers and distributors.

2) Simple Testing Equipment

Testing equipment will be procured from Japan. Some testing tools will be procured from Thailand.

3) Nursery and Afforestation Equipment

Consumables such as plastic pots to be procured will be made in Thailand. Other equipment will be made in Japan.

4) Workshop Equipment

Simple Japan-made woodwork equipment will be chosen for ease of use and durability.

### 3-1-6 Implementation Schedule

In accordance with the Japanese Grant Aid System, the project work schedule is arranged as shown below.

(1) Detailed Design

The Detailed Design shall start after the Consultant's Agreement is signed by the parties concerned and approved by the Government of Japan. The Detailed Design will be based on the basic design study, and will entail field surveys in the site and work in Japan, as well as the preparation of tender documents containing all the design drawings and specifications. The contents of the documents should meet the approval of the Government of Lao PDR. The Detailed Design will be carried out within an estimated period of 5 months.

(2) Construction of the Center

The construction of the Center involves the following work:

**1) Building Construction:**

- ① Temporary office building
- ② Administration & training building
- ③ A lodging facility
- ④ B lodging facility
- ⑤ Canteen
- ⑥ Display building
- ⑦ Guardhouse
- ⑧ Garage

**2) Others:**

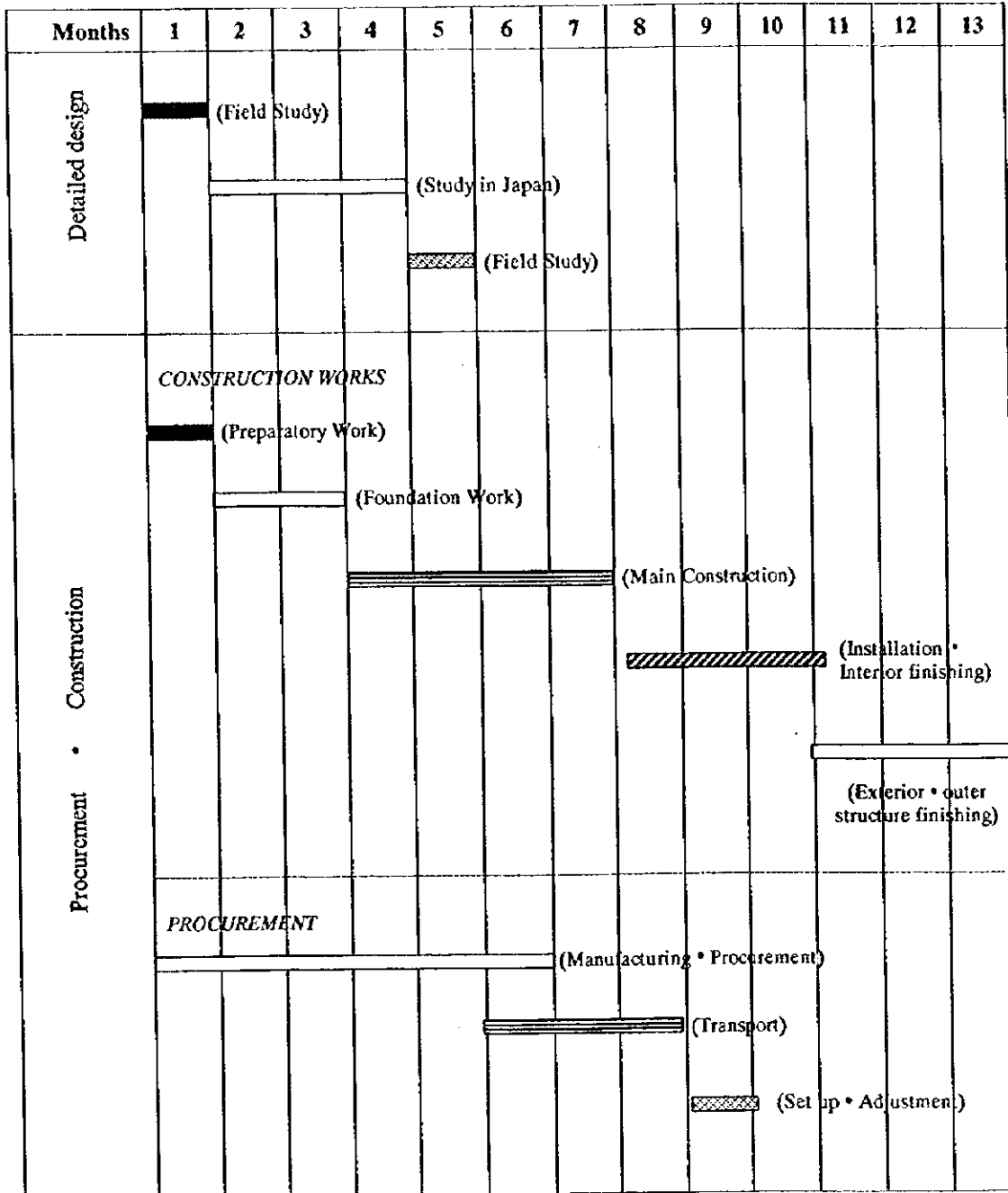
Other construction work mainly involves the nursery facilities.

- ① Compost house
- ② Glass house
- ③ Potting house
- ④ Workshop with seed storage area
- ⑤ Closed nursery
- ⑥ Open nursery
- ⑦ Roads in the premises

**(3) Procurement of Equipment and Materials**

The Contractor will begin the procedures for the procurement of materials after the verification of the contract by the Government of Japan. The procurement period will require six (6) months from the time of order until the equipment is completely manufactured, two and a half months (2.5 months) for the packing in Japan, sea transport, land transport to Laos, customs clearance and delivery in Laos, and transportation within Laos. A building within the Center will be designated for the equipment to be delivered.

## Implementation Schedule



### **3-1-7 Obligations of the Government of Lao PDR**

The executing agency for this project is the Forest Department under the Ministry of Agriculture and Forestry of the Government of Lao PDR.

The project will be locally supervised by FORCAP with the cooperation of the agriculture and forestry divisions of the province of Vientiane, and all recipient villages in Somboun, Vangvieng.

If this project is implemented under the Japanese Grant Aid Program, it must be carried out in conformity with the budget system of the Government of Japan. Therefore, the Government of Lao PDR is requested to conduct the following tasks without delay:

- 1) Enter into an agreement with a Japanese consulting firm based on the E/N.
- 2) Enter into a contract with a Japanese construction firm based on the E/N.
- 3) Immediate issuance of an Authorization to Pay (A/P) to a registered Japanese foreign exchange bank after the signing of the Agreement.
- 4) Payment of charges imposed by the bank in accordance with the Banking Arrangement (B/A) immediately after the issuance of A/P.
- 5) Opening of a project office necessary for supervisory work and allocation of personnel.
- 6) Issuance of visas to the Japanese Consultant and Contractor, and their employees, for their entry into Laos and their stay therein for the performance of their works, immediately upon request.
- 7) Acquisition of land necessary for facility construction, and stockyard for the construction machinery of the contractor.
- 8) Construction of access roads for mobilization and demobilization of machinery.
- 9) Exemption of construction machinery and equipment from taxes and duties imposed in Laos.
- 10) Prompt unloading of and clearance of customs for the equipment and materials imported from Japan and/or a third country, and payment of duties, internal taxes and other fiscal levies imposed in Laos.
- 11) Attend every required inspection of constructed facilities and equipment upon request by the Consultant.
- 12) Prompt issuance of certificate of completion of the work required at each stage.
- 13) Provide recipient villages with training, guidance and education activities for the promotion of afforestation.

### 3-2 Management, Operation and Maintenance

The implementation of this project under the Japanese Grant Aid System would require a total of ¥420 million.

#### 3-2-1 Project Cost Estimation

The breakdown of the project cost according to the share of the Japanese and Lao side is as shown below.

##### (1) Japanese Share

unit: ¥ million

Work Classification	Total	Remarks
Construction work	309.3	
a. Direct expenses	214.5	
b. Common temporary facility expenses	21.7	
c. Site expenses	51.7	
d. General expenses	21.4	
Equipment & material procurement	35.5	
Design supervision	71.6	
<b>Total</b>	<b>416.4</b>	

##### (2) Laos Share

unit: kip

Work Classification	Total	Remarks
Removal of tombs	100,000. -	Approximately ¥10,000
Planting & fencing work	500,000. -	Approximately ¥40,000

Conditions for calculation:

Time of calculation : January 1998

Exchange rate : US\$1 = ¥127

Implementation period : the project will be implemented and completed within one fiscal year.

