Chapter 2　CONTENTS OF THE PROJECT

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2-1 Basic Concept of the Project

(1) Overall Goal and Project Purpose

The Overall Goal of this Project is to promote and develop the market economy in Myanmar and mutual understanding between Myanmar and Japan. The Project should be implemented in close collaboration between facility construction by the Grant Aid and Technical Cooperation Project which provides assistance to the activities of MJC. To realize the overall goal, the main objective of this Project is to provide the facility and equipment necessary for MJC to implement "business courses", "Japanese language courses" and "culture exchange programs" based on the request from the Myanmar side and results of the Basic Design Study.

(2) Outline of the Project

This Project is to construct the facility of the MJC and to procure equipment for necessary for activities of MJC in close collaboration with Technical Cooperation Project, and implements three activities which include "business courses", "Japanese language courses" and "culture exchange programs" to realize the above mentioned Overall Goal and Project Purpose. It is expected that the human resources who respond to market economy in Myanmar are developed and the mutual understanding and friendly relations between Myanmar and Japan will also be immensely promoted by this implementation. This Project is to construct the facility of the MJC and to procure equipment necessary for implementation of Technical Cooperation Project activities in MJC.

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

The basic design of the facilities in this Project is based on the following design policies considered from the results of the field survey of the Basic Design Study implemented in 2003, and from the result of the Implementation Review Study implemented this time, the

natural and social conditions of Myanmar, the construction and procurement conditions, the maintenance and management capability of the Implementation Agency, adjustments made in cooperation with Technical Cooperation Project and construction schedule under Japan's Grant Aid.

(1) Having examined the functions and the activity plan required for MJC, the overall plan for the contents and function levels of new facility and equipment will be designed to satisfy its purpose.

(2) Having compared/examined relevant similar facilities in Myanmar and by Japan's Grant Aid, the advantages that we could apply for the Project will be referred. On the other hand, the current problems are expected to be improved as much as possible in the Project.

(3) The environmental condition, local climate (rain, sunshine and wind) and social customs should be taken into consideration in the design of the facilities.
   1) The level of the first floor will be raised the same as the existing buildings in campus of Yangon University in order to prevent water infiltration and provide radiant heat protection from the ground.
   2) The roof should be sloped in order to provide protection from direct radiation of sunlight and to have positive protection from rain water.
   3) Deep eave overhangs and louvers can help to provide shade in the rooms from direct sunlight and intense rainfall and to facilitate natural ventilation.

(4) The design of the facility and equipment plan should allow low cost and easy maintenance based on the technical support and maintenance/management system from the Myanmar side.

(5) Rationalizing the construction by lowering the cost are promoted and easy maintenance should be considered through the maximum use of local or third county construction methods and materials.

(6) Functional technology, durability and practicality should be considered within the appropriated budget. Also, the design should be in harmony with the surrounding environment and have the character of MJC.

(7) Understanding and rationalizing the equipment which are not contained in the Project should be fully considered.

(8) Regarding request of equipments, almost all equipments are supplied by the Technical Cooperation Project. However, the furniture, which should be included in the institution, such as desks, chairs, bookshelves will be adjusted with the construction plan. Mutual adjustment will be planned by the institution.

2-2-2 Basic Plan (Construction Plan/Equipment Plan)

2-2-2-1 Results from Examining the Contents of Request

(1) Facility Planning

1) Contents of Request

The contents of request for the facility, which the Basic Design Study covered, were agreed by the Myanmar side after discussion and examination, and described in the Minutes of Discussions signed on February 7, 2003. Table 2-1 shows the confirmed contents of request for the facility. It was also confirmed that there was no particular change of the requirement in this Implementation Review Study survey.

Table 2-1 Required Rooms from the Myanmar Side (facilities)

No.	Items	Contents
1	Lobby/Exchange Zone	
	(1) Lobby	
	(2) Library	
	Reading Desk	- For 40 persons
	Internet Booth	- For 8 PC booths
	A/V booth	- 2 video viewing booths
	Study Carrel	- 5 study booths
	Control Desk	- For 1 librarian
	Rack Room	- For 5,000 books
	(3) Guidance Booths	- 2 booths
2	Seminar Zone	
	(1) Multi-Purpose Room	- 80 persons, partition into 3. 2 translators booths included.
	(2) Seminar Room	- 30 persons x 2 rooms
	(3) Computer Room	- For 20 PC's
	(4) Cultural Exchange Room	- 1 room with 8 tatami mats
	(5) Room for Exchange Program	- 5 persons x 2 rooms, 15 persons x 1 room
	(6) Pantry	- For beverage
3	Administration Zone	
	(1) Director Room	- 2 rooms
	(2) Reception Room	
	(3) Administration Office	- For 6 administration staff
	(4) Instructor Room	- For 9 instructors
	(5) Meeting Room	- 20 persons x 1 Room
4	Others	
	(1) Auditorium	- 150 persons x 1 room, for seminar and sports competition
	(2) Circulation	- Corridors, staircases
	(3) Toilets	- As required
	(4) Machinery Space	- Power, pump, generator, air conditioner, etc.
	(5) Storage Space	- For seminar equipment, office supplies, etc.

2) Examination of the Contents of Request

For each requested facility shown in Table 2-1, discussions were held with the Myanmar side in terms of the necessary number and scale of each room, as they have been examined in the Basic Design Study in 2003. Concerning the contents of the Minutes of Meetings between the Myanmar side and Technical Cooperation Project Study Team. Further discussions were held in Japan after the Basic Design Study. The results are presented as follows, and the result of the discussion was confirmed that there were no particular changes.

A. Library

Rack room for 5,000 books, reading desks for 40 persons, 8 internet booths and 2 A/V booths etc., were requested by the Myanmar side. Their necessity is acknowledged, and the contents, the form, and the size of the facility have been planned through comprehensive discussions with the Myanmar side and Technical Cooperation Project Study Team.

B. Seminar Room

2 seminar rooms for 30 persons were requested by the Myanmar side. 1 room each for business Courses and Japanese language courses are acknowledged as necessary.

C. Computer Room

Computer room for 20 persons was requested by the Myanmar side. Through comprehensive discussions with the Myanmar side, it was confirmed that they would use computers for every class in the business courses and Japanese language courses, one Computer Room for 30 persons was acknowledged as necessary. Also, it was confirmed that existing computer rooms in Yangon Institute of Economics (IOE) and Yangon University of Foreign Languages (YUFL) were used efficiently, so necessity of computer room in MJC was acknowledged as required by the Basic Design Study.

D. Auditorium and Multi-Purpose Room (Culture Exchange Room)

Multi-Purpose Room for 80 persons which can be divided into 3 rooms was requested by the Myanmar side. However, such kind of divided small spaces can be inconvenient for some activities. Through further discussions with the Myanmar side during the Basic Design Study it was agreed that a small-scale auditorium for various kinds of cultural, academic and social programs are suitable for their use. Also, an auditorium is necessary to implement short-term lectures in the business courses. As a result of discussions with Technical Cooperation Project Study Team after the Basic Design Study, it was recognized that a small-scale auditorium is needed for their planned activities. Also, a Culture Exchange Room for multi-purpose use which is not duplicated as the auditorium is appropriate instead of the Multi-Purpose Room above mentioned.

E. Administration Office

Each room requested for administration is considered necessary for the operation of MJC. It should be planned considering flexible use and on the second floor for security.

a) 2-Director Rooms
b) Reception Room (can be used as a small meeting room)
c) Administration Office for 6 staff (for use by both the Myanmar side and the Japanese side)
d) Instructor Room for 9 instructors (for use by both the Myanmar side and the Japanese side)
e) Meeting Room for 20 persons (can be used as a seminar room)

F. Others

Barrier free concept, which is not common in Myanmar, is going to be considered in the facility planning, mainly for the first floor (in consideration of visitors), in order to make MJC people-friendly.

(2) Equipment

1) Activity and equipment needed in MJC

The Technical Cooperation Project Study Team that preceded the Project presented an equipment list showing necessary items and their procurement schedule (shown in Table 2-2). Based on this list and discussions with the Myanmar side and Technical Cooperation Project Study Team in 2003, examination and survey were held again on the scope of equipment considering consistency with MJC's activity and the facility planning, in this Implementation Review Study as well.

2) Examination of contents of request

Based on site survey and several discussions with the Myanmar side and Technical Cooperation Project Study Team, we concluded that the equipment list requested by the Myanmar side was sound for MJC's activities such as business courses, Japanese language courses and culture exchange programs.

Both sides agreed that most of the equipment shall be procured by Technical Cooperation Project scheme and that the Grant Aid Project shall cover some AV (Audio Visual) system expected to be fixed to the facility and a suite of furniture closely related to room layout. Table 2-2 shows the final list of equipment along with the transfer to the Grant Aid Project resulting from the above agreement.

The above mentioned AV system and furniture will be included in the facility construction scheme.

Table 2-2 The List of Necessary Equipment

Equipment Name	Quantity	Short Specification	Grant Aid
1. Before Construction			
PC (for Adm.)	10	Desk top type: - For the Japanese side: Vice-director, Coordinator, Coordinator for culture exchange programs - For the Myanmar side: Director, Staff for the business courses, culture exchange programs, Adm. Staff, Short-term experts (2) Notebook type: - For presentation	
Printer	1	Color	
Photocopy Machine	1		
OS in Japanese (Windows XP)	5		
Office XP Professional (in Japanese)	5		
OS in English (Windows XP)	5		
Office XP Professional (in English)	5		
Stabilizer (3kVA)	1	For Photocopy Machine	
Stabilizer (2kVA)	3	For Facsimile and Printer	
Stabilizer (1kVA)	9	For PC	
UPS	10	Same quantity with PC	
Scanner	1	It should be with OCR in Japanese	
Telephone set	1	Including PABX and fixed telephone terminal	
Facsimile	1		
Book Binder	1		
Others	1unit	Digital Camera (2), VTR (2), Camera (2)	
2. Completion of Construction			
(1) PC			
PC (for Adm.)	6	2 for long-term Japanese experts, 2 for Adm.	
PC (for Library)	4	For Internet use	
PC (for Computer room)	25	Including for lecturers	
Server (for Computer room)	1	For network use	
Printer (for Computer room)	3		
UPS		According to the number of PC's and server's	
(2) Equipment for audio-visual			
Large screen, fixed type	1 or 2	For Auditorium	○
A/V system, LCD	1 or 2	For Auditorium	
Movable screen	2	For Seminar room	
TV, VTR	6	1 for Lobby, 2 for Seminar rooms, 3 for Library	
Cassette tape deck	4	For Library	
Movable A/V system			
Large size display	1	For Lobby w/satellite transmission system	
(3) Equipment for Adm.			
Photocopy Machine	3		
(4) Furniture			
Desks and chairs		For each room	○(facility)
White board, fixed type	7	2 for Seminar rooms, 3 for Culture exchange room, 1 for Computer room, 1 for Meeting room	○(facility)
White board, movable type	5	Except for rooms mentioned above	
Book shelves	5	For Library	○(facility)
3. After Construction			
Equipment for JICA-Net	1unit	Unclear in detail	

Source: From Technical Cooperation Project

2-2-2-2 Site Layout Plan

Although the contents and sizes of facilities are determined in accordance with the specifications and appropriate sizes for each room, the policy resulting from the Basic Design Study performed in 2003 shall be observed to the maximum extent possible. The site layout plan for the Project was based on the following points of the overall composition of the facility, giving full consideration to new site conditions （Plot 1, Thamine College Street, Hlaing Campus）, such as the natural conditions, the actual site ground contours and the condition of the surrounding area. The following considerations are given as the basic policies for the physical zoning and flow line plan of the facilities.

(1) The site layout plan of the facility flow lines shall be considered to ensure its functions are independent and incorporate the zoning at the existing Hlaing campus.

(2) It is necessary to examine integration of the location of the new facility on the site and full consideration of outdoor facilities total landscaping of the site. Layout of the facilities should also be integrated in the architectural, structural and utility design. Since the field study found that there are high-voltage electric poles located in the north side of the Site, so the replacement of these poles has been requested to the Myanmar side from the Study Team. Also, the replacement of the low-voltage electric poles in the south side of the Site has been requested to Myanmar side.

(3) It is important to consider the layout of the facility in order to incorporate good ventilation and natural lighting and reducing use of mechanical devices throughout the year with consideration of the climate in Myanmar, and it was concluded the facility should face the south direction.

(4) Safety, accessibility to the facilities from the north front gate and security check points should be considered in order to provide an effective security system within the site.

(5) A good environment suitable for educational activities and Japanese sensitivity and atmosphere would be achieved with effective use of open space (the front garden).

(6) The building is located almost in the center and southward of the Site, the access space for vehicles are kept in the north area, while the parking space is kept on both eastern

and western side of the Site. The pedestrians access is kept from the west gate in the north side through the green belt toward the entrance of the building.

2-2-2-3 Facility Planning

(1) Floor Plan

1) Basic Concept for Determination of Contents and Scale of Facilities

The selection of the contents and scale of the facilities is confirmed based on the study of the number of rooms and the scale of each room. In this Implementation Review Study, they shall be complied with the policy of result of Basic Design as much as possible.

A. The contents of the facilities and their assumed scale should be based on the contents of the Minutes of Discussions and the discussion with Technical Cooperation Project Study Team after the Basic Design Study. A rational number and scale of facilities should be designed in accordance with the contents of these discussions.

B. The appropriate floor areas of room per person varies for each purpose. Therefore, the size of major rooms should be confirmed through discussions with the Myanmar side considering the layout plan of the minimum space required for equipment and use of the rooms shown on the drawings. The number of necessary rooms should be minimized by employing multiple usage as much as possible. An optimum facility design is to be formulated through studies of existing similar facilities in other countries as a reference for the Project.

C. The computation of scale for each room should be planned giving consideration to the basic unit of each room based on their educational needs and the practice activities for the business courses, Japanese language courses and culture exchange programs. Space design for utilities and equipment should be taken into consideration in regard to the safety and functional aspects of the facility.

D. The flow line plan, zoning plan and facilities plan should be prepared taking into consideration the internal circulation of staff and services, external flow pattern of guests and books for the library, etc.

E. The scale of facilities should be calculated based on the activity plan (curriculum and number of students) of the business courses, Japanese language courses and culture exchange programs confirmed during the Basic Design Study and by Technical Cooperation Project.

F. The facilities scale, in terms of operation and maintenance, should be examined rationally based on the number of staff and the organizations of MJC prepared by the Myanmar side and the usage of the facilities.

2) Study for the number and the scale of rooms

The scale and number of each room have been determined in accordance with a series of discussions and examinations with the Myanmar side. The computation for scale of each room is planned through discussions with the Myanmar side and studies of other similar projects undertaken with Japan's Grant Aid Assistance as a reference.

While the Basic Design Study Team carried out their survey, the Myanmar side proposed the number, size and function for each room and they were confirmed through discussions with Technical Cooperation Project Study Team. Based on these discussions, each room area has been studied with consideration of planned activities such as the type of lectures and number of students. The result of calculation of each rooms were confirmed not to change in this Implementation Review Study.

A. Library

The Library is to provide reference books and offer information about Japan and market economy for their perusal. It is planned on the assumptions indicated below.

a) Numbers of books: 5,000 books, assumed as the number procured by Technical Cooperation Project scheme and portions partially transferred from the Japanese embassy.

b) Number of seats: 40 seats, as requested from the Myanmar side.

To analyze the architectural planning, approximate floor area (A) for a reading room is calculated according to (a) number of books, (b) number of seats, (n) capacity of books per square meter and (m) capacity for persons per square meter.

Table 2-3 Approximate Floor Area for a Reading Room

$A=(a/n+b/m)\alpha$ α (margin)＝1.7 (a standard using high shelves)	a＝5,000 b＝40 n＝200 per m^2 (a standard using high shelves) m＝0.55 per m^2 (a standard for four-person desks)
	→A＝166 m^2

Source: Construction design data collection (edited by Architectural Institute of Japan)

As there are not only shelves and reading desks but also study booths, reference booths, VTR booths and computer booths in the library, the function and scale are narrowed down to the minimum necessity and the scale of the library should be appropriate and adequate.

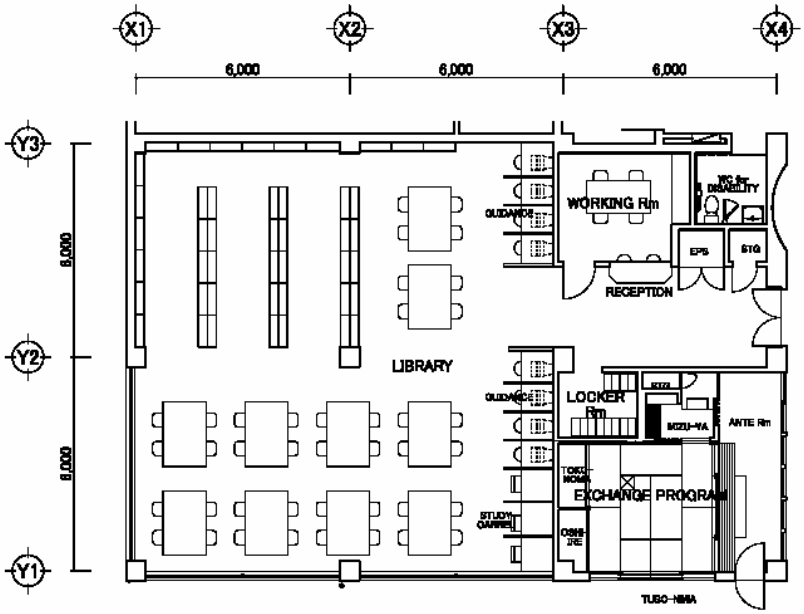


Figure 2-1 Library

B. Seminar Room

One Seminar Room each has been planned for the business courses and the Japanese language courses. A basic layout for these rooms is the round-type for the business courses and facing-type for the Japanese language courses. Tables and chairs are the same in both rooms in order to be utilized for any layout plan to have flexibility.

The time for each lecture is shown in the following table 2-4. When the operating ratio is set up to 75%, it is confirmed that one room each is appropriate for the business courses and the Japanese language courses.

Table 2-4 Study for the Number of Seminar Rooms

	Courses	Term (months)	Frequency (hours/week)	Remarks
Business Courses	Long Term Course (30 persons)	6	9	
	Medium Term Course (20 persons)		22.5	
	Short Term Course (150 persons)		-	Held in Auditorium
	Total (hours/week)		31.5	
Calculation: 31.5/0.75/42 (Number of lectures per week)＝1.0				
Japanese Language Courses	Intermediate Level I	6	6	
	Intermediate Level II	3	6	
	Advanced Level I	6	6	
	Advanced Level II	3	6	
	Special Subject Course (Lecturer training courses and Interpreter training courses)		(15)	Not included in the calculation
	Total (hours/week)		24	
Calculation: 24/0.75/42 (Number of lectures per week)＝0.76				

a) Seminar Room (1) for business courses

Seminar Room (1) for business courses is planned to be used for 30 persons with the round-type layout of tables. It has been planned as 63m^2 in consideration of the activity and the layout plan of furniture.

b) Seminar Room (2) for Japanese language courses

Same as Seminar Room (1), Seminar Room (2) for Japanese language courses is planned to be used for 30 persons with the facing-type layout of tables and it also has been planned as 63m^2. Comparison of the room size between the Project and similar projects by Japan's Grant Aid assistance is as follows. Area per person, which is 2.1m^2, is similar to others. Also, it is considered from an architectural planning viewpoint that it has an appropriate area for lectures.

Table 2-5 Comparison of the Room Size (Seminar Room)

Seminar Room		Area (m^2)	Capacity (persons)	Area (m^2) per person
The Project	**MJC**	**63.0**	**30**	**2.1**
Similar Projects	VJCC-HNC*	82.5	40	2.06
	VJCC-HCMC**	58.8	36	1.6
	LJCC***	67.5	30	2.25
	MJCC****	54.0	30	1.8

* VJCC-HNC: Vietnam-Japan Human Resources Cooperation Center in Hanoi
** VJCC-HCMC: Vietnam-Japan Human Resources Cooperation Center in Ho Chi Minh City
*** LJCC: Lao-Japan Human Resource Cooperation Center
**** MJCC: Mongolia-Japan Human Resource Cooperation Center

C. Computer Room

It has been confirmed that computers are used for both business courses and Japanese language courses. Therefore, a Computer Room must be planned where 30 persons are accommodated. Comparison of the room size between the Project and similar projects by Japan's Grant Aid assistance is as follows. Area per person, which is 2.1m^2, same as the Seminar Rooms, is a bit smaller than the others, but it is considered from an architectural planning viewpoint that it is an appropriate area for the activity.

Table 2-6 Comparison of the Room Size (Computer Room)

Computer Room		Area (m^2)	Capacity (persons)	**Area (m^2)** per person
The Project	**MJC**	**63.0**	**30**	**2.1**
Similar Projects	VJCC-HNC	64.0	20	3.2
	VJCC-HCMC	59.0	20	2.95
	LJCC	60.0	20	3.0
	MJCC	54.0	15	3.6

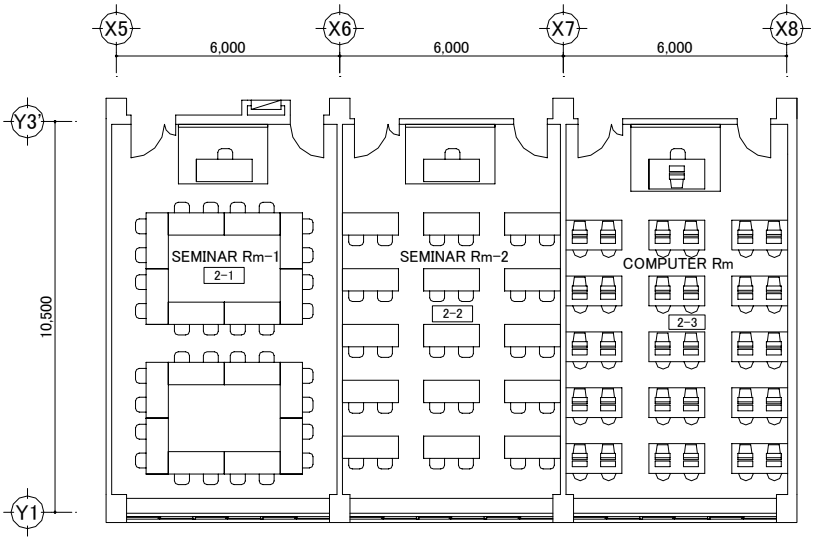


Figure 2-2 Seminar Room and Computer Room

D. Culture Exchange Room

As culture exchange programs have various kinds of contents, number of participants and frequency, the Culture Exchange Room must be able to respond to such a demand flexibly. Therefore, area of the room is 66m^2 which is almost the same as the Seminar Room and it can be divided into 2 rooms with a movable

partition in order to have flexibility to seminars besides culture exchange programs.

