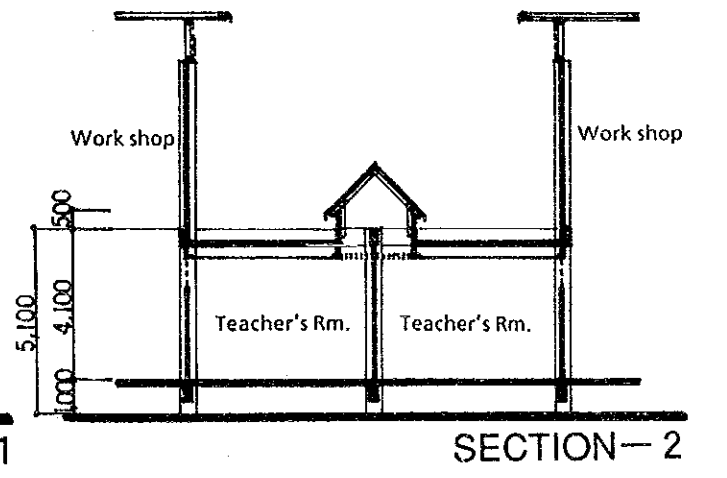
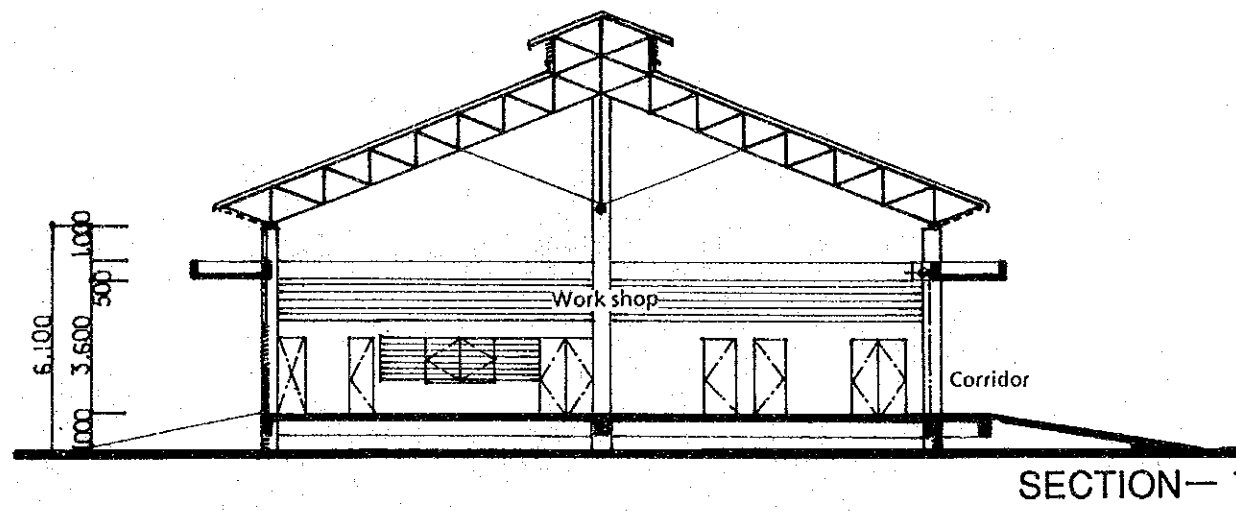
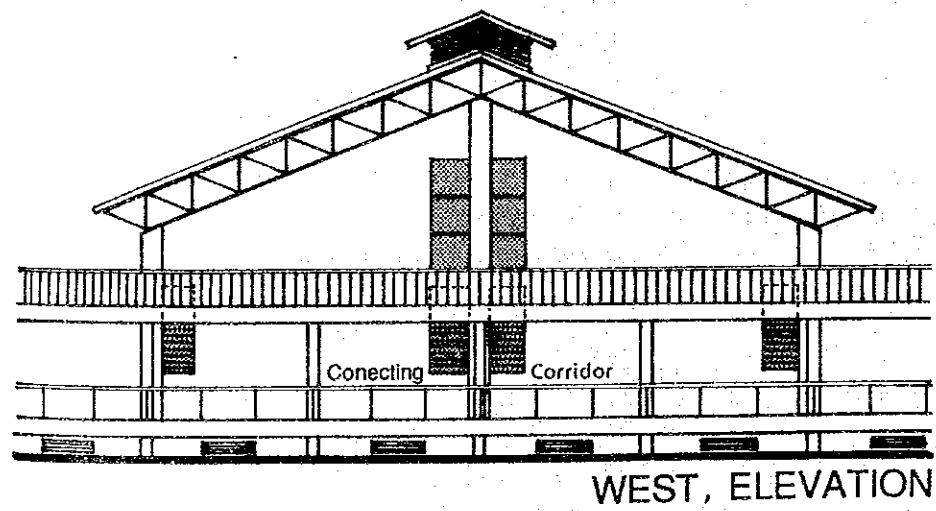
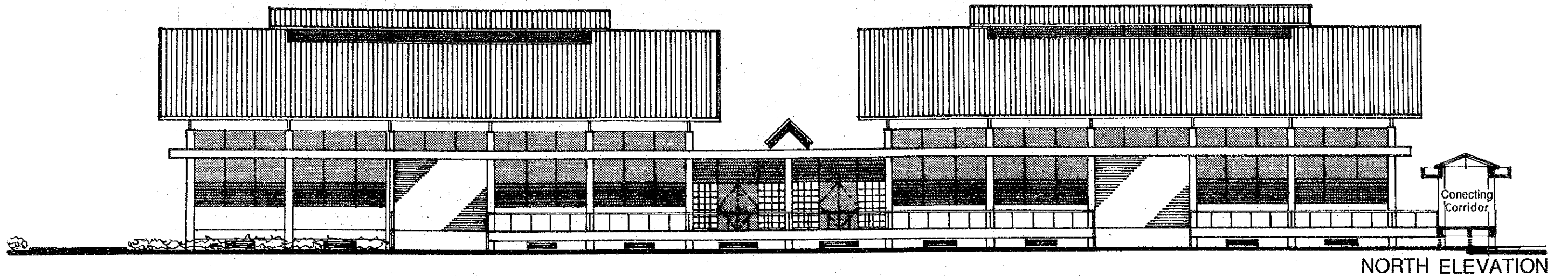


THE VOCATIONAL TRAINING SCHOOL



WORKSHOP - 2

ELEVATION, SECTION

S = 1 / 200

15



## 4-4 Implementation Plan

### 4-4-1 Construction Condition

The facilities of the Project will be constructed within the framework of the grant aid system of the Government of Japan. The Project is to be officially implemented after it has been approved by the governments of Japan and the Thailand and Exchange of Notes (E/N) has been concluded between these two governments. A Japanese consultant firm will be nominated by the government of Thailand and work will subsequently be commenced for the detail design of the facilities and equipment. Following completion of the detail design documents, Japanese construction company and equipment supplier selected by tendering will carry out construction of the facilities as well as procurement and installation of equipment. The following is the outline of the execution of the Project and points that require special consideration.

#### (1) Executing Agency for the Project

The executing agency on the Thai side is the Central Juvenile and Family Court, Ministry of Justice. As an executing organization, the Administration Dept. of the Central Observation and Protection Center will take charge of substantial affairs until the Project is completed.

#### (2) Consultant

For construction of facilities and provision of equipment covered by the grant aid for this Project, the Japanese consultant will conclude a design and supervision contract with the Government of Thailand and carry out the work for the detail design of the facilities and equipment for the Project as well as activities related to the supervision of construction work. The consultant prepares the tender documents and also acts on behalf of the executing organization of the Project for carrying out the tendering.

#### (3) Contractor

A Japanese construction company and equipment supplier selected by open tendering will construct the facilities and procure/install the equipment under the grant aid of the government of Japan.

#### (4) Construction Plan

Regarding the construction plan, it is necessary for the consultant and the Central Juvenile and Family Court to have sufficient preliminary discussions on an item-by-item basis for confirming the timing of launch and method of implementing the work to be covered by each of the two governments during the period of the detail design, in order to ensure that each area of construction work will be carried out smoothly.

Among the scope of the work to be covered by the Thai side, the preparatory work including reclamation of the Project Site, introduction of infrastructure (electricity, telephone, water) and paving of access roads must be carried out on schedule by the Thai side prior to the start of construction work for the facilities. It is also necessary to make sufficient studies on the period required from placement of order to on-site installation of materials and equipment procured from Japan, and how the timing fits in with the construction period for locally procured ones, so that an efficient schedule unspoiled by delays or waiting time can be established.

(5) Necessity of dispatching Engineers

In relation to the equipment work outlined above, it is necessary for the manufacturers of the procured equipment to dispatch their engineers to Thailand for installing the equipment and explanation of the manuals.

4-4-2 Policies on the Local Circumstances on Construction

(1) The construction situation in Bangkok is summarized as follows:

- Carpenters, plasterers and workers involved with reinforcing bars and finish work are regarded as professionals and have organizations with leaders, but the tasks of general laborers are not specialized. The average for each type of work shows that approximately 2.5 times the amount of time is required as that in Japan.
- Construction materials and equipment are becoming more and more industrialized in recent years. Many of the utility-related devices, fittings and materials are locally available.
- The prices of building materials and equipment increased at about 1% from Dec. 1991 to Dec. 1992. (The consumer price index increase for the same period was approximately 3%.) Compared with the period from 1988 to 1990 when the price of building materials and equipment rose at an annual rate exceeding 10%, the rate actually dropped to -2% from 1992 to Dec. 1992 and the trend is showing a fairly stable decline.
- Projects carried out under Japanese grant aid do not require building permits from architectural administration agencies as long as the design documents are approved by the Executing Agency. However, the design documents must conform to local regulations.

(2) Points to take into consideration for construction work:

The facilities to be provided for the Project are RC Structures of 1 or 2 stories and partially steel framed roof, and local construction companies have sufficient expertise to undertake such work. A majority of the building materials can be locally procured. Some of the materials are to be imported from Japan (Refer to 4-

4-4: Procurement Plan), and skilled local workers are capable of coping with them, so it will not be necessary to dispatch specialists from Japan. As to equipment work, because of the specialized nature of the installation work, the precision of the equipment and the necessity of receiving detailed explanations on their usage, guidance by engineers dispatched by the respective manufacturers are required.

#### 4-4-3 Construction and Supervisory Plan

Based on the policies of the government of Japan for carrying out the provision of grant aid, and with due consideration to the aim of the basic design, the consultant will organize a comprehensive project team for conducting the detail design and construction supervision stage of the Project. This will ensure a smooth implementation of related work. In the construction supervision stage, the consultant will dispatch an on-site supervisor with adequate technical expertise for instruction and communication on the construction work. Staffs in charge of design shall also be dispatched for short periods as the occasion demands for inspections and supervision of construction.