### **3-2-2 Management, Operation and Maintenance**

#### **(1) Basic policy for management, operation and maintenance**

For adequate and efficient management, operation and maintenance, the following basic policies were made:

- All facilities, equipment and materials constructed and procured through the Grant Aid Program will be under the jurisdiction of the Forest Department of the Government of Lao PDR.
- The Forest Department, as the responsible agency for the operation and management of the Afforestation Center for the duration of Pro-tech, will have full control of the operation and maintenance activities of the Center, and will take measures to reinforce the system.
- The Forest Department will extend technical and organizational guidance to its regional branches in Vientiane Province and Vangvieng District as a form of reinforcement. It will establish an operation and maintenance system for the Afforestation Center, which will be under the jurisdiction of Vientiane Province in the future.
- For the positive and effective use of the Afforestation Center, the Forest Department will form an Afforestation Committee (temporary name) represented by officials of Vientiane Province and Vangvieng District, and hold regular meetings for opinion exchange.
- The Forest Department will ensure the efficient use of the completed facilities by supervising the promotion of afforestation projects including the conduct of relevant guidance and education activities in the 15 target villages of Somboun.
- Within a five-year period, the province of Vientiane should set up a system that would fully develop the functions of the Afforestation Center, including budget allocation, for its sustainable management, operation and maintenance.
- The Forest Department and Vientiane Province will conduct guidance and educational activities that will benefit not only the residents of Somboun, but other areas as well, for the sustainable and efficient use of all Afforestation Center facilities.
- The Forest Department and Vientiane Province will fully operate and maintain the facilities and equipment, to keep the Afforestation Center in favorable condition and always ready to meet the needs of the community.

- The Forest Department and Vientiane Province, through the Afforestation Center, will regularly patrol and observe the villages in order to grasp local forestation and slash-and-burn farming situation and to be constantly aware of the villagers' activities.
- The Forest Department and Vientiane Province will thoroughly ensure the storage, use and replacement of the equipment and materials installed in the Afforestation Center.
- The Afforestation Center must always keep abreast with the conditions of the administration/training building, canteen, lodging facilities, etc., and keep electricity, gas and water consumption records.

**(2) Management, operation and maintenance system**

**1) Establishment of a steering committee**

After this Project is completed and handed over, the Forest Department will form a steering committee composed mainly of FORCAP representatives, as well as representatives of recipient areas, the Afforestation Center, and the agriculture and forestry divisions of Vangvieng District and Vientiane Province.

To effectively realize the above policies, the committee will hold regular meetings to report on the training, guidance and educational activities, and formulate, notify and modify facility management, operation and maintenance standards.

**2) Necessary personnel**

To establish profitability, a secure land use system and functional organizations for the promotion of the Forest Conservation and Afforestation Project in Somboun, Vangvieng and other areas, the following Afforestation Center personnel are required to operate and manage educational, training and guidance activities.



**Table 3-4 Necessary Personnel**

<b>Position</b>	<b>Function</b>	<b>No.</b>	<b>Remarks</b>
Head of the Center	Overall responsibility	1	Organizational management
Administration • Accounting	<ul style="list-style-type: none"> <li>• Supervision of facility use</li> <li>• Supervision of equipment use</li> <li>• Management of electric, fuel and water bills</li> <li>• Annual planning and budget supervision</li> <li>• Others</li> </ul>	3	
Afforestation • Dissemination	<ul style="list-style-type: none"> <li>• Demonstration forest construction, operation and maintenance</li> <li>• Development, expansion and supervision of the nursery</li> <li>• Expansion of the fund/credit system</li> <li>• Simple tests (soil, water, etc.)</li> <li>• Supervision of mother trees and seeds</li> <li>• Supervision of an exhibition and afforestation fair</li> <li>• Guidance and assistance in manufacturing and publicity work</li> </ul>	6	
Training • Monitoring • Assessment	<ul style="list-style-type: none"> <li>• Planning and supervision of training programs</li> <li>• Conduct of opinion survey, management of community forests</li> <li>• Formulation of teaching materials</li> <li>• Monitoring and assessment activities</li> <li>• Others</li> </ul>	5	

3) Management, operation and maintenance expenses

FORCAP running expenses are covered by the 100 million kips/year in aide provided by Pro-Tech, and the 3.0~3.5 million kips/year provided by the Forest Department of the Government of Lao PDR for official business travel expenses.

The concerned Lao PDR agencies should start securing the budget necessary for the operation and management of the Afforestation Center even under the assistance of the Pro-Tech program, to gradually establish a sustainable operation and management system. Accordingly, the expenses required to operate the Afforestation Center will be examined, assuming that Laos will be solely responsible for the center's operation.

The operation expenses of the Afforestation Center include: salaries, business travel expenses, expenses for the dispatch of instructors, transportation fare, fuel expenses (gasoline for the microbus, pickup trucks and motorcycles, and propane gas for the lodging facilities), electric bills, material procurement cost, equipment and facility maintenance expenses, etc.

Salaries of public servants are appropriated from the provincial or central government

budget, hence they are excluded from the Afforestation Center expenses. Consequently, the management, operation and maintenance expenses of the Afforestation Center, exclusive of salaries, are estimated as follows:

**Table 3-5 Afforestation Center Annual Operation and Maintenance Expenses**

Expenses	Content • Quantity	Unit price	Annual cost (kip)
1. Electricity (administration/training building, lodging facilities, canteen, water supply pump)	3,000 kW/month x 12 months = 36,000 kW	@ 60 x 0.85 = 51 kips	1,836,000.-
2. Fuel (gasoline, diesel, etc.)	Gs: 16,500ℓ	Gs: @ 400 kips	6,600,000.-
3. Vehicle and tool maintenance (repair, rehabilitation)	Maintenance expenses for 9 vehicles	@ 100,000	900,000.-
4. Facility maintenance (repair, rehabilitation)	Monthly amount (especially allocated for nursery expansion and repair)	@ 50,000	600,000.-
5. Other miscellaneous expenses	Purchase of seeds, etc.		1,000,000.-
Sub-total			10,936,000.-
6. Travel expenses	Regular meetings of the Center Head (12 times/year)	Lump sum	3,000,000.-
7. Instructors dispatch expenses (costly instructors will not be dispatched)	Lecturers from universities or research centers. Calculation of travel expenses only (12 times/ year)	Lump sum	3,000,000.-
Sub-total			6,000,000.-
TOTAL			16,936,000.-

**Basis of calculation:**

- Unit prices as of October 1997 were used.
- As a 15% discount is granted for an electrical consumption of over 25kW (see reference materials), the unit price for electricity is fixed at 51 kips. FORCAP office (2000m<sup>2</sup>) currently consumes 2,300~2,500 kW/month. The main facilities using water in the Afforestation Center are the administration/training building (562.5m<sup>2</sup>), the lodging facilities (8 rooms: 288m<sup>2</sup> + 10 rooms: 360m<sup>2</sup>) and the canteen. Although these three facilities would not exceed the current FORCAP consumption, the consumption rate was set at 3,000 kW/month, 36,000 kW/year.
- Fuel expenses refer to the amount of fuel consumed by 9 vehicles (16,500ℓ). Although the fuel consumption rate of the microbus often used for training, the pickup trucks and the motorcycles will increase that of other vehicles mainly used for short trips between Vientiane and the site will decrease.

Microbus use: The microbus will be used 10 times/year for the transport of local inhabitants for training, and approximately 10 times/year for practical training in the demonstration/instruction forest.  
20 return trips x 20ℓ = 400ℓ/year (diesel)

Including a reserve, consumption is set at 500ℓ/year.

2 pickup trucks:  $60\ell/\text{week} \times 4 \text{ weeks} \times 12 \text{ months} = 2,880\ell/\text{year}$  (diesel)  
Yearly consumption is set at 3,000ℓ.

6 station wagons:  $6 \text{ vehicles} \times 30\ell/\text{week} \times 4 \text{ weeks} \times 12 \text{ months} = 8,640\ell/\text{year}$   
(gasoline)  
Yearly consumption is set at 9,000ℓ.

4 motorcycles:  $4 \text{ motorcycles} \times 20\ell/\text{week} \times 4 \times 12 = 3,840\ell/\text{year}$  (gasoline)  
Yearly consumption is set at 4,000ℓ.

- Small 15kg propane gas cylinders will be prepared for the lodging facilities. The expenses for the purchase of these cylinders will not be included in the operation and maintenance expenses as each guest will be made to pay for every cylinder they need.
- One of the significant reasons why the Center will be constructed is to reduce the time and expenses spent by FORCAP employees travelling from Vientiane to Somboun for the training of the residents. Moreover, travel expenses will be eliminated once the Center is transferred under the jurisdiction of Vientiane Province, as the number of meetings with the Forest Department will be considerably reduced, and meetings based in Vientiane Province will increase.
- Even if the Afforestation Center representative regularly attends a monthly meeting with the Forest Department, the expenses would still be 50% less than the present.
- Expenses for cooking materials and ingredients for the canteen will be collected in the form of meal charges.

The total expenses for the management, operation and maintenance of the Afforestation Center amount to 16,936,000 kips/year, 2.9% of the annual budget of 578,030,000 kips (1997-1998) of the agriculture and forestry divisions of Vientiane Province. Consequently, these expenses will not overburden the Provincial Government.

With the future expansion of the Afforestation Center, the number of foreign experts staying at the A lodging facility is expected to increase. Establishing a nightly accommodation charge of about US\$10 can help supplement the lodging facility maintenance budget.

Yet, as it is uncertain whether the Afforestation Center will be solely run by the Government of Lao PDR, the above calculations have been established for reference, using current unit prices.

## **CHAPTER 4 PROJECT EVALUATION AND RECOMMENDATIONS**



## **CHAPTER 4 PROJECT EVALUATION AND RECOMMENDATIONS**

### **4-1 Project Effects**

#### **1) Overall Goal**

The overall goal of this project is to control the destruction of forests due to extensive non-traditional slash-and-burn farming in the downstream basin area of the Nam Ngum hydro-power dam.