Because various activities are included in culture exchange programs, it is desirable not to provide a fixed space, for Culture Exchange Room but also as a lobby, auditorium, and external space if needed for lectures, exhibitions and meetings. Therefore, the Culture Exchange Room, Auditorium and the external terrace have been arranged adjacent to each other to enable flexibility between these spaces.

E. Auditorium

It has been clarified that there is a plan to hold various programs carried out as culture exchange programs in the Japanese embassy until now in MJC and seminars for 150 persons are to be held in the short term business course. Therefore, the necessity for an auditorium has been confirmed. The auditorium is planned as an appropriate space with a projection room, pantry, stage and simultaneous interpretation room to accommodate various activities.

Table 2-7 Holding Records of Culture Exchange Programs (1999 – 2001)

Programs	Sponsorship and support	Place	Participants	Fre-quency	Remarks
Japanese speech contest	Embassy of Japan YUFL*	Embassy of Japan	40 persons	Twice a year	Held in Yangon or Mandalay
Japanese composition contest	Embassy of Japan	Embassy of Japan	70 persons	Once a year	
Japanese capability examination	Embassy of Japan The Japan Foundation AIEJ**	YUFL	700～1,000 persons	Once a year	
Japanese film festival	Embassy of Japan The Japan Foundation	Embassy of Japan Movie theaters	5,000～6,000 persons in total	Twice a year	Held in Yangon or Mandalay
Japanese film show	Embassy of Japan The Japan Foundation YUFL	Embassy of Japan	150 persons	Twice a month	Shown Japanese introduction video
Various performances (performance, dance and lecture)	Embassy of Japan The Japan Foundation etc.	Hotels National theater Japanese school Ambassador's official residence	300～1,800 persons	Once a month	
Various shows (photograph, fine arts and crafts)	Embassy of Japan The Japan Foundation etc.	Hotels Museums	6,000 persons in total	2 or 3 times a year	
Various meetings (conference of former Japanese government scholarship student)	Embassy of Japan	Ambassador 's official residence	150～200 persons	Once a year	
Workshop and bazaar	Embassy of Japan The Japan Foundation	Hotels Ambassador 's official residence	1,000 persons in total	2 or 3 times a year	
MJC Seminar	MJC	Yangon University Yangon University of Economics	35-210 persons	Every month	Common both in the Economics Course and the Management Course
Japanese Speech Contest	Japanese Embassy, Yangon University of Foreign Languages	UFL	200-300 persons	Once a year	
Japanese Photo Exhibition	MJC	Yangon University of Economics	300 persons	Once a year	

* YUFL: Yangon University of Foreign Languages

** AIEJ: Association of International Education, Japan

Source: From Embassy of Japan in Myanmar

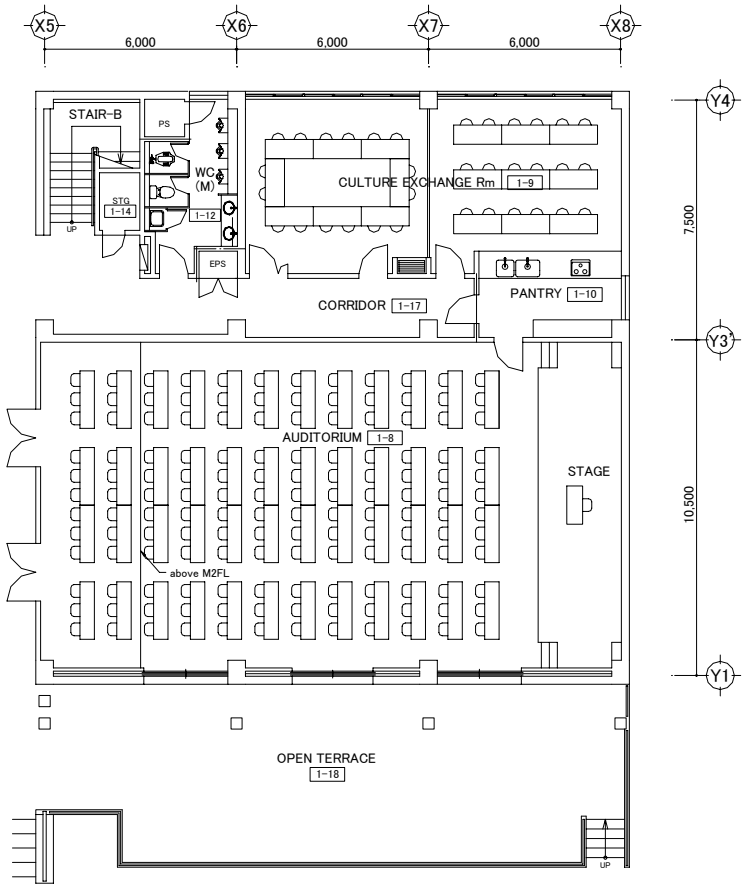


Figure 2-3 Culture Exchange Room and Auditorium

F. Administration Zone

The planned area was designed as 314m^2 in consideration of narrowing down to a minimum required rooms and have the flexibly. Administration zone includes rooms as follows:

a) Director Room

Comparison of the room size among the Project and similar projects by Japan's Grant Aid assistance is as follows. Area per person, which is 36m^2, is similar with the others. As a result of the hearing in Vietnam-Japan Human Resources Cooperation Center in Hanoi (VJCC-HNC), it is confirmed that the scale of the room is satisfactory, and it is considered an appropriate area.

Table 2-8 Comparison of the Room Size (Director Room)

Director Room		Area (m^2)	Capacity (person)	**Area (m^2)** per person
The Project	**MJC**	**36.0**	**1**	**36.0**
Similar Projects	VJCC-HNC	34.0	1	34.0
	VJCC-HCMC	35.0	1	35.0
	LJCC	27.0	1	27.0
	MJCC	26.0	1	26.0

b) Reception Room

Reception Room is 36m^2 with a flexible layout so that a meeting can be held with 16 persons using a round-type layout of tables. Area per person is 2.25m^2 and it can accommodate meetings in various forms by layout adjustment of tables.

c) Administration Office

It is planned that four or five workers are for the general office work and one person as the Japanese coordinator do their work in the Administration Office. Arrangement of furniture is referred to the consideration of layout plan. It has been planned as 63m^2 including a meeting space.

d) Instructors Room

Comparison of the room size between the Project and similar projects by Japan's Grant Aid assistance is as follows. Area per person, which is 7.9m^2, is similar with the others. In each of the business courses, Japanese language courses and culture exchange programs, plan to dispatch Japanese Experts in the long and short term has been set up. Together with Myanmar Instructors, 8 to 10 persons should use this room throughout the year. Based on this, the plan has been made considering the layout of furniture, and the area is 63m^2.

Table 2-9 Comparison of the Room Size (Instructors Room)

Instructor Room		Area (m^2)	Capacity (person)	**Area (m^2)** per person
The Project	**MJC**	**63.0**	**8**	**7.9**
Similar Projects	VJCC-HNC (* Including the storage space)	120.0	8	15.0
	VJCC-HCMC	118.0	15	7.9
	LJCC	61.85	7	8.8
	MJCC	52.0	8	6.5

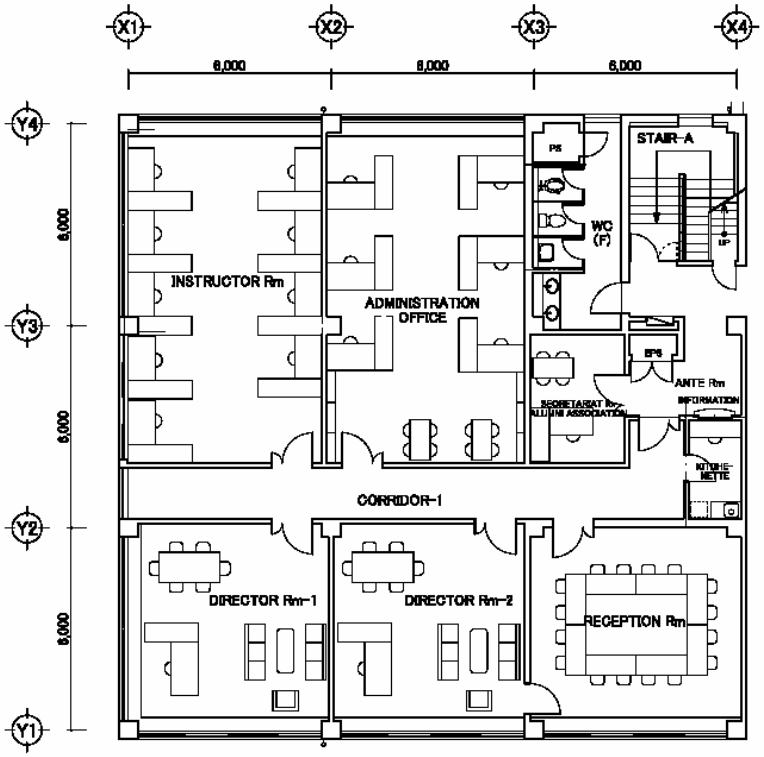


Figure 2-4 Administration Zone

e) Meeting Room

Meeting Room for 24 persons, with an area of 63m^2, has been planned. Although mainly used for staff meetings, it can be used as a seminar room because it is close to the seminar section and uses the same furniture as the seminar rooms, which allows flexible use.

3) Required Rooms and Floor Areas

As a result of the field survey of the Basic Design Study and information gathered during the discussion with the Myanmar side, minimum area requirements for required rooms have been established. The area of rooms based on the above mentioned examination is shown in Table 2-10.

Table 2-10 Required Rooms and Their Floor Areas

	Room Name		Total Area (m^2)	Remarks
1	**Lobby/ Exchange**	1.1 Lobby/ Exhibition Hall	311.08	Including 2nd Floor Exhibition Space
		1.2 Library	179.00	Including PC Room &Locker Room
		Sub-Total	**490.08**	
2	**Seminar**	2.1 Seminar Room	126.00	2 rooms
		2.2 Computer Room	63.00	
		2.3 Cultural Exchange Room	66.00	Divided into 2 rooms with partition
		2.4 Cultural Exchange Room (Japanese-style Room)	32.00	
		Sub-Total	**287.00**	
3	**Administration**	3.1 Director's Room	72.00	2 rooms
		3.2 Reception Room	36.00	Can be used as a small meeting room
		3.3 Administration Office	63.00	
		3.4 Instructors Room	63.00	
		3.5 Meeting Room	66.00	Can be used as a seminar room
		3.6 Secretariat for Alumni Association	13.50	
		Sub-Total	**313.50**	
4	**Others**	4.1 Auditorium	189.00	
		Interpretation Room Projection Room	15.00	
		4.2 Electronic Room	54.00	
		4.3 Machinery Space	36.50	Including 2 AC Rooms
		4.4 Storage	16.50	2 rooms
		4.5 Kitchenette	18.30	3 rooms
		4.6 Toilets	55.00	On first & second floor Including Toilet for the disabled
		4.7 Circulation	204.82	
		Sub-Total	**589.12**	
Total			**1,679.70**	

In terms of floor planning, the calculated areas and the layout plan as mentioned above are used, and each facility is planned on the basis of the following criteria:

A. The floor plan should be coordinated considering the relationship between each room. Contents and function of each room shall be considered in the floor plan so that the facility can be integrated effectively.

B. The zoning is clarified by preparing a void in the center of the building. The void space can be used effectively for various kinds of exhibitions.

C. The plan should be symmetrical, and the flow planning should be functional and clear.

D. Library, auditorium and rooms for culture exchange programs should be on the first floor, because it is considered that there are many users from the outside. Since the administration section and seminar rooms are for limited use, they are installed on the second floor in consideration of security.

E. It is important to integrate required rooms and equipment effectively so as to create flexibility in planning. Structure Grid layout should be a standard module. Building should be planned with most economical and common module considering layout plans of computers, equipment, furniture, etc., for economical construction. The basic structural frame spans shall be examined and considered.

F. The size and layout of equipment and furniture in each room should be considered in the design.

G. Considering local climatic conditions at the construction site, the facility should be planned in order to provide protection from rainfall and strong sunlight. However, minimum air conditioning should be considered and a comfortable indoor environment should be maintained by both air conditioning and natural ventilation.

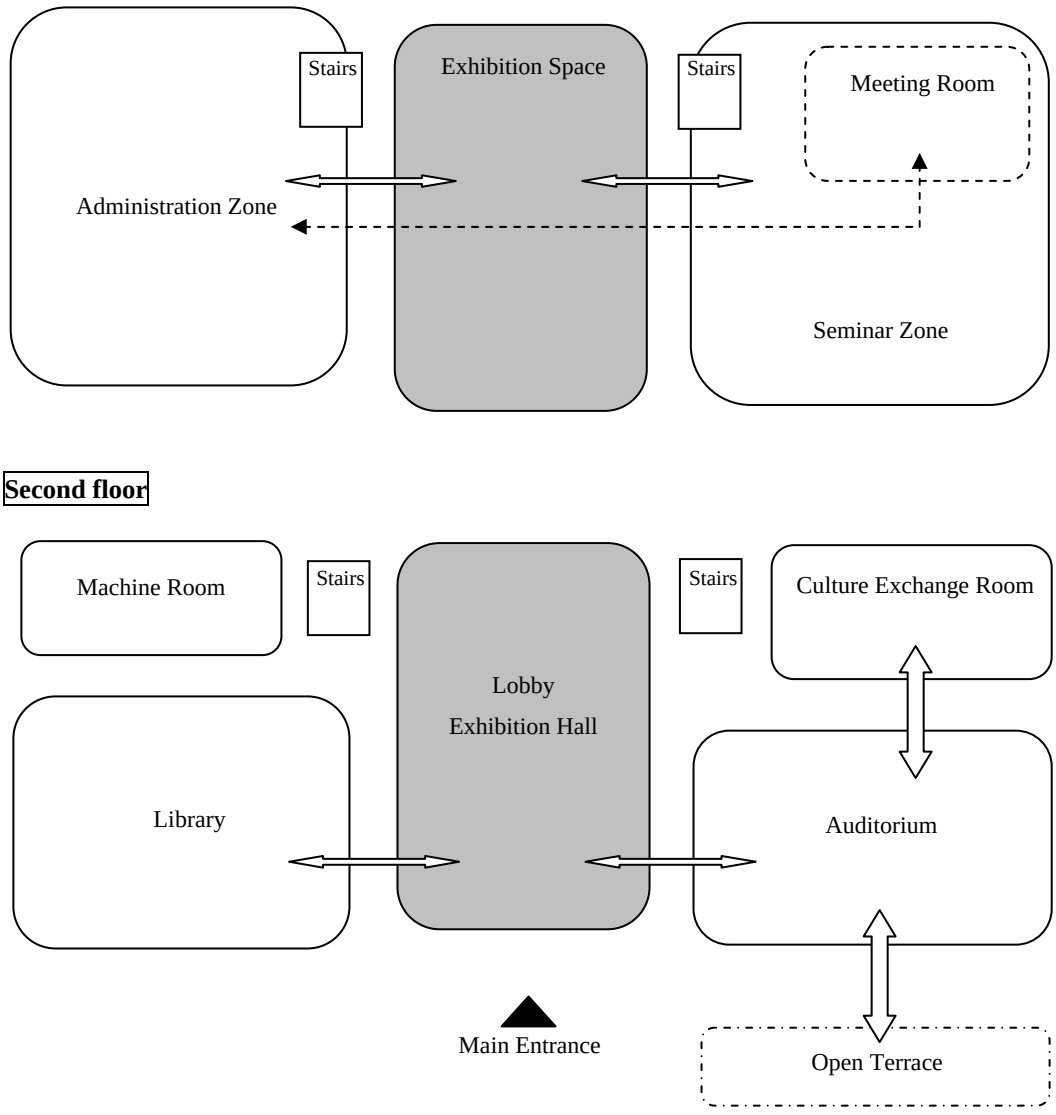


Figure 2-5 Zoning Plan

(2) Elevation and Cross-Section Plan

Myanmar is located in the tropical monsoon zone which is hot and has high humidity, and therefore the building must consider how natural ventilation is utilized and how heat load can be mitigated from severe heat-load from sunlight must be considered. For planning of elevation and cross-section of the building, the local climate should be considered on the basis of the following policies:

1) The analysis of the site ground level and floor height of the existing buildings shall be taken into consideration in order to determine the floor level and cross section. In particular, the height difference in the site should be examined.

2) The level of the first floor will be raised the same as the existing buildings in campus of Yangon University in order to prevent water infiltration and radiant heat from the ground.

3) The roof should be sloped in order to provide protection from sun radiation and direct sunlight and to have positive protection from rain water.

4) Deep eave overhangs and louvers can help to protect the rooms from direct sunlight and intense rainfall and louvers to provide shade by breaking direct sunlight.

5) Wall surfaces should have adequate openings to facilitate room ventilation and provide balanced natural lighting, and also to reduce the running cost of electrical lighting and equipment.

6) The building elevation design should consider harmony with the surrounding environment and the existing buildings in campus of Yangon University.

(3) Cost Reducing Measures

Various cost reduction factors have to be considered in the course of design works for the new facilities. The following cost performance and the maintenance costs must be taken into account for building design:

1) The overall size of the facility is rationalized so as to enhance the utilization rate of the rooms and to promote the effective use of rooms, utilities and equipment.

2) The standardization of space is necessary to give flexibility in the design of the buildings. The basic module should be determined by considering how it will be combined to form the overall buildings. Through extensive investigations, the economical span and standard module has been successfully determined for incorporation into the Basic Design.

3) In principal, natural ventilation and lighting is to be applied as much as possible and mechanical ventilation and artificial lighting is to be minimized to reduce maintenance

costs. However, some of the rooms in the building will need mechanical systems. In this case, independent systems will be used in place of a central system.

4) Local construction materials should be effectively used so as to reduce the costs for construction and maintenance. Also, in the long term view of the project, together with the consideration of the maintenance costs of the facilities, the finishing materials will be selected considering the building life span and maintenance characteristics of the materials.

5) Positive consideration shall be given to the installation of high energy efficient equipment and insulation material in order to reduce operational costs.

6) As mentioned above, cost reduction measures shall be considered in the course of the design work. The reduction of the initial cost shall be considered carefully so as not to cause any cost increase in operations and maintenance and deterioration in quality.

2-2-2-4 Structural Plan

(1) Basic Policy

The structural plan for the Project should be formulated after a full review of the existing site conditions and considering the results of the soil investigation. The structure shall be designed to prevent serious defects such as cracks caused by structural member deflection and ground settlement, etc. Additionally, the building shall have sufficient factor of safety and durability against earthquakes, strong winds, etc. Consideration should also be given to local construction methods, materials and case of maintenance.

(2) Standard for Structural Design

The building code of Myanmar is improving its local original standards. Generally, the construction standards follow the British Standards (BS) and material standards follow ASTM. In this Implementation Review Study, in full consideration to current earthquake, structural calculation shall follow the standard of AIJ (Architectural Institute of Japan) and the material standards shall follow JIS and shall refer to BS and/or ASTM when needed.

(3) Construction Methods and Materials

1) Method of Construction

The superstructure is to be reinforced concrete and the walls are of brick which are economical and widely used materials in Myanmar. Although the walls are based on brick structure, the earthquake resistance of a building is increased by earthquake resisting walls which are superficially arranged to provide sufficient lateral stability. In Myanmar, in order to raise sound insulation and airtightness, the outer walls are double brick masonry. For inner walls, the double brick masonry shall be also adopted in accordance with Japanese quakeproofing standards. A steel structural frame is to be provided in some portions of the building, such as roof trusses, to achieve the required strength and be cost effective.

2) Reinforcing Bar and Cement

In Myanmar, import of reinforcing bars and cements were basically forbidden in 2003, as in the Basic Design Study period. Moreover, giving priority to local materials are practiced as a general policy. However, the Malaysian, Thai, Ukraine and the Chinese products are distributed throughout the country. Therefore products made in Thailand, Singapore, and China with quality certificates shall be used for the Project. Although no quality issues have been reported for cements made in Myanmar in particular, strengths for proportioning will be determined in consideration of variations in strengths and so on.

3) Steel

The steel products are made in Thailand, Malaysia, Singapore, Vietnam, etc., and transported and assembled in the Myanmar.

(4) Soil Conditions and Foundation Design

The results of the soil investigations indicate that sub-strata from ground level to a depth of 7.5 meters are of Sandy clay or Silty clay (N value is 8～19) and the layers from 7.5m to 15.45m are Clay (N value is 10～27), the layers from 15.45m to 22.45m are Sand (N value 11~15), the layers from 22.45m~30.45M are Sand (N value 17~31). Although soil

investigations have been carried out to GL-30.45m, good bearing subsoil (N value, beyond 50) could not be confirmed.

In order to design a two-story building, average bearing pressure is considered to be 65 kN/m^2. Therefore, the Sandy clay layer (N values 10 near GL-2.00m) shall be assumed as a support layer. As a result of calculating the amount of consolidation settlement between GL-2.0m and 7.5m, the maximum settlement is 1.3cm in the center of the building, and 0.7cm at the building corners, and there figures are below the maximum deformation limit of the relative settlement described in the AIJ guidance.

Thus, footing foundation (mat foundation) method without use of piling will be adopted as the foundation method for buildings in this project.

(5) Design Load

1) Wind load : The wind load is calculated in reference to the British Standards. Basic wind speed is assumed as 30 m/sec.