##### (1) Main Policies for Supervision

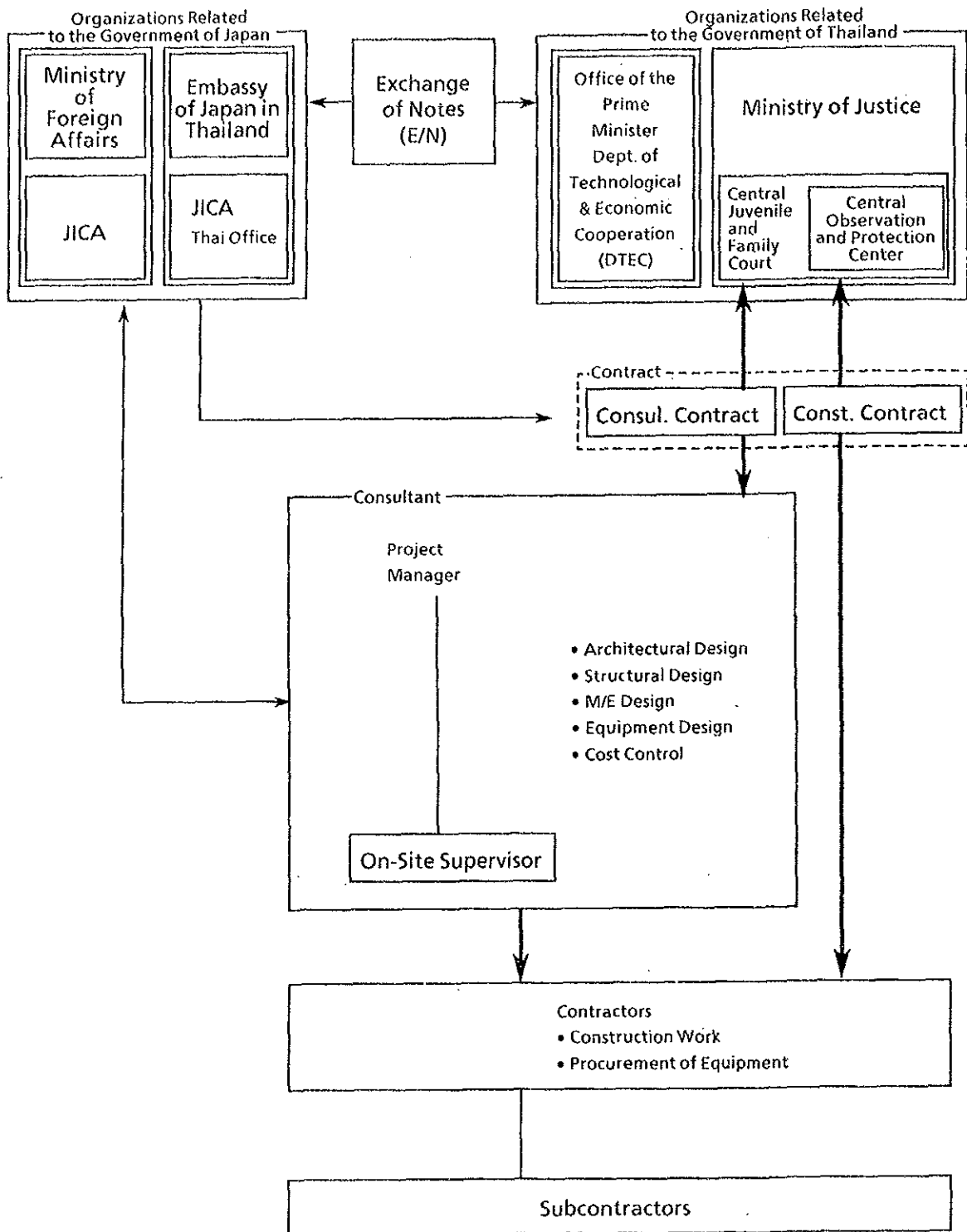
- 1) Close communication shall be maintained; with and frequent reports shall be made to, the related organizations of Thailand and Japan as well as with to the persons in charge, so that the project can be completed on schedule without delay.
- 2) Speedy and appropriate advice shall be provided to the contractor to make sure that facilities conforming to the design documents will be constructed.
- 3) Locally procured materials and equipment and locally practiced construction methods shall be adopted wherever possible.
- 4) A technical transfer approach shall be adopted for the methods and technologies for the Project, in order to maximize the effects of the grant aid.
- 5) Adequate advice and guidance shall be provided for maintenance of the facilities to promote their smooth operations after they have been completed and handed over to the Thai side.

##### (2) Contents of Consultant's Supervisory Service

###### 1) Assistance on construction contract work

To undertake selection of the contractor, determination of the style of the construction contract, preparation of the agreement for the construction contract, verification of the contents of the item-by-item of the bill of quantities, and witnessing of the conclusion of the construction contract.

Chart 4-8 System of Supervision of the Construction



- 2) Inspection and confirmation of construction drawings, etc.  
To conduct inspections, etc., of the construction drawings, materials, finish samples and utility equipment submitted by the Contractor.
- 3) Guidance on the construction work  
To inspect the plans and processes for the construction work, provide guidance to the Contractor. and report on the progress of the work to the Client.
- 4) Assistance on the certificate for interim payment  
To verify the contents of invoices, etc., related to the construction cost to be paid during, and after the completion of, construction work, and to assist in the procedural work.
- 5) Presence at inspections, Reports  
To carry out inspections in specific stages and areas of the construction work as required and provide instructions to the contractors through the period of the work. Upon confirming that the construction work has been completed and the terms of the, contract have been duly carried out, the Consultant witnesses the handing over of the facilities of the Contract, receives the approval of the Client, and completes its mission. The Consultant is also required to report on the progress of construction work, and provide the related parties in Japan with relevant information on the payment procedures and handing over of the facilities.

These points have been taken in to account in the system of construction supervision and related organizations demonstrated in Chart 4-8.

### (3) Construction Supervisor

The ability to smoothly implement joint work with local construction companies in Thailand and the ability to provide adequate technical consultations to the local companies in Thailand are required for the construction of facilities in conformity with the design documents and within the time schedule.

Judging from the scale and contents of the facilities of this Project, the number and functions of construction supervisors are as follows.

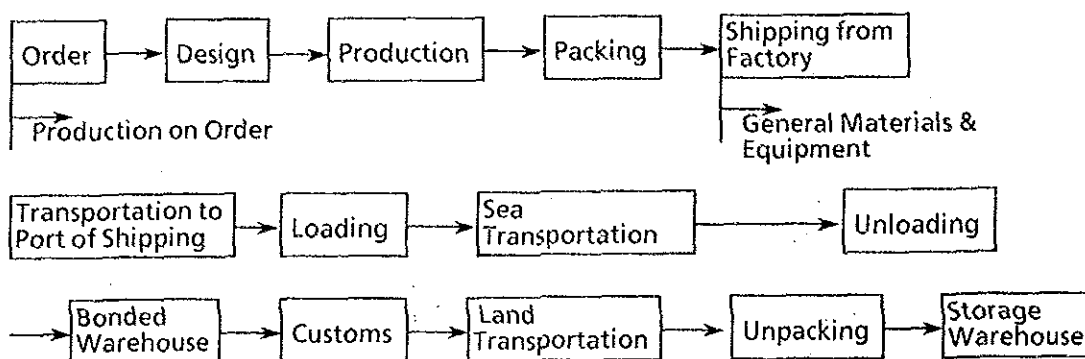
Superintendent	:	1	Overall management
Architectural/con- struction drawings supervisor	:	1	Construction management and supervision of production of construction drawings
Architectural supervisor	:	1	Supervision on finishing work
M/E supervisor	:	1	Supervision on M/E work
Administration equipment, supervisor	:	1	Management of imported materials and labor and administrative management

#### 4-4-4 Procurement Plan

The following points shall be taken into account in procuring the materials and equipment to be used for the facilities of the Project.

##### (1) Materials & Equipment Procured from Japan

Among the required materials and equipment, those to be procured from Japan and produced on order will undergo the procedures shown below. These materials take more time for production compared with regular materials that go through the simple process of order → design (approval) → production → packing → shipping. As a result, the timing of the orders for such equipment should be coordinated with the progress of the work.



There is also the risk of taking an unexpectedly long time in unloading and customs clearance at the local port. Consequently, close communications with the executing organization of the Project should be maintained to ensure that these procedures will be carried out smoothly.

##### (2) Locally Procured Materials & Equipment

The ratio of locally procured materials and equipment shall be increased to facilitate acquisition of materials and equipment and maintenance of the facilities, and also to ensure speedy repairs in case the equipment are damaged. However, equipment which Thailand is judged unable to sufficiently supply will be procured from Japan.

##### (3) Costs

As a rule, the costs of locally procured materials and equipment and those procured from Japan shall be compared and the more inexpensive ones selected. When the difference is minimal, locally procured materials and equipment that are easy to manage and maintain shall be selected, after their performance is evaluated. Materials and equipment procured from Japan will be tax free but will require additional charges for packing, transportation and insurance coverage.

With consideration on the items given above, the procurement plan for materials



and equipment to be used in the facilities has been drawn up as follows:

Table 4-1 Where Major Materials and Equipment will be Procured

Type of Work	Country to be Procured From	
	Thailand	Japan
Architectural	Aggregate, Cement, Reinforcing Bar, Waterproofing Material, Polished Terrazo, Carpet, Brick, Aluminum and Wooden Doors and Windows, Wooden Furniture, Steel Material, Ceiling Material, Paint, Glass	Building Hardware
Electrical	Wire and Cables, Conduit, Distribution Panel, Lighting Fixtures, Socket Outlet, Lighting Switches, Communications Equipment	
Airconditioning	Split-type Airconditioner, Pipe Material, Duct Material, Ventilating Fan	Large Size Package Air Conditioner
Plumbing	Ceramic Sanitary Fixtures, Piping Material, Water Tank, Water Boiler, Electric Water Heater	Faucets, Waste Water Treatment Plant, LPG Equipment, Solar-Type Hot Water Supply System, Incinerator
Equipment	Part of the General Equipment (Furniture, Equipment for Kitchen, Barber, Gymnastics/Recreation, Agriculture and Gardening, Some of Business Machineries etc.)	Most of General Equipment, Equipment for Vocational Training

#### 4-4-5 Implementation Schedule

The expected work schedule that the Project is to be implemented is given on the following page.

In the event that the Project for the Vocational Training School is implemented under the grant aid of the Government of Japan, the construction of facilities and provision of equipment will be conducted in the following three stages after the Exchange of Notes (E/N) between the two nations: preparation of detail design documents, tendering and contract for construction, and the actual construction work.

##### (1) Detail Design Stage

Tender documents based on the basic design will be drawn up. The documents will include detail design drawings, specifications, estimated costs and budget plans. Thorough consultation with the related organizations in Thailand will be carried out in the initial, intermediate and final stages of the detail design, and tendering activities will be launched only after approval have been received on the final product.

The expected period required for this stage is 5 months.

##### (2) Tendering and Contracting Stage

The tendering stage will start when the public announcement is made in Japan for pre-qualification (P/Q) for participation in the tendering for the construction work, after the completion of the detail design. Based on the results of the pre-qualification, the Executing Agency will invite the companies participating in the tendering, and the tendering will be conducted in the presence of related parties. When the tenderer who has submitted the lowest bid is judged to have submitted an adequate and qualified bid, he will be named as the successful tenderer. The contract for construction work will be made between the government of Thailand and the successful tenderer. The expected period required from tender call to the contract for the construction work is 2 months.

##### (3) Construction work for Facilities and Provision of Equipment

After the contract for the construction work and provision of equipment has been signed by the parties concerned and verified by the Government of Japan, the construction work will start. Judging from the scale and contents of the facilities for the Project, the period required for construction work for the Project is expected to be 12 months, on the understanding that the procurement of the construction materials, as well as the preparatory work assigned to the Thai side, will be carried out smoothly and on schedule.

(4) Overall Schedule for the Project

1) Detail Design

	1	2	3	4	5	6	7	8	9	10	11	12
Detail Design	▨		▨									
	(On-Site Study)											
5 months		(Work in Japan)										
					▨							
	(On-Site Work)											

2) Construction and Procurement of equipment

	1	2	3	4	5	6	7	8	9	10	11	12	
Construction and Procurement of Equipment	▨												
	(Preparation for Construction)									(External Work)			
		▬											
		(Piling Work)											
			▨										
			(Structural Work)										
				▬									
			(Interior Finishing Work) (M/E System Work)										
	▨												
	(Preparation)		(Manufacturing, Procurement)										
		(Procurement of Equipment)											
								▬					
								(Transportation)					
										▨			
										(Installation, Adjustment)			
12 months													

#### 4-4-6 Scope of Work

##### (1) Scope of Work

Regarding the scope of the respective work to be covered by the governments of Japan and Thailand for the Project, the undertakings deemed adequate for each government are listed below:

##### 1) Scope of Work by the Government of Japan

###### Facilities

- Administration Bldg.
- Academic Education Bldg.
- Central Bldg.
- Service Bldg.
- Gymnasium
- Cafeteria
- Shower Bldg.
- Toilet Bldg.
- Dormitory - 1, 2, 3, 4, 5, 6
- Workshop - 1, 2, 3, 4
- Construction Vehicle Operation Training Bldg.
- Garage for Farm Machineries
- Connecting Corridor

###### Equipment

- General Equipment
- Equipment for Vocational Training

###### Infrastructure-related Work

- Water Supply System (within the site)
- Power receiving system
- Telephone exchange system

###### External Work

- Roads, Parking Lot, Landscaping, and Flag Poles within the Site
- Drainage System, Hydrant Water Tank (including Pump Room), Incinerator
- Outdoor Security Lamps

###### Related Procedural Work

- Import of materials and equipment from Japan to Thailand.
- Domestic transportation of materials and equipment from the port of unloading to the construction site.

### Detailed Design and Construction Supervision

#### 2) Scope of Work by the Government of Thailand

- To provide necessary land area for the site of the Project
- To clear, level, and reclaim the site prior to commencement of the construction.
- To pave a road leading to the Project site for the transportation of materials and equipment provided under the Japan's Grand Aid.
- To construct staff housing, gates, gatehouse and fences in and around the site.
- To provide facilities for the distribution of electricity, water supply, drainage to the site and other incidental facilities including general furniture.
- To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
  - Advising commission of Authorization to Pay
  - Payment commission
- To arrange the exemption of taxes and take necessary measures for customs clearance of the materials and equipment brought for the Project at the port of disembarkation.
- To accord Japanese Nationals whose services may be required in connection with the supply of the products and the services under the verified contracts such facilities as may be necessary for their entry into the Kingdom of Thailand and stay therein for the performance of their work.
- To exempt Japanese nationals engaged in the Project from customs duties, internal tax including V.A.T., other fiscal levies and other administrative requirements which may be imposed in Thailand with respect to the supply of the products and services under the verified contracts.
- To maintain and use properly and effectively facilities constructed and equipment provided under the Grand Aid, through recruitment of enough and qualified staff and allocation of sufficient budget for operation and maintenance.
- To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as transportation and installation of the equipment.