#### **2) Project Purpose**

The objective of the project is to ensure that facilities built and equipment procured under the Grant Aid Program will contribute to Pro-Tech activities. Pro-Tech will demonstrate the planning and implementation of the Forest Conservation and Afforestation Project in a model village within the area of Somboun, with the participation of the local residents, by developing forest conservation and afforestation techniques and management methods for the Lao PDR executing agencies.

#### **3) Expected Results**

This project is expected to bring about the following results:

- Demonstration of necessary measures for forest conservation and afforestation.
- Demonstration of necessary techniques for forest conservation and afforestation for the benefit of residents in Somboun.
- Promotion of village development activities by forming individual or group organizations which will contribute to the creation of new jobs for slash-and-burn farmers in Somboun.
- Strengthening of systems and organizations for slash-and-burn countermeasures in the agriculture and forestry divisions of Vientiane Province and Vangvieng District.
- The Center will promote the conduct of activities in cooperation with other donors and NGOs by providing a venue for research and practical training in the demonstration forest, and for various exchanges between donors, international agencies and NGOs that are currently active in Lao PDR in the field of forest conservation.

#### 4) Current Problems

The Government of Lao PDR considers this project as the best model for regional and environmental developments, through the promotion of forest conservation and afforestation with the participation of the residents in Somboun, where forest destruction is phenomenal due to slash-and-burn cultivation. Therefore, as explained in items 1) and 2) above, the benefits that will be gained by relevant agencies and areas concerned from the implementation of the project under the grant aid program are expected to contribute to regional development.

##### ① Precise understanding of slash-and-burn farming in the project area and establishment of a management system.

As previously stated, Somboun is currently made up of 37.54% forests, 48.09% slash-and-burn fields, and 1.99% farmlands, while approximately 12% is covered by water or villages.

Approximately 76% of slash-and-burn farming in Vangvieng District is concentrated in Somboun, which, before the civil war, used to be 95% forests. This situation is due to the residents' low awareness of deforestation problems.

In order to increase the forest coverage rate in Somboun through resident participation, it will be essential not only to raise the residents' awareness of these problems by improving their basic knowledge of the subject, but also for the provincial and district resident support and management system to be fully functional.

It is also necessary to obtain a good understanding and keep records of the topography, slopes, soil, vegetation, slash-and-burn fields and barren land conditions in the province and the district, to establish a system allowing regular monitoring and evaluation of the residents' activities. Subsequently, the afforestation strategies should be specifically made known to develop the social environment in the region.

Through the workshops, seminars and practical exercises implemented under Pro-Tech, the guidance and educational activities of this project are expected to result in the establishment of a regional management system run by the province, district and residents.

##### ② Forestry Management by Residents with governmental support

As previously mentioned, one of the reasons why deforestation is rampant is the residents' low awareness of this problem, although poor knowledge of forest management is also to be blamed.

Using the facilities and equipment provided through this project, the workshops and seminars for the understanding of PCM (project cycle management) and forestry, the improvement of afforestation techniques, recording and management skills, and the implementation of monitoring and evaluation activities, will eventually bring about the following benefits to the residents and the local officials:

- Sustainable land (forested land) use for the residents.
- Improvement in land productivity due to effective use of lands.
- Improvement in regional communication.
- Improvement and conservation of the environment of the region as a result of the improved use of forest resources.
- Understanding of the economic value of trees through the processing of wood, leaves and fruits.
- Establishment of a stable sapling supply system, and development of nursery and sapling production facilities in the villages.
- Knowledge of infrastructure providing alternative means of living to slash-and-burn farmers.

### ③ Benefits of acquiring sapling production and afforestation techniques

As of 1993, the nursery of the province of Vientiane was only capable of producing 100,000 saplings/year for a reforestation area of 1,188,800 ha. Though it also depends on the condition and coverage of protected forests, commercial forests, depleted forests, and regenerated forests, the sapling production capacity of Vientiane Province is extremely low. Accordingly, an annual production of 40,000 saplings through the facilities of this project will be a considerable contribution to the afforestation of the area.

The establishment of afforestation techniques and the stable supply of excellent trees are essential to ensure the sustainability of afforestation activities which will boost the germination power but not lower the production capacity of the land. Through an annual production of 40,000 saplings, the nursery will have the capacity to afforest 20ha per year while providing a learning ground for the acquisition of sapling production techniques. During the first 5 years, the saplings produced in the nursery will be used to develop the demonstration forest adjacent to the Center. The seminars held in the demonstration forest will not only teach the residents how to improve the forest, by cutting branches or removing perennial weeds, but will also contribute to the development and expansion of nurseries and communal forests in the villages.



The nursery constructed as part of this project is expected to be effective in teaching sapling production and afforestation skills to regional residents, Vangvieng District staff and others who lack knowledge in this field.

Based on the above, it has been established that the future implementation of this project under Japan's Grant Aid Program is highly justified.

## **4-2 Recommendations**

As previously mentioned, this Project is expected to bring about many benefits, and at the same time contribute to the enhancement of the residents and mountain farmers' awareness of forest conservation and reforestation. Accordingly, the implementation of the Project will have great significance. However, the conduct of the following provisions is recommended to ensure the smooth implementation and operation of the Project.

### **4-2-1 Establishment of a Steering Committee**

The Afforestation Center will serve as a base for training, guidance and educational activities. For the afforestation activities to be carried out through the participation of residents who have undergone training, it is important that the Center continues to conduct management, training, guidance, monitoring and evaluation activities for the province, district and villages.

In order to run the Afforestation Center efficiently, it will be necessary to establish a steering committee composed of representatives mainly of FORCAP, and also of the Forest Department, Vientiane Province, Vangvieng District and the residents. This committee will be in charge of discussing and solving relevant issues, and will set up a system that will make the Center functional from all angles, in accordance with local government policies.

### **4-2-2 Budget**

Currently, more than half of the FORCAP running expenses are covered by Pro-Tech. However, it is necessary to establish, as early as possible, a system that would enable the government to run FORCAP. Therefore, even if technical assistance under Pro-Tech is continued, the running expenses of the Afforestation Center must be appropriated from the budget of the Forest Department, Vientiane Province and Vangvieng District.

### **4-2-3 Monitoring and evaluation activities**

As tree planting and afforestation activities (nurseries, communal forests, profit sharing afforestation, etc.) will be implemented by the residents, the district and the villages should establish a system that would allow them to conduct regular monitoring and evaluation (M/E) activities. In this case, the villages will have to establish social organizations, approved by the residents, that will cooperate with the conduct of M/E activities of the province and the district.

The cooperation of social organizations recognized by the residents in the conduct of afforestation activities, in pursuit of common benefits, would make it easy for the province and district to carry out regular M/E activities, as well as set aside a budget for these activities.

## **APPENDICES**

- 1. Members' List of the Study Team**
- 2. Study Schedule**
- 3. List of Members Concerned in the Recipient Country**
- 4. Minutes of Discussions**
- 5. References**

## **1. Members' List of the Study Team**

## 1. Members' List of the Study Team

### (1) Basic Study Team

From October 1 to 25, 1997

Name	Assignment	Position
Mr. Ryo KUROKI	Leader	Director, Forestry and Fishery Development Cooperation Division, JICA
Mr. Yasunori FUJIHIRA	Technical Adviser	Office of Overseas Forestry Cooperation, Agency of Forestry, Japan
Mr. Hakushi HAMAOKA	Coordinator	Grant and Project Study Dept., JICA
Mr. Kinya NAKAMURA	Chief Engineer	Kokusai Kogyo Co., Ltd.
Mr. Tetsuhito SATO	Facilities Planner	Kokusai Kogyo Co., Ltd.
Mr. Fumio ASAKA	Equipment Planner	Kokusai Kogyo Co., Ltd.
Mr. Hideto YAMAZAKI	Procurement and Estimate	Kokusai Kogyo Co., Ltd.

### (2) The Team for the Explanation of the Draft Report

From December 10 to 18, 1997

Name	Assignment	Position
Mr. Takanobu KURODA	Leader	Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs, Japan
Mr. Hikotugu MATSUNAGA	Technical Adviser	Office of Overseas Forestry Cooperation, Agency of Forestry, Japan
Mr. Hakushi HAMAOKA	Coordinator	Grant Aid Division, JICA
Mr. Kinya NAKAMURA	Chief Engineer	Kokusai Kogyo Co., Ltd.
Mr. Tetsuhito SATO	Facilities Planner	Kokusai Kogyo Co., Ltd.