2) Seismic Force : Myanmar was hit by big earthquakes, as exemplified by the peg earthquake in 1930 and the Rangoon earthquake in 1970. The Seismic Force is calculated as referenced similar to past Japan's Grant Aid projects in Myanmar. Base shear coefficient is K= 0.15.

3) Dead load Live load : Load conditions are to be determined considering the equipment layout and use. Location should be considered for rooms such as Workshop, Mechanical Room and Electrical Room where live loads are relatively higher therefore should be located at first floor level for a more economical slab design.

(6) Materials

Consideration of use should be given as follows:

Concrete	From footing to 1st floor	Design Standard Strength 21N/mm^2 (Quality Standard Strength 24N/mm^2
	From 1st floor Column and Wall to Roof	Design Standard Strength 24N/mm^2 (Quality Standard Strength 27N/mm^2
Reinforcement	Round steel bar	ϕ 6～ ϕ 9
	Deformed bar SD295A	D10～D16
	Deformed bar SD345	D19～D25
Steel	Shape steel, Steel plate	SS400, SSC400

2-2-2-5 Utility and Building Facility Plan

(1) Plumbing Work

1) Result of Water Quality Inspection

In the planned construction site, the water quality inspection was conducted alongside the drilling survey. For the inspection method, two types including the city water to be drawn in and the well water obtained by drilling on site were collected as samples. In the next, the local healthy and environmental research laboratory inspected them.

Both types of water in the above are generally utilized currently in the city of Yangong. From the result of inspection consisting of 26 items, it was confirmed that they were harmless as long as they were utilized as general service water.

For arsenic in particular, the permissible value is 0.005 ppm, whereas it is 0.002ppm for city water and 0.005ppm for well water. Therefore, it won't become especial bactericidal actiony problematic. On the other hand, bacteria coliform was detected in both types of water albeit only slightly. However, the water may be used as general water for hand wash by suppressing the chloride concentration to 0.1 ppm with liquid sodium hypochlorite with bactericidal action pouring into it as initially proposed.

2) Water supply system

A. Source of potable water

The main road of Yangon City or Insein Road runs north-south direction approximately 600m apart from the Site. The supply-water pipes of 12~20 inches in diameter are embedded beneath this road. At the intersection between this road and Yawgikyaung Street on the front road of the Site, 18inches pipe is embedded. It is planned to deliver the pipe from this point to the meter and the bull provided at the western side at the expense of the Site by Myanmar side. The supplied water will be firstly stored in the water receiver tank constructed at ground level. The water will be secondly fed up to an elevated water tank and then be distributed to the required several locations using gravity. In addition, the water volume for

elevated water tank shall be estimated for the amount of half day use excluding the sprinkling water.

Capacity of elevated water tank will be a half day's water consumption.

B. Estimated water demand per day

Occupants;	Permanent staff	15 persons
	Part-time lecturers	5 persons
	Students	90 persons
	Visitors	150 persons
	Total	260 persons

Unit water consumption; Staff; 80 liters/person/day

Student and Visitor 20 liters/person/day

Water demand is calculated based on the population and the above unit water consumption rate as follows:

Staff	20 persons × 80 liters/person/day	＝1,600 liters/day
Students and Visitor	240 persons × 20 liters/person/day	＝4,800 liters/day
Total		6,400 liters/day

Irrigation water for the site is added to the above figure;

5mm/day × 2,000m^2 ＝ 10,000 liters/day

Total water demand 6,400 liters/day＋10,000 liters/day＝16,400 liters/day

→ 16m^3/day

2) Sewerage System

The existing trench is provided along the Yawgikyaung Street and extended to the Insein Road. This trench runs northward along the Insein Road, through the underground of the road to Hlang River.

It is planned to equip the MJC with a sewerage water treatment plant (STP). The wastewater generated from the MJC will be treated by the STP, and then be discharged to the existing trench at the western side of the Site. According to the Yangon City Development Committee (YCDC), it was found that there are no requirements for effluent water quality from the STP. However, the design quality of effluent water from the STP is set to be less than BOD (Biological Oxygen Demand) 50ppm so as to prevent the adjacent environment from pollution. The design flow rate of the STP is calculated on the assumption that the return rate of 100% for consumed potable water.

Capacity of the STP; Quality of treated water; Less than BOD 50ppm
Design Flow Rate; 16m^3/day

Rainwater from the facility and pavement will be collected and be soaked into the soil as much as possible. The sewerage system for the treated water shall be constructed at the expense of the Myanmar side for the installation of manholes on the precinct and at the expense of the Japan side for the connection to the manholes.

3) Plumbing Fixtures

While most of the water closets equipped in the existing educational institutes within Yangon City are Asian type, almost all water closets equipped in newly constructed buildings (such as hotels and offices) in Yangon City are Western type. We plan to provide the MJC with Western type water closets with low tank and Asian type.

4) Fire Fighting Facilities

According to the meeting with the fire service department, it is confirmed that the Project does not have to comply with the Myanmar fire code due to the classification and scale of the Project. However, we will provide fire extinguishers and indoor hydrant system to secure safety in accordance with the Japanese fire code.

(2) Air Conditioning and Ventilation Work

1) Air conditioning system

Yangon City is located near the equator at a latitude of 16°9′ north and an altitude of approximately 20 meters. The climate is hot and humid throughout the year. According to the air conditioning design standard of ASHRAE (American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc.), the outdoor design condition should be as follows,

Outdoor: Dry Bulb 35°C, Wet Bulb 28°C, Daily Range 14°C
（ASHRAE Fundamentals 1997: at Yangon）

In the light of the usage of the existing Vietnam- Japan Human Resources Cooperation Center in Hanoi and the above mentioned outdoor conditions, we are planning to install air conditioning system (A/C system) in every Seminar room, Culture exchange room, Instructors room, Auditorium and that will be occupied by a large number of people in order to maintain appropriate indoor conditions. Since the spacious entrance hall at the first floor is two-story high and will be able to obtain natural ventilation and effective sunshade, air will be ventilated naturally without equipping it with an A/C system.

Split type air conditioners will be used for individual type air conditioning system for every air conditioned area.

2) Ventilation system

We are planning to provide lavatories, electrical rooms and mechanical rooms with mechanical ventilation systems so as to discharge odor, heat and humidity outside. According to the Japanese standard of the Ministry of Land, Infrastructure and Transport and the ASHRAE standard, the recommended standard of mechanical ventilation is shown in Table 2-11,

Table 2-11 Design Standard of Mechanical Ventilation

Room	Method of Ventilation	Unit Air Flow Rate	Remarks
Toilet	Exhaust only	15 Round/hour	To eliminate odor
Storage	Exhaust only	5 Round/hour	
Pantry	Exhaust only	10 Round/hour	
Pump room	Exhaust only	5 Round/hour	
Electrical room	Exhaust only	10 Round/hour	To eliminate heat
Generator room	Exhaust only	10 Round/hour	To eliminate heat

(3) Electrical Works

1) Power Supply System

The high voltage power line is provided along the north front road and three concrete electric poles are located within the Site. The existing electric poles will be replaced to 20 feet away toward the front road at the expense of the Myanmar side. And the low voltage power line is provided at the north side of the Site, which should also be removed to outside of the Site by Myanmar side.

As for the withdrawal of the power, the Japanese Side will provide the hand hole at the north east corner and the piping within the MJC. The Myanmar side will provide cabling from the high voltage to the power receiving system within the Site. The high voltage 6.6 KV will be decreased to 3 phase 4 line 440V/230V. The power receiving system will be provided within the MJC.

Table 2-12 The Estimated Power Load

Description	Load Density (VA/m^2)	Floor Area (m^2)	Total Load (KVA)	Remarks
Lighting and Small Appliance	40	1,800	72	
Air conditioning Equipment	100	1,200	120	
Plumbing Equipment			10	
Total			202	

Thus, the estimated power load is approximately 200 KVA.

Assuming that demand factor is 60%, the estimated power demand is calculated as follows,

$$200\text{KVA} \times 0.6 = 120\text{KVA}$$

Based on the result of discussions with the engineers in the MEPE and the Yangon University, the condition of power supply in Yangon City by MEPE is not stable. That is, voltage fluctuation sometimes damage electrical devices and power outages frequently occur especially in the rainy season. Therefore, we concluded that a stand-by generator should be provided for the MJC. We are also planning to equip an Automatic Voltage Regulator (AVR) in order to stabilize quality of power supply for the MJC. Some non-robust equipment such as computers should be provided individually with Uninterrupted Power Supply units (UPS) or Automatic Voltage Regulator (AVR).

2) Stand-by Generator

A stand-by generator will be supplied to maintain power supply for the minimum activity of the MJC in the case of power outage. The generator will also provide back-up emergency power supply to the hydrant pump, in accordance with the requirements of the Fire Code. We will prepare change-over circuits, from duty to emergency drive, of the generator to effectively utilize stand-by power.

The capacity of the generator is estimated to be equivalent to 50% of peak demand (200KVA).

A.	Type:	Indoor packaged diesel driven generator Low noise and radiator cooling type
B.	Capacity:	3 Phase 3 Wire 440V 50Hz 100KVA
C.	Fuel:	Diesel oil (10 hours)
D.	Quantity:	1 (one) number

3) Main Feeder Wiring System

A.	Wiring Method:	Cable ladder. Conduit piping	
B.	Power Distribution	Main Feeder:	3ϕ 4W 230V/440V
		For lighting and small appliance	1ϕ 2W 230V
		For power	3ϕ 3W 440V

4) Lighting System

Every room, entrance hall and corridor will be equipped with fluorescent lamps since it will reduce energy consumption and fluorescent lamps are easy to maintain. The

lighting intensity level to be adopted is based on international standards and JIS (Japanese Industrial Standards) as follows;

Table 2-13 Standard of Lighting Intensity Level

Room	Lighting Intensity (lux)	Remarks
Entrance hall	200	
Seminar room	400	
Auditorium	400	
Library, Computer room	400	
Administration office	300	
Corridor	100	
Toilet, Storage	100	

Exit lights with batteries should be installed at every staircase and exit.

5) Telephone System

It is planned to provide the MJC with a telephone system including a Private Automatic Branch Exchanger (PABX), 25 extension telephones and necessary cabling work. Through the discussion with the Myanmar side, it was confirmed that the Myanmar side will be responsible for the following items;

a) Application and subscription fee for 5 new telephone trunk lines by MEPE
b) The telephone line is provided at the opposite side of the north front road. The Japanese side will provide the electric pole and the hand hole with pipes at the north east corner of the Site.
c) Expense for the application, installation of in-coming line from outside to the Main Distribution Panel to be provided by Myanmar side.

6) Public Address System

We are planning to provide a public address system so as to make announcements to students and staff in common areas and seminar rooms. An amplifier will be equipped in the administration office.

7) Master Antenna Television System

Master antennas for VHF wave band of domestic TV station, Myanmar Radio and Television (MRTV) and Myawaddy Television (MWD), and Communication Satellite

(BS NHK) will be installed on the roof and TV outlets are to be provided in offices and seminar rooms.

8) LAN (Local Area Network) System

Technical Cooperation Project is planning to supply personal computers for the computer room, library and administration office. Consideration shall be given to the equipping of pre-wired Local Area Network (LAN) system and installation of LAN outlets and interconnected cabling so as to easily link these personal computers within the MJC. The planned LAN system will be of fast ether-net (100Base-T) and consist of sub-networks such as library loop, computer room loop and administrative loop. The LAN system may be able to access to the Internet through routers. However, installation of network equipment such as switching hubs and routers is out of the scope since concept of network architecture is not finalized at the present time.

9) Fire Alarm System

A manual fire alarm system will be provided. We are planning to install combination panels that consist of an alarm bell, an indicator lamp and a push button in each alarm area. The fire control panel is to be installed in the administrative office on the second floor.

10) Lightning Protection System

Lightning protection system will be provided to prevent serious damage to the building structure and electrical facilities.

(4) Garbage and Waste Disposal

The Site is located in the Hlaing College Campus where the accommodation facilities as part of university facilities are scattered near the Site. The collection of the garbage is implemented regularly by the Campus authorities. In this project, the small amount of paper waste is estimated to be generated due to the characteristic of facilities. It will be collected by the authorities as in the case of neighboring facilities.

2-2-2-6 Building Material Plan

(1) Basic Policy

The building material plan shall be formulated based on the climatic conditions, the location of the site, the local construction situation, construction period, construction cost, and maintenance and operation costs. The following shall be matters of Basic Policy:

1) The local procurement of construction materials shall be considered to reduce construction costs and shorten the construction period. However, it has to be confirmed if those are acceptable in quality and supply in Myanmar.

2) The maintenance and operational costs shall be reduced by considering the adaptation to the local climate, resistance against climate and the selection of materials that are easy to maintain and also, materials that are easily obtained locally.

3) It is important to note that the selection of material should be made to satisfy the essential functions of MJC and must be considered along with the utility and equipment plans.

4) Selection and determination of the building materials shall be based on the studies on local procurement or application of local construction methods.

(2) Building Material Plan

The local construction situation and construction schedule as well as method for minimizing operation and maintenance costs should be taken into consideration for the prominent building material plan, referring to the analysis of materials for other similar projects. Materials for structural works and some finishing works can be procured in Myanmar, but most of the materials for finishing work come from neighboring countries such as Thailand.

The policy of selection of materials for the Project is to adopt local materials which are acceptable in quality and supply in Myanmar, considering harmony with the existing buildings along the north side of the Site and the facilities in the MICT Park in the north area.

The selection of materials for the Project will aim at maximizing the adoption of local construction methods and selection of local materials, mainly under the supervision of a Japanese contractor. This policy is intended to reduce the construction cost. In reference to the surveys and studies of materials of existing buildings and similar projects, it is considered that this policy will enable proper selection and procurement of building materials under the scheme of Japan's Grant Aid assistance. The results of these considerations are as follows:

1) Structural Materials

In principle, the typical local construction method and materials, which are reinforced concrete for main frames with bricks walls, will be adopted for this Project. However, for the oblique roof structure, lightweight steel frame and reinforced concrete roof slab will be adopted considering ceiling insulation and water leaks from the roof.

2) Exterior Finishing

A. Exterior Wall

Exterior wall finishing will be mainly long-lasting weatherproof paint such as sprayed epoxy painting. It is necessary to consider the adoption of quality material and local construction methods. In particular, the degeneration of paint agent, mold and cracks will not only increase the maintenance expense after completion of construction, but will also affect the degradation of concrete frames from water leak. While ensuring that the quality of plastering work is maintained, the use of local available epoxy paint is adopted for external use for its performance and durability. As such, quality of plaster works and paint works shall be controlled together.

B. Roofs

Tile roofing will be adopted for the new building which is supported by ridged light weight steel frame roof structure taking into consideration the durability and to avoid sound transmission from heavy rain and heat absorption from strong sunlight and also maintenance. Also the appearance of the roof tile will match the surrounding landscape and be designed as associating with Japanese-style.

C. Windows and Doors

For provision of better durability and air tightness for external openings, such as windows and doors, in order to plan the air conditioning in most of the rooms, local available aluminum sash will be adopted for the new building. Also, steel sash will be used for the some openings facing outside. These materials have been used for openings of external walls of the existing buildings and similar projects.

The security grill on the front or back face of the windows will be adopted to provide protection against theft.

D. Exterior Floor

Earthenware tile, which is popularly used in Myanmar will be adopted for the floor finish materials for the outside terrace. However, it should be confirmed they are acceptable in quality and supply in Myanmar. The surface of the floor shall be a non-slip finish in order to prevent slippage when wet.

E. GRC Louvers

Louvers, which protect the rooms from sight from the hostels beyond the north road, and reduce heat influence by the strong sun shine from the south side, and intense rainfall and incorporate good ventilation and natural lighting will be located. The louvers shall be made of GRC (Glass fiber Reinforced Cement) for reasons of durability and functionality. However, examination of the attachment details and construction management are required in construction partly for technology transfer because it is rather a new material in Myanmar.

3) Interior Finishing

A. Floors

Thai Ceramic tile made in Thailand, which are generally used in Myanmar, will be adopted in the new buildings considering the quality and durability. Ceramic tile will also be adopted for the entrance hall. Sound absorbing unit carpet will be adopted for the rooms equipped with free-access floors in order to facilitate

maintenance of computer and electrical wiring. Ceramic tile will be adopted for the toilets. For floor surfacing of mechanical room and storage, dust preventative resin will be adopted.

B. Walls

Paint on mortar base will be used as the finishing materials for interior walls. This is generally used in Myanmar and it is used for the existing facilities. Sound absorption and reflection should be considered to select the finishing for the Auditorium. As such, quality of plaster works and paint works shall be controlled together, the same as for the exterior walls.

C. Ceilings

Suspended ceilings using rock-wool insulated boards and plastic board will be used in the new buildings. Sound absorption and reflection should be considered by proposal to select the finishing material for the Auditorium.

(3) Proposed Main Materials

The criteria for building materials have been analyzed and studied. Table 2-14 shows the result of the review implemented in compliance with the policy for selection of construction materials applied in the basic design based on the analysis of conditions of existing facilities.

Table 2-14 Main Materials Proposed

Structure		Reinforced Concrete, partially steel structure						
Floor Height		5,500mm for First Floor and 4,500mm for Second Floor						
External Finish	Roof	Clay Tile						
	Eaves	Mortar trowel, AF Paint						
	External Wall	Mortar trowel AF Paint Louvers: GRC w/ AF						
	Doors & Windows							
	1) Windows	Aluminum						
	2) Doors	Aluminum (Anodized) and Steel						
	External Floor	Non-Slip Ceramic Tile on mortar base						
Internal Finish		Entrance Hall	Rooms for Administration	Seminar Room	Computer Room	Auditorium	Corridors	Staircase
	Floor	Earthenware Tile	Ceramic Tile on Mortar Base	Ceramic Tile on Mortar Base	Free-access Floor & Unit Carpet	Hard Wood w/ OSCL	Ceramic Tile on Mortar Base	Ceramic Tile on Mortar Base
	Baseboard	Earthenware Tile	Ceramic Tile	Ceramic Tile	Hard Wood	Hard Wood	Ceramic Tile	Ceramic Tile
	Wall	Earthenware Tile (partly)	Paint on Plastered Wall	Paint on Plastered Wall	Paint on Plastered Wall	Hard Wood w/ OSCL	Paint on Plastered Wall	Paint on Plastered Wall
	Ceiling	Rockwool Board (System ceiling)	Rockwool Board (System ceiling)	Rockwool Board (System ceiling)	Rockwool Board (System ceiling)	Rockwool Board	Plaster Board w/EP	Cement Board w/EP
	Toilet Floor	Ceramic Tile						
	Toilet Wall	Ceramic Tile						
	Toilet Ceiling	Plaster Board w/VP						

Legend: EP Enamel Paint
VP Vinyl Paint
PVC Polyvinyl Chloride

2-2-2-7 Equipment Planning

(1) The Contents of the Planned Equipment

The contents of the planned equipment at the time of Basic Design, such as an AV system in the Auditorium, Lobby Display system and furniture as shown in Table 2-2. However, as a result of the Implementation Review Study, the equipment will be included in the scope of technical cooperation project unless needed to be installed in the building as stated previously.