(2) Estimated Cost

The following is the breakdown of the estimated cost for the work to be covered by the Government of Thailand, assuming that the Project is carried out under the Japanese grant aid.

The calculation is based on the Scope of Work to be covered by the Thai side previously mentioned.

Cost to be Covered by the Thai side

75,520,000 TB

- a) Construction and asphalt paving of access roads ..... 5,470,000 TB
- b) Preparation work for the clearance, leveling and reclamation of the site ..... 4,400,000 TB
- c) Cost for construction fences, gates, gatehouse, roads outside and inside the premises, and other auxiliary facilities such as staff housing ..... 45,920,000 TB
- d) Providing power supply, water supply, telephone and waste water disposal systems to the site ..... 18,650,000 TB
- e) Provision of general office furniture, fixtures and equipment ..... 730,000 TB
- f) Bank commission, miscellaneous expenses, etc. .... 350,000 TB

## **CHAPTER 5 PROJECT EVALUATION AND CONCLUSION**





## Chapter 5: Project Evaluation and Conclusion

### 5-1 Evaluation

In Thailand, all the existing training schools do not function appropriately in terms of operation and management due to overpopulation; insufficient skilled instructors, undersized and deteriorated building and shortage of equipment necessary for education and training.

Under the situation, the Project, answering the national policy of the Government of Thailand, will construct a model vocational training school for wayward youths in the area of Nakhon Pathom and provide facilities and equipment necessary to implement effective education and training, thus contributing to establish efficient juvenile correctional system.

Effects brought about by the Project implementation are briefed in the table below.

Effects and Degree of Improvement

	Present Situation and Problems	Countermeasures	Effects and Degree of Improvement
Facility	Overpopulation Narrow and deteriorated facility Shortage of necessary equipment Understaffed Possible infliction of human rights	Provision of appropriate size of facilities and volume of equipment Appropriate population to secure human right Appropriately staffed	Implementation of effective education to secure human right under the comfortable living condition
Education	Curriculums for effective education are not provided. Unskilled staff Ineffective education	Provision of curriculums Allocation of skilled staff Introduction of staff training	Upgraded education by skilled staff based on appropriate curriculums Expected decrease of crime rate followed by prevention of recidivism

	Present Situation and Problems	Countermeasures	Effects and Degree of Improvement
Vocational training	<p>Vocational training courses corresponding needs of labor market are not provided.</p> <p>Shortage of modern equipments</p> <p>Shortage of skilled instructors</p> <p><i>Ineffective training</i></p>	<p>Provision of 8 vocational training courses</p> <p>Appropriate number of trainees</p> <p>Provision of appropriate curriculums</p> <p>Allocation of skilled staff</p> <p>Provision of necessary number and grade of equipment</p>	<p>Trainees with upgraded vocational skill return to the society as useful workers.</p>
Correctional system	<p>Individualized treatment to meet needs of individual trainees is not provided.</p> <p>Classification system is not provided.</p> <p>Classified treatment system is not provided.</p> <p><i>Ineffective rehabilitation</i></p>	<p>Provision of classification system for enrolment</p> <p><i>Provision of education best fitting needs of the trainees</i></p>	<p>Improvement of correctional system of Thailand is expected through introduction of classification system and individualized treatment system.</p>

When the Project being put into practice, appropriate and upgraded vocational training to meet the needs of recent labor market in today's Thailand along with enhanced, fulfilled education to foster social adjustment capacity are introduced, juvenile delinquents provided with vocational skill and social adjustment capacity can return back to the society as well-trained, skilled workers.

Furthermore, upgraded education and training methods introduced and practiced in the Project, established as a model school, are expected to be transplanted to other existing or newly built institution, thus grading up the total level of education of the correctional measures and enhancing the function and system of juvenile correction in Thailand.

As a result, after completion of the Project, successful returning of problem youths to the society as diligent law-abiding working members of the community will be most

advantageous to Thailand; to facilitate to relieve the social unrest or disorder, to upbringing manpower to sustain national industrial prosperity, and thus maintaining and stabilizing happiness of the whole nation.

## 5-2 Conclusion

The Project, considering the national policy of Thailand which was set up to improve juvenile correctional system to cope with recent high increase rate of juvenile delinquencies, constructs the vocational training school for wayward youths.

When the Project is completed as a model correctional school, and equipments necessary for efficient education and training being provided, youths trained to be skilled worker will return to the society as sound working member of the society. This will have influential power to improve other existing or newly built facilities as well, and grade up and strengthen the system and function of juvenile correction of Thailand. As stated above, the Project is expected to contribute to the improvement of the juvenile correctional system and function in Thailand, and it is quite appropriate that the Project be implemented through Japanese grant aid.

Needless to say, many of crimes and delinquencies are committed under situations intermingled with various social factors, and it is broadly known that the high rate of crime and delinquency occurs at the time of rapid social change.

Considering that recent Thailand has experienced rapid social change accompanied by industrialization and urbanization, which brought forth social upheavals to trigger the high rate of crime and delinquency on one side, and that many of the juvenile delinquents are from poor family background, rural areas with scarce chance of education on the other hand, it is not exaggerated to say that many of them are victims of the social distortion.

The Project aims to provide those uneducated juvenile delinquents from poor family background with appropriate vocational training, thus returning them back to the society as sound working member of the community. Consequently, the Project is also characterized by its social welfare aspect.

As mentioned above, the Project is significant in the sense that it will not only relieve the social unrest and disorder but also contribute to upbringing manpower to sustain national industrial prosperity of Thailand.

It is concluded that the Project meets the purpose of Japanese grant aid, and highly valid as well, and accordingly it is hoped that the Project be implemented through grant aid and technical cooperation of the Government of Japan as soon as possible.

## 5-3 Suggestions

When the Project is put into practice through grant aid and technical cooperation by the Government of Japan, being administered and managed by the Government of Thailand, to make the Project proceed in a successful way, the efforts the Government of Thailand should make are as follows.

### (1) Appropriate Staffing

The Project is run by 76 staff members. The Government of Thailand should allocate as many as 76 staff through employment or transfer from other facilities at the time the school opens. Specifically, positions in charge of vocational training, academic education, education inside dormitories should be staffed by specialists provided with professional skill and knowledge, thus equipments provided in the facility could be fully utilized.

### (2) Cooperation among Staff Members

Cooperation among staff members are most recommended so as to smoothly implement a variety of newly introduced educational activities practiced inside and outside the facility. Definite contents and responsibility of staff members of each area such as vocational training instructor, academic instructor, housemaster, psychologist, social worker, guard should be explicitly clarified and scope, methods and function of collaboration among those staff should be studied in advance as well.

### (3) Operation as a Model Facility

- As the facility being provided as a model of juvenile training schools of the whole country, efforts should be made to improve administration, operation of the facility and upgrade the level of education and training such as vocational training, life guidance and psychological therapies as well. Specifically, immediately after the facility opens, it is strongly recommended to observe the purpose of the facility that persons fully aware of significance of the Project should be assigned to the positions such as superintendent or other senior staff.
- Staff training should be developed and facility for staff training attached to the administration building should be fully utilized as well so that the idea and newly planned operation of the Project could be transplanted and prevailed to other or new juvenile training schools of Thailand.

### (4) Provision of Necessary Budget

Enough budget to run the facility should be provided including staff salary, educational materials for implementing a variety of effective education and training and running costs for facilities and equipment.

(5) Technical Cooperation

- The Government of Thailand should make efforts to consult with concerned organizations so that necessary technical cooperation by the Government of Japan may be smoothly put into practice.
- The Government of Thailand should be prepared to establish organization inside the facility so that technical experts from Japan may practice smooth, fruitful technical assistance.

(6) Enrolment method

Enrolment method, as explicitly described in this report, should be carefully observed and maintained so that appropriate implementation of vocational training could be made according to the given curriculums.

(7) Provision of Curriculums

- Fundamental educational plan of the Project facility should be provided and developed.
- Educational implementation plan or curriculum in each area such as life guidance, academic education, health and physical education and others should be provided on yearly and monthly basis.

(8) Development of Teaching Technique and Evaluation Method

- Vocational instructors should be provided with constant opportunity for training to acquire up-to-date vocational skills and knowledge.
- Efforts to grade up education technique should be made including psychotherapy such as psychodrama to be newly initiated in the facility.
- Efforts to develop method or technique of evaluation should be made to properly grasp change or progress of individual trainee.

(9) Job-placement of Released Trainees

Efforts should be made to establish system to help released juveniles find appropriate jobs before being released and provide pre-released trainees with programs to work with civil enterprises of the community through cooperation of understanding shop owners as well, thus trainees can smoothly return to the society as skilled workers who fully utilize vocational skills and knowledge acquired in the facility.



[ APPENDICES ]

1. Member List of Study Team
2. Study Schedule
3. Member List of Concerning Authorities
4. Minutes of Discussions
5. Room Facility List
6. Curriculum for Vocational Training





## 1. Member List of Study Team

### 1-1 Phase-1 Basic Design Study Team (Sep. 14 ~ Oct. 13, 1992)

Leader/Correctional Policy Planning	Koichi Abe	Akagi Juvenile Training School, Ministry of Justice
Vocational Training Planning	Shuji Inoue	Specialist, Industry Division, Tokyo Regional Correction Headquarters, Ministry of Justice
Correctional Institution Planning	Hiroyuki Nabana	Construction and Maintenance Div., Minister's Secretariat, Ministry of Justice
Project Coordination	Toshiyuki Iwama	Grant Aid Study & Design Dept., JICA
Correctional Education Planning	Takeo Kunimine	Japanese Correctional Association
Vocational Training Curriculum	Kazuo Toyoda	Japanese Correctional Association
Vocational Training Curriculum	Tokujuro Yamada	Japanese Correctional Association
Schematic Design	Yoko Ebinuma	Japanese Correctional Association

1-2 Phase-2 Basic Design Study Team (Jan. 21 ~ Feb. 17, 1993):

Leader	Shigeki Kobayashi	Grant Aid Div., Economic Cooperation Bureau Ministry of Foreign Affairs
Correctional Policy Planner	Koichi Abe	Deputy Superintendent Akagi Juvenile Training School Ministry of Justice
Vocational Training Planner	Shouji Inoue	Specialist, Industry Section, Tokyo Regional Correction Headquarters Ministry of Justice
Correction Institution Planner	Hiroyuki Nabana	Construction and Maintenance Div., Minister's Secretariat Ministry of Justice
Project Coordinator	Toshiyuki Iwama	Grant Aid Study & Design Dept., JICA
Architect	Masami Tanaka	Nikken Sekkei Ltd.
Facility Planner/ Cost Estimator	Koichi Masuda	Nikken Sekkei Ltd.
Equipment Planner	Jun Kuno	Nikken Sekkei Ltd.
Natural Condition Surveyor	Yoshihisa Tanaka	Nikken Sekkei Ltd.
Correctional Curriculum Planner	Takeo Kunimine	Japan Correctional Association
Facility Planner	Yoko Ebinuma	Japan Correctional Association

1-3 Basic Design Draft Final Report Explanation Team  
(April 18 ~ 27, 1993)

Leader	Takashi Hatakeyama	Deputy Director, Grant Aid Project Management Dept., JICA
Correctional Policy Planner	Koichi Abe	Deputy Superintendent Yachimata Juvenile Training School
Correctional Institution Planner	Hiroyuki Nabana	Construction and Maintenance Div., Minister's Secretariat Ministry of Justice
Architect	Masami Tanaka	Nikken Sekkei Ltd.
Facility Planner/ Cost Estimator	Koichi Masuda	Nikken Sekkei Ltd.
Correctional Curriculum Planner	Takeo Kunimine	Japan Correctional Association