## **2. Study Schedule**

## 2. Study Schedule

### (1) Basic Study

Date	Official Team A	Consultant Team B	Stay
Oct. 1 (Wed)	Narita – Bangkok by TG641		Bangkok
2 (Thu)	BKK – Vientiane by TG690		Vientiane
3 (Fri)	JPN Embassy, JICA, Min. of Agriculture and Forestry Lao PDR, National Investment Committee		-ditto-
4 (Sat)	FORCAP, Vientiane Province and the sites		Vangvieng
5 (Sun)	Site Survey		Vientiane
6 (Mon)	Meeting with Forestry Dept., FORCAP		-ditto-
7 (Tue)	-ditto-		-ditto-
8 (Wed)	-ditto-		-ditto-
9 (Thu)	Meeting with JPN Embassy and JICA office		-ditto-
10 (Fri)	VTN-BKK by TG691	Collection of data	-ditto-
11 (Sat)	BKK-TYO by TG640	Collection of data	-ditto-

Date	Team B1 (Nakamura & Asaka)	Team B2 (Sato & Yamazaki)	Stay
Oct. 12 (Sun)	Data collection	Site survey	Vientiane
13 (Mon)	Province and District	Construction survey	-ditto-
14 (Tue)	Sites	Construction survey	-ditto-
15 (Wed)	FORCAP	FORCAP	-ditto-
16 (Thu)	Data collection	Data collection	-ditto-
17 (Fri)	Equipment survey	Site survey	-ditto-
18 (Sat)	Data collection	Construction survey	-ditto-
19 (Sun)	Data collection	Construction survey	-ditto-
20 (Mon)	FORCAP		-ditto-
21 (Tue)	FORCAP, JPN Embassy and JICA		-ditto-
22 (Wed)	VTN – BKK by TG691		Bangkok
23 (Thu)	Construction and Material Survey		-ditto-
24 (Fri)	Construction and Material Survey		-ditto-
25 (Sat)	BKK – TYO by TG640		

### (2) Explanation for Draft Report

Date	Team of Officials	Team of Consultant	Stay
Dec. 10 (Wed)	Narita – Bangkok by TG641		Bangkok
11 (Thu)	BKK – Vientiane by TG690, JPN Embassy & JICA		Vientiane
12 (Fri)	FORCAP		-ditto-
13 (Sat)	Min. of Agriculture & Forestry	Site survey	-ditto-
14 (Sun)	FORCAP	Site survey	-ditto-
15 (Mon)	Meeting with Min. of Agriculture & Forestry		-ditto-
16 (Tue)	Signature of Minutes, JPN Embassy JICA		-ditto-
17 (Wed)	VTN – BKK by TG691		Bangkok
18 (Thu)	BKK – TYO by TG640		

### **3. List of Members Concerned in the Recipient Country**





### 3. List of Members Concerned in the Recipient Country

#### (1) Ministry of Agriculture and Forestry

(Cabinet Office)

Mr. Khamphiou VISSAPRA, Deputy Director General, Cabinet Office

Mr. Chanthavong SENEAMATMOUNTRI, Deputy Head, Division of International Cooperation and Investment

Mr. Oudone SISONKHAM, Deputy Chief of International Cooperation

(Department of Forestry)

Mr. Silavanh SAWATHVONG, Deputy Director General, Dept. of Forestry

Mr. Khambai KHAMSAANA, Head of Lao-Japan Forestry Cooperation Unit

Mr. Khampha CHANTHIRATH, Project Manager of FORCAP

#### (2) Committee for Investment and Cooperation, Prime Minister's Office

Mr. Thongphachnh SONNASINH, Director General, Dept. of International Economic Cooperation

Mr. Soulasith OUPRAVANB, Deputy Director General

#### (3) Vientiane Province

Mr. Mounekeo ORABOUNE, Governor

Mr. Phoutong SENSOURINTHA, Director of Agriculture and Forestry Services

Mr. Khamdy ATSAYAVONG, Deputy Director of Agriculture and Forestry Services

Mr. Boonlieng THONGPHANMAHA, Chief of Forestry Section

#### (4) Vangvieng District

Mr. Senphing KHAMCHAN, Director of Agriculture and Forestry

Mr. Thong KEOSAMON, Research and Planning Division

#### (5) Japanese Embassy

Mr. Yutaka HIRATA, Minister-Counselor

Mr. Shigeki KOBAYASHI, First Secretary

Mr. Yoshio ISHIZAKI, Second Secretary

**(6) JICA Laos Office**

**Mr. Tsuneo TAKAHATA, Representative Director**

**Mr. Nobuhiro KUMAGAI, Assistant Resident Representative, Laos Office**

**Mr. Hiroyuki IMOTO, Assist. Resident Representative, Laos Office**

**(7) Experts**

**Mr. Atsushi IOKI, Leader**

**Mr. Kimihiko HYAKUMURA**

**Ms. Takeko HNUMA**

**Ms. Jyunko KOMOTO**

#### **4. Minutes of Discussions**



MINUTES OF DISCUSSIONS  
BASIC DESIGN STUDY  
ON  
THE PROJECT FOR CONSTRUCTION OF AFFORESTATION CENTER  
IN  
LAO PEOPLE'S DEMOCRATIC REPUBLIC

In response to a request from the Government of Lao People's Democratic Republic (hereinafter referred to as "Lao P.D.R."), the Government of Japan decided to conduct a Basic Design Study on the Project for Construction of Afforestation Center in Lao People's Democratic Republic (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Lao P.D.R. a study team which is headed by Mr. Ryo KUROKI, Managing Director, Forestry and Fishery Development Cooperation Department, JICA, and is scheduled to stay in the country from October 2 to 22, 1997.

The team held discussions with the officials concerned of the Government of Lao P.D.R. and conducted a field survey at the study area.

In the course of discussions and field survey, both parties have confirmed the main items described on the attached sheets. The team will proceed to further works and prepare the Basic Design Study Report.

Vientiane, October 9, 1997



Mr. Khamphiou VISSAPRA  
Deputy Director General,  
Cabinet Office  
Ministry of Agriculture and Forestry  
Lao People's Democratic Republic



Mr. Ryo KUROKI  
Leader  
Basic Design Study Team  
JICA

## ATTACHMENT

### 1. Objective

The objective of the Project is to promote forest conservation and afforestation in Nam Ngum Dam Watershed Area in Vientiane Province by means of establishment of the system for capacity building of competent authorities in the area mentioned above and enlightenment of villagers in the same area.

### 2. Project Site

Houay Pamom Village in Somboun Area of Vangvieng District, Vientiane Province (Shown in ANNEX-I)

### 3. Responsible and Executing Agency

Department of Forestry, Ministry of Agriculture and Forestry

### 4. Items Requested by the Government of Lao P.D.R.

After discussions with the Basic Design Study Team, the following items were finally requested by the Lao P.D.R. side.

#### (1) Construction of Afforestation Center

- 1) Administration and Training Building
- 2) Accommodation for Japanese Experts and Counterparts
- 3) Forest Nursery Facilities:
  - a) Open Nursery, b) Closed Nursery, c) Potting House, d) Workshop with Seed Storage, e) Compost House, f) Green House
- 4) Other Necessary Facilities:
  - a) Canteen, b) Guard House, c) Generator House, d) Garage, e) Elevated Water Tank Tower, f) Demonstration and Exhibition House

#### (2) Equipment

- 1) Equipment for Administration
  - 2) Equipment for Laboratory
  - 3) Equipment for Nursery and Afforestation
  - 4) Equipment for Workshop
- (Details are described in ANNEX-IV)

However, the final components of the Project will be described after further studies.



## 5. Japan's Grant Aid System

- (1) The Government of Lao P.D.R. has understood the system of Japan's Grant Aid explained by the Team, as described in Annex-II.
- (2) The Government of Lao P.D.R. will take necessary measures, described in Annex-III for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

## 6. Schedule of the Study

- (1) The Consultant will proceed to further studies in Lao P.D.R until October 22, 1997.
- (2) Based upon the Minutes of Discussions and technical explanation of the study results, JICA will prepare the final report in English and send it to the Government of Lao P.D.R. by the end of April, 1998.

## 7. Other Relevant Issues and Problems to be Managed/Solved Timely in Case the Project is Implemented as the Japan's Grant Aid Program

A series of discussions were made between the both parties on issues and problems with reference to the successful implementation of the Project.

### (1) Initial Objective of This Grant Aid Program

Both parties confirmed that the initial objective of this grant aid program is to input facilities and equipment that are necessary for successful implementation of "The Forest Conservation and Afforestation Project" (FORCAP).

### (2) Accommodation for Japanese Experts and Counterparts

Accommodation for Japanese Experts and Counterparts of FORCAP was requested by Lao P.D.R. side with reference to the successful implementation of the Project.

### (3) Dormitory for Trainees

Dormitory for Trainees should be built by Laos side. Both parties agreed that the land for the dormitory should be secured within the Afforestation Center site.

### (4) Operation and Maintenance (O&M) Cost for the Afforestation Center

Proper operation and maintenance of the facilities and the equipment are essential. Lao P.D.R. side will prepare necessary personnels and finances for O&M. Japanese side will provide necessary technical assistance for proper operation and maintenance through the activities of FORCAP.

### (5) Undertaking by Lao P.D.R. Side with Reference to the Construction of the Proposed facilities

Lao P.D.R. side will make arrangement on the requirements shown below to meet the implementation of the Project.

- 1) Land clarifying including remove of some existing tombs within the Afforestation Center site
- 2) Power supply at the primary side by Lao P.D.R. side for the operation of proposed facilities



R.K.



(6) Demonstration and Exhibition House

Demonstration and Exhibition House was requested by Lao P.D.R. side as attached request letter. Japan side said that inclusion of this facility in the Project will be decided after examination in Japan of its necessity and validity for the Project by "the explanation on the draft of basic design of the Project", the middle of December, 1997.