The main planned equipment is as follows:

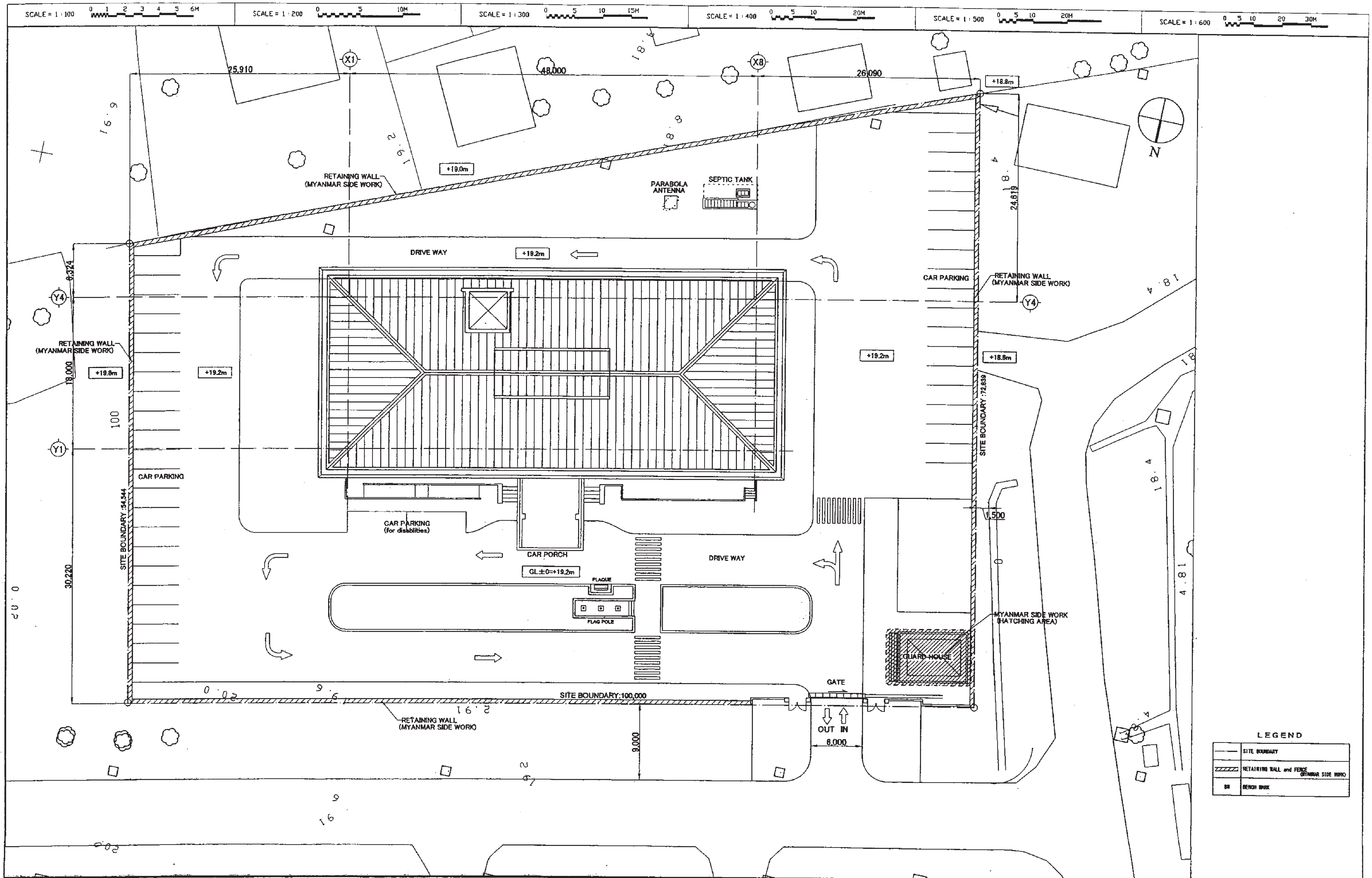
Table 2-15 Specifications of the Main Planned Equipment

No.	Description	Q'ty	Location	Remarks	GA	TC
1.	Lobby Display System			To be installed in lobby		
1-1	Wide plasma display	1	Lobby	50" diagonal, Multi system, Wall mount type		○
1-2	Stereo speaker	1	Lobby	Rated input; 8W		○
1-3	AV Switcher	1	Library			○
1-4	TV Tuner	1	Library	VHF,UHF、Multi system		○
1-5	BS Tuner	1	Library			○
1-6	Video tape recorder	1	Library	VHS tape、NTSC		○
1-7	DVD Player	1	Library	DVD-A、DVD-R、CD、CD-R/RW		○
1-8	Remote Controller	1	Library	To select input signal, Video, RGV and AUX.		○
1-9	Color monitor TV	1	Library	14" Diagonal, Multi system		○
1-10	Personal computer	1	Library	Desk top type, with 15" CRT		○
1-11	Equipment Rack	1	Library	To install above mentioned equipment		○
1-12	Cable and Connector	1 Lot.		Necessary cable and connector for the "Lobby Display System"		○
2.	AV System			To be installed in Auditorium		
2-1	Audio Mixer	1	Projection room			○
2-2	Monitor Speaker	1 set	Projection room			○
2-3	Cassette Tape Recorder	1	Projection room			○
2-4	AV Switcher	1	Projection room			○
2-5	Monitor TV	1	Projection room	9" Diagonal, multi system		○
2-6	Video Tape Recorder	1	Projection room	VHS Tape, NTSC		○
2-7	DVD/CD Player	1	Projection room	Multi system, DVD-A,V, DVD-R, CD, CD-R/RW		○
2-8	Power Control Unit	1	Projection room			○
2-9	Overhead Camera	1	Auditorium	Multi system,	○	
2-10	Screen Control Switch	1	Projection room			○
2-11	Wireless Tuner	1	Projection room			○
2-12	Digital Equalizer	1	Projection room			○
2-13	Power Amplifier	1	Projection room	Rated power output 120W+120W		○
2-14	Main Speaker	1 set	Auditorium	Power handling capacity; 160W		○
2-15	Sub Speaker	1 set	Auditorium	Power handling capacity; 160W		○
2-16	LCD Projector	1	Auditorium	Brightness 3,200 ANSI		○
2-17	120-inch Motorized Screen	1	Auditorium		○	
2-18	Wireless Antenna	1 set	Auditorium		○	
2-19	Wireless Microphone	4 set	Auditorium	Hand type, Tie-pin type		○
2-20	Dynamic Microphone	2 set	Auditorium	With Table-top type stand and Floor type stand		○
2-21	Cable & Connector	1 lot		Necessary cable and connector for the "AV System"		○

* GA : Grant Aid

* TC : Technical Cooperation

2-2-3 Detailed Design Drawing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SCALE = 1 : 300
SCALE = 1 : 400
SCALE = 1 : 500
SCALE = 1 : 600
25,910
48,000
26,090
+18.8m
+19.0m
RETAINING WALL
(MYANMAR SIDE WORK)
PARABOLA ANTENNA
SEPTIC TANK
24,619
DRIVE WAY
+19.2m
CAR PARKING
RETAINING WALL
(MYANMAR SIDE WORK)
9,324
18,000
+19.8m
+19.2m
+19.2m
+18.8m
SITE BOUNDARY :72,839
CAR PARKING
SITE BOUNDARY :54,544
30,220
1,500
CAR PARKING
(for disablities)
CAR PORCH
DRIVE WAY
GL±0=+19.2m
PLAQUE
FLAG POLE
MYANMAR SIDE WORK
(HATCHING AREA)
GUARD HOUSE
GATE
SITE BOUNDARY:100,000
RETAINING WALL
(MYANMAR SIDE WORK)
OUT IN
6,000
9,000
N
LEGEND
SITE BOUNDARY
RETAINING WALL and FENCE (MYANMAR SIDE WORK)
BENCH MARK

JOB NO.	DATE JAN 2006	TITLE SITE LAYOUT PLAN	THE PROJECT FOR CONSTRUCTION OF THE MYANMAR-JAPAN CENTER FOR HUMAN RESOURCES DEVELOPMENT
REF.NO.	CHECKED		AZUSA SEKKEI CO., LTD. Architects, Engineers and Consultants. 2-1-11 HIGASHI SHINAGAWA SHINAGAWA-KU, TOKYO, JAPAN
DRAWN	CHECKED	SCALE 1:200 / DWG NO. A-005	

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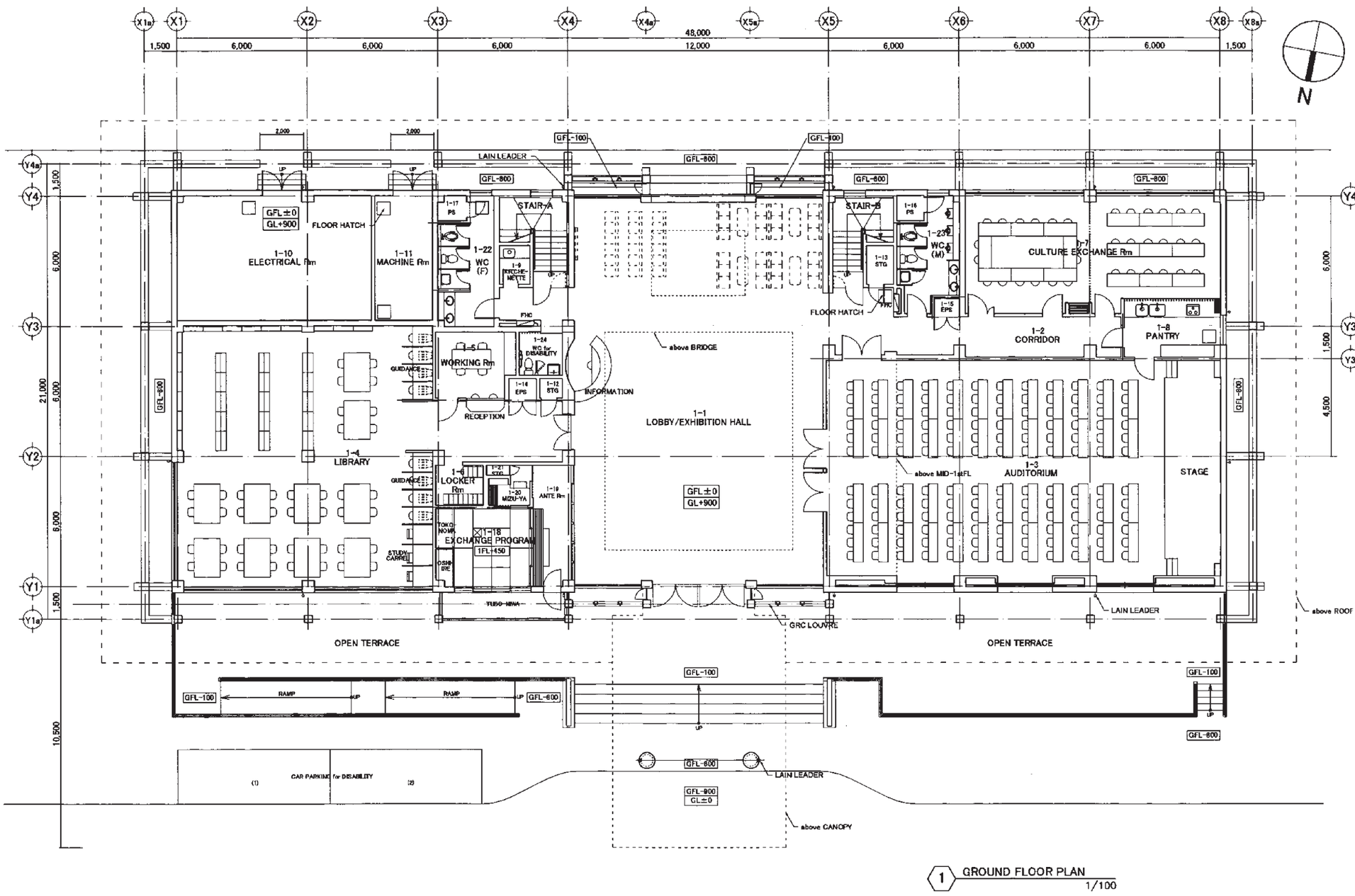

1 GROUND FLOOR PLAN 1/100

2 MID-1st FLOOR PLAN 1/100

		JOB NO.	DATE 10 Dec. 2005	TITLE GROUND FLOOR PLAN MID-1st FLOOR PLAN	THE PROJECT FOR CONSTRUCTION OF THE MYANMAR-JAPAN CENTER FOR HUMAN RESOURCES DEVELOPMENT
		REF. NO.	CHECKED		AZUSA SEKKEI CO., LTD. Architects, Engineers and Consultants. 2-1-11 HIGASHI SHINAGAWA SHINAGAWA-KU, TOKYO, JAPAN
		DRAWN	CHECKED	SCALE 1:100 / DWG NO. A-007	

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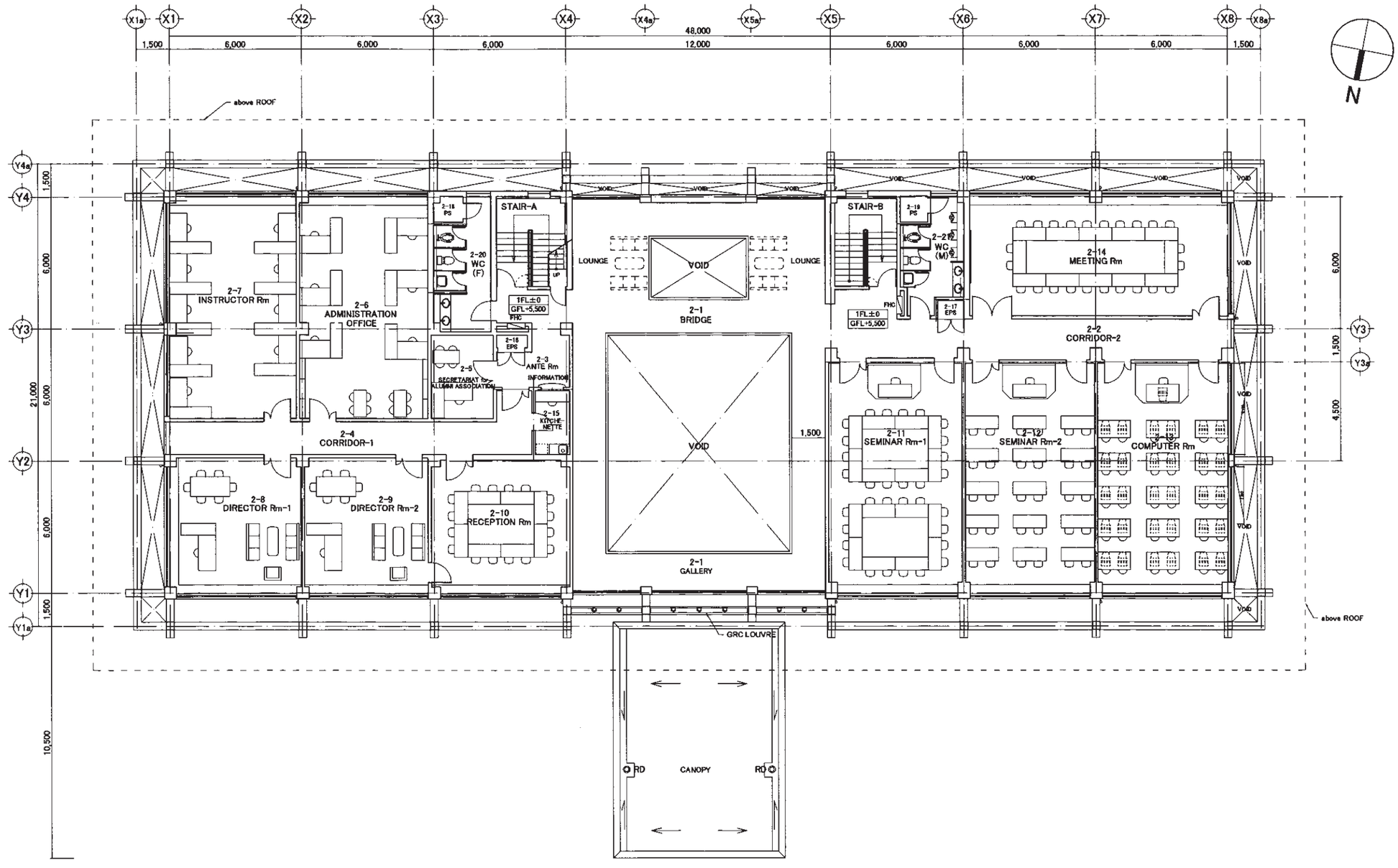

JOB NO.	DATE 10 Dec. 2005	TITLE 1st FLOOR PLAN	THE PROJECT FOR CONSTRUCTION OF THE MYANMAR-JAPAN CENTER FOR HUMAN RESOURCES DEVELOPMENT
REF. NO.	CHECKED		
DRAWN	CHECKED	SCALE 1:100 / DWG NO. A-008	AZUSA SEKKEI CO., LTD. Architects, Engineers and Consultants. 2-1-11 HIGASHI SHINAGAVA SHINAGAVA-KU, TOKYO, JAPAN

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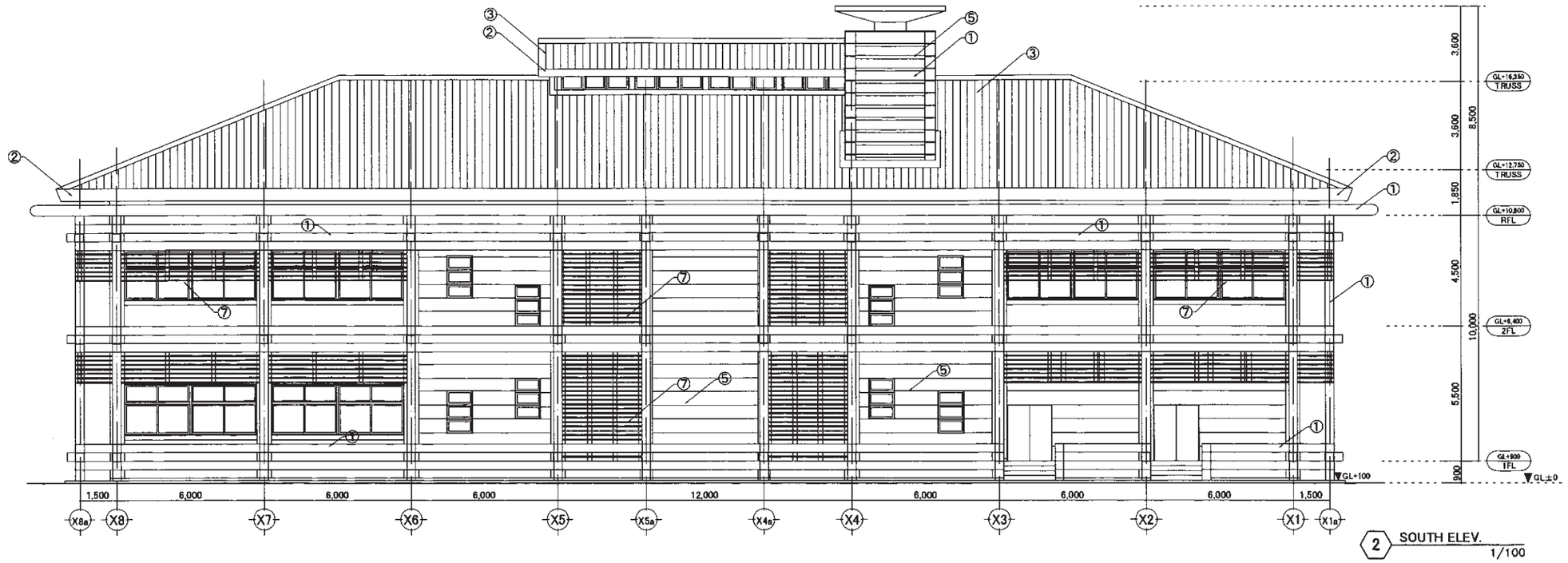
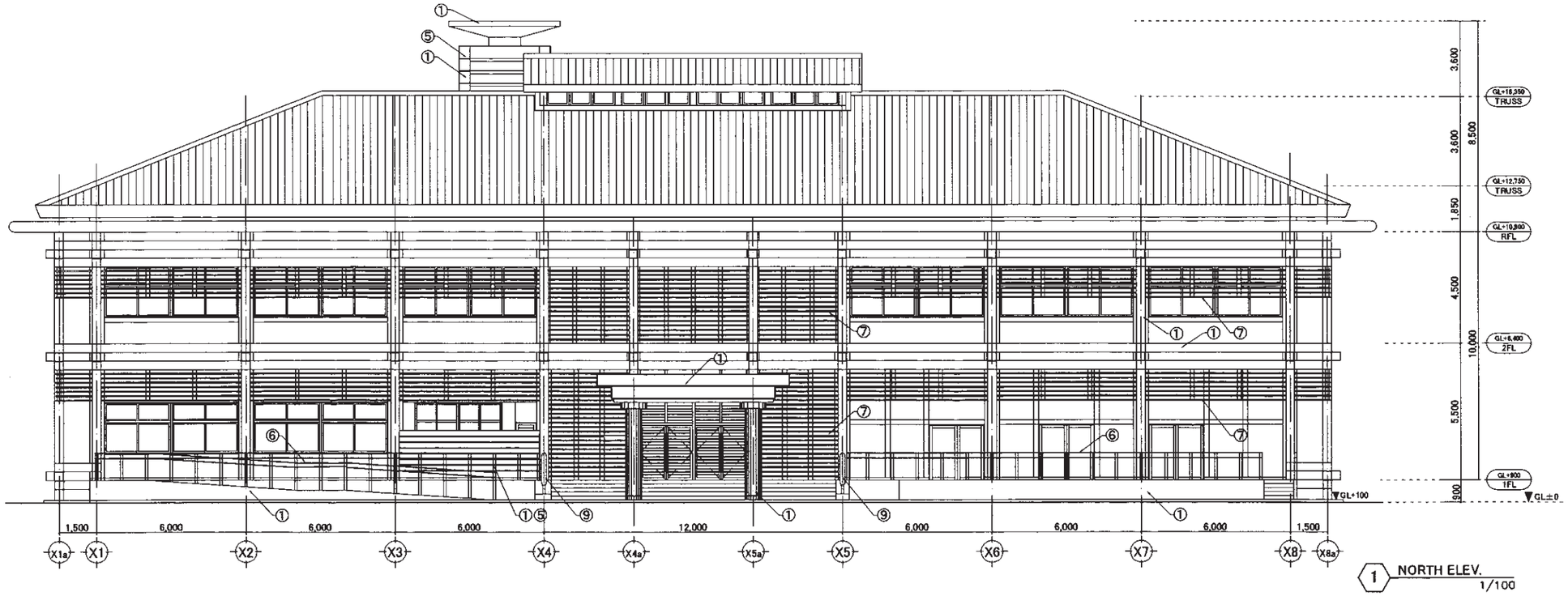


2 SOUTH ELEV. 1/100



1 NORTH ELEV. 1/100

NO.	MATERIAL / FINISH
1	ACRYLIC TEXTURE COAT
2	GALVANIZED STEEL STEET t0.4
3	LOCAL ROOF TILE
4	ALUMINUM PANEL
5	FALSE JOINT
6	BALUSTRADE : SUS HL
7	GRC LOUVRE w/ACRYRIC RESIN PAINT
8	FIBER-REINFORCED CEMENT BOARD w/EPOXY TEXTURE COAT
9	SUS 200φ HL
10	RAIN LEADER:SUS 100φHL
11	SECURITY GRILLE

JOB NO.	DATE 10 Dec. 2005	TITLE NORTH ELEVATION SOUTH ELEVATION	THE PROJECT FOR CONSTRUCTION OF THE MYANMAR-JAPAN CENTER FOR HUMAN RESOURCES DEVELOPMENT
REF. NO.	CHECKED		
DRAWN	CHECKED	SCALE 1:100 / DWG NO. A-010	AZUSA SEKKEI CO., LTD. Architects, Engineers and Consultants 2-1-11 HIGASHI SHINAGAWA SHINAGAWA-KU, TOKYO, JAPAN