## 2. Study Schedule

### 2-1 Phase - 1 Basic Design Study (Sep. 14 - Oct. 13, 1992)

Day	Date	Location	Itinerary
1	14 Sep. (Mon)	Tokyo→ Bangkok	Abe, Inoue, Nabana, Kunimine, Toyoda and Yamada leave from Tokyo (JL717).
2	15 Sep. (Tue)	Bangkok	Meeting at JICA office. <i>Courtesy visit to Ministry of Justice Meeting at DTEC, Central Juvenile and Family Court, Central Observation and Protection Center (6 members).</i>
3	16 Sep. (Wed)	Bangkok	Visit to Training School for Boys in Ban Karna, Ban Ubeckla and Ban Muthitra (6 members). Visit to Local Consultants (Nabana).
4	17 Sep. (Thu)	Bangkok	Presentation of the Inception Report at Central Juvenile and Family Court and Central Observation and Protection Center (6 members).
5	18 Sep. (Fri)	Bangkok  Nakhon Pathom	Visit to Central Juvenile and Family Court and Central Observation and Protection Center (Abe, Kunimine). Survey at Samutprakan Technical College and the Training Schools for Boys in Ban Karna and Ban Ubeckla (Inoue, Toyoda, Yamada). Site survey in Nakhon Pathom (Nabana).
6	19 Sep. (Sat)	Bangkok	Survey of Ban Karna Training School for Boys (Abe, Kunimine) Survey of private companies (Inoue). Meetings in Ban Karna about topographic survey (Nabana). Other members study relevant materials.
7	20 Sep. (Sun)	Bangkok→ Ubon	Inoue, Nabana, Toyoda and Yamada move to Ubon (TG206). Other members study relevant materials.
8	21 Sep. (Mon)	Ubon  Bangkok	Ubon Institute for Skill Development (Inoue, Nabana, Toyoda, Yamada). Ubon Training School for Boys (Toyoda). Survey of Ban Karna Training School for Boys (Abe, Kunimine).
9	22 Sep. (Tue)	Ubon→ Bangkok	<i>Courtesy visit to Observation and Protection Center of Ubonrachatani Province (Inoue, Nabana, Toyoda, Yamada).</i> Above 4 members move to Bangkok (TG207) Survey of Ban Karna Training School for Boys (Abe, Kunimine).
10	23 Sep. (Wed)	Bangkok	Meeting at Central Juvenile and Family Court and Central Observation and Protection Center (Abe, Kunimine). Visit to National Institute for Skill Development and Ban Kwang Central Prison (Inoue, Toyoda, Yamada). Meeting with Local Consultant (Nabana).
11	24 Sep. (Thu)	Bangkok  Nakhon Pathom	Survey of Ban Karna Training School for Boys (Abe, Kunimine). Visit to Bangkok Japanese Chamber of Commerce, Mechanical Industry Development Institute and Industrial Rehabilitation Center (Inoue). Survey of private companies (Toyoda, Yamada). Give instructions to Local Consultants on site, visit to construction site for Mahidol University (Nabana).

Day	Date	Location	Itinerary
12	25 Sep. (Fri)	Bangkok	Survey of Ban Karna Training School for Boys (Abe, Kunimine). Survey of private companies (Inoue, Toyoda, Yamada). Visit to the Ministry of Education, primary school and junior high school (Nabana).
13	26 Sep. (Sat)	Bangkok→ Chaing-Mai Nakhon Pathom	Kunimine moves to Chaing-Mai (TG104). Site survey (Abe, Inoue, Kunimine, Yamada). Survey of private companies (Toyoda).
14	27 Sep. (Sun)	Chaing-Mai	Visit to Chaing-Mai Training School for Boys (Kunimine). Other members study relevant material.
15	28 Sep. (Mon)	Chaing-Mai→ Bangkok Bangkok	Survey of Chaing-Mai Training School for Boys. Kunimine moves to Bangkok (TG105). Visit to Ban Metta Remand Home (Abe). Visit to King Mongkut Technical Institute. Survey of private companies (Inoue, Toyoda, Yamada). Visit to Siam Cement Co. and Siam City Cement Co. (Nabana).
16	29 Sep. (Tue)	Ubon→ Bangkok	Visit to Ban Pakkret Remand House (Abe, Kunimine, Nabana). Sarapachan Technical College (Inoue), Klongpem Central Prison (Abe, Inoue, Nabana). Survey of private companies (Toyoda). Meeting at Central Observation and Protection Center (Nabana). Study of relevant materials (Yamada).
17	30 Sep. (Wed)	Bangkok	Visit to primary school and junior high school (Abe, Nabana, Kunimine). Meeting at Central Observation and Protection Center (Toyoda, Yamada). Survey of private companies (Inoue). Visit to STS Engineering Co. (Nabana).
18	1 Oct. (Thu)	Ayutthaya Bangkok	Visit to Ayutthaya Boat Building College (Inoue). Meeting at Central Observation and Protection Center (Toyoda, Yamada). Study of relevant materials and internal meeting (Abe, Kunimine).
19	2 Oct. (Fri)	Bangkok	Meeting at Budget Bureau and Office of the Civil Service Commission, Office of the Prime Minister. Meeting at Central Juvenile and Family Court and Central Observation and Protection Center (Abe, Kunimine). Visit to junior high school (Toyoda, Yamada). Survey of private companies (Inoue). Site survey (Nabana, Ebinuma). Visit to the Demonstration School (Nabana). Ban Karna (Ebinuma).
20	3 Oct. (Sat)	Bangkok→ Hong Kong Hong Kong→ Tokyo Bangkok	Toyoda and Yamada depart Bangkok for Tokyo. Interview juveniles at Ban Karna Training School for Boys (Abe, Nabana, Kunimine, Ebinuma). Visit to Eastern Child Protection Home (Inoue).

Day	Date	Location	Itinerary
21	4 Oct. (Sun)	Bangkok	Study of relevant materials, internal meeting.
22	5 Oct. (Mon)	Bangkok	Meeting at Central Juvenile and Family Court and Central Observation and Protection Center.
23	6 Oct. (Tue)	Bangkok	Meeting at Central Juvenile and Family Court and Central Observation and Protection Center. Supervision water quality analysis by STS Engineering Co. Instruct the positions for boring (Nabana).
24	7 Oct. (Wed)	Philippines→ Bangkok Bangkok	Iwama arrives in Bangkok. Meeting at Central Juvenile and Family Court and Central Observation and Protection Center.
25	8 Oct. (Thu)	Bangkok	Discussions about the Minutes of Discussions at Central Juvenile and Family Court and Central Observation and Protection Center.
26	9 Oct. (Fri)	Bangkok	Discussions about the Minutes of Discussions at Central Juvenile and Family Court and Central Observation and Protection Center.
27	10 Oct. (Sat)	Bangkok→ Tokyo Nakhon Pathom	Ebinuma departs Bangkok for Tokyo. Site survey (Iwama). Other members study relevant materials.
28	11 Oct. (Sun)	Bangkok	Study of relevant materials.
29	12 Oct. (Mon)	Bangkok	Report the results of the studies to the Embassy and JICA office. Sign and exchange the Minutes of Discussions with the Thai side.
30	13 Oct. (Tue)	Bangkok→ Tokyo	Abe, Inoue, Nabana, Iwama and Kunimine depart Bangkok for Tokyo (TG 640).

2-2 Phase - 2 Basic Design Study (Jan. 21 - Feb. 17, 1993)

Day	Date	Location	Itinerary
1	21 Jan. (Thu)	Tokyo→ Bangkok	Abe, Inoue, Nabana, Watanabe, Kunimine and Ebinuma leave from Tokyo (TG641).
2	22 Jan. (Fri)	Bangkok	Visit JICA office and Central Juvenile and Family Court. Discussions on the Interim Report at Central Observation and Protection Center.
3	23 Jan. (Sat)	Bangkok	Internal meeting, study of relevant materials.
4	24 Jan. (Sun)	Bangkok	Study of relevant materials.
5	25 Jan. (Mon)	Bangkok	Courtesy visit to Minister of Justice Discussions at Central Observation and Protection Center.
		Tokyo→ Bangkok	Team Leader Kobayashi and members Iwama, M. Tanaka, Masuda, Kuno and Y. Tanaka depart from Tokyo (TG 641).
6	26 Jan. (Tue)	Bangkok	Visit to Japanese Embassy, JICA, Central Juvenile and Family Court. Discussions at Central Observation and Protection Center.
7	27 Jan. (Wed)	Bangkok	Discussions at Central Observation and Protection Center. Discussions on draft of Minutes.
		Nakhon Pathom	Site survey.
8	28 Jan. (Thu)	Bangkok	Discussions at Central Observation and Protection Center. Cost survey.
9	29 Jan. (Fri)	Bangkok	Signing of Minutes of Discussions at Central Observation and Protection Center. Confirmation of items discussed. Report survey results to JICA.
10	30 Jan. (Sat)	Bangkok →Tokyo	Team Leader Kobayashi and members Abe, Inoue, Nabana, Watanabe, Iwama, Kunimine, Ebinuma (TG 640).
		Bangkok	Internal meeting.
11	31 Jan. (Sun)	Bangkok	Study of relevant materials.
12	1 Feb. (Mon)	Bangkok	Visits to Training Schools in Ban Pranee, Ban Karna, Ban Muthita and Ban Ubeckla.
13	2 Feb. (Tue)	Bangkok	Cost survey. Commission STS Engineering Consultant Co. to quote on soil investigation.
14	3 Feb. (Wed)	Bangkok	Visit to National Institute of Skill Development (NISD). Discussions at Central Observation and Protection Center.
15	4 Feb. (Thu)	Bangkok	Survey at Ban Kwang Central Prison (M. Tanaka, Masuda, Y. Tanaka). Cost survey (Kuno).

Day	Date	Location	Itinerary
16	5 Feb. (Fri)	Bangkok	Survey at Samutprakan Technical College (T. Tanaka, Masuda, Y. Tanaka). Discussions at Central Observation and Protection Center. Cost survey (Kuno).
17	6 Feb. (Sat)	Bangkok	Internal meeting.
18	7 Feb. (Sun)	Ayutthaya	Visit to Ayutthaya Historical Study Center. Study of relevant materials.
19	8 Feb. (Mon)	Bangkok	Discussions at Central Observation and Protection Center. Discussions at Environmental Research & Training Center (Masuda). Commission soil investigation and topographic survey to STS Co. (Y. Tanaka). Cost survey (M. Tanaka, Kuno).
20	9 Feb. (Tue)	Nakhon	Survey at Observation and Protection Center at Nakhon Sawan and Nakhon Sawan Province Juvenile Training School.
21	10 Feb. (Wed)	Bangkok	Discussions at Central Observation and Protection Center, survey at PEA and TOT (Kuno). Cost survey (M. Tanaka, Y. Tanaka). Cost survey (Masuda, Kuno).
22	11 Feb. (Thu)	Bangkok → Ubon	Discussions at Central Observation and Protection Center (Masuda, Kuno, Y. Tanaka). Cost survey (M. Tanaka). Move to Ubon (TG206).
23	12 Feb. (Fri)	Ubon→ Bangkok	Survey at Ubon Institute for Skill Development (UBISD) and Ubon Training School for Boys. Move to Bangkok (TG207).
24	13 Feb. (Sat)	Bangsaen	Visit to Institute of Marine Science. Internal meeting.
25	14 Feb. (Sun)	Bangkok	Study of relevant materials. Drafting of Memorandum of Technical Discussion.
26	15 Feb. (Mon)	Bangkok	Discussions at Central Observation and Protection Center. Drafting of Memorandum of Technical Discussions. Cost survey (M. Tanaka).
27	16 Feb. (Tue)	Bangkok	Report to Embassy and JICA office. Submit Memorandum of Technical Discussions and hold discussions at Central Observation and Protection Center.
28	17 Feb. (Wed)	Bangkok →Tokyo	M. Tanaka, Masuda, Kuno and Y. Tanaka depart Bangkok for Tokyo (TG640).



2-3 Basic Design Draft Final Explanation (April 18 - 27, 1993)

Day	Date	Location	Itinerary
1	18 Apr. (Sun)	Tokyo→	Team leader Hatakeyama, Abe, Nabana, Tanaka, Masuda and Kunimine depart from Tokyo (TG 641)
2	19 Apr. (Mon)	Bangkok	Visit JICA office to report on the Draft Final Report. Submission and explanation of the Draft Final Report to Central Observation and Protection Center, and discussion on the report.
3	20 Apr. (Tue)	Bangkok	Discussion at Central Observation and Protection Center.
4	21 Apr. (Wed)	Bangkok	Discussion at Central Observation and Protection Center.
5	22 Apr. (Thu)	Bangkok	Courtesy call on Permanent Secretary of Minister of Justice. Discussion at Central Observation and Protection Center.
6	23 Apr. (Fri)	Bangkok	Visit the site of the project. Discussion at Central Observation and Protection Center (Technical cooperation, Minutes of Discussions, Procedures of the project).
7	24 Apr. (Sat)	Bangkok	Internal meeting.
8	25 Apr. (Sun)	Bangkok	Drafting the memorandum of technical discussions.
9	26 Apr. (Mon)	Bangkok	Signing of Minutes of Discussions. Visit JICA office to report on the result of the Basic Design Draft Final Report Explanation.
10	27 Apr. (Tue)	Bangkok →Tokyo	Team Leader Hatakeyama, Abe, Nabana, Tanaka, Masuda and Kunimine leave Bangkok (TG 640).