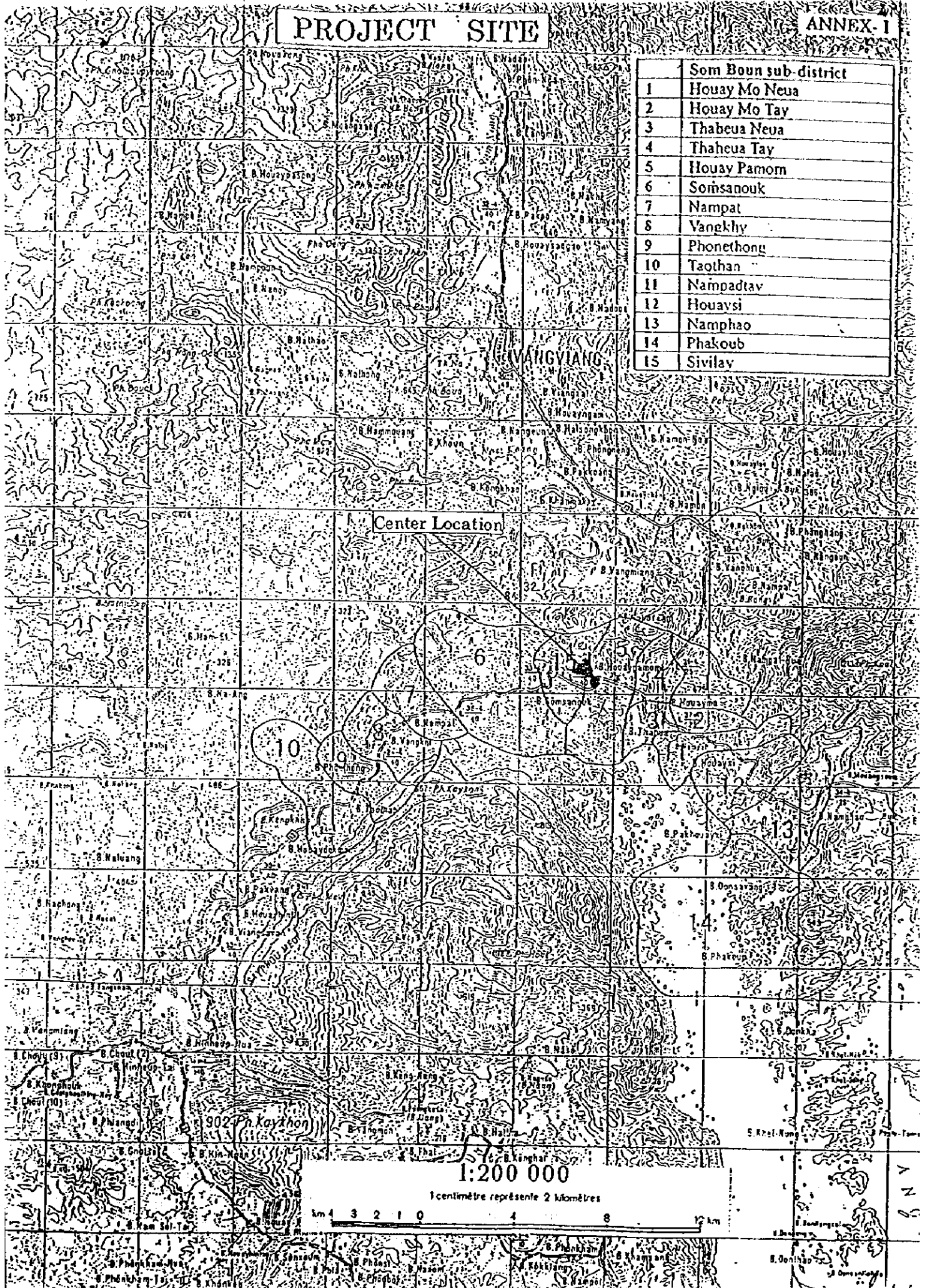


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# PROJECT SITE

ANNEX-1

Som Boun sub-district	
1	Houay Mo Neua
2	Houay Mo Tay
3	Thaheua Neua
4	Thaheua Tay
5	Houay Pamom
6	Somsanouk
7	Nampat
8	Vangkhy
9	Phonethong
10	Taothan
11	Nampadtav
12	Houaysi
13	Namphao
14	Phakoub
15	Sivilay



Center Location

1:200 000

1 centimetre represents 2 kilometres



## ON JAPAN'S GRANT AID PROGRAM

### 1. Japan's Grant Aid Procedures

- (1) The Japan's Grant Aid Program is executed by the following procedures.
- Application (request made by a recipient country)
  - Study (Preliminary Study / Basic Design Study conducted by JICA)
  - Appraisal & Approval (Appraisal by the Government of Japan and Approval by the Cabinet of Japan)
  - Determination of Implementation (Exchange of Notes between both Governments)
  - Implementation (Implementation of the Project)

- (2) Firstly, an application or a request for a project made by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to see whether or not it is suitable for Japan's Grant Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

Secondly, JICA conducts the Study (Basic Design Study), using a Japanese consulting firm. If the background and objective of the requested project are not clear, a Preliminary Study is conducted prior to a Basic Design Study.

Thirdly, the Government of Japan appraises to see whether or not the Project is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA and the results are then submitted for approval by the Cabinet.

Fourthly, the Project approved by the Cabinet becomes official when pledged by the Exchange of Notes signed by both Governments.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.

### 2. Contents of the Study

#### (1) Contents of the Study

The purpose of the Study (Preliminary Study / Basic Design Study) conducted on a project requested by JICA is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) to confirm background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) to evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) to confirm items agreed on by both parties concerning a basic concept of the project,
- d) to prepare a basic design of the project,
- e) to estimate cost involved in the project.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selecting (a) Consulting Firm(s)

For smooth implementation of the study, JICA uses (a) consulting firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms which are interested. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference made by JICA.

The consulting firm(s) used for the study is(are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid possible undue delay in implementation caused if a new selection process is repeated.

(3) Status of a Preliminary Study in the Grant Aid Program

A Preliminary Study is conducted during the second step of a project formulation & preparation as mentioned above.

A result of the study will be utilized in Japan to decide if the Project is to be suitable for a Basic Design Study.

Based on the result of the Basic Design Study, the Government would proceed to the stage of decision making process (appraisal and approval).

It is important to notice that at the stage of Preliminary Study, no commitment is made by the Japanese side concerning the realization of the Project in the scheme of Grant Aid Program.

### 3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non reimbursable funds needed to procure facilities, equipment and services for economic and social development of the country under the following principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the Project, period of execution, conditions and amount of the Grant, etc. are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country origin.

However the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons.)

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude into contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.

(6) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid, the recipient country is required to undertake necessary measures such as the following:

- a) to secure land necessary for the sites of the project and to clear and level the land prior to commencement of the construction work,
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) to secure buildings prior to the installation work in case the Project is providing equipment,
- d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

The recipient country is required to maintain and use facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for their operation and maintenance as well as to bear all expenses other than those to be borne by the Grant Aid.

(8) Re-export

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank" ). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the contracts verified.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to pay issued by the Government of the recipient country or its designated authority.

17 11



Necessary measures to be taken by the Government of Lao People's Democratic Republic in case Japan's Grant Aid is executed.

1. To secure the site for the Project.
2. To clear, Level and reclaim the site prior to commencement of the construction.
3. To undertake incidental outdoor works such as gardening, fencing, gates and exterior lighting in and around the site.
4. To construct the access road to the site prior to commencement of the construction.
5. To provide facilities for distribution of electricity, water supply, telephone, drainage, sewage and incidental facilities to the Project site.
  - 1) Electricity distribution line to the site.
  - 2) City water distribution main to the site.
  - 3) Drainage city main to the site.
  - 4) Telephone trunk line and the main distribution panel of building.
  - 5) General furniture such as carpets, curtains, tables, chairs and others.
6. To bear commissions to the Japanese foreign exchange bank for the banking services based upon Banking Arrangement.
7. To exempt taxes 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 under the verified contract such facilities as may be necessary for their entry into Laos and stay therein for the performance of their work.
9. To maintain and use properly and effectively that 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 construction of the facilities well as for the transportation and the installation of the equipment.