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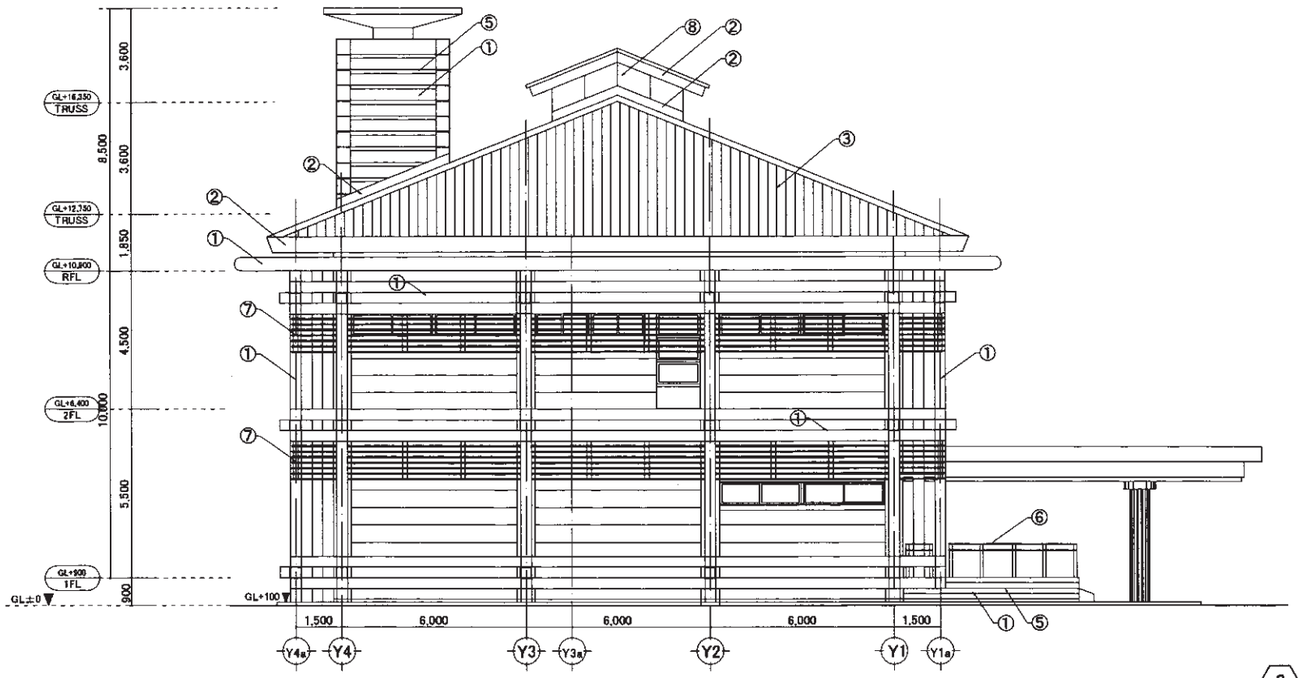
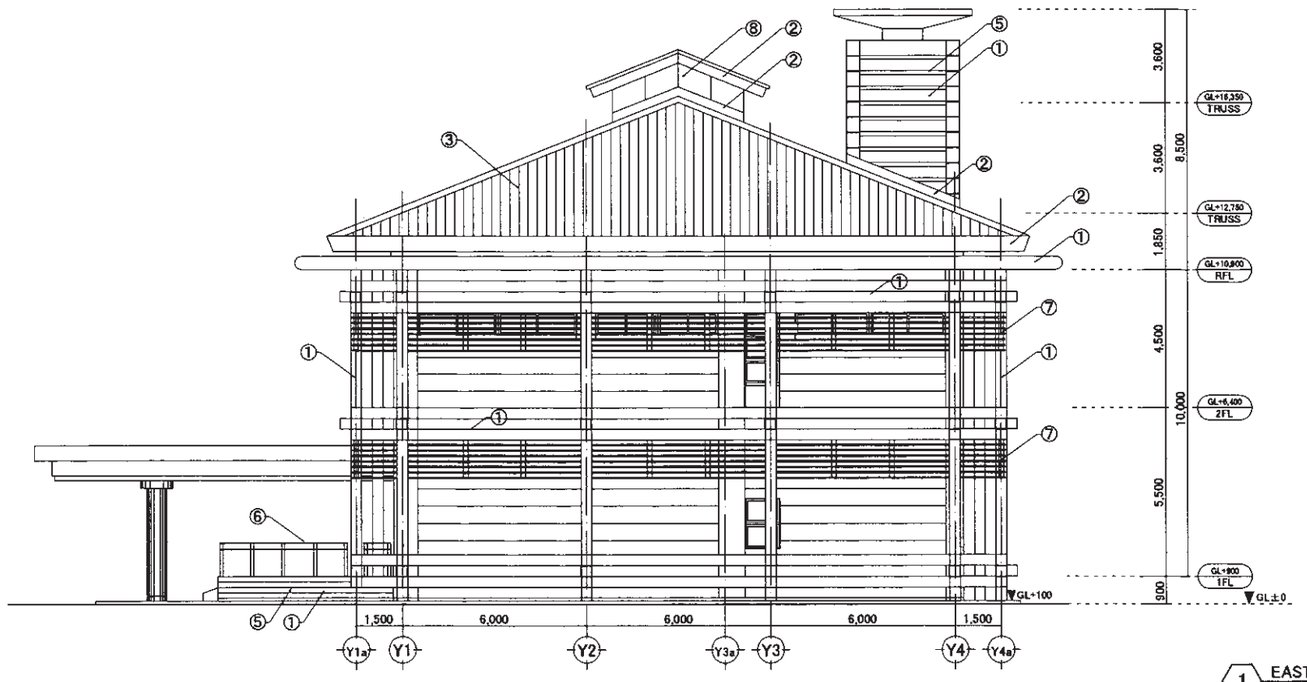


2 WEST ELEV. 1/100



1 EAST ELEV. 1/100

NO.	MATERIAL / FINISH
1	ACRYLIC TEXTURE COAT
2	GALVANIZED STEEL STEET t0.4
3	LOCAL ROOF TILE
4	ALUMINUM PANEL
5	FALSE JOINT
6	BALUSTRADE : SUS HL
7	GRC LOUVRE w/ACRYLIC RESIN PAINT
8	FIBER-REINFORCED CEMENT BOARD w/EPOXY TEXTURE COAT
9	SUS 200φ HL
10	RAIN LEADER:SUS 100φ HL

JOB NO.	DATE 10 Dec. 2005	TITLE EAST ELEVATION WEST ELEVATION	THE PROJECT FOR CONSTRUCTION OF THE MYANMAR-JAPAN CENTER FOR HUMAN RESOURCES DEVELOPMENT
REF. NO.	CHECKED		
DRAWN	CHECKED	SCALE 1:100 / DWG NO. A-012	AZUSA SEKKEI CO., LTD. Architects, Engineers and Consultants. 2-1-11 HIGASHI SHINAGAWA SHINAGAWA-KU, TOKYO, JAPAN

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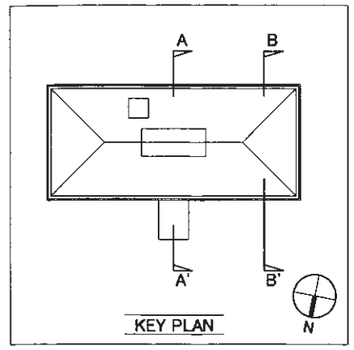
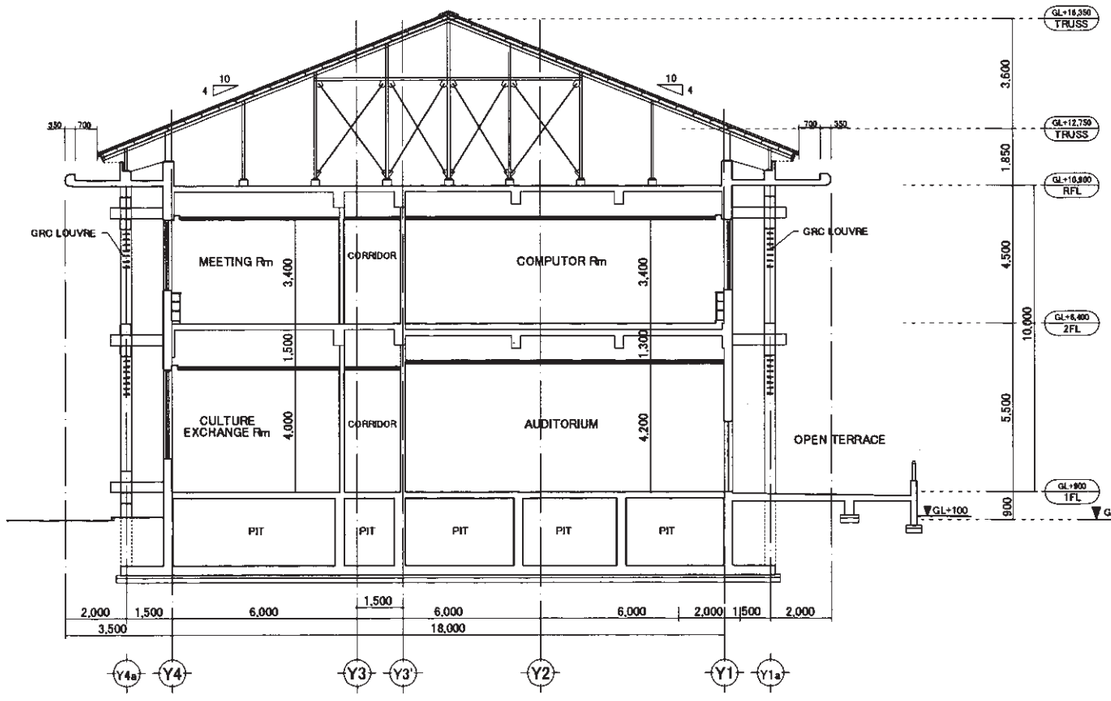
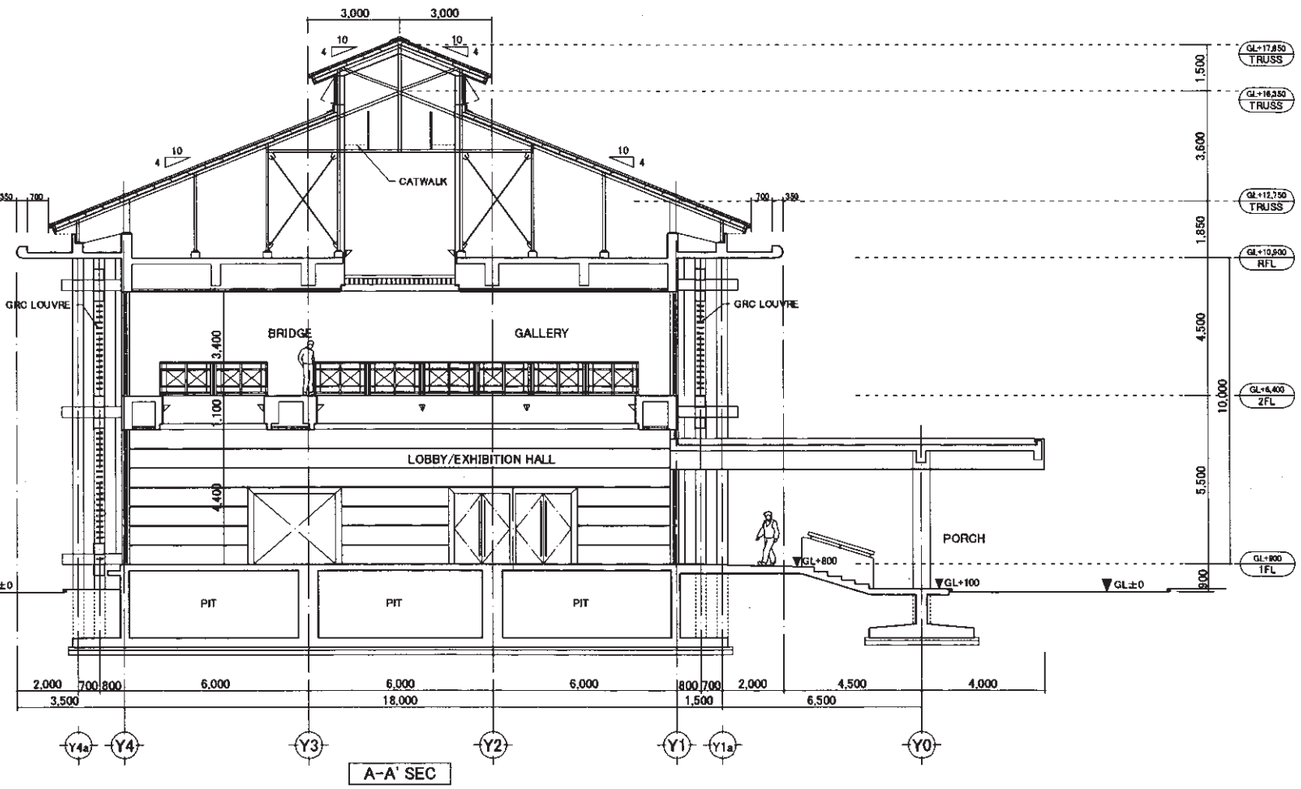




B-B' SEC



A-A' SEC

JOB NO.	DATE 10 Dec. 2005	TITLE SECTION-1		THE PROJECT FOR CONSTRUCTION OF THE MYANMAR-JAPAN CENTER FOR HUMAN RESOURCES DEVELOPMENT	
REF. NO.	CHECKED			AZUSA SEKKEI CO., LTD. Architects, Engineers and Consultants. 2-1-11 HIGASHI SHINAGAWA SHINAGAWA-KU, TOKYO, JAPAN	
DRAWN	CHECKED	SCALE 1 : 100	DWG NO. A-014		

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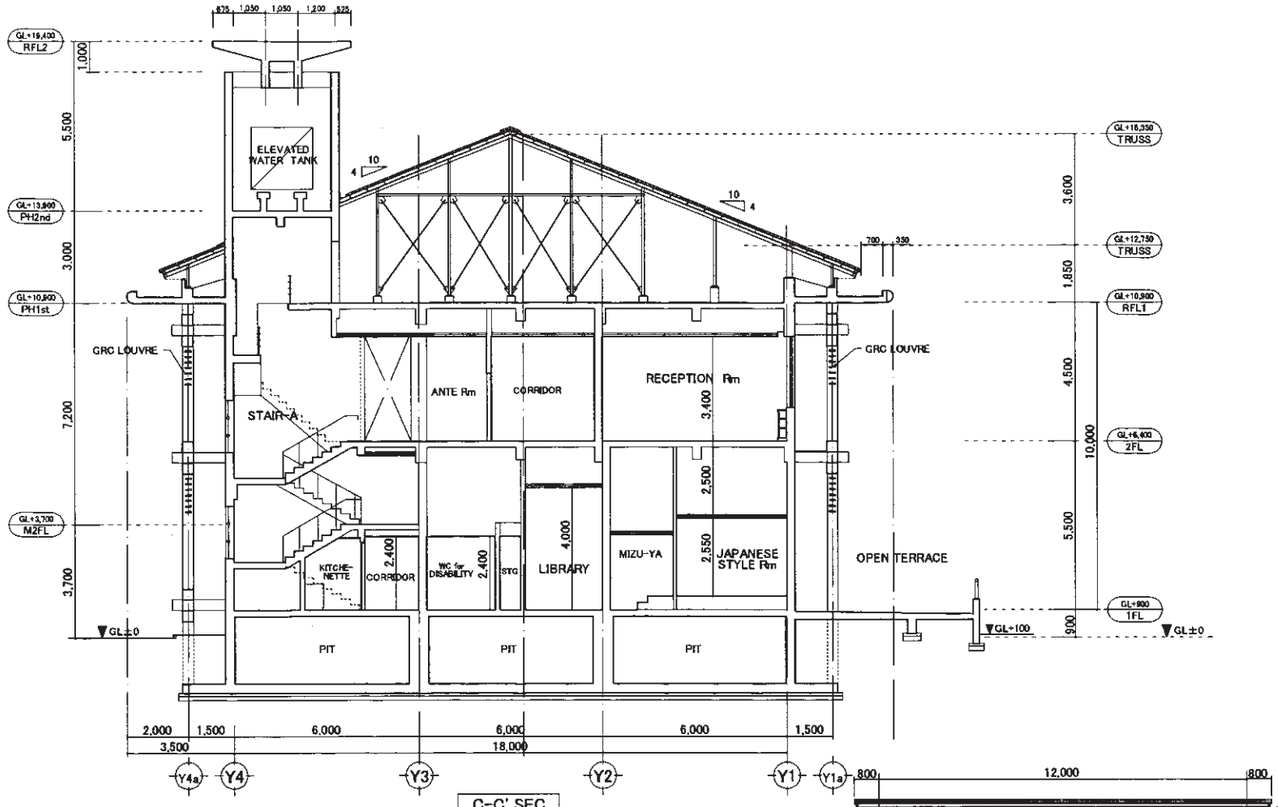
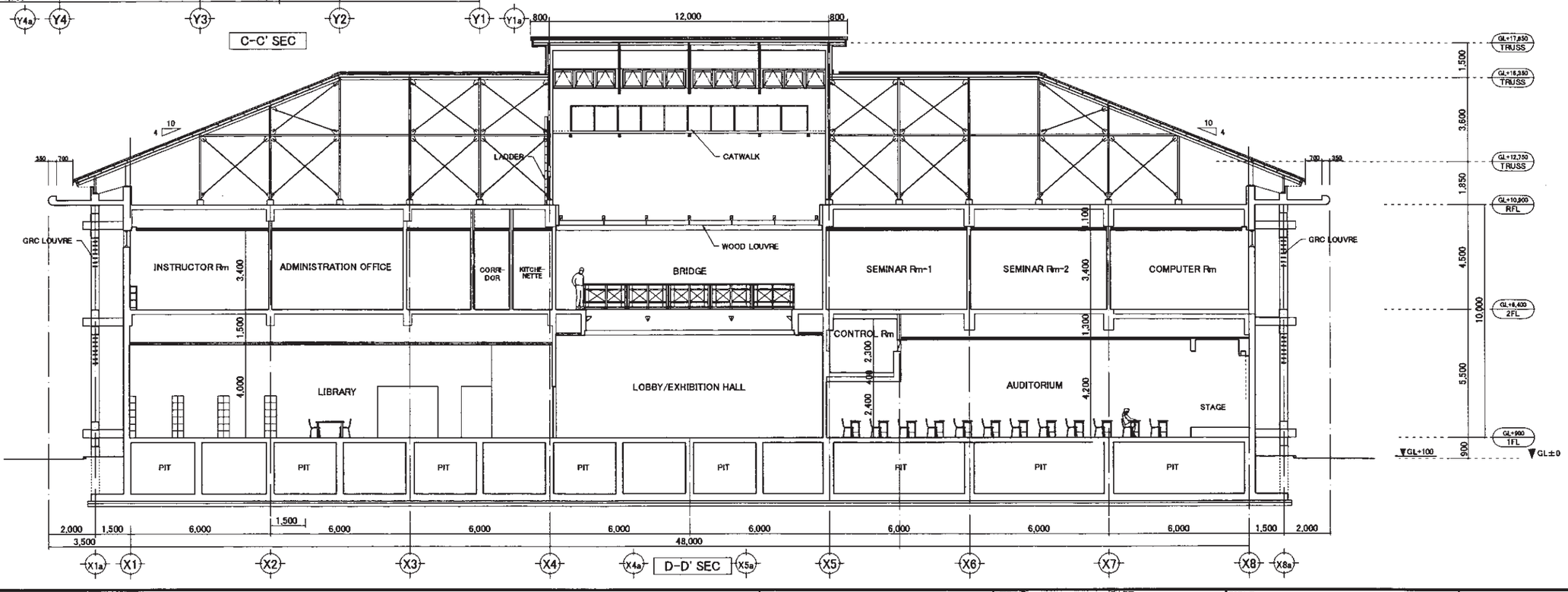
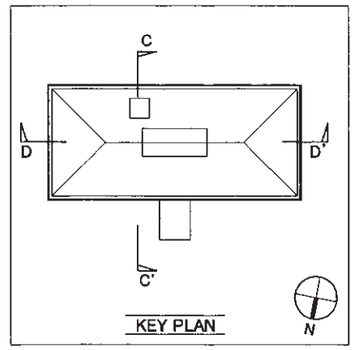


C-C' SEC



D-D' SEC



JOB NO.	DATE 10 Dec. 2005	TITLE SECTION-2	THE PROJECT FOR CONSTRUCTION OF THE MYANMAR-JAPAN CENTER FOR HUMAN RESOURCES DEVELOPMENT
REF. NO.	CHECKED		
DRAWN	CHECKED	SCALE 1:100 / DWG NO. A-015	AZUSA SEKKEI CO., LTD. Architects, Engineers and Consultants. 2-1-11 HIGASHI SHINAGAWA SHINAGAWA-KU, TOKYO, JAPAN

2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

(1) General

1) The Exchange of Notes (E/N) for the Grant Aid Project was concluded between the Government of Japan and the Government of Myanmar after the cabinet meeting and decision by the Government of Japan on June 27, 2005.

2) With the E/N, Japan shall commit itself officially to assist and initiate specific action post the Implementation Reviews Study.

3) After this Implementation Reviews Study, an agreement on the support for bidding and construction supervision shall be signed between a consultant of Japanese nationality and the Government of Myanmar and detailed design has been implemented in.

(2) Detailed Design Stage

1) For the Detailed Design, full details of facilities and equipment in the Basic Design were carefully confirmed and discussed with in this Implementation Reviews Study.

2) The consultant discussed the technical issues through meetings with the relevant authorities in Japan and Myanmar during the detailed design stage.

3) The detailed design required approximately 3 months for completion after the agreement of the E/N.

(3) Tender

1) The tender for the construction of the facility and procurement and installation of equipment shall be conducted in accordance with the guidelines of JICA's Grant Aid Scheme.

2) Equipment in the Project, which are utilities for the facility or furniture, is a small portion compared with the whole project and needs to be adjusted to the facility construction work. Through the discussions in Japan they will be included in the facility construction scheme. Therefore, the tender shall be conducted as one package with contractors of Japan.

3) The Consultant will assist the implementation agency for the construction contract in accordance with the guidelines of JICA.

(4) Construction

1) According to the result of the Basic Design Study, local building materials which are acceptable in quality and supply in Myanmar should be used for the Project as much as possible. However, ensuring and improving quality are the most important items to be noted.

2) For the planning of labor supply, it is important that a Japanese contractor, as the prime contractor, should supervise and manage the local contractor and his laborer to maintain the quality required for the Project.

(5) Implementation Organization

The organizations involved in this Project are as shown below:

The organization responsible for the Project is the Department of Higher Education, Lower Myanmar (DHE) under the Ministry of Education (MOE) and the executing organization is also DHE. The following diagram shows the relationship between the Government of Myanmar, the Japanese consultant and contractor.