### 3. Member List of Concerning Authorities

#### Thai Authorities Concerned

##### (1) Ministry of Justice

Mr. Suwit Khunkitti	Minister of Justice
Mr. Atthaniti Ditamnaj	Deputy Permanent Secretary
Mr. Sanat Maisawat	Justice of Supreme Court

##### Central Juvenile and Family Court

Mr. Tan Watwai	Chief Justice
Mr. Somphol Sattaya-Aphitarn	Deputy Chief Justice
Mr. Satit Pairoa	Deputy Chief Justice

##### Central Observation and Protection Center

Mr. Sakol Liwrungreung	Director
Mr. Pichai Ratanapunlop	Director of Administrative Division
Mrs. Amnuaysri Charmaric	Director of Medical Division
Mrs. Arporn Saicheur	Chief of Pharmaceutical Sub-Division
Mrs. Praneet Piyasirananda	Chief of Psychological Sub-Division
Mrs. Wimol Anuntasiri	Chief of Social Work Sub-Division
Mr. Suppachai Suwansurat	Chief of Criminal Investigation Sub-Division
Mr. Surin Sathienmarg	Chief of Planning Sub-Division
Mrs. Sudjit Janenoppakanjana	Senior Policy and Plan Analyst Planning Sub-Division
Mrs. Sukanya On-nuam	Senior Psychologist
Mrs. Gunjanaporn Saigal	Social Worker
Miss Orasri Sriwan	Probation Officer
Mr. Wares Pengnes	Probation Officer
Miss Orapan Laohattapongpuri	Psychologist
Miss Duangporn Ukris	Social Worker
Miss Kornkanok Wongphansate	Social Worker

##### Design & Construction Division

Mr. Pisanuroj Plubrukarn	Director
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##### Ban Pranee Training School for Girls

Ms. Karuna Sukpat	Superintendent
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**Ban Karna Training School for Boys**

Mr. Boonma Phonyark                      Superintendent

**Ban Ubeckla Training School for Boys**

Mr. Surin Sathienmarg                      Superintendent

**Ban Muthitra Training School for Boys**

Ms. Pensri Songsawad                      Superintendent

**Ban Metta Remand Home**

Mr. Thanee Sukpat                      Superintendent

**Observation and Protection Center of Nakhon Sawan Province**

Mr. Narong Hutakovit                      Director

**Nakhon Sawan Province Juvenile Training School**

Ms. Veedar Kratumthong                      Superintendent

**Observation and Protection Center of Ubonrachatani Province**

Ms. Kanchana Thongchin                      Director

**Ubonrachatani Province Juvenile Training School**

Mr. Phanom Mingchai                      Superintendent

**Chaing-Mai Province Juvenile Training School**

Mr. Somsack                      Chief of Vocational Training

Mr. Yosuke Kito                      Member of JOCV

(2) **Office of the Prime Minister**

**Department of Technological and Economic Cooperation - DTEC**

Ms. Tipsuda Nopmongcol                      Chief of Japan Sub-Division

Mr. Banchong Amornchewin                      Program Officer, Japan Sub-Division

**Budget Bureau**

Mr. Pornchai Nuchsuwan                      Director of Defence and Security Projects

Mrs. Nongpun Jankeat                      Chief of Budget Analyst

**Office of the Civil Service Commission**

Mr. Yangyong Kumbunluer                      Chief of Position and Division 4

Mr. Ammara Likitchai                      Senior Job Analyst

- Mrs. Tongpon Limmance                      Job Analyst
- (3) Ban Kwang Central Prison, Department of Corrections, Ministry of Interior  
Ms. Siwakorn Kuratanavej                      Penology Division
- (4) National Institute for Skill Development - NISD  
Department of Skill Development, Ministry of Interior  
Mrs. Areeya Rojvithee                      Chief of Planning Division  
Mr. Takuji Koyama                      Chief Adviser  
Mr. Yorio Kanematsu                      Expert on Training and Development  
Mr. Akifumi Adachi                      Expert on Teaching Technology  
Mr. Takao Sasaki                      Expert on Machinery
- (5) Ubon Institute for Skill Development - UBISD  
Department of Skill Development, Ministry of Interior  
Mr. Wichien Chantarasiri                      Director  
Mr. Hideo Kawakita                      Project Coordinator
- (6) Samutprakan Technical College  
Department of Vocational Education, Ministry of Education  
Mr. Bunchu Moonpinit                      Director  
Mr. Surasak Srinol                      Assistant Director
- (7) King Mongkut Technical Institute  
Mr. Charoen Pankean                      Professor
- (8) Mechanical Industry Development Institute - MIDI  
Mr. Virai Tандаеchaurat                      Deputy Director
- (9) Industrial Rehabilitation Center  
Mr. Ruangrong Deepadung                      Chief Social Security Officer  
Mr. Toshio Nishino                      Expert on Prosthetics and Orthotics
- (10) Ayuttaya Boat Building College  
Mr. Paitton Khaomala                      Professor

- (11) Bangkok Japanese Chamber of Commerce  
Mr. Yoshiki Haneda    Managing Director
- (12) Environmental Research & Training Center - ERTC  
Department of Environmental Quality Promotion, Ministry of Science  
Technology and Environment  
Mr. Toshihide Okuno    Leader  
Mr. Mamoru Sakata    Expert on Air Pollution
- (13) STS Engineering Consultant Co., Ltd.  
Mr. Werapong Tonyagate    Survey & Design Manager
- (14) Provincial Electric Authority - PEA  
Mr. Sakchai Rompoton    Chief of Construction
- (15) Telephone Organization of Thailand - TOT  
Mrs. Bungon Waraubon    Manager

Japanese Authorities Concerned

- (1) Embassy of Japan  
Mr. Nobuaki Tanaka    Councilor  
Mr. Kenichi Mitsui    First Secretary  
Mr. Koichi Noguchi    Second Secretary
- (2) Thailand Office, JICA  
Mr. Nobuji Abe    Resident Representative  
Mr. Junji Yokokura    Asst. Resident Representative

#### 4. Minutes of Discussions

4-1 Minutes of Discussions (Phase - 1 Basic Design Survey)  
Signed on Oct. 12, 1992

4-2 Minutes of Discussions (Phase - 2 Basic Design Survey)  
Signed on Jan. 29, 1993

4-3 Minutes of Discussions (Draft Final Report Explanation)  
Signed on Apr. 26, 1993

MINUTES OF DISCUSSIONS  
ON  
THE BASIC DESIGN STUDY ON THE PROJECT  
FOR  
THE CONSTRUCTION OF THE VOCATIONAL TRAINING SCHOOL  
IN  
THE KINGDOM OF THAILAND


In response to a request from the Government of the Kingdom of Thailand, the Government of Japan decided to conduct a Basic Design Study on the Project for the Construction of the Vocational Training School (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA)

JICA sent to Thailand a study team, headed by Mr. Koichi Abe, Deputy Superintendent, Akagi Juvenile Training School, Ministry of Justice, from September 14 to October 13, 1992.

The team had a series of discussions with the authorities concerned of the Government of Thailand and conducted a field survey.

As a result of discussions and field survey, both parties confirmed the main items described on the attached sheets. Based on these Minutes of Discussions, the team will proceed to further works and prepare the Basic Design Study Report.

Bangkok, October 12, 1992



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Mr. Koichi Abe  
Leader,  
Basic Design Study Team,  
JICA



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Hon Justice Punlop Pisitsungkakarn  
Chief Justice,  
Central Juvenile and Family Court,  
Ministry of Justice  
The Kingdom of Thailand

ATTACHMENT

1. Objective

The objective of the Project is to strengthen function and system of juvenile corrections through establishment of a model vocational training school for juveniles who have dropped out from the society.

2. Site of the Project

The site is located at Klongyong District, Nakornpatom Province, as shown in Annex I.

3. Coordinating and Executing agencies

The Central Juvenile and Family Court will coordinate and give necessary assistance to the Project. The Central Observation and Protection Center is responsible for the administration of the Project.

4. Items requested to the Government of Japan by the Government of Thailand

A. Buildings

1. Administration Building and Office Building
2. Workshop Buildings
3. Classroom Building
4. Gymnasium
5. Canteen
6. Dormitory

B. Content of Vocational Training

1. Welding and Sheetmetal work
2. Automobile Maintenance (including Attaching and Fixing Automobile Accessories)
3. Electric Wiring (including Repairing of Home Electric Appliances)
4. Woodwork
5. Machining
6. Printing
7. Airconditioner Repairing

C. Equipment

1. Equipment for vocational training
2. Equipment for academic education
3. Equipment for physical and recreational activities
4. Equipment for therapeutic activities

However, the final components of the Project may differ from the above items, if it is so judged after further studies in Japan.

5. Items Agreed by Both Sides

A. Number and Selection of Juveniles

K.A.



1. Number: 200
2. Selection: Juveniles with high aptitude for vocational training and high expectancy of being rehabilitated are selected out from the existing juvenile training schools.

B. Staffing

The Thai side stressed that they would allocate and recruit the necessary number of vocational training staffs with high skills in order to achieve the above-mentioned objective. These staffs should be assigned, exclusively for the training purpose.

However, final component of the project may differ from the above, if it is judged necessary after further studies.

6. Japan's Grant Aid system

A. The Government of Thailand understood the system of Japan's Grant Aid as explained by the team.

B. The Government of Thailand will take necessary measures, as described in Annex II for the smooth implementation of the Project on condition that the Grant Aid by the Government of Japan is extended to the Project.

7. Technical Cooperation

The Government of the Kingdom of Thailand reiterated the necessity of Technical Cooperation to the Project.

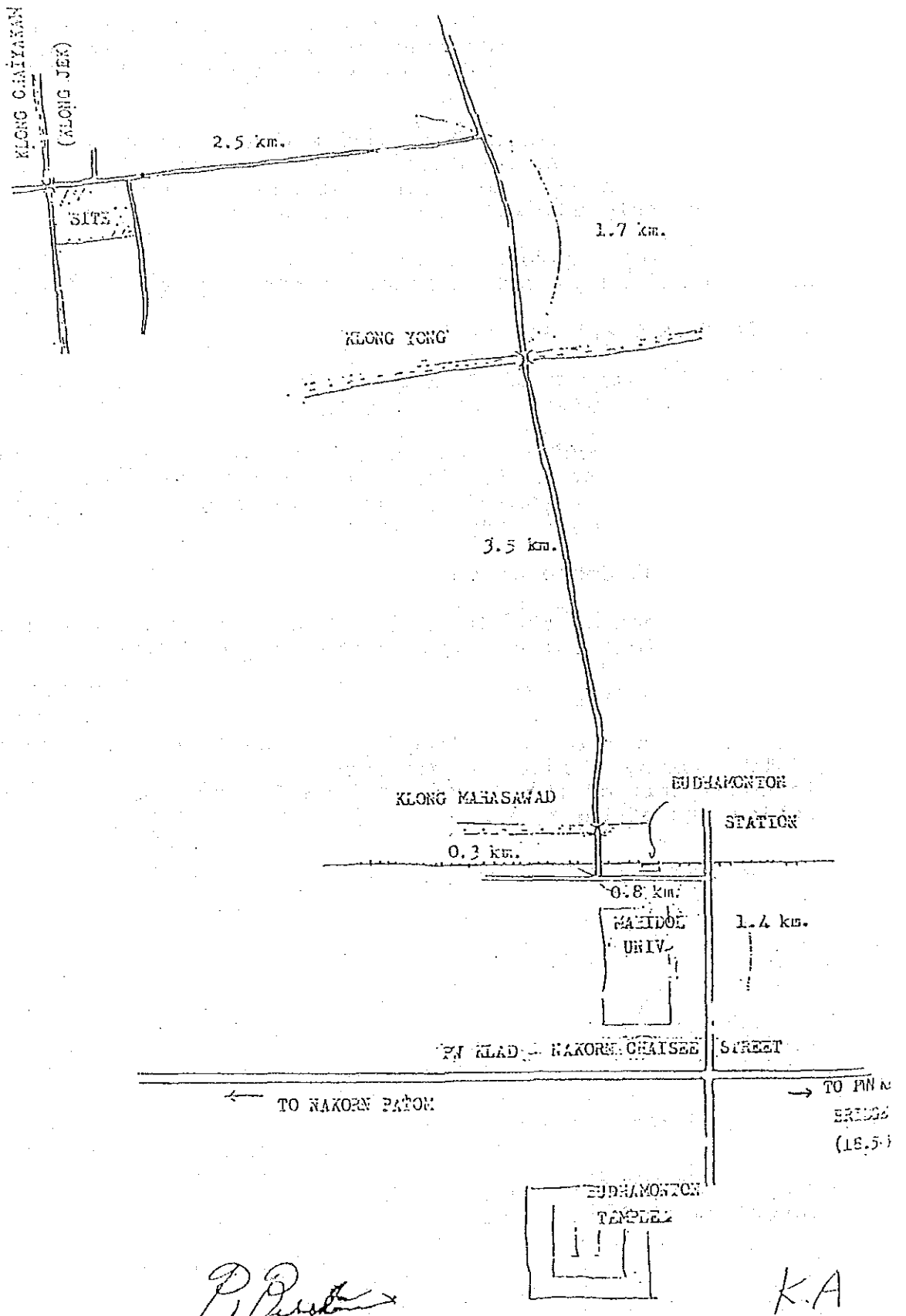
8. Staff Housing

The Government of the Kingdom of Thailand confirmed that the staff housing should be provided by the Thai Government as an integral part of the School in time for the start of the training activities of the School.