## EQUIPMENT LIST

ANNEX-IV

## 1) EQUIPMENT FOR ADMINISTRATION

Items	Quantity	Specification
Personal computer P/C (w/stabilaiser,UPS, Softwear,MO drive)	3	
Scanner	1	
Printer	3	Color, A3
Copy machine	1	A3
White board	6	
Slide projection	1	
Screen	1	
OHP	1	
Television set with video deck	1	28inch, multiple
8mm Video camera	1	
Mic. set with speaker	1	
Radio system set	1	
PC Projector	1	
Micro bus	1	26 person
Pick up	2	750 kg
Motorcycle	4	125cc

## 2) EQUIPMENT FOR LABORATORY

Items	Quantity	Specification
Table	1	Approx. 2,400x1,700x800mm
Cabinet	3	Approx. 900x500x900mm
Stool	6	Approx. 400x400mm
Stainless square tray (L)	5	Approx. 300x300x50mm
" (S)	5	Approx. 100x120x25mm
Stainless bucket	2	Approx. 240x240mm
Refrigerator (R)	1	Approx. 200 l
pH meter	1	10.00-14.0pH
Petri dish (Glass)	10	50pcs./pack
Thermometer	10	-20~50°C
Mescylinder	5	100ml
Mescylinder	5	500ml
Glass rod	20	Φ 7x300mm
Beaker and flask	1	100ps./set
Test tube	100	
Test tube stand	10	
Electric balance	1	Max. 1,000g
Balance	1	Max. 10kg
Germination tester	1	
Soil sampling trowel set	1	
Soil sample carrier	1	
Soil sampling cylinder set	2	
Soil sieve set	1	
Cased tape	5	Approx. 5.5m
Standard soil color chart	1	Loose leaf type
Soil sample kit	1	
Soil moisture meter (w/ 40 plaster block electrodes)	1	0.1~50/1~1,000K Ω
Portable trench shovel	2	Approx. 150x200mm
Distillation apparatus	1	
Auto clave	1	
Soil saline tester	1	
Graduate Pipette set (w/medical dropper)	5	250ml
Graduate Pipette set (w/medical dropper)	5	500ml
Reagent bottle (w/glass stopper)	10	

### 3) EQUIPMENT FOR NURSERY AND AFFORESTATION

Items	Quantity	Specification
Safety belt	1	
Pruning saw	5	Approx. 1800x200mm
Grain sieve set	1	
Maximum minimum thermometer	1	-20~+50°C
Rainfall recorder	1	
Refrigerator	1	
Hand level	1	
Compass	1	w/stand
Measuring pole	5	2m
Diaphragm sprayer	2	Approx. 15 l
Pruning scissors	5	180x200mm
Cased tape	5	5.5m
Curvimeter	2	Analog type
Soil mixer	1	
Potting stand	200	
Vinyl pot	200,000	6.5~10.5cm
Watering pot	10	Approx. 5 l
Sickles (small)	10	Approx. 200mm
Scythe with handle	10	Approx. 150x150x200mm
Hatchet	10	Approx. 250x200mm
Cross hoe	10	
Wheel barrow	10	
Jet shooter	10	Approx. 18 l
Fire fighting kit	10	Hand saw, axe, shovel, sickle
Chain saw	2	Approx. 50cc
Cut loop chain	20	
File, Round for chain	100	
Brush cutter	5	Approx. 25cc
Cutter blade	50	
File, Flat for cutter blade	20	

### 4) EQUIPMENT FOR WORKSHOP

Items	Quantity	Specification
Tool cabinet set	1	
Portable air compressor	1	For tires
Battery charger	1	
Carpenter tool set	1	

R.K.



Vientiane, 7 October 1997

Mr. Ryo KUROKI  
Leader,  
Basic Design Study Team,  
Japan International Cooperation Agency

1672

Re: Request for an Exhibition and Demonstration House for the Afforestation Center Project in Vangvieng District of Vientiane Province.

Dear Sir,

We are pleased to request for additional facility of one unit for the Exhibition and Demonstration of afforestation activities performed by trained villagers. The outline of this additional facility is described as follows :

*1. Background*

The Forest Conservation and Afforestation Project (FORCAP) is acting its implementation with villagers and local government participation for village and forest development. And also, FORCAP and trained villagers will try to show output and experience to the public. In this connection, a facility open for villagers and general public will be very useful for this purpose.

*2. Objective*

The objective of the Exhibition and Demonstration House is to promote good understanding of Project activity and to examine the outputs like goods, technology and experiences through the demonstration and exhibition activities which will be performed by trained villagers.

*3. Main activities*

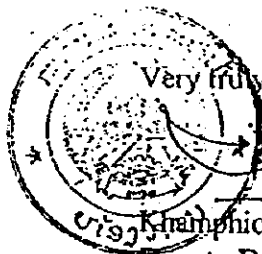
- (1) To demonstrate and exhibit the results (goods) of the training conducted in the Center to the public,
- (2) To demonstrate and exhibit various afforestation activities to the public by using video and/or photos,
- (3) To show/sell nursery and handicraft products to the public,
- (4) To organize forest ( trees) fairs for the promotion of forest conservation and afforestation...

*4. Location*

The Exhibition and Demonstration House should be constructed in the Afforestation Center, with the condition of providing easy access to villagers and general public.

Looking forward to receiving a positive reply. Your kind consideration on this matter will be highly appreciated.

Very truly yours,



Manphiou VISSAPRA  
Deputy Director General,  
Cabinet Office,  
Ministry of Agriculture and Forestry

R.K

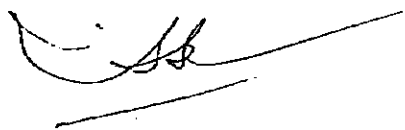
MINUTES OF DISCUSSIONS  
BASIC DESIGN STUDY  
ON  
THE PROJECT FOR CONSTRUCTION OF AFFORESTATION CENTER  
IN  
LAO PEOPLE'S DEMOCRATIC REPUBLIC  
(CONSULTATION ON DRAFT REPORT)

In October 1997, the Japan International Cooperation Agency (JICA) dispatched the Basic Design Study Team on the Project for Construction of Afforestation Center in Lao People's Democratic Republic (hereinafter referred to as "the Project") to Lao People's Democratic Republic (hereinafter referred to as "Lao P.D.R."). After the assessment of the data and information obtained through the study, JICA has prepared the Draft Basic Design on the Project.

In order to explain and consult with the officials concerned of the Government of Lao P.D.R. on the components of the Draft Basic Design, JICA sent to Lao P.D.R. a Draft Report Explanation Team (hereinafter referred to as "the Team") headed by Mr. Takanobu KURODA, Grant Aid Division, Economic Cooperation Bureau, the Ministry of Foreign Affairs, Japan, which is scheduled to stay in the country from December 11 to 17, 1997.

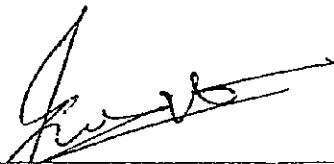
As a result of the discussions held between the Team and the officials concerned of the Government of Lao P.D.R., both parties have confirmed the main items described on the attached sheets.

Vientiane, December 16, 1997



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Mr. Khamphiou VISSAPRA  
Deputy Director General,  
Cabinet Office,  
Ministry of Agriculture and Forestry,  
Lao People's Democratic Republic



---

Mr. Takanobu KURODA  
Leader,  
Draft Report Explanation Team,  
JICA

## ATTACHEMENT

### 1. Components of the Draft Basic Design

The Government of Lao P.D.R. has agreed and accepted in principle the components of the Draft Basic Design proposed by the Team. (The details of the components are described in the attached "Equipment List" and "List of Facilities." However, the final components which will be constructed and procured under the Project will be decided by Japanese side after further studies.)

### 2. Japan's Grant Aid System

- (1) The Government of Lao P.D.R. has understood the Japan's Grant Aid system as described in ANNEX-I through the explanation by the Team.
- (2) The Government of Lao P.D.R. will take the necessary measures described in ANNEX-II for the smooth implementation of the Project, on condition that the Japan's Grant Aid is extended to the Project.

### 3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items, and send it to the Government of Lao P.D.R. by April, 1998.

### 4. Other Relevant Issues

- (1) Lao P.D.R. side shall take necessary financial measures for appropriate operation & maintenance and also procurement of spare parts & consumables for the whole facilities and equipment to be supplied under the Project.
- (2) Lao P.D.R. side said that they would obtain any approvals necessary for taking the surface water from the Nam Xong diversion channel for the Afforestation Center's use and for intaking electric power to the Afforestation Center site.
- (3) Japanese side said that the works for intaking electric power should be taken into consideration as one of the works borne by Japanese side for the smooth implementation of the Project.
- (4) Japanese side will raise the ground level of the site about 50cm taking the flooding possibilities into account though Lao P.D.R. side have already leveled the site.
- (5) Both parties agreed that some preparatory actions were necessary before the Exchange of Notes.



## Equipment List

### A. Management and Training Equipment

Equipment Name		Quantity	Specifications
1	Personal computer (English version with stabilizer, UPS, software and MO drive)	3	CPU (Pentium MMX: 220MHz), MS-Office, MO drive, etc.
2	Printer	3	color, A3 size, ink jet
3	Scanner	1	flat-bed type, A4, color scanner
4	Copier	1	A3 size
5	Whiteboard	6	approx. 1800×15×900mm
6	Slide projector	1	2×2 mount slide, circular tray
7	Screen	1	approx. 70×70inch, with stand
8	Overhead projector	1	265-305mm variable focus lens
9	Television set	1	approx. 28inch, with VHS multi video deck
10	Digital video camcorder	1	with LCD monitor
11	Microphone set (with speakers)	1	wireless amp., microphone set
12	PC projector	1	LCD color projector
13	Radio set (including antennas)	1	VHF: 3 transceivers (1 base station, 2 vehicle loaded, frequency 134-160 MHz, output 40W), 6 portable transceivers (frequency 134-160MHz, output 5W), 6 standby batteries (DC 13.8V), 6 chargers (AC100-234V), voltage regulator (1 for base station: AC100/117/220/234V to DC 13.8V), frequency adapting antennas (1 for base station, 2 vehicle-loaded: frequency 146.1MHz) HF: 2 transceivers (1 base station, 1 vehicle-loaded, frequency 1.8-30MHz, output 100W), assigned frequency antennas (1 for base station, 1 vehicle-loaded: frequency 7,100MHz), voltage regulator (1 for base station: (AC 100/117/220/234V to DC 13.8V)
14	Micro bus	1	26 passengers
15	Pickup truck	2	4-wheel drive, single cabin
16	Motorcycle	4	approx. 120cc