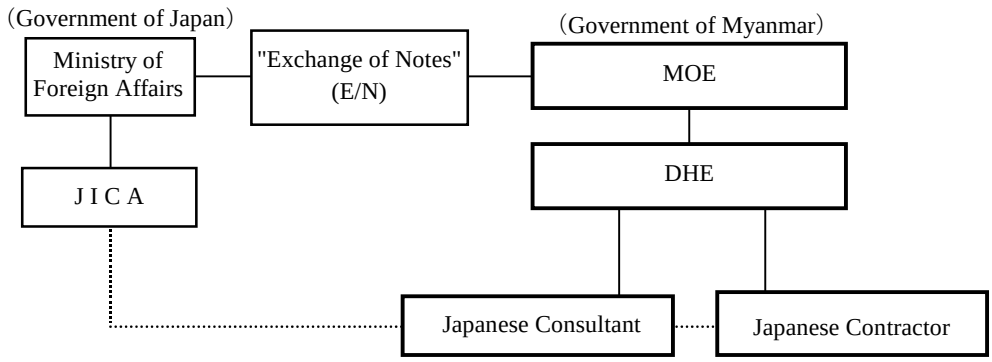


Figure 2-6 Implementation Organization

2-2-4-2 Implementation Conditions

(1) The construction needs to be well managed and supervised by a Japanese contractor to maintain the quality and tight schedule, especially with works by methods not common in Myanmar.

(2) A Japanese contractor will be the prime contractor in accordance with the Grant Aid scheme and they will undertake the construction by sub-letting the works to the local sub-contractor. Local workers would normally be employed by the sub-contractor and supervised. Therefore, it is necessary to employ efficient supervisors, and provide suitable labor control and site supervision in order to achieve effective construction and to minimize losses. On the above condition, schedule control should be done most carefully considering the effective arrangement of workers.

(3) May to October is the rainy season in Myanmar. For construction planning, the earthworks, substructure and superstructure works should be scheduled and completed before the rainy season. However, the case that these works are carried out during the rainy season, should be considered, bearing in mind the whole project's implementation schedule. In this case, construction planning such as temporary works must be carefully examined.

(4) Myanmar laws, codes and standards and British standards should be followed. However, Japanese standards, etc., are also to be applied considering the local situation.

(5) Close and detailed coordination of schedules is required particularly between the facilities construction work and the period of installation of the equipment.

2-2-4-3 Scope of Works

The responsibilities between the Japanese side and the Myanmar side for the implementation of Japan's Grant Aid Project are shown in the table below.

Table 2-16 Extent of Works

Portions by the Japanese Side	Portions by the Myanmar Side
(1) Building Works: Structural works, finishing works, furniture, etc. (2) Electrical Works: Power trunk facilities, lighting, power outlets, P/A systems, etc. (3) Utilities and Facilities a) Water Supply: Providing water tanks, pumps and related internal piping work b) Sewerage system including piping works up to the connection manhole c) Sewage treatment plant d) Fire-hydrant and extinguishing facilities e) Electrical supply and transformer system, cabling work from main switchgear panel to the facilities. f) Telecommunication system: Providing a new PABX, MDF, telephones and wiring work g) Lightning Protection System h) Lightning system in the site i) Air conditioning system j) Mechanical ventilation system (4) Exterior Work: Road, path and parking lots within the site (5) Electric Room, Electric Generator Room, Pump Room	(1) Site Preparation a) Ground preparation works: - Clearing the Site (such as demolishing trees and relocating wires and electric poles, removing the existing inner path and back-filling and leveling of the Site) - Replacement of approach road for the new path - Replacement of the high-voltage electrical poles b) - Soil-filling and leveling of the Site Temporary power and water supply, and telephone c) line for the construction (2) Construction of access road a) Access road b) External Works: (3) Installation of fences around the Site a) Landscaping, planting, etc., in the Site Utilities and Facilities b) Water Supply - Providing potable water supply Waste Drainage c) - Providing connecting point to the existing sewerage network. Electrical Work - Relocating the existing lighting and electrical poles d) - Providing medium voltage power supply and paying the charge Telecommunication Work (4) - Providing new telephone lines and paying the charge (5) General Furniture not included in the portion by a) the Japanese side Other Procedures b) Procedures of the permission and approval to Myanmar Government Building permission application procedures, all service line connection application procedures, c) duty free procedures and customs clearance (6) procedures Commission to A/P (7) Expenses for the maintenance, administration, and management Tax exemption and necessary preferential (8) treatment for the construction staff from Japan or a third country (9) Smooth entry, re-entry and departure from Myanmar for the Japanese technical staff All the expenses, other than those to be borne by Japan's Grant Aid within the scope of the Project

2-2-4-4 Consultant Supervision

(1) Basic Policy

A consultant supervisor (a professional in the field of architecture) is dispatched to coordinate the architectural, mechanical and electrical works. Also, technical engineers are dispatched to supervise the important stages of structural, electrical and mechanical works, etc. A resident engineer is dispatched to supervise and inspect during important stages such as beginning of construction, the structure works, the completion and final inspection.

Table 2-17 Plan of Personnel necessary for Supervision

Supervisor	Period (Month)
Supervisor (Architecture)	10.5
Resident Engineer	**Approx. 1.7**
Building construction (Architectural engineers)	**Approx. 0.7**
Building construction (Structural engineers)	**Approx. 1.0**
Building construction (Electrical and Mechanical engineers)	**Approx. 3.0**

The supervision works are to control the construction schedule considering construction method, the number of laborer and procurement of construction materials and equipment. At the same time, quality of materials and construction work, control of construction cost and security for workers shall be considered. If the construction work being carried out by the Myanmar side is found to be delayed, the consultant may urge acceleration of the construction work. Furthermore, a suitable construction schedule will be planned in consideration of the construction and procurement circumstances as mentioned in 2-2-4-2.

(2) Contents of Consultant Assignment in Myanmar and Japan

The scope of the works for the supervisor at the project site is to check and approve the construction plans and drawings, management of the construction schedule to monitor building construction and procurement and installation of equipment. The scope of the works for the supervisor in Japan is quality control for building construction methods and materials and design through reports by the supervisor at the project site, reporting progress of the construction work to JICA, and inspection of equipment procured from Japan in factories before shipment.

(3) Issuance of Certificates

The certificates on export of construction materials and equipment, the payment for construction, practical completion and final completion, etc., are issued.

(4) Submission of Reports, etc.

Checking and approving monthly progress reports, completion documents and photos of works from the contractor and submitting to the Government of Myanmar and JICA. The completion report shall be prepared and submitted to JICA in accordance with the Grant Aid guidelines.

(5) Others

Help expedite and monitor the schedule of works to achieve smooth operation of related works executed by the Government of Myanmar, as necessary.

2-2-4-5 Quality Control Plan

(1) Basic Policy

The Detailed Design drawings was developed based on the studies analyzed from actual circumstances in Myanmar, maintenance cost, use of local materials and local construction methods during the Implementation Reviews Study. The specification should comply with Myanmar's construction standards, Japanese Regulations such as Japanese Architectural Standard Specification (JASS), British Standards (BS) and American Society for Testing and Materials (ASTM) to ensure the quality of buildings, utilities and equipment. The construction plan, implementation schedule and shop-drawings which are to be submitted by the contractor during the construction period shall be examined and approved by the consultant.

(2) Quality Examination

The Consultant shall examine the implementation plan submitted by the Contractor prior to the commencement of each stage of the works, and approve it if the construction materials and the execution methods conform to the Specification. The Consultant should inspect necessary portions of work based on the implementation plan and Specifications.

Intermittent inspections of the materials or the execution of work are essential. The manufacturers' warranty on the products shall be sufficient to keep the quality required in the specifications which comply to Codes and Regulations related to developed nations mentioned above.

1) Earthwork

According to the soil investigation report which was made in the Implementation Reviews Study, the ground condition of the project site is not bad. The progress schedule should be examined to consider the rainy season in order to assure safety and schedule.

2) Reinforcing Bar Work

The Mill-Sheet and so on, showing re-bar content submitted by the Contractor should be confirmed by the Consultant. Also bar strength should be inspected to match yield strength in the specification.

3) Concrete Work

There are 3 ready mixed concrete plants in and near Yangon city. They are at a distance of one hour by car from the project site and the production capacity, the storage condition and the quality control are acceptable. Therefore, ready mixed concrete shall be adopted for the strength categories required by this report under structural design. The important items for the supervision works are as follows:

A. Items to be inspected for concrete material

Material	Item to be inspected	Method of inspection
Cement	Hydration Heat	Dissolution Heat
Sand/ Gravel/ Crushed Stone	Grading	Sieve analysis
	Absolute dry specific gravity	Specific gravity & ratio of water absorption
	Alkali aggregate reaction	Alkali aggregate reaction test
Water	Organic impurities	Quality test of water

B. Items to be inspected for the mixing test

Item to be inspected	Method of inspection
Estimate test for structural concrete	Compression test machine
Slump	Slump cone
Concrete humidity	Hygrometer
Air content	Manometer
Chloride volume	Measuring instrument for salt

C. Items to be inspected for the concrete placing

Item to be inspected	Method of inspection
Time from mixing to completion of concrete placing	Check time of completion of concrete placing (one hr. or less)
Slump	Slump cone
Concrete humidity	Hygrometer
Air content	Manometer
Chloride volume	Measuring instrument for salt

D. Items to be inspected in the progress schedule (Inspection for the accuracy of concrete placing)

Item to be inspected	Method of inspection
Estimate test for structural concrete	Compression test machine
Accuracy for the openings of door & windows	Measurement
Accuracy for horizontal level of concrete slab	Spirit level & measurement
Status of Finishing	Visual inspection

2-2-4-6 Procurement Plan

(1) Procurement Plan for Building Construction

Local materials shall be used as much as possible and the basic policy shall be to reduce cost and to select materials that will have the best quality with low maintenance costs.

The division of procurement of construction materials is as shown in the following Table 2-18. As shown, most of the materials can be obtained in Myanmar. However, most of materials for finishing work come from neighboring countries such as Thailand. So it should be confirmed that there are no problems with respect to material quality and production quantity from its locality of procurement.

Table 2-18 Procurement Situation of Construction Materials

Name of material	Locally Produced	From Japan	From Third Country	Remarks
Construction materials				
Sand/Gravel	○			
Cement	○			Ban on import
Bricks	○			
Form/Timber	○			
Re-bar	○		○	Thailand, Singapore, China
Steel frames		○	○	Thailand
Concrete Blocks	○			
Roof materials	○			
Wood Fittings, Metal Fittings	○			
Tiles	○			
Waterproof Agent	○			
Paint	○			
Electric Materials				
Electric Cable/Conduit			○	Thailand, Singapore, Malaysia
Distribution Panel Board			○	Ditto
Lighting Appliances			○	Ditto
Wiring Equipment			○	Ditto
Communication Appliance			○	Ditto
Public Address Equipment		○		
Utility Materials				
Pumps			○	Thailand, Singapore, Malaysia
Elevated Reservoir Tank			○	Ditto
Pipes/Valves			○	Ditto
Sanitary Fixtures		○	○	Ditto
Air conditioner and Fan		○	○	Ditto
Equipment				
Lobby Display System		○		
AV system		○		
Furniture (Desk, Chair, etc.)	○			

Table 2-19 Procurement Situation of Construction Equipment

Name of equipment	Locally Produced	From Japan	From Third Country	Remarks
Back hoe	○			
Bulldozer	○			
Dump truck	○			
Vibrating roller	○			
Tamper	○			
Water pump	○			
Re-bar bender	○			
Concrete pumping car	○			
Welding machine	○			
Track crane (25t)	○			
Generator (50KVA)	○			
Temporary scaffolding	○			

(2) Transportation Plan

As for the procurement from Japan or third counties, approximately one month for custom clearance (from document submission to finalizing) is anticipated and such time should be considered part of the overall schedule. All transportation is considered ocean freight and the transportation time are as follows:

1) Procurement from Japan: The route via Singapore for the ocean freight should be considered.

   Freight Days from Japan to Yangon

   Tokyo Port <approximately four times per month/customs clearance - two days> → (voyage seven to ten days) → Transshipment at Singapore (four or five days) → Yangon Port (approximately three weeks in all)

2) Procurement from third countries: mainly from Bangkok.

   Freight Days from Bangkok to Yangon

   Bangkok <three times/week> → (voyage twelve to fourteen days) →Yangon Port (approximately two weeks in all)

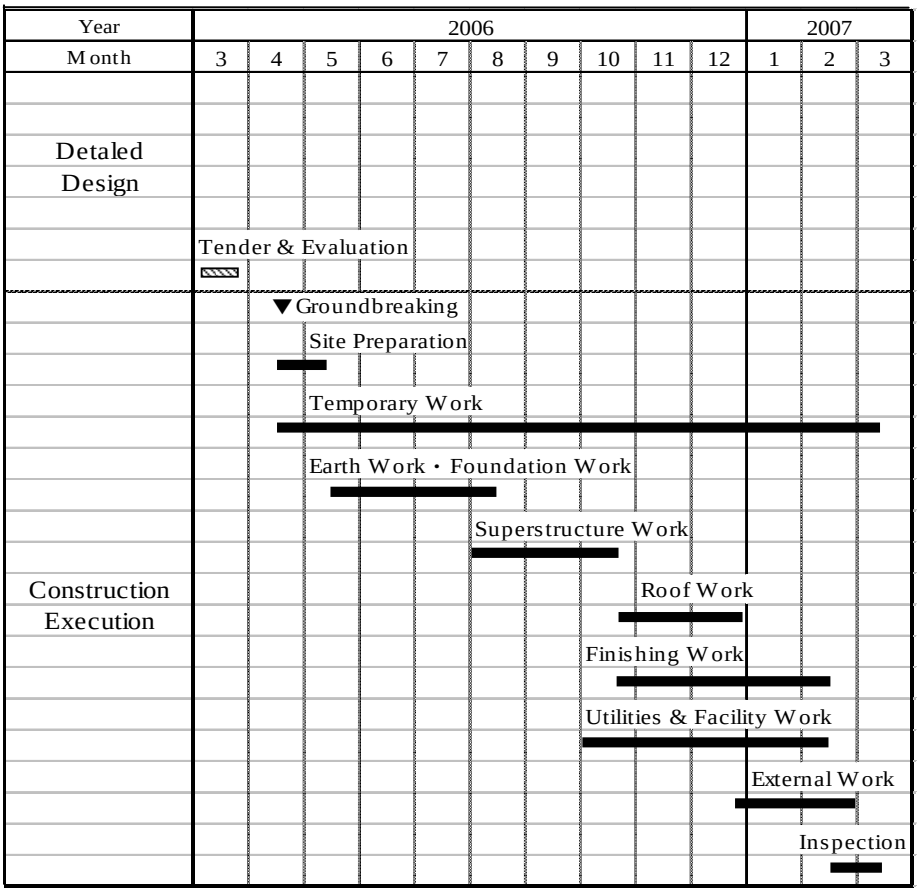
3) Time required for transportation of imports

   The time required for transportation of imports to the project site shall be the sum of the time required for ocean freight, import duty procedure, procedure of the customs clearance and the transportation from the ports to the project site. The master list system that imports are judged and approved in advance for import duty is adopted in Myanmar. It takes approximately three weeks for the procedure to clear import duty. Compared with the time required for above-mentioned procedure and transportation, this is the time required for transportation of imports.

2-2-4-7 Implementation Schedule

The tentative implementation schedule for the Project is expected to be as shown in Table 2-20.

Table 2-20 General Project Schedule



1) The influence of the rainy season to the earth work, foundation work and superstructure work is taken into consideration. The suitable time necessary for completion of plastering work is considered to avoid the frequent occurrence of cracks.

2-3 Obligations of the Myanmar side

In the case the Project is implemented, the Myanmar side will carry out the following scope of works, and it has been confirmed that the Myanmar side agree to execute their scope of works during the Basic Design Study.

(1) Responsibilities of the Myanmar side

1) Tax Exemption
   - Under the Japan's Grant Aid Scheme, the equipment and materials purchased for the Project shall be tax free.
   - Based on the contract that was verified, the equipment and service provided, and the Japanese who are involved in this Project shall be exempt from custom tariff, income tax and other domestic taxes.

2) Assistance with Entry Permit and Visa
   - Based on the verified contract, assistance with entry permit and visa will be provided in Myanmar to the Japanese nationals who will be involved in this Project.

(2) Portions by the Myanmar Side

The portions, except "Table 2-16 Extent of works" by the Myanmar side are noted as follows:

1) Before Launching the Construction Work
   - Clearing the Site, such as removal of trees and other obstacles that may disturb the construction, and back-filling and leveling of the Site and relocating high voltage and low voltage power line and its electric poles to out side of the Site before the construction starts.
   - Providing temporary power and water supply, telephone line and sewerage for the construction.

2) During the Construction Work
   - Installation of security fences around the Site.
   - Landscaping and planting, etc., in the Site.

- To purchase and install office furniture, curtains and carpets, etc., for the new building.
- Construct cabling or piping work for main feeder wiring, water supply and telephone line, etc., to the Site.
- To issue permissions and licenses, etc., necessary for the implementation of the Project, without delay.

3) After Completion of the Construction Work

- Securing the expense for the operation and maintenance of the facility.

  For the portions by the Myanmar side, in order to carry out the Project smoothly, sufficient explanation of the contents, schedule, etc., should be given.

  The budget for the portions by the Myanmar side is to be prepared with a special budget. In order to facilitate the construction according to the schedule, the Myanmar side must complete their scope of works on schedule and coordinate their works with the Japanese side, in order to achieve the final completion date. The Basic Design Study Team has also explained this importance. It is necessary for the Japanese side to monitor the progress in regard to this matter.

2-4 Project Operation Plan

(1) Maintenance and Operation Plan for Facilities

Although the building in the Center is expected to be maintained by the engineering department of DHE, it was found that the management system had not been firmly established within DHE during the Implementation Reviews Study. To cope with the situation, it was acknowledged that it is necessary to establish the management system for the facilities on the DHE side in future by the opening of the Center along with the implementation of daily inspection, preparation of documents and the education and training of maintenance staff.

(2) Equipment/Operation, Maintenance and Management Plan

Planned equipment includes only some audiovisual equipment. Maintenance staff of the MJC will conduct daily maintenance. In the case of serious damage of the equipment, the manufacturer's service centers will be commissioned in the neighboring countries such as Thailand or Singapore. Therefore, it would be difficult to have repairs made promptly.

Thus, it should be required to train and educate equipment maintenance staff as well as facility maintenance staff.

2-5 Cost Estimate of the Project

2-5-1 Cost Estimate of the Project

This cost estimate is provisional and would be further examined by the Government of Japan for the approval of the Grant. Under the conditions described in item (3), the breakdown of the costs associated with the division of burden between the Japanese side and the Myanmar side of the required costs are estimated as follows:

(1) Portions by the Japanese Side

Cost Estimate

Approximately 409million Japanese yen

Item of expenditure		Cost Estimate (million yen)	
Facility	The MJC Building (Seminar rooms, Library, Auditorium, etc.)	351	361
	Furniture	7	
	Equipment (AV system, Large-sized Screen)	3	
Fee for Detail Design, Tender preparation and Site supervision			48

(2) Portions by the Myanmar Side

Item of expenditure	Cost Estimation (Kyat)
1) Drain Line Work	27,400,000
2) Earth Work	8,400,000
3) Fencing Work	26,000,000
4) Ground Tank Work	13,600,000
5) Pumping Station	3,600,000
6) Electrical Service Cable Work	31,000,000
7) External Water Supply Work	3,900,000
8) Landscaping and Gardening Work	10,000,000
9) Furniture Work	97,000,000
10) Others	85,700,000
Total	306,600,000

(Approximately 35.5million Japanese yen)

(3) Additional Conditions:

1) Time of the Cost Estimate : November 2005 (average in the period from 1 September, 2005 to 30 November, 2005)
2) Exchange Rate : 1US$ = 115.72 Japanese yen

1US$ = 1,000 Kyat (1FEC = 1US$)

3) Term of construction : 10.5 months

4) Others : This Project is implemented by Japan's Grant Aid Scheme.

2-5-2 Administration, Operation and Management Cost

(1) Expenses Required for MJC

The running cost (expenses for water, power and fuel) for the MJC are calculated as follows:

1) Electricity Cost

A. Assumption

Maximum Demand	130 kw
Load Factor	0.35

B. Tariff of Electricity Charge by Myanmar Electric Power Enterprise (MEPE)

Fixed Charge	0 Kyat/ Month	
Demand Charge	0 Kyat/ kw	
Energy Charge	5 Kyat/ kwh	For Governmental Use

C. Monthly Electricity Cost

Fixed Charge							=	0
Demand	130 kw	×	0 Kyat/ kw				=	0
Energy	130 kw	×	720 H/ Month	×	0.35	× 5 Kyat/ kwh	=	163,800
			Total					163,800
								(Kyat/Month)

D. Annual Electricity Cost

163,800 Kyat/ Month	×	12 Months/ Year	=	1,965,600	
				(Kyat/Year)	

2) Telephone Cost

A. Assumption

Direct Line:	2-Lines
Trunk Line:	3-Lines

B. Schedule of Telephone Charge by Myanmar Post & Telecommunication (MPT)

Local call charge	3.0 Kyat/ min
Long distance charge (101～200 miles)	5.4 Kyat/ min
International call charge	190.0 Kyat/ min

C. Assumed call time

Local call	900 min/ Month/ Line
Long distance call	300 min/ Month/ Line
International call	150 min/ Month/ Line

D. Monthly Telephone Cost

Local call	900	×	3 Kyat/ min	×	5 Lines	=	13,500
Long distance call	300	×	28 Kyat/ min	×	5 Lines	=	42,000
International call	150	×	190 Kyat/ min	×	2 Lines	=	57,000
			Total				112,500 (Kyat/ Month)

E. Annual Telephone Cost

112,500 Kyat/ Month × 12 Months/ Year = 1,350,000 (Kyat/ Year)

3) Fuel Cost

A. Assumption

Conditions Stand-by Generator 100 KVA 3 ϕ 415V 50Hz: 1 No.