*P. Perle*

K.A

Annex 1 Site of the Project



## ANNEX II

### Necessary Measures to be Taken by the Government of Thailand

1. To provide necessary land area for the site of the Project
2. To clear, level, and reclaim the site
3. To pave a road leading to the Project site for the transportation of materials and equipment provided under the Japan's Grant Aid
4. To construct gates and fences in and around the site
5. To provide facilities for the distribution of electricity, water supply, drainage to the site and other incidental facilities including general furniture.
6. To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement
  - Advising commission of Authorization to Pay
  - Payment commission
7. To arrange the exemption of 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 may be required in connection with the supply of the products and the services under the verified contracts such facilities as may be necessary for their entry into the Kingdom of Thailand and stay therein for the performance of their work
9. To exempt Japanese nationals engaged in the Project from customs duties, internal tax, other fiscal levies and other administrative requirements which may be imposed in Thailand with respect to the supply of the products and services under the verified contracts
10. To maintain and use properly and effectively facilities constructed and equipment provided under the Grant Aid, through recruitment of enough and qualified staff and allocation of sufficient budget for operation and maintenance
11. To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as transportation and installation of the equipment.

*P. R. ...*

K.A

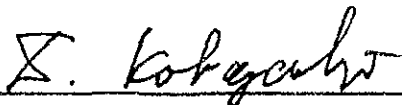
MINUTES OF DISCUSSIONS ON  
THE BASIC DESIGN STUDY ON THE PROJECT  
FOR CONSTRUCTION OF THE VOCATIONAL TRAINING SCHOOL  
IN THE KINGDOM OF THAILAND

In September 1992, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Project for Construction of the Vocational Training School (hereinafter referred to as "the Project") to the Kingdom of Thailand, and through discussions, field survey and examination of the results in Japan, has prepared the interim report of the study.

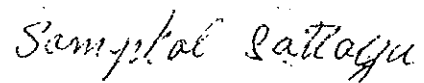
In order to explain and to consult the Thai side on the components of the interim report, JICA sent to Thailand a study team, which is headed by Mr. Shigeki Kobayashi, Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs, and is scheduled to stay in the country from January 21 to February 17, 1993.

As a result of the discussions and field survey, both parties confirmed the main items described on the attached sheets. Based on those Minutes of Discussions, the team will proceed to further works and prepare the Basic Design Study Report.

Bangkok, January 29, 1993



Mr. Shigeki KOBAYASHI  
Leader,  
Basic Design Study Team,  
JICA



Judge Somphol SATTAYA - APITARN  
Deputy Chief Justice,  
Central Juvenile and Family Court,  
Ministry of Justice,  
The Kingdom of Thailand

## ATTACHMENT

### 1. Components of the interim report

The Government of Thailand has agreed and accepted in principle the components of the interim report proposed by the team.

### 2. Items agreed by both sides

After discussions on the Project, the following items were agreed by both sides in order to realize the Project.

#### (1) Number and Selection of juveniles

- a. Number: 200
- b. Selection: Juveniles with high aptitude for vocational training and high expectancy of being rehabilitated are selected out from the existing juvenile training schools.

#### (2) Buildings

- a. Administration Building and Office Building
- b. Workshop and Classroom Buildings
- c. Athletic Facilities
- d. Canteen
- e. Dormitory
- f. Staff housing

The staff housing will be provided by the Thai Government as an integral part of the school in time for the start of the training activities of the school.

#### (3) Outdoor Installation

- a. Driveway and Walkway inside the site
- b. Waterway and necessary equipment
- c. Lighting

- (4) Content of the vocational training
- a. Welding and sheetmetal work
  - b. Automobile maintenance (including attaching and fixing automobile accessories)
  - c. Electric wiring (including repairing of home electric appliances)
  - d. Woodwork
  - e. Machining
  - f. Printing
  - g. Airconditioner repairing
  - h. Operation of construction vehicle

(5) Equipment

- a. Equipment for vocational training
- b. Equipment for academic education
- c. Equipment for physical and recreational activities
- d. Equipment for therapeutic activities

(6) Staffing

An adequate number of vocational training staffs with high skills is allocated by the Thai side. These staffs will be assigned exclusively for the training purpose.

However, the final components of the Project may differ from the above, if it is judged necessary after further studies.

3. Grant Aid Programme extended by Japan

- (1) The Government of Thailand has understood the system of Japan's Grant Aid explained by the team.
- (2) The Government of Thailand will take necessary measures described in Annex for smooth implementation of the Project on condition that the Grant Aid assistance by the Government of Japan will be extended to the Project.

*Scanned*

*A.*

4. Technical cooperation

The Government of Thailand reiterated the necessity of technical cooperation...  
for this Project.

5. Schedule of the further studies

- (1) The consultants will proceed to further studies in Thailand until February 17, 1993.
- (2) JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around April, 1993.
- (3) In case that the contents of the report is accepted in principle by the Thai side, JICA will complete the final report and send it to the Government of Thailand.

*Sau.*

*A.*

ANNEX

Necessary Measures to be Taken by the Government of Thailand

1. To provide necessary land area for the site of the Project
2. To clear, level, and reclaim the site
3. To pave a road leading to the Project site for the transportation of materials and equipment provided under the Japan's Grant Aid
4. To construct staff housing, gates and fences around the site
5. To provide facilities for the distribution of electricity, water supply, drainage to the site and other incidental facilities including general furniture.
6. To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement
  - Advising commission of Authorization to Pay
  - Payment commission
7. To arrange the exemption of 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 may be required in connection with the supply of the products and the services under the verified contracts such facilities as may be necessary for their entry into the Kingdom of Thailand and stay therein for the performance of their work
9. To exempt Japanese nationals engaged in the Project from customs duties, internal tax, other fiscal levies and other administrative requirements which may be imposed in Thailand with respect to the supply of the products and services under the verified contracts



10. To maintain and use properly and effectively facilities constructed and equipment provided under the Grant Aid, through recruitment of enough and qualified staff and allocation of sufficient budget for operation and maintenance
11. To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as transportation and installation of the equipment.

Same. X.

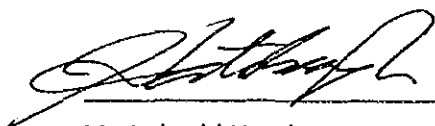
MINUTES OF DISCUSSIONS ON  
THE BASIC DESIGN STUDY ON THE PROJECT  
FOR CONSTRUCTION OF THE VOCATIONAL TRAINING SCHOOL  
IN THE KINGDOM OF THAILAND  
(CONSULTATION ON DRAFT REPORT)

In April 1993, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Project for Construction of the Vocational Training School (hereinafter referred to as "the Project") to the Kingdom of Thailand, and through discussions, field survey and examination of the results in Japan, has prepared the draft report of the study.

In order to explain and to consult the Thai side on the components of the draft report, JICA sent to Thailand a study team, which is headed by Mr. Takashi Hatakeyama, Deputy Director, First Project Management Division, Grant Aid Project Management Department JICA, and is scheduled to stay in the country from April 18 to April 27, 1993.

As a result of the discussions, both parties confirmed the main items described on the attached sheets. Based on those Minutes of Discussions, the team will complete the Basic Design Study Report.

Bangkok, April 26, 1993



Mr. Takashi Hatakeyama  
Leader,  
Draft Report Explanation Team,  
Japan International Cooperation Agency



Hon Justice Tan Watwai  
Chief Justice, *Tan Watwai*  
Central Juvenile and Family Court,  
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## ATTACHMENT

### 1. Components of the Draft Report

The Government of Thailand has agreed and accepted in principle the components of the Draft Report proposed by the team.

### 2. Japan's Grant Aid System

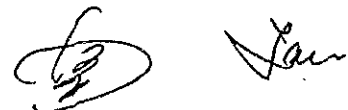
- (1) The Government of Thailand has understood the system of Japan's Grant Aid explained by the team.
- (2) The Government of Thailand will take necessary measures, described in Annex, for smooth implementation of the Project on condition that the Grant Aid assistance by the Government of Japan will be extended to the Project.

### 3. Technical Assistance

The Government of Thailand reiterated the necessity of technical assistance for this Project.

### 4. Further Schedule

The team will make the Final Report in accordance with the confirmed items, and send it to the Government of Thailand by the end of June 1993.



ANNEX:

Necessary Measures to be Taken by the Government of Thailand in case Japan's Grant Aid is executed.

1. To provide necessary land area for the site of the Project
2. To clear, level, and reclaim the site prior to commencement of the construction.
3. To pave a road leading to the Project site for the transportation of materials and equipment provided under the Japan's Grand Aid.
4. To construct staff housing, gates, gatehouse and fences in and around the site.
5. To provide facilities for the distribution of electricity, water supply, drainage to the site and other incidental facilities including general furniture.
6. To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
  - Advising commission of Authorization to Pay
  - Payment commission
7. To arrange the exemption of 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 may be required in connection with the supply of the products and the services under the verified contracts such facilities as may be necessary for their entry into the Kingdom of Thailand and stay therein for the performance of their work.
9. To exempt Japanese nationals engaged in the Project from customs duties, internal tax including V.A.T., other fiscal levies and other administrative requirements which may be imposed in Thailand with respect to the supply of the products and services under the verified contracts.
10. To maintain and use properly and effectively facilities constructed and equipment provided under the Grand Aid, through recruitment of enough and qualified staff and allocation of sufficient budget for operation and maintenance.
11. To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as transportation and installation of the equipment.

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5. Room Facility List

Name of Room	Clock	Tele- phone	Loud- speaker	TV- outlet	Emer- gency Alarm	Fire Alarm	Air Con.	Ceiling Fan	Water Cooler	Wash Basin
Administration Bldg.					B					
1F Entrance hall			SW							
Display hall			SW					CF		
Corridor			SW			M&B				
General affairs office	W	X			Main control		AC	CF		
Night Duty	W	X						CF		
Waiting room								CF		
Interview Rm. - (1), (2)	W	X			P			CF		
Staff Lounge		X	SC	TV	P			CF		
Storage of juveniles' belongings										
Storage of office supply and documents										
Toilet (M) - (3) for Staffs										
Toilet (F) - (4) for Staffs										
Kitchenet - (1)									WCL	
Corridor						M&B				
Toilet (M) - (1) for Visitors										
Toilet (F) - (2) for Visitors										
Waiting Rm. for visitors	W	X	SC	TV				CF	WCL	
Shop			SC					CF		
Storage for Shop										
Corridor for Visitors			SW							
Visiting Rm. - (1), (2), (3), (4)	W							CF		
Corridor for Juveniles			SW		P	M&B				
Waiting Rm. for Juveniles		Y	SC		P			CF		
Garage										
Storage										

Note 1. Clock (Supplied by Equipment work)

W: Wall mounted

2. Telephone

X: Desk top type Y: Wall mounted

3. Loudspeaker

SC: Ceiling mounted SW: Wall mounted SH: Horn type

4. TV outlet

5. Emergency Alarm

P: Push button B: Gong bell

6. Fire Alarm

M: Manual Station B: Electric Buzzer

Name of Room	Clock	Tele- phone	Loud- speaker	TV- outlet	Emer- gency Alarm	Fire Alarm	Air Con.	Ceiling Fan	Water Cooler	Wash Basin
2F Corridor			SW							
Director's Rm.		X	SC				AC	CF		
Ante room			SC							
Secretary Rm.	W	X	SC					CF		
Experts Rm.	W	X	SC	TV						
Seminar Rm. - (1)	W	X	SC	TV			AC			
Seminar Rm. - (2)	W	X	SC	TV			AC			
Conference Rm.	W	X	SC	TV			AC			
Library for staffs	W	X	SC					CF		
Toilet (M) - (5) for Staffs										
Toilet (F) - (6) for Staffs										
Kitchenet - (2)									WCL	
Corridor			SW			M&B				
Guest Rm. - (1), (2), (3), (4)								CF		
Shower Rm. - (1), (2), (3), (4)										
Guest Lounge			SC					CF		
Linen Storage										
Stair (1), (2)										
Stair (3), (4), (5)										
<b>Academic Education Bldg.</b>					B					
AV education room	W		SC	TV			AC	CF		
A/C Machine Rm.										
Storage										
Projection & Storage							AC			
Toilet for Juveniles										
Class Rm. - (1)	W		SC	TV				CF		
Class Rm. - (2)	W		SC	TV				CF		
Class Rm. - (3)	W		SC	TV				CF		