### B. Simple Testing Equipment

	Equipment Name	Quantity	Specifications
1	Laboratory table	1	with sink, approx. 2400×1200×800mm
2	Laboratory shelf	3	approx. 900×450×1200mm
3	Laboratory revolving chair	6	approx. 560×540×385mm
4	Stainless steel bowl (large)	5	approx. 320×255×55mm
5	Stainless steel bowl (small)	5	approx. 150×127×25mm
6	Stainless steel bucket	2	approx. 240×240mm
7	Refrigerator for storing reagents, etc.	1	cold chamber capacity: approx. 200L
8	pH meter	1	measuring range 0.00-14.00pH
9	Plastic tray	2	diameter 75×20mm, 50 sample capacity
10	Thermometer	10	thermometer range: -20°C~+50°C
11	Measuring cylinder (plastic)	5	capacity: approx. 100mL
12	Measuring cylinder (plastic)	5	capacity: approx. 500mL
13	Glass rod	20	diameter 7×270mm
14	Beaker	100	capacity: approx. 500mL
15	Flask	100	capacity: approx. 500mL
16	Test tube	100	diameter 15×150mm
17	Test tube stand	2	for holding 50 test tubes
18	Electric scales	1	maximum 2,000g, minimum reading accuracy 0.1g
19	Scales	1	maximum 12kg, minimum reading accuracy 5g
20	Germination tester	1	capacity 294L, 0-50°C, program control
21	Soil sampling set	1	soil sampling shovel, folding scale
22	Soil sampling cans and carrying basket	1	single cover type, for carrying 6 sample cans
23	Soil sampling cylinder	3	dual caps, diameter 10×L20cm, 6 cans per set
24	Soil sieve	1	5 piece set (4, 2, 1, 0.5, 0.25mm hole sizes), with cover
25	Convex	5	5.5m×25mm, steel
26	Standard soil color charts	1	B6, loose leaf type, 406 colors
27	Soil moisture meter	1	with 40 lime block electrodes, electric resistance type, resistance range 0.1-50/1-1000kΩ
28	Portable shovel	2	folded length 53cm, with canvas case
29	Water purifier	1	capacity 1.8L/hour
30	Drying oven	1	capacity: approx. 160L, natural convection type

Equipment Name		Quantity	Specifications
31	Salt concentration meter	1	measuring range 0-30%, digital display
32	Pipettes (medicine dropper)	5	plastic, capacity 250 $\mu$ L, can hold 250 tips of 1 - 5 $\mu$ L
33	Pipettes (medicine dropper)	5	plastic, capacity 500 $\mu$ L, can hold 250 tips of 1 - 5 $\mu$ L
34	Standard storage container	10	plastic, white, capacity 120ml.

C. Nursery and Afforestation Equipment

	Equipment Name	Quantity	Specifications
1	Safety belt for tree climbing	1	length 2m, with stretch adjuster and nylon tape
2	Branch cutting saw	5	high branch saw, 3-stage pole with saw, 1740-4400mm
3	Sieve plate	1	round hole sieve, 2.5, 3.0, 3.5, 4.0mm, with cover
4	Maximum-minimum thermometer	1	-20~+50°C, differential type
5	Rain gauge	1	tipping bucket recording rain gauge, sensitivity 0.5mm, DC drive
6	Seed storage refrigerator	1	capacity 487L
7	Hand level	1	with telescope
8	Pocket compass	1	with compounding microscope and tripod
9	Surveying pole	5	2m, 2 poles joined, metal, with vinyl case
10	Insecticide sprayer	2	capacity 15L
11	Pruning scissors	5	200mm, leather stop
12	Convex	5	5.5m×25mm, steel
13	Curvimeter	2	needle type both sides, surface rotation 100cm, 1 graduate=1cm
14	Soil agitator	1	mixing capacity: 100L, engine drive
15	Potting stand	200	hiko system, vinyl chloride
16	Vinyl pot	200,000	4×6cm: 100,000, 5×7cm: 50,000, 6×8cm: 50,000
17	Watering can	10	plastic, capacity 5L
18	Sickle	10	blade length 210mm
19	Scythe	10	afforestation scythe for weeding and brushing
20	Hatchet	10	blade length 130mm
21	Hoe	10	blade 300mm
22	Wheelbarrow	10	No-puncture tire, capacity 130kg
23	Jet shooter	10	direct projection range 15m max., water capacity 18L
24	Fire-fighting tools	10	hatchet, portable shovel, mower, portable bag
25	Chain saw	2	displacement approx. 50cc, guide bar 18 inch
26	Chain saw cut-loop chain	10	pitch 325 inch
27	Saw chain grinding files	100	round files, 3/16 inch
28	Bush cutter	5	displacement approx. 25cc, tank capacity 0.7L
29	Bush cutter saw	50	8 blades
30	Grinding files	36	flat files
31	Compost chopper	1	engine drive, capacity 0.3-0.5m <sup>3</sup> /hour, can be carried

D. Workshop Equipment

Equipment Name		Quantity	Specifications
1	Simple tool set	1	60 items (double-end spanners, etc.), with steel cabinet
2	Air compressor	1	for vehicle air pumping
3	Charger	1	0.4kW
4	Circular saw machine	1	round saw 203mm, max. cutting thickness 61mm, 1.35kW
5	Woodworking lathe	1	max. working diameter 170mm, max. working length 750mm, 0.4kW
6	Fret saw	1	max. working thickness 50mm, 0.1kW
7	Woodwork grooving cutter	1	cutting blade size 120×36mm, max. cutting depth 30mm






## List of Facilities

1. Administration & Training Building
  - a. Offices of the experts and counterparts
  - b. Offices of the head of the Center and Administration
  - c. Meeting room
  - d. Simple testing room
  - e. Filing room
  - f. Workshop
  - g. Generator room (25KVA generator for emergency use)
  - h. Male and female toilets
  - i. Roofed passage (connecting to the canteen)
  
2. Simple Lodging Facilities for Experts and Counterparts
  - a. 1 building with 8 rooms for experts
  - b. 1 building with 10 rooms for counterpart staff
  
3. Nursery Facilities
  - a. Open nursery
  - b. Closed nursery
  - c. Potting house
  - d. Workshop with a room for seed storage
  - e. Compost house
  - f. Greenhouse
  
4. Other Necessary Facilities
  - a. 1 building for the canteen
  - b. 1 garage
  - c. 1 guardhouse
  - d. Water supply facilities
  - e. 1 exhibition house



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# ON JAPAN'S GRANT AID PROGRAM

## 1. Japan's Grant Aid Procedures

(1) The Japan's Grant Aid Program is executed by the following procedures.

- **Application**  
(request made by a recipient country)
- **Study**  
(Preliminary Study / Basic Design Study conducted by JICA)
- **Appraisal & Approval**  
(Appraisal by the Government of Japan and Approval by the Cabinet of Japan)
- **Determination of Implementation**  
(Exchange of Notes between the both Governments)
- **Implementation**  
(Implementation of the Project)

(2) Firstly, an application or a request for a project made by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to see whether or not it is suitable for Japan's Grand Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

Secondly, JICA conducts the Study (Basic Design Study), using a Japanese consulting firm. If the background and objective of the requested project are not clear, a Preliminary Study is conducted prior to a Basic Design Study.

Thirdly, the Government of Japan appraises to see whether or not the Project is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA and the results are then submitted for approval by the Cabinet.

Fourthly, the Project approved by the Cabinet becomes official when pledged by the Exchange of Notes signed by the both Governments.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.



## 2. Basic design Study

### (1) Contents of the Study

The purpose of the Study (Preliminary Study/Basic Design Study) conducted on a project requested by JICA is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) to confirm background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) to evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) to confirm items agreed on by the both parties concerning a basic concept of the project,
- d) to prepare a basic design of the project,
- e) to estimate cost involved in the project.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

### (2) Selecting (a) Consulting Firm(s)

For smooth implementation of the study, JICA uses (a) consulting firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms which are interested. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference made by JICA.

The consulting firm(s) used for the study is(are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid possible undue delay in implementation caused if a new selection process is repeated.

### (3) Status of a Preliminary Study in the Grant Aid Program

A Preliminary Study is conducted during the second step of a project formulation & preparation as mentioned above.

A result of the study will be utilized in Japan to decide if the Project is to be suitable for a Basic Design Study.

Based on the result of the Basic Design Study, the Government would proceed to the stage of decision making process (appraisal and approval).

It is important to notice that at the stage of Preliminary Study, no commitment is made by the Japanese side concerning the realization of the Project in the scheme of Grant Aid Program.

## 3. Japan's Grant Aid Scheme

### (1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non reimbursable funds needed to procure facilities, equipment and services for economic and social development of the country under the following principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the Project, period of execution, conditions and amount of the Grant etc. are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country origin.

However the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". ( The term "Japanese nationals" means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons. )

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude into contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.

(6) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid, the recipient country is required to undertake necessary measures such as the following:

- ① to secure land necessary for the sites of the project and to clear and level the land prior to commencement of the construction work,
- ② to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- ③ to secure buildings prior to the installation work in case the Project is providing equipment,
- ④ to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- ⑤ to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,



- ⑥ to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

The recipient country is required to maintain and use facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for their operation and maintenance as well as to bear all expenses other than those to be borne by the Grant Aid.