Fuel consumption: 26L/ Hour

Assuming Ten (10) hours running a week

B. Fuel cost

Diesel Fuel 40 Kyat/ L (For Governmental Use)

C. Annual Fuel Cost

26 L/Hour × 10 Hours/ week × 52 Weeks/ year = 13,520 (L/ year)

13,520 L/year × 40 Kyat/ L = 540,800 (Kyat/ year)

4) Data Communication Cost

※According to the Tariff of Bagan Cybertech

A.	Inter-net Access Cost (256kbs)	120,000 Kyat/ month
	Total	120,000 Kyat/ month

B. Annual Data Communication Cost

120,000 Kyat/ month	×	12 Months/ year	=	1,440,000
Annual Fee				180,000
Total				1,620,000
				(Kyat/ year)

5) Water Supply and Sewage Cost

A. Maximum consumption per day of water Supply and Sewage 15 cu.m/ day

B. Unit Cost for water Supply and Sewage 100 Kyat/ cu.m

C. Annual Water and Sewage Cost

15 cu.m/ day	×	360days/ year	×	0.7	×	100 Kyat/ cu.m	=	378,000
								(Kyat/ Year)

6) Annual Running Cost

Electricity Cost		1,965,600
Telephone Cost		1,350,000
Fuel Cost		540,800
Data Communication Cost		1,620,000
Water Supply and Sewage Cost		378,000
	Total	5,854,400
	Approximately	5,900,000
		(Kyat/ year)

Chapter 3　PROJECT EVALUATION AND　RECOMMENDATIONS

CHAPTER 3 PROJECT EVALUATION AND RECOMMENDATIONS

3-1 Project Effects

(1) Direct Effects

1) By preparing and arranging for seminar and computer rooms necessary to hold business courses and Japanese language courses, it will become possible to implement the required curriculum for Japanese language education and to bring up competent and capable personnel who will eventually engage in the making of market economy.

2) By preparing and arranging for a culture exchange room and Japanese-style room, it will become possible to carry out programs and activities which contribute to promote culture exchange between Myanmar and Japan.

3) By preparing and arranging for an auditorium, it will become possible to hold Japanese speech contests, show Japanese movies, hold various lecture meetings and all sorts of exhibitions, workshops, etc., based at the MJC which were hitherto held at the Japanese embassy or other rental facilities.

4) By preparing and arranging for a library which can accommodate approximately 5,000 books related to Japan , economy, etc., as well as provide reading space, it will become possible to make public and to gather information at the MJC which will provide required information to visitors as well exchange information based thereat.

(2) Indirect Effects

1) By the planned facilities being established and maintained under the Project and their realizing required activities related to Japanese language education, market economy and culture exchange between Myanmar and Japan, the MJC is anticipated to play the main role in academic and culture exchange between the two nations.

2) By the planned facilities being established and maintained under the Project realizing required activities related to Japanese language education, market economy and culture exchange between Myanmar and Japan, intensification of human resources engaged in

various sectors of Myanmar's society such as more people learning about Japan and their language, more capable Japanese language teachers becoming available, development of competent and capable persons who contribute towards bringing about market economy, etc., can be expected.

3) Again, by the planned facilities being established and maintained under the Project realizing required activities related to Japanese language education, market economy and culture exchange between Myanmar and Japan, all sorts of interchanges at various levels such as state level, academic exchange, private sector exchange, etc., will materialize facilitating mutual understanding.

4) Through the planned facilities being established and maintained under the Project and by the MJC strengthening cooperation with other Japan Centers in Asian nations and through various activities, such as information exchange between Japan and other nations all over Asia, should certainly promote mutual understanding between each other as well as intensify human resources of each nation concerned.

Table 3-1 Summary of Effect and Improvement through the Project

Current situation and existing problems	Activities of the Project	Effect and improvement
1. The organization which can receive the education regard to the market economy in Myanmar is only the MBA course of the Yangon Institute of economics, and the business related courses of CHRD. Now, a matter of great urgency is to improve educational environment with limited attendance capacity, shortage of number and quality of lecturers etc.	A seminar room (30 persons) required for business courses, a computer room (30 persons), an auditorium (150 persons), and a library are improved by implementation of this Project.	It is expected that the human resources who respond to market economy in Myanmar be developed to 1,980 persons every year by implementation of the business courses such as the long-term course (30 person x 2 time/year), a medium term course (30 person x 4 time/year), and a short term course (150 person x 12 time/year).
2. For promotion of the mutual understanding between Myanmar and Japan, a Japanese speech contest, a Japanese movies, various lecture meetings, various shows, the workshop, etc., have been held at the Japanese embassy or other rental facilities. Now it is urgent and necessary to hold above programs at one location.	An auditorium, a culture exchange room (a Japanese-style room is also included), an exhibition space, and a seminar room for Japanese language courses are improved by implementation of this Project.	It becomes possible to carry out each culture exchange programs by this center to provide a base. Moreover, the increase in those who study Japan and Japanese language, and the number of Japanese language teachers and improvement in quality teaching methods are expected. The exchange in various fields levels, such as exchange on the national level of two countries, exchange between arts and sciences, and exchange in the private sector, are realized, and mutual understanding is promoted.

3-2 Recommendations

In conclusion, the recommendations relative to executing this Project are described below.

(1) Establishment of Management Organizations in the MJC by the Myanmar side

Although management and operation of the presently planned MJC will take the form of joint management between Japan's Technical Cooperation Project and Myanmar, it is actually expected to be largely dependent on those involved in the Technical Cooperation Project. The Myanmar side is now in the course of selecting staff to operate and manage the Center and it is considered that establishing a Myanmar management system will in the real sense lead to educational, economic and culture exchange between both nations and substantial joint activity by staff of both nations. Therefore, establishing a Myanmar management system both in respect to human resources and financial aspects through the Technical Cooperation Project will be required.

(2) Establishment of MJC Functions

The MJC will aim at establishing the function as the central organ within Myanmar for exchange between Myanmar and Japan. In regard to the future with the Center at the core, there is ample room to scrutinize plans, to expand activities through cooperation and exchange with other universities and research institutes such as implementing scientific activity cooperation with each faculty, etc., of Yangon University where the MJC is situated. Therefore, whilst constantly paying close attention to Myanmar's national educational plans and to the direction in which market economy is heading, by scrutinizing the role of the Center amidst such circumstances, it is felt that expanding the functions of the Center and making it function more effectively will indeed be possible.

APPENDICES

1. Member List of the Study Team
2. Study Schedule
3. List of Parties Concerned in the Recipient Country
4. Minutes of Discussions
5. Other Relevant Data
6. References

1. Member List of the Study Team

1) Implementation Review Study

Duty	Name	Study period	Affiliation
1) Leader	Takahiro Sasaki	September 29 - October 29	JICA
2) Chief consultant/ Maintenance planning	Masaichi Yamamoto	September 29 - October 29	Azusa Sekkei Co., Ltd.
3) Architectural designing/ Construction planning	Yasuhiro Nakajima	September 29 - October 29	Azusa Sekkei Co., Ltd.
4) Facility planning/ Equipment planning	Yasuto Toyoki	October 5- October 19	Azusa Sekkei Co., Ltd.
5)Procurement planning/ cost estimation	Yasuhiko Yanagi	September 29 - October 19	Azusa Sekkei Co., Ltd.

2) Draft Explanation

Duty	Name	Study period	Affiliation
1) Leader	Kazuhisa Arai	December 18 - 25	JICA
2) Chief consultant/ Maintenance planning	Masaichi Yamamoto	December 18 - 25	Azusa Sekkei Co., Ltd.
3) Architectural designing/ Construction planning	Yasuhiro Nakajima	December 18 - 25	Azusa Sekkei Co., Ltd.
4) Facility planning/ Equipment planning	Yasuto Toyoki	December 18 - 25	Azusa Sekkei Co., Ltd.

2. Study Schedule

1) Implementation Review Study

September 29, 2005 - October 29, 2005 (31 days)

Sept. 29	Thu	11:00 18:00 19:00	Departure from Narita by JL717 (Yamamoto/Nakajima/Yanagi) Departure from Bangkok by TG305 Arrival at Yangon
Sept. 30	Fri	10:00-10:45 11:00-11:20 11:40-14:30 15:00-16:00 17:00-17:30 18:00-20:00	Courtesy visit to JICA Myanmar office Courtesy visit to Japanese Embassy in Myanmar Courtesy visit to Myanmar-Japan Center Witnessing of the construction site Courtesy visit to Department of Higher Education, Ministry of Education Team meeting
Oct. 1	Sat	9:00-19:00	Meeting with survey/geological research companies
Oct. 2	Sun	9:00-17:00	Data collation/team meeting
Oct. 3	Mon	10:00-13:00 14:00-15:00 15:30-18:00	Data collation Meeting with the Department of Higher Education (at JICA Office) Data collation
Oct. 4	Tue	9:00-10:30 11:00-12:00 13:00-18:00 13:00-18:00 18:00-19:00	Data collation Research on construction materials/unit prices Meeting with survey/geological research companies (Yamamoto) Research on construction materials/unit prices (Nakajima/Yanagi) Team meeting
Oct. 5	Wed	9:00-19:00 9:00-19:00 19:30-21:00 19:00	Meeting with survey/geological research companies (Yamamoto) Research on construction materials/unit prices (Nakajima/Yanagi) Data collation Toyoki arrives at Yangon
Oct. 6	Thu	9:00-13:00 14:00-16:00 16:00-18:00	Data collation Meeting with the Department of Higher Education (at JICA Office) Team meeting
Oct. 7	Fri	10:00-12:00 13:00-18:00 14:30-16:00	Witnessing the start of site survey Data collation Meeting at the JICA Office(Yamamoto/Nakajima)
Oct. 8	Sat	10:00-11:00 11:00-:00	Witnessing of site survey Data collation
Oct. 9	Sun		Team meeting
Oct. 10	Mon	9:00-12:00 14:00-14:30 14:30-15:00 15:30-17:00 17:00-19:00	Team meeting, data collation Meeting with the geological research company(Yamamoto) Technical assistance meeting Research on local construction companies Research on construction materials/unit prices
Oct. 11	Tue	9:30-10:00 10:00-12:00 13:00-17:00 11:00-15:30 16:00-17:00 16:00-19:00	Meeting at the JICA Office Meeting with YCDC(Nakajima/Toyoki) Research on construction materials/unit prices (Nakajima/Toyoki) Research on local construction companies(Yamamoto/Yanagi) Meeting at the JICA Office (Yamamoto/Yanagi) Data collation
Oct. 12	Wed	9:00-15:00 9:00-13:00 9:00-19:00	Research on local construction companies(Yanagi) Meeting with YCDC (Nakajima) Data collation

Oct. 13	Thu	9:00-11:00 9:00-10:00 11:00-12:00 14:00-15:00 15:00-19:00	Research on local construction companies (Yanagi) Meeting with the Department of Higher Education (Yamamoto/Nakajima/Toyoki) Meeting with the fire station (Yamamoto/Nakajima/Toyoki) Meeting with YCDC (Nakajima/Toyoki) Data collation
Oct. 14	Fri	9:00-12:00 10:00-11:00 15:00-16:00 17:00-19:00 19:00-23:00	Data collation Contracting with a geological research company (Yamamoto/Yanagi) Reporting to the Japanese Embassy Data collation Team meeting
Oct. 15	Sat	9:30-11:30 12:00-13:00	Witnessing of geological research Data collation
Oct. 16	Sun	9:55 11:40	Departure from Yangon by TG304 (Toyoki/Yanagi) Arrival at Bangkok (Toyoki/Yanagi)
Oct. 17	Mon	9:00-19:00	Research on procurement from third countries (Toyoki/Yanagi) Discussion on the site layout plans (Yamamoto/Nakajima)
Oct. 18	Tue	9:00-10:00 11:00-14:00 16:00-18:00	Research on procurement from third countries (Toyoki/Yanagi) Explanation about the site layout plans at the JICA Office (Yamamoto/Nakajima) Discussion with the geological research company (Yamamoto) Confirmation of matters for consultation with the vice minister (Yamamoto/Nakajima)
Oct. 19	Wed	8:35 16:35 10:00-11:20 14:00-15:30 16:00-17:30	Departure from Bangkok by JL708 (Toyoki/Yanagi) Arrival at Narita (Toyoki/Yanagi) Consultation with the Vice Minister of Education (Yamamoto/Nakajima) Meeting with the fire station (Yamamoto/Nakajima) Discussion with the geological research company (Yamamoto)
Oct. 20	Thu	10:00-11:00 11:30-12:30 14:30-15:30	Water-supply-related research at YCDC (Nakajima) Discussion with the geological research company on the loading test implementation method (Yamamoto) Inspection of a nursing college (ODA issue) (Yamamoto/Nakajima)
Oct. 21	Fri	10:00-12:00 13:00-15:00 18:30-21:00	Discussion about role sharing and so on the Department of Higher Education, Ministry of Education(Yamamoto/Nakajima) Site inspection of the progress of boring works (Yamamoto) Interview with the MJC Office/long term experts (Yamamoto/Nakajima)
Oct. 22	Sat	9:30-12:00 13:00-15:00	Site inspection of the progress of boring works (Yamamoto/Nakajima) Discussion with the geological research company on the loading test (Yamamoto)
Oct. 23	Sun	16:00-17:00	Site inspection of the ground level for loading test(Yamamoto/Nakajima)
Oct. 24	Mon	11:00-12:00 15:00-16:00 16:00-17:30	Discussion with the geological research company on the loading test(Yamamoto) Meeting with the fire station (Yamamoto/Nakajima) Research on materials (Yamamoto/Nakajima)
Oct. 25	Tue	10:00-19:00	Witnessing of the start of the loading test at site (Yamamoto/Nakajima)

Oct. 26	Wed	14:00-16:00 17:00-18:00	Signature on minutes Reporting to the Japanese Embassy
Oct. 27	Thu	9:55 11:40	Departure from Yangon by TG304 (Yamamoto/Nakajima) Arrival at Bangkok (Yamamoto/Nakajima)
Oct. 28	Fri		Procurement research
Oct. 29	Sat	7:30 15:40	Departure from Bangkok(Yamamoto/Nakajima) by TG676 Arrival at Narita(Yamamoto/Nakajima)

(2) Draft Explanation

Dec.18	Sun	10:50 18:00 19:00	Departure from Narita by ANA953 (all team members) Departure from Bangkok by T6 305 Arrival at Yangon
Dec.19	Mon	10:00-10:45 11:00-11:45 14:00-15:00 16:00-17:00	Reporting at JICA Myanmar office Reporting at Japanese Embassy in Myanmar Site inspection Courtesy visit to the Department of Higher Education, Ministry of Education
Dec.20	Tue	13:00-16:00	Draft explanation and presentation at the Department of Higher Education, Ministry of Education
Dec.21	Wed	11:00-13:00 16:00-17:00	Question and answer at the Department of Higher Education, Ministry of Education Discussion over minutes Supplementary research on unit construction costs in the city (Yamamoto, Nakajima)
Dec.22	Thu	11:05-12:00 16:00-17:00	Discussion on minutes; correction of drafts Consultation with the local consultant
Dec.23	Fri	10:00-12:00	Signing ceremony for minutes and detailed design drawings at JICA Myanmar office
Dec.24	Sat	19:45 21:25	Team meeting/document filing Departure from Yangon by T6 306 Departure from Bangkok by ANA954
Dec.25	Sun	6:40	Arrival at Narita

3. List of Parties Concerned in the Recipient Country

Ministry of Education (MOE)	
Mr. Myo Nyunt	Deputy Minister
Department of Higher Education (DHE)	
Mr. U SAW LWIN	Director General
Mr. Zaw Htay	Deputy Director General
Mr. Khin Tun	Director (Engineering Departmennt)
Mr. Nyan Win Aung	Deputy Director (Engineering Departmennt)
Embassy of Japan	
Mr. Hiroshi Kawamura	Minister
Mr. Masashi Ogawa	Counselor
Mr. Tomofumi Yokoyama	Second Secretary
JICA Myanmar Office	
Mr. Takahiro Sasaki	Resident Representative
Ms. Kana Takamatsu	Project Formulation Adviser
Mr.U Maung Maung Than	Program Officer
Ms.Nwe Kyaw See	Program Assistant
Myanmar－Japan Center (MJC)	
Mr. Kenji Iwaguchi	Chief Adviser (Co-Director)
Mr. Yoshiya Nishibata	Project Coordinator
Mr. Shigeo Kato	Expert on Exchange Programme
Water & Sanitation Department	
Yangon City Development Committee	
Mr. U Thaung Yin	Chief Engineer
Mr. U Saw Myintswe	Executive Engineer
Ms. Daw Thwe Naing Oo	Executive Engineer
Mr. U Ohn Win	Section Head
Mr. Daw Khim Khim Laff	Assistant Chief Engineer Drainage Section
Mr. Soe Thein	Executive Engineer Roads & Bridges Department
Ms. Aung Swe	Urban Drainage Advisor Roads & Bridges Department
Fire Authority	
Mr.U Ko Ko Hlaing	Deputy Director General FSD (Myanmar)
Mr.Zaw Win	Director FSD (Myanmar)
Mr.U Sue Aung	Director FSD (Myanmar)
Mr.U Kyaw Minn	Assistant Director FSD (Myanmar)

Myanmar Electrical Power Enterprise	
Mr.Pun Age	Division Engineer / Yangon Division
Mr.Win Aung	Deputy Divisional Engineer / Yangon Division
Mr.Daw Nyunt Wai	District Engineer / Yangon West Division

Topographical Surveyor	
Pioneer	
Mr. Myo Nyunt	Chief Surveyor

Soil Surveyor	
Suntac Tecnologies	
Mr.Thin Myint	General Manager
Mr. Khaing Win	Head of Department
Mr. Thet Naing win	Deputy Head of Department

Constractor	
Taisei Corporation Myanmar Office	
Mr. Hisashi Ishigurao	General Manager
Mitsui Sumitomo Construction Co.,Ltd.	
Mr.Kyaw Kyaw Moe	Consultant
Maeda Kensetsu Inc.	
Mr.Khin Maung Soe	
Konoikei Construction Co.,Ltd. Yangon Office	
Mr.Win Ko Ko	Assistant Manager
Kajima Myanmar Office	
Mr.Thant Toe Maung	Senior Civil Engineer
Zaykabar Engineering & Construction	
Mr.Kyaw Lin	Director
Asia World Company Limited.	
Mr.Maung Kyay	Director
Mr. Kazuo Suwa	Consultant
A1 Construction & Trading Co.,Ltd.	
Mr.U Yan Win	Managing Director
The Tokyo Enterprise Co.,Ltd	
Mr. Shigeo Hana	Vice President

Material Maker	
YKK (Golden Hill Tower Ltd)	
Mr. Masanobu Aoki	Managing Director

Material Facotry	
High Tech Concrete Co.,Ltd.	
Ms.Khin San Myint	Assistant General Manager

4. Minutes of Discussions

Implementation Review

Minutes of Discussions
on the Implementation Review Study
on the Project for Construction of the Myanmar-Japan Center for Human Resources Development
in the Union of Myanmar

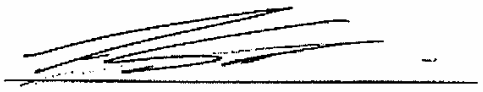
In response to a request from the Government of the Union of Myanmar (hereinafter referred to as "Myanmar"), the Government of Japan decided to conduct an Implementation Review Study on The Project for Construction of Myanmar-Japan Center for Human Resources Development (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Myanmar the Implementation Review Study Team (hereinafter referred to as "the Team"), and is scheduled to stay in the country from 29 September 2005 to 26 October 2005.

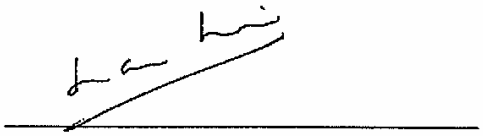
The Team held discussions with the officials concerned of the Government of Myanmar and conducted a field survey at the study area.

In the course of discussions and field survey, both sides confirmed the main items described on the attached sheets. The Team will proceed to further works.

Yangon, October 26, 2005



Mr.Takahiro Sasaki
Leader
Implementation Review Study Team
Japan International Cooperation Agency



U Saw Lwin
Director General
Department of Higher Education
(Lower Myanmar)
Ministry of Education
Union of Myanmar

ATTACHMENT

1. Objective of the Project

The objective of the Project is to establish the Myanmar-Japan Center for Human Resources Development (hereinafter referred to as "the MJC"), to operate (a) business courses, (b) Japanese language courses and (c) exchange program, in order to contribute to the promotion of market economy in Myanmar, mutual understanding and friendly relations between Japan and Myanmar, through the construction of the building and procurement of equipment under the Japan's Grant Aid, in collaboration with the technical cooperation project. This is the same as what both sides agreed on February 7, 2003 at the Basic Design Study for the Project.

2. Project site

The Myanmar side proposed a new site for the MJC. The new site is located in Hlaing Campus of Department of Higher Education as shown in Annex 1-1 and Annex 1-2. The team conducted the field survey to examine the appropriateness of the site.

3. Responsible and Implementing Organization of the project

3-1.The Responsible Organization is the Department of Higher Education (Lower Myanmar), the Ministry of Education. The organization chart is shown in Annex 2-1

3-2.The Implementing Organization is Steering Committee and Managing Committee chaired by Director General of the Department of Higher Education (Lower Myanmar). The organization chart is shown in Annex 2-2.

4. Items requested by the Government of Myanmar

After discussions with the Team, the items described in Annex 3 were finally requested by the Myanmar side. They were basically the same as what listed in the Basic Design Study Report of the Project. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval. Total cost of the Project must be equal or less than the amount mentioned in the Exchange of Notes for the Project signed on 27 June 2005. Both sides agreed to adjust the items to clear this budgetary condition, if necessary.

5. Japan's Grant Aid Scheme

The Myanmar side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Myanmar. Japan's Grant Aid Scheme is described in Annex-4 of the Minutes of Discussions signed by both parties on February 7, 2003. Major undertakings are also described in Annex-5 of the same Minutes of Discussions. After the discussion with the Team, Myanmar side agreed to apply all of these undertakings to the new site described in Annex 4-1, 4-2 and 4-3.