Name of Room	Clock	Tele- phone	Loud- speaker	TV- outlet	Emer- gency Alarm	Fire Alarm	Air Con.	Ceiling Fan	Water Cooler	Wash Basin
Instructor's Rm.	W	X	SC					CF		
Storage										
Corridor					P	M&B				
<b>Central Building</b>					B					
1F Psychologist and Social Worker's Office	W	X	SC		P			CF		
Counseling Rm. - (1), (2), (3)								CF		
Psychodrama Rm.			SC				AC			
Observation Rm.			SC					CF		
Group Counseling and Testing Rm.	W		SC					CF		
Toilet (F) for Staffs										
Toilet (M) for Staffs										
Kitchenet									WCL	
Health Instruction Rm.	W	X	SC		P		AC			
Examination & Treatment Rm. (1), (2)			SC				AC			
Medicine Storage										
Sick room								CF		
Toilet for Juveniles										
Library		X	SC		P			CF		
Corridor						M&B				
Stair										
2F Individual psychotherapy Rm. (1), (2), (3), (4), (5), (6)								CF		
Toilet (1), (2), (3), (4), (5), (6)										
Counseling Rm. - (1), (2)								CF		
Instructor's Rm.	W	X	SC					CF		
Toilet (M) for Staffs										
Toilet (F) for Staffs										
Shower Rm. for Juveniles										

Name of Room	Clock	Tele- phone	Loud- speaker	TV- outlet	Emer- gency Alarm	Fire Alarm	Air Con:	Ceiling Fan	Water Cooler	Wash Basin
Changing Rm.										
Corridor					P	M&B				
Patrol corridor										
<b>Service Building</b>					B					
Kitchen	W	Y	SW		P			CF		WB
Food Storage										
Barber		Y	SC		P			CF		WB
Laundry	W	Y	SW		P			CF		
Working Corner										
Storage for clothes										
Supply Storage										
Toilet (M), (F) for staffs										
Corridor						M&B				
<b>Gymnasium</b>										
Stage										
Hall			SH							
Storage (1), (2)										
<b>Cafeteria</b>					B					
Cafeteria			SH	TV	P			CF	WCL	WB
<b>Shower Building</b>										
Shower Rm.										
Long Basin Rm.										
<b>Toilet Building</b>										
Toilet										



Name of Room	Clock	Tele- phone	Loud- speaker	TV- outlet	Emer- gency Alarm	Fire Alarm	Air Con.	Ceiling Fan	Water Cooler	Wash Basin
<b>Dormitory - 1, 2, 3, 4, 5, 6</b>					B					
1F Piloti										
2F Corridor						M&B				
Activity space	W		SC	TV				CF	WCL	
Group Rm. - (1), (2), (3), (4), (5), (6)			SC					CF		
Study Rm. - (1), (2)								CF		
Instructor's Rm.		X	SC		P			CF		
Toilet										
Patrol corridor										
Stair (1)										
Stair (2)										
<b>Workshop - 1</b>					B					
<b>a. Welding and Sheet Metal Work</b>										
Corridor										
Entrance						M&B				
Workshop			SH		P			CF	WCL	
Locker Rm.										
Instructor's Rm.	W	X	SC					CF		
Storage										
Toilet for Juveniles										
Toilet for Staffs										
<b>b. Wood Work</b>										
Corridor										
Entrance										
Workshop			SH		P			CF	WCL	
Locker Rm.										
Instructor's Rm.	W		SC					CF		
Storage										

Name of Room	Clock	Tele- phone	Loud- speaker	TV- outlet	Emer- gency Alarm	Fire Alarm	Air Con.	Ceiling Fan	Water Cooler	Wash Basin
Toilet for Juveniles										
Toilet for Staffs										
Workshop - 2					B					
a. Electric Wiring										
Corridor										
Entrance						M&B				
Workshop			SH	TV	P			CF	WCL	
Locker Rm.										
Instructor's Rm.	W	X	SC					CF		
Storage										
Toilet for Juveniles										
Toilet for Staffs										
b. Machining										
Corridor										
Entrance										
Workshop			SH		P			CF	WCL	
Locker Rm.										
Instructor's Rm.	W	X	SC					CF		
Storage										
Toilet for Juveniles										
Toilet for Staffs										
Workshop - 3					B					
a. Airconditioner Repairing										
Corridor										
Entrance						M&B				
Workshop			SH		P			CF	WCL	
Locker Rm.										

Name of Room	Clock	Tele- phone	Loud- speaker	TV- outlet	Emer- gency Alarm	Fire Alarm	Air Con.	Ceiling Fan	Water Cooler	Wash Basin
Instructor's Rm.	W	X	SC					CF		
Storage										
Toilet for Juveniles										
Toilet for Staffs										
<b>b. Automobile Maintenance</b>										
Corridor										
Entrance										
Workshop			SH		P			CF	WCL	
Locker Rm.										
Instructor's Rm.	W	X	SC					CF		
Storage										
Toilet for Juveniles										
Toilet for Staffs										
<b>Workshop - 4</b>					B					
<b>a. Printing</b>										
Corridor										
Entrance						M&B				
Workshop			SH		P			CF	WCL	
Locker Rm.										
Instructor's Rm.	W	X	SC					CF		
Storage										
Toilet for Juveniles										
Toilet for Staffs										
<b>b. Storage for Materials and Products</b>										
Storage										

Name of Room	Clock	Tele- phone	Loud- speaker	TV- outlet	Emer- gency Alarm	Fire Alarm	Air Con.	Ceiling Fan	Water Cooler	Wash Basin
<b>Construction Vehicle Operation Training Bldg.</b>					B					
Class Rm.			SC					CF		
Instructor's Rm.	W	X	SC					CF		
Storage (1)										
Toilet for Staffs										
Toilet for Juveniles										
Garage			SH		P	M&B				
Storage (2)										
<b>Garage for Farm Machineries</b>					B					
Garage		Y	SH		P					
Storage for Farm Tools										
Locker Rm.										
Toilet for Juveniles										
Toilet for Staffs										
Storage										
<b>Connecting Corridor</b>										
Corridor										

## 6. Curriculum for Vocational Training

### Sheet Metal and Welding Course

Lecture 83 hours; Practice 1,133 hours; Total 1,216 hours

1. Labor safety and hygiene  
Lecture, 3 hours; Practice, 0 hour; Total, 3 hours
  - How to operate machines and hand tools safely
  - Safety equipments
  - How to put the machines and tools in order and to keep them clean
  - Work clothes and protectors

Training and rules of works  
Lecture, 10 hours; Practice, 10 hours; Total, 20 hours

  - Regulations to observe in workshops
2. Arcwelding  
Lecture, 20 hours; Practice, 113 hours; Total, 133 hours
  - Principle of arc welding
  - Equipment necessary for arc welding
  - Generation of arc
  - Positioning of beads
3. Arc welding with covered electrode  
Lecture, 10 hours; Practice, 100 hours; Total 110 hours
  - Arc weld joints and shapes of grooves
  - Welding positions
  - Welding of various joints
  - Defective welding
4. Gas shielded arc welding  
Lecture, 10 hours; Practice, 60 hours; Total, 70 hours
  - Inflammable gas
  - Equipment necessary for gas welding
  - Gas welding and gas cutting
5. Gas welding and cutting  
Lecture, 10 hours; Practice, 60 hours; Total, 70 hours
  - Inflammable gas
  - Equipment necessary for gas welding
  - Gas welding and gas cutting
6. Drawing of sheet metal work  
Lecture, 10 hours; Practice, 50 hours; Total 60 hours
  - Elementary knowledge of mechanical drawing

- Drawing of deployment chart
  - Sketching
  - Paper pattern making
7. Measurement, finishing and basic operation of machines  
Lecture, 10 hours; Practice, 50 hours; Total, 60 hours
- Elementary knowledge of measurement
  - Hand finishing
  - Operation of engineering machines
  - Operation of sheet metal processing machines
8. Basic processing of sheet metal  
Lecture, 10 hours; Practice, 100 hours; Total, 110 hours
- Marking off
  - Cutting
  - Bending
  - Malleting
  - Drawing
9. Applied training, 600 hours

#### Automobile Maintenance Course

Lecture, 71 hours; Practice, 1,145 hours; Total, 1,216 hours

1. Ethics of automobile maintenance workers  
Lecture, 3 hours; Practice, 0 hour; Total, 3 hours
- *Invited lecturers give special speech on the ethics of automobile maintenance workers such that poorly-maintenanced cars can be lethal weapons.*

(Basic Training)

2. Measurement  
Lecture, 1 hour; Practice, 4 hours; Total, 5 hours
- Measurement by scales, vernier calipers, and micrometers
  - Measurement of parallelism by dial gauges
3. Basic fabrication  
Lecture, 10 hours; Practice, 100 hours; Total, 110 hours
- Scribing
  - File-finishing
  - Drilling
  - Cutting thread on a round bar
  - Cutting steel bars
  - Grinding
4. Welding

Lecture, 7 hours; Practice, 58 hours; Total, 65 hours

- Principle of gas welding
- Understanding of dissolved acetylene
- Security check of equipment
- Welding and cutting of steel plate.

(Maintenance of gasoline engines)

5. Disassembly and assembly

Lecture, 5 hours; Practice, 60 hours; Total 65 hours

- Principle of gasoline engines
- Understanding of structure and function
- Parts washing

6. Check and adjustment of parts

Lecture, 20 hours; Practice, 138 hours; Total, 158 hours

- Check and adjustment of cylinder and piston mechanism, crank mechanism, valve operation mechanism, carburetor mechanism, radiator mechanism, and distributor mechanism

7. Test run

Lecture, 2 hours; Practice, 10 hours; Total, 12 hours

- Diagnosis and adjustment of compression pressure, sound level, and exhaust gas by test run

(Maintenance of chassis)

8. Check and adjustment of parts

Lecture, 15 hours; Practice, 103 hours; Total, 118 hours

- Check and adjustment of steering mechanism, power-train, brake, and differential gears

9. Inspection of cracks

Lecture, 1 hour; Practice, 1 hour; Total, 2 hours

- Various kinds of test; testing by red check method

10. Inspection of electronic system

Lecture, 2 hours; Practice, 10 hours; Total, 12 hours

- Check and adjustment of battery, lights, direction indicators, wipers, and horns

11. Maintenance service practice

Lecture, 5 hours; Practice, 53 hours; Total, 58 hours

- Develop ability to detect, adjust, and repair wrong parts of a practice car

(Total of Basic Training)

12. Applied training

Lecture, 0 hour; Practice, 608 hours; Total, 608 hours

- Maintenance and repair service for profit
- Apprentice training at automobile service shops on work release or work leave

Electric Wiring Course

Lecture, 124 hours; Practice, 1,092 hours; Total, 1,216 hours

1. Labor discipline and safety

Lecture, 5 hours; Practice, 0 hour; Total, 5 hours

- Principles of safety
- Safe use of tools and equipment

2. Electric theory

Lecture, 20 hours; Practice, 0 hour; Total, 20 hours

- Simple expressions of magnetism, and direct and alternate currents

3. Use and maintenance of general measuring tools

Lecture, 10 hours; Practice, 15 hours; Total 25 hours

- Principles of measuring tools
- Use of measuring tools
- Maintenance of measuring tools

4. Single-phase induction motor

Lecture, 6 hours; Practice, 20 hours; Total, 26 hours

- Parts and their functions of motors
- Principle of motors
- Repair, impregnation, and drying of motors

5. Three-phase induction motor

Lecture, 10 hours; Practice, 30 hours; Total, 40 hours

- Parts and their functions of motors
- Principle of motors
- Repair, impregnation, and drying of motors

6. Drafting

Lecture, 10 hours; Practice, 20 hours; Total, 30 hours

- Basics, and practice of electric circuit drafting

7. Wiring and cabling

Lecture, 6 hours; Practice, 10 hours; Total, 16 hours

- Wiring by cable and trough
- Installation of insulators



- Metal piping
  - Testing
8. Tools  
Lecture, 3 hours; Practice, 7 hours; Total, 10 hours
- Kinds of tools
  - Handling of tools
9. Electric circuits  
Lecture, 10 hours; Practice, 20 hours; Total, 30 hours
- Wiring, piping, designing, and drafting of circuits
10. Basic works  
Lecture, 0 hour; Practice, 30 hours; Total, 30 hours
- Processing of pipes
  - Installation of pipes
11. Transformers  
Lecture, 6 hours; Practice, 40 hours; Total, 46 hours
- Principles of transformers
  - Types of transformers
  - Parts of transformers
  - Repair and testing of transformers
12. DC generators  
Lecture, 6 hours; Practice, 30 hours; Total, 36 hours
- Principles, structure, testing, operation, and synchronization of DC generators
13. AC generators  
Lecture, 6 hours; Practice, 30 hours; Total, 36 hours
- Principles, structure, testing, operation, and synchronization of AC generators
14. Control of sequence  
Lecture, 6 hours; Practice, 60 hours; Total, 66 hours
- Single-phase magnet control
  - Three-phase magnet control
  - Overload protection
  - Star-delta starting circuit
15. Radio receivers  
Lecture, 10 hours; Practice, 90 hours; Total, 100 hours
- Mechanisms of radio broadcasting
  - Mechanisms of AM receiver sets
  - Assembly of an amplifier using vacuum tubes
  - Assembly of a transistor radio
  - Mechanisms of FM receivers

- Assembly of a FM radio
16. TV receivers  
Lecture, 10 hours; Practice, 90 hours; Total, 100 hours
- Mechanisms of television
  - Antenna and receivers
  - Inspection of television receiver
  - Assembly of a monochrome TV set
  - Assembly of a color TV set
17. Applied training  
Trouble shooting and repair of radio receivers  
Lecture, 0 hour; Practice, 600 hours; Total, 600 hours
- Inspection
  - Repair
  - Adjustment, etc.