(8) Re-export

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

(9) Banking Arrangement (B/A)

- (a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank" ). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the contracts verified.
- (b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.



## ANNEX II

Necessary measures to be taken by the Government of Lao People's Democratic Republic on condition that Japan's Grant Aid is executed;

1. To provide necessary data and information for the Project.
2. To secure the site for the Project
3. To clear, level and reclaim the site prior to the commencement of the construction.
4. To construct the access road to the site prior to the commencement of construction.
5. To undertake incidental works such as constructing fences around the afforestation center if necessary.
6. To bear commissions of Authorization to Pay (A/P) and payment commission to a Japanese foreign exchange bank for the banking services based on the Banking Arrangement (B/A).
7. To exempt taxes and duties and to take necessary measures for customs clearance of the materials and equipment brought for the Project at the port /airport of disembarkment.
8. To accord Japanese nationals, whose services may be required in connection with the supply of products and the services under the verified contracts, such facilities as may be necessary for their entry into Lao P.D.R. and stay therein for the execution of the Project.
9. To maintain and use properly and effectively facilities constructed and equipment purchased under the Grant
10. To bear all the expenses other than those covered by the Grant, necessary for the construction of facilities as well as for the transportation and the installation of equipment.



## **5. References**

## **Outline of Guidance and Enlightenment Activities of “Pro-tech”**

### **Target Area:**

The project will be conducted in the 15 villages within the area of Somboun in the district of Vangvieng. Among the areas in this district, Somboun has the highest number of slash-and-burn farmers. These 15 villages have a total population of 9,267 people. The project will focus on 1,568 households, and intends to develop and disseminate technology as well as conduct education programs, to promote afforestation and forest restoration activities through resident participation.

Technical guidance will be extended to the staff of the Forest Department, the Forest Divisions of Vientiane Province and Vangvieng District. The residents of the 15 villages will be the subjects of guidance and educational activities.

### **Operation:**

The Lao PDR Forest Department will be directly responsible for the operation of the Afforestation Center, which will have 15 staff (5 each from the Forest Department, the Province of Vientiane and the District of Vangvieng) to conduct the general activities, the development of afforestation techniques and training of the residents. In the future, the operation of the Center will be relegated over to Vientiane Province and Vangvieng District, with the Forest Department extending technical assistance. Accordingly, this project will extend assistance by assigning 5 Japanese experts and 3 short-term experts.

### **Outline of the Training Program:**

Project Cycle Management (PCM), which entails participatory analysis of problems, forestry (introduction of trees, shrubs, afforestation, and industrial tree species), nursery and tree planting exercises, will be carried out once every five days.

There will be a total of 20 trainees consisting of Provincial and District employees, as well as residents of recipient villages. The project will focus on 3 of the 15 target villages, training the entire households of these 3 villages, in order to formulate a forest management plan at the village level. Training activities for the other villages will be limited to an average of 5 people per village, and shall consist of the village chief and his assistant, volunteers, area leader (in production activities), and members of women's and youth groups. A total of 500 to 600 people/year will be trained. Training activities will be mainly conducted in the Center. However, the use of the temples within the 3 main villages for the training of the residents of these villages is currently under consideration. Trainee exchange programs in conjunction with other projects are also being planned.

### **Training Instructors:**

The instructors for the training program will consist of project experts, counterpart staff, professors of the Dondoc University, employees of the Namsuan Forest Research Center and the Agricultural Development Bank. The dispatch of short-term experts and the collaboration of other cooperation agencies, e.g. JOCV and GTZ, will also be taken into account when deemed necessary.

### **Simple Tests:**

To develop a sustainable model forest, the conduct of simple soil and water quality tests, identification of disease and insect damage, and germination tests will be planned.

### **Nursery:**

Various model forests (e.g. forest reserve, regenerated natural forest, socio-agroforestry, slash-and-burn fields, silvo-pastoral test site, etc.) will be constructed at the bank opposite the Afforestation Center, for the conduct of training activities. Industrial tree species will be planted



in these model forests at a ratio of 7 to 3 and will serve various purposes, e.g. provide P samples for reforestation and afforestation in desolate lands, selection of mother trees, etc. Every year 20ha of model forests will be constructed, totaling 100ha in five years, by which time it should be completed.

The nursery will provide the saplings for the model forests. With due consideration of the loss brought about by strong winds and other factors, the project estimates that approximately 40,000 saplings will be required to cultivate 20ha of trees at a planting interval of 3m per sapling. This total amount will be produced at the Center.

Also, until a nursery system, e.g. village nursery and sapling production by villagers, is established (within 5 years), the nursery in the Center will be expanded and the training and guidance activities to be carried out by the district to enable the villagers to develop a nursery on their own will also be planned.

**Publicity:**

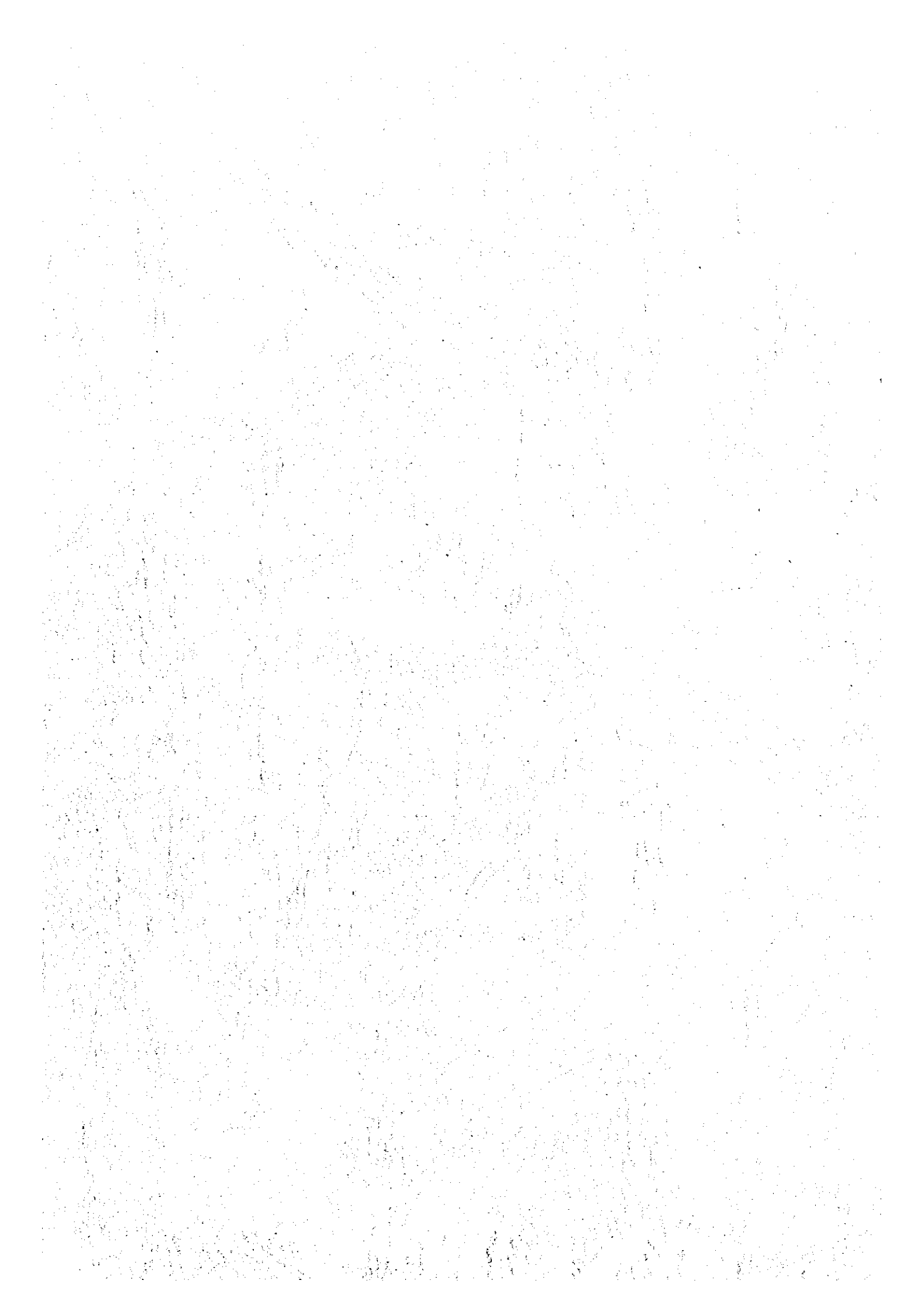
To make educational and dissemination activities more effective, the products of villagers who underwent training, panel on training conditions and the yield will be displayed, and a demonstration will be carried out by the trainees. In addition, saplings cultivated by the residents will be shown to the public, a video that briefly underlines the relationship between slash-and-burn cultivation and forest destruction will be presented, and a forest fair will be held to encourage village participation in forest conservation and restoration activities.

**Financing System (Fund/Credit System):**

To promote the concept of a community forest and privately owned forests (5 to 6ha), assistance in reforestation activities shall be extended, including guidance in forest related information. A fund allocation system will be established for the distribution of revenues obtained from reforestation activities by the Province and the District to the villages who participated in the management of the cultivation of community and private forests.







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