#### Machining Course

Lecture, 104 hours; Practice, 1,112 hours; Total, 1,216 hours

1. Labor Safety and hygiene  
Lecture, 3 hours; Practice, 0 hour; Total, 3 hours
  - How to operate machines and hand tools safely
  - Safety equipments
  - How to put the machines and tools in order and to keep them clean
  - Work clothes and protectors
2. Measurement  
Lecture, 10 hours; Practice, 30 hours; Total, 40 hours
  - Elementary knowledge of measurement
  - How to measure length, angle and surface roughness
  - How to measure configuration and positions
3. Drawing method  
Lecture, 10 hours; Practice, 20 hours; Total, 30 hours
  - Elementary knowledge of drawing
  - Names and notations of basic diagrams
  - Drawing and sketching of machinery parts
4. Mathematics  
Lecture, 20 hours; Practice, 0 hour; Total, 20 hours
  - Basic algebra
  - Calculation of area and volume

5. Material

Lecture, 10 hours; Practice, 0 hour; Total, 10 hours

- The method of testing metallic materials
- Knowledge of iron and steel material
- Knowledge of non-iron and non-steel material

6. Basic operation of machines

(1) Operation of lathes

Lecture, 10 hours; Practice, 200 hours; Total, 210 hours

- Knowledge of lathes (types, structure, functions, and use of lathes)
- Kinds and use of cutting tools
- Basic operation of lathes

(2) Operation of milling machines

Lecture, 10 hours; Practice, 130 hours; Total, 140 hours

- Knowledge of milling machine (types, structure, functions, and use of milling machines)
- Handling of tools and jigs
- Kinds and use of tools and jigs
- Basic operation of milling machines

(3) Operation of shapers

Lecture, 4 hours; Practice, 14 hours; Total, 18 hours

- Fundamental operation of shapers

(4) Operation of bench drilling and upright drilling machines

Lecture, 2 hours; Practice, 4 hours; Total 6 hours

- Kinds and use of drills and tools
- Basic operation of drilling machines, and mounting and dismounting of drills

(5) Operation of hacksawing machines

Lecture, 1 hour; Practice, 4 hours; Total, 5 hours

- Choice of hacksaw blades
- Kinds of hacksaw blades
- Basic operation of hacksawing machines (operation and cutting)

(6) Operation of tool grinding machines

Lecture, 11 hours; Practice, 26 hours; Total, 37 hours

- How to grind of tools for lathes and milling machines
- Basic operation of toll grinding machines

(7) Operation of motor-driven hand tools

Lecture, 1 hour; Practice, 4 hours; Total 5 hours

- Operation of motor-driven hand tools

7. Workshop practice

(1) Marking

Lecture, 2 hours; Practice, 10 hours; Total, 12 hours

- Kinds of marking-off tools
- How to draw line by the use of marking needles

(2) Hand-finishing

Lecture, 10 hours; Practice, 70 hours; Total, 80 hours

- Kinds of hand-finishing tools
- How to use hand-finishing tools

8. Applied training

Lecture, 0 hour; Practice, 600 hours; Total, 600 hours

- Practical use of various engineering machines

**Woodwork Course**

Lecture, 61 hours; Practice, 1,155 hours; Total, 1,216 hours

1. Labor safety and hygiene

Lecture, 3 hours; Practice, 0 hour; Total, 3 hours

- How to operate machines and hand tools safely
- Safety equipments
- How to put the machines and tools in order and to keep them clean
- Work clothes and protectors

2. Materials and their use

Lecture, 10 hours; Practice, 0 hour; Total, 10 hours

- Use of various kinds of wood
- Knowledge of drying wood
- Knowledge of adhesive cements
- Knowledge of other related materials such as nails and glasses

3. The basic method to operate woods tools

Lecture, 10 hours; Practice, 120 hours; Total, 130 hours

- Kinds of wood-processing tools
- Grinding of blades
- Handling of measurement tools
- Processing and tightening of wooden parts
- Adherence of wooden parts

4. Basic operation of wood-processing machines

Lecture, 10 hours; Practice, 130 hours; Total, 140 hours

- Kinds of machines and their use
- Handling of machines and safety

- Basic operation of machines
  - Grinding of blades
  - Operation of motor-driven hand tools
5. Basic manual processing of wood  
Lecture, 10 hours; Practice, 120 hours; Total, 130 hours
- Various kinds of wood-working craft
6. Basic fabrication operations  
Lecture, 10 hours; Practice, 120 hours; Total, 130 hours
- Fabrication of parts
  - Adjustment of wood surface
  - Coating
  - Final adjustment and attachment of accessories
7. Drawing method  
Lecture, 8 hours; Practice, 65 hours; Total, 73 hours
- Elementary knowledge of drawing
  - Various methods of drawing (sketching, designing, coloring, and price estimation)
8. Applied training  
Lecture, 0 hour; Practice, 600 hours; Total, 600 hours
- Manufacturing wood products serving order

#### Printing Course

Lecture, 43 hours; Practice, 1,173 hours; Total, 1,216 hours

1. Ethics of printing workers  
Lecture, 3 hours; Practice, 0 hour; Total, 3 hours
- Lecture by experts on the ethics of printing workers

#### (Basic training)

Lecture, 40 hours; Practice, 565 hours; Total, 605 hours

2. Offset printing
- (1) Printing work  
Lecture, 10 hours; Practice, 190 hours; Total, 200 hours
- Types of offset printing
  - Theory of printing
  - Blanket cylinders
  - Seasoning of paper
  - Use of dampening water
  - Maintenance of printing machines
  - Security works

(2) Multi-color printing

Lecture, 5 hours; Practice, 128 hours; Total, 133 hours

- Basic knowledge of colors
- Color matching
- Compounding of colors
- Multi-color print by mono-color machines

3. Lithographic plate

Lecture, 22 hours; Practice, 187 hours; Total, 209 hours

- Types of plates
- Plate-making plates
- Process camera
- Reversing printers
- Developing machines
- Vacuum printers

4. Bookbinding

Lecture, 3 hours; Practice, 60 hours; Total, 63 hours

- Types of bookbinding
- Basic knowledge of bookbinding machines
- Folding and gathering
- Unbound edition
- Materials for bookbinding
- Paper cutters and its safe operation

5. Applied Training

Lecture, 0 hour; Practice, 608 hours; Total, 608 hours

- Printing service for profit
- Apprentice training at private printing shops on work release or work leave

**Airconditioner Repairing Course**

Lecture, 104 hours; Practice, 1,112 hours; Total, 1,216 hours

1. Labor discipline and safety

Lecture, 5 hours; Practice, 0 hour; Total, 5 hours

- Principles of safety
- Safe use of tools and equipment

2. Electric theory

Lecture, 20 hours; Practice, 0 hour; Total, 20 hours

- Simple expressions of magnetism, and direct and alternate currents

3. Use and maintenance of general measuring tools

Lecture, 10 hours; Practice, 15 hours; Total, 25 hours

- Principles of measuring tools
- Use of measuring tools

- Maintenance of measuring tools
4. Single-phase induction motor  
Lecture, 6 hours; Practice, 20 hours; Total, 26 hours
    - Parts and their functions of motors
    - Principle of motors
    - Repair, impregnation, and drying of motors
  5. Three-phase induction motor  
Lecture, 6 hours; Practice, 30 hours; Total, 36 hours
    - Parts and their functions of motors
    - Principle of motors
    - Repair, impregnation, and drying of motors
  6. Drafting  
Lecture, 6 hours; Practice, 20 hours; Total, 26 hours
    - Basics, and practice of electric circuit drafting
  7. Wiring and cabling  
Lecture, 6 hours; Practice, 10 hours; Total, 16 hours
    - Wiring by cable and trough
    - Installation of insulators
    - Metal piping
    - Testing
  8. Freezing mechanisms  
Lecture, 6 hours; Practice, 7 hours; Total, 13 hours
    - Carbon dioxide
    - Ammonia
    - Methylene chloride
    - Freon
  9. Tools  
Lecture, 3 hours; Practice, 7 hours; Total, 10 hours
    - Kinds of tools
    - Handling of tools
  10. Freons and ozone layer  
Lecture, 6 hours; Practice, 10 hours; Total, 16 hours
    - Types and use of air-conditioners
    - Operation of air-conditioners
    - Automatic control of air-conditioners
  11. Electric circuits  
Lecture, 6 hours; Practice, 20 hours; Total, 26 hours
    - Wiring, piping, designing, and drafting of circuits

12. Basic works  
Lecture, 10 hours; Practice, 30 hours; Total, 40 hours
- Processing of pipes
  - Installation of pipes
13. Transformers  
Lecture, 10 hours; Practice, 46 hours; Total, 56 hours
- Principles of transformers
  - Types of transformers
  - Parts of transformers
  - Repair and testing of transformers
14. DC generators  
Lecture, 10 hours; Practice, 30 hours; Total, 40 hours
- Principles, structure, testing, operation, and synchronization of DC generators
15. AC generators  
Lecture, 10 hours; Practice, 30 hours; Total, 40 hours
- Principles, structure, testing, operation, and synchronization of AC generators
16. Control of sequence  
Lecture, 10 hours; Practice, 90 hours; Total, 100 hours
- Single-phase magnet control
  - Three-phase magnet control
  - Overload protection
  - Star-delta starting circuit
  - Dynamic braking

(Applied training)

20. Freezing and air-conditioning  
Lecture, 50 hours; Practice, 190 hours; Total, 240 hours
- Theory and practice of freezing and air-conditioning
  - Basic circuits and drafting
  - Electric wiring for inhouse refrigeration
  - Piping for freezing facility
  - Trouble shooting of freezers
21. Home electric appliances  
Lecture, 20 hours; Practice, 90 hours; Total, 110 hours
- Types of home electric appliances
  - Refrigerators
  - Water coolers
  - Air-conditioners



## Construction Vehicle Operation Course

Lecture, 80 hours; Practice, 528 hours; Total, 608 hours

1. Labor safety and hygiene  
Lecture, 2 hours; Practice, 8 hours; Total, 10 hours
  - Prevention of accidents caused by operation of construction machinery and tools
  - Maintenance of order and cleanliness
  - Working clothes and protectors
  
2. Working with construction machinery
  - (1) Outline of vehicle-type construction machines  
Lecture, 10 hours; Practice, 10 hours; Total, 20 hours
    - Types and application of vehicle-type construction machines
    - Installation work of vehicle-type construction machines
    - Inspection and maintenance (daily inspection)
  
  - (2) Working method with vehicle-type construction machines  
Lecture, 30 hours; Practice, 350 hours; Total, 380 hours
    - Operating control of mechanical working
    - Basic work and operation of bulldozer
    - Basic work and operation of wheel loader
    - Basic work and operation of motor grader
    - Basic work and operation of drag shovel (backhoe)
  
  - (3) Maintenance of vehicle-type construction machines  
Lecture, 8 hours; Practice, 40 hours; Total, 48 hours
    - Inspection and cleaning work of vehicle-type construction machines
    - Replacement, repair, assembly and adjustment of accessories
  
3. Civil engineering work methods  
Lecture, 30 hours; Practice, 120 hours; Total, 150 hours
  - Construction materials and working methods
  - Civil engineering planning and earthwork methods
  - Civil engineering works (Road recovery work, concrete work for slope faces, foundation work, etc.)