6. Schedule of the Study

6-1. JICA will prepare the draft report in English and dispatch a mission in order to explain its contents in December, 2005.

6-2. In case that the contents of the report is accepted by the Government of Myanmar, JICA will proceed necessary arrangements for the implementation of the Project including recommendation of the consultant.

7. Other relevant issues

7-1. The Project must be completed by the end of March 2007 as Annex 5.

7-2. Myanmar side shall expedite all of the necessary procedure for smooth implementation of the Project especially approval for tender documents, approval for consultant's agreement and

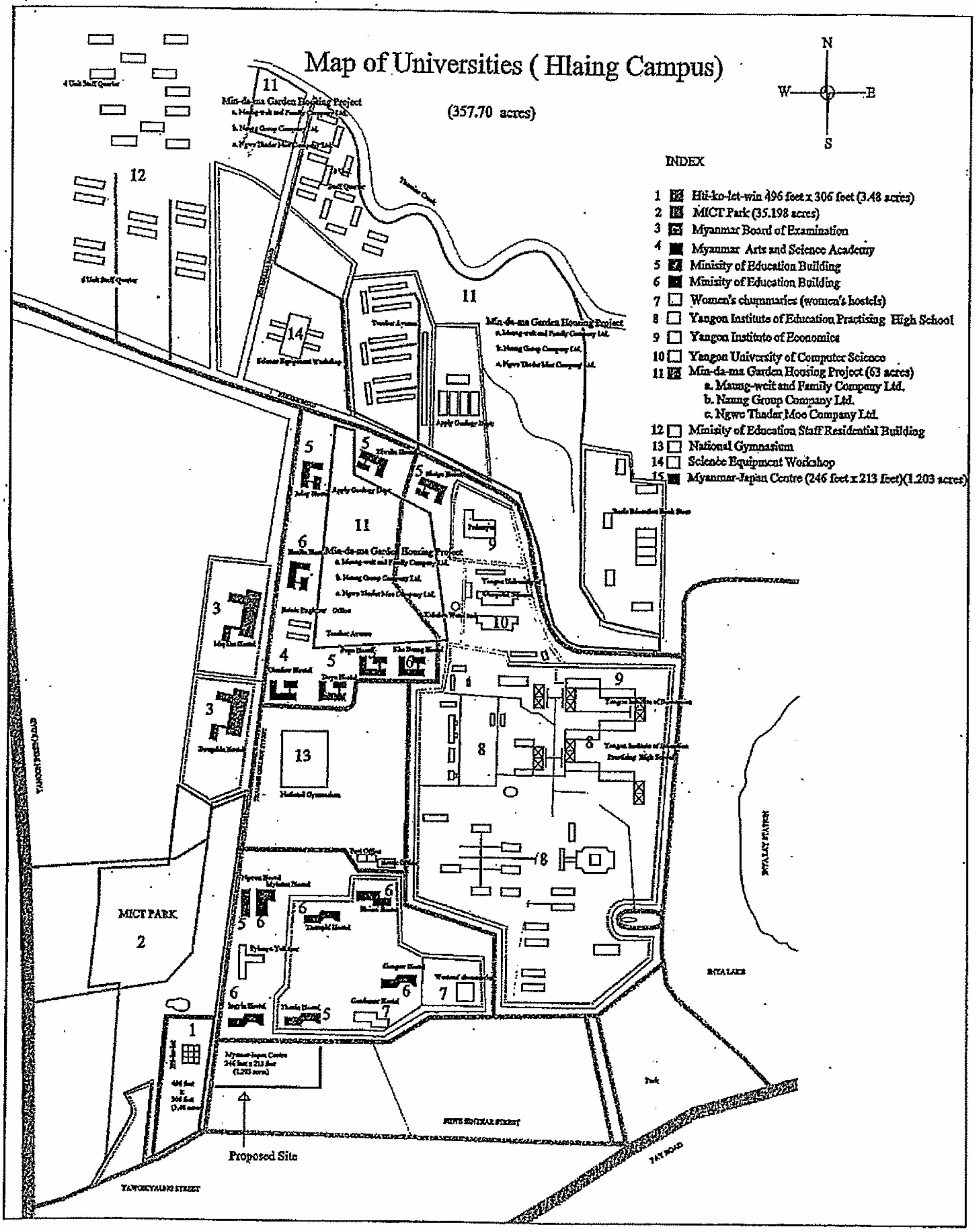
contractor(s)'s contract(s), permissions and licensees and other authorizations to the consultant and the contractor(s). Thus, Department of Higher Education, Ministry of Education will take full responsibilities for smooth implementation.

7-3. The schedules of "Implementation Review Study" and "Tender and Construction Commencement" for the Myanmar-Japan Center for Human Resources Development are as Annex 6-1 and Annex 6-2. Both side agreed to take necessary actions according to the schedule.

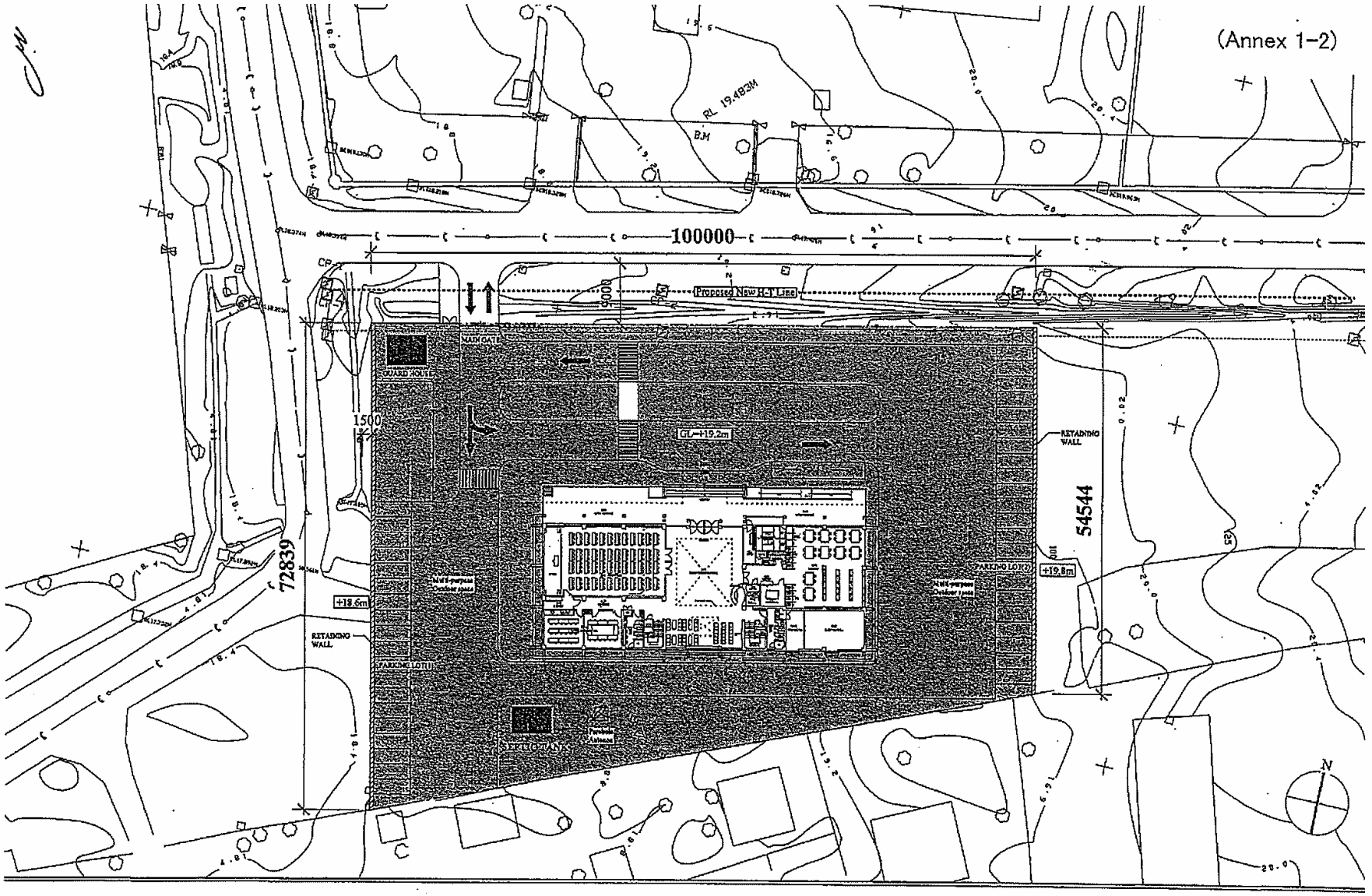
7-4. All of the matters in the minutes of discussions signed on February 7, 2003 shall be effective, unless this minutes of discussions changes original agreement.

7-5. The Department of Higher Education (Lower Myanmar) discussed that with reference to Annex 5, 6-1 and 6-2 in the advent of implementation the terms laid down in those Annexes will be reassessed and carried out as necessity indicates. For Myanmar side, depending on the availability of budget, some of the items may be implemented phase by phase.

(Annex 1-1)


Map of Universities (Hlaing Campus)
(357.70 acres)
N
W
E
S
INDEX
1 Hti-ko-let-win 496 feet x 306 feet (3.48 acres)
2 MICT Park (35.198 acres)
3 Myanmar Board of Examination
4 Myanmar Arts and Science Academy
5 Minisity of Education Building
6 Minisity of Education Building
7 Women's chummaries (women's hostels)
8 Yangon Institute of Education Practising High School
9 Yangon Institute of Economics
10 Yangon University of Computer Science
11 Min-da-ma Garden Housing Project (63 acres)
a. Maung-weit and Family Company Ltd.
b. Naung Group Company Ltd.
c. Ngwe Thadar Moe Company Ltd.
12 Ministy of Education Staff Residential Building
13 National Gymnasium
14 Science Equipment Workshop
15 Myanmar-Japan Centre (246 feet x 213 feet)(1.203 acres)
Min-da-ma Garden Housing Project
MICT PARK
Proposed Site

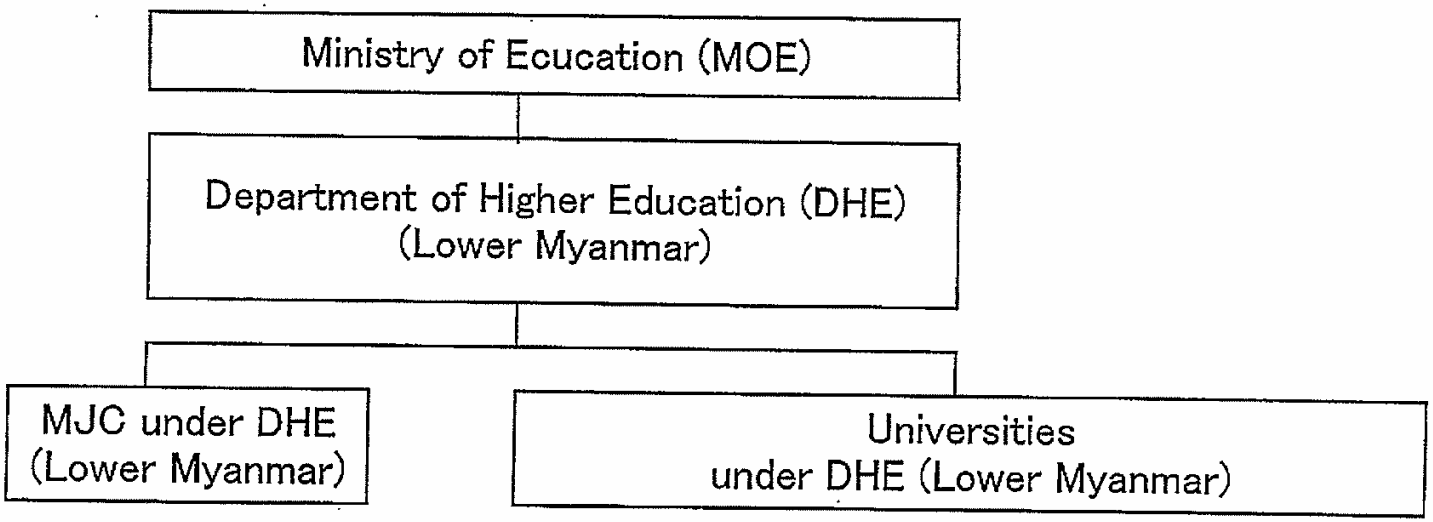
(Annex 1-2)



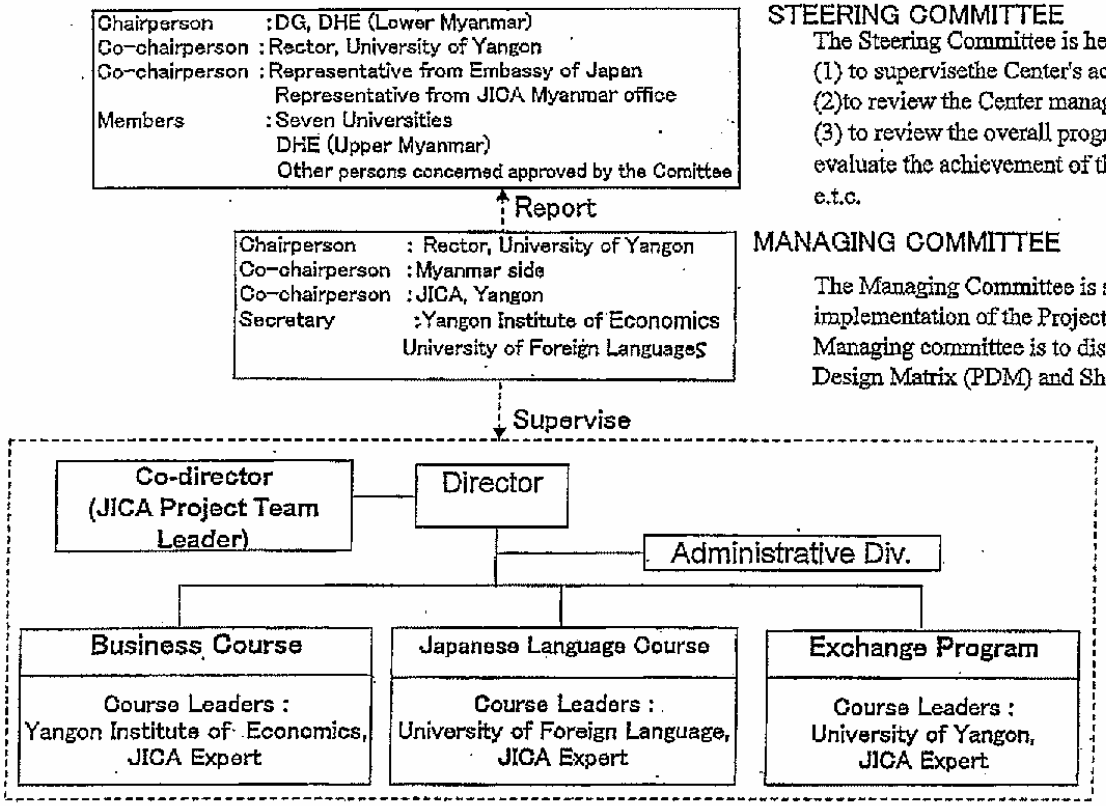
SITE LAYOUT PLAN

PROPOSED SITE AREA (6,360 ㎡) 1/710 (meter) AZUSA SEKKEI CO.,LTD Oct. 24 2005

(Annex 2-1)


Ministry of Ecucation (MOE)
Department of Higher Education (DHE)
(Lower Myanmar)
MJC under DHE
(Lower Myanmar)
Universities
under DHE (Lower Myanmar)

The Organization Chart of Myanmar-Japan Center for Human Resources Development



STEERING COMMITTEE

The Steering Committee is held to discuss followings:
(1) to supervisethe Center's activity
(2)to review the Center management
(3) to review the overall progress of the Project and to evaluate the achievement of the objectives,
e.t.c.

MANAGING COMMITTEE

The Managing Committee is set up for the smooth implementation of the Project. During FY2005, the Managing committee is to discuss such as review of Project Design Matrix (PDM) and Short/Mid Term Action Plan.

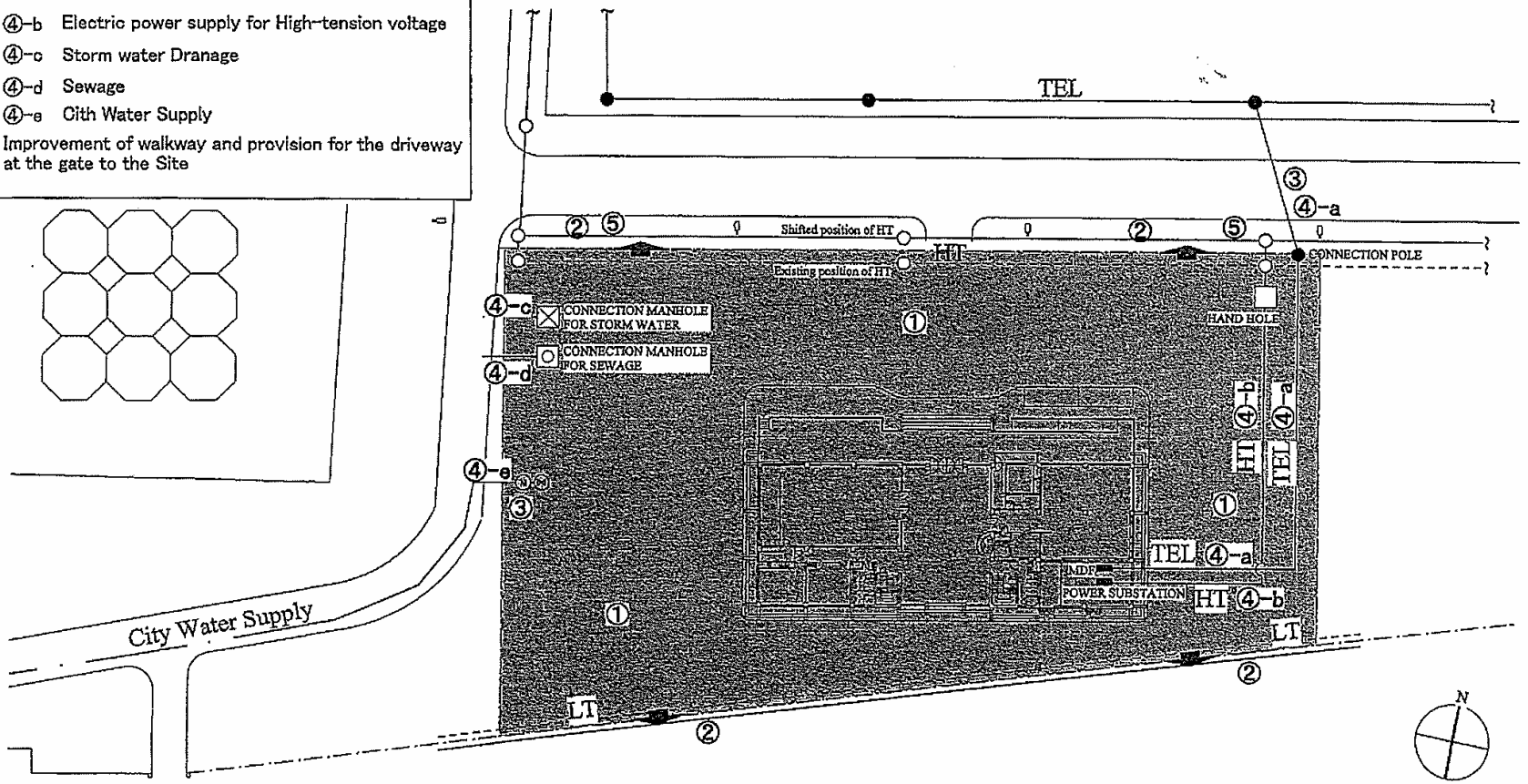
(Annex 3)

Items Requested by the Myanmar Side

No.	Item	Contents
[Facility]		
1	Lobby/Exchange Zone	
	(1) Lobby	
	(2) Library	
	Reading Desk	■ For 40 persons
	Internet Booth	■ For 8 PC booths
	A/V Booth	■ 2 video viewing booths
	Study Carrel	■ 5 study booths
	Control Desk	■ For 1 librarian
	Rack Room	■ For 5,000 books
	(3) Guidance booths	■ 2 booths
2	Seminar Zone	
	(1) Multi-Purpose Room	■ 80 persons, partition into 3 2 translators booths included
	(2) Seminar Room	■ 30 persons × 2 rooms
	(3) Computer Room	■ For 20 PC's
	(4) Cultural Exchange Room	■ 1 room with 8 tatami mats
	(5) Room for Exchange Program	■ 5 persons × 2 rooms, 15 persons × 1 room
	(6) Pantry	■ For beverage
3	Administration Zone	
	(1) Director Room	■ 2 rooms
	(2) Reception Room	
	(3) Administration Office	■ For 6 administration staff
	(4) Instructor Room	■ For 9 instructors
	(5) Meeting Room	■ 20 persons × 1 room
4	Others	
	(1) Auditorium	■ 150 persons 1 room, for seminar and sports competition
	(2) Circulation	■ Corridors, staircases
	(3) Toilets	■ As required
	(4) Machinery Space	■ Power, pump, generator, air conditioner, etc.
	(5) Storage Space	■ For seminar equipment, office supplies, etc.
[Equipment]		
1	(1) Vehicle	■ 2 mini-buses
	(2) Lobby Display System	■ Large size display with satellite transmission system
	(3) Fixed A/V system	■ For multi-purpose room/ Auditorium

(Annex 4-1)

① Ground clearance / Soil cutting or filling / Flat leveling
Landscaping / Planting / Installation of fence
② Remove of the Electric poles (HT & LT)
③ Temporary Power, Water and Telecommunication Supply for the construction
④ Utilities to be connected to the Site
④-a Telecommunication
④-b Electric power supply for High-tension voltage
④-c Storm water Dranage
④-d Sewage
④-e Cith Water Supply
⑤ Improvement of walkway and provision for the driveway at the gate to the Site



Undertakings by Myanmar side

PROPOSED SITE AREA

1/710

AZUSA SEKKEI CO.,LTD

Oct. 24 2005

Extent of Works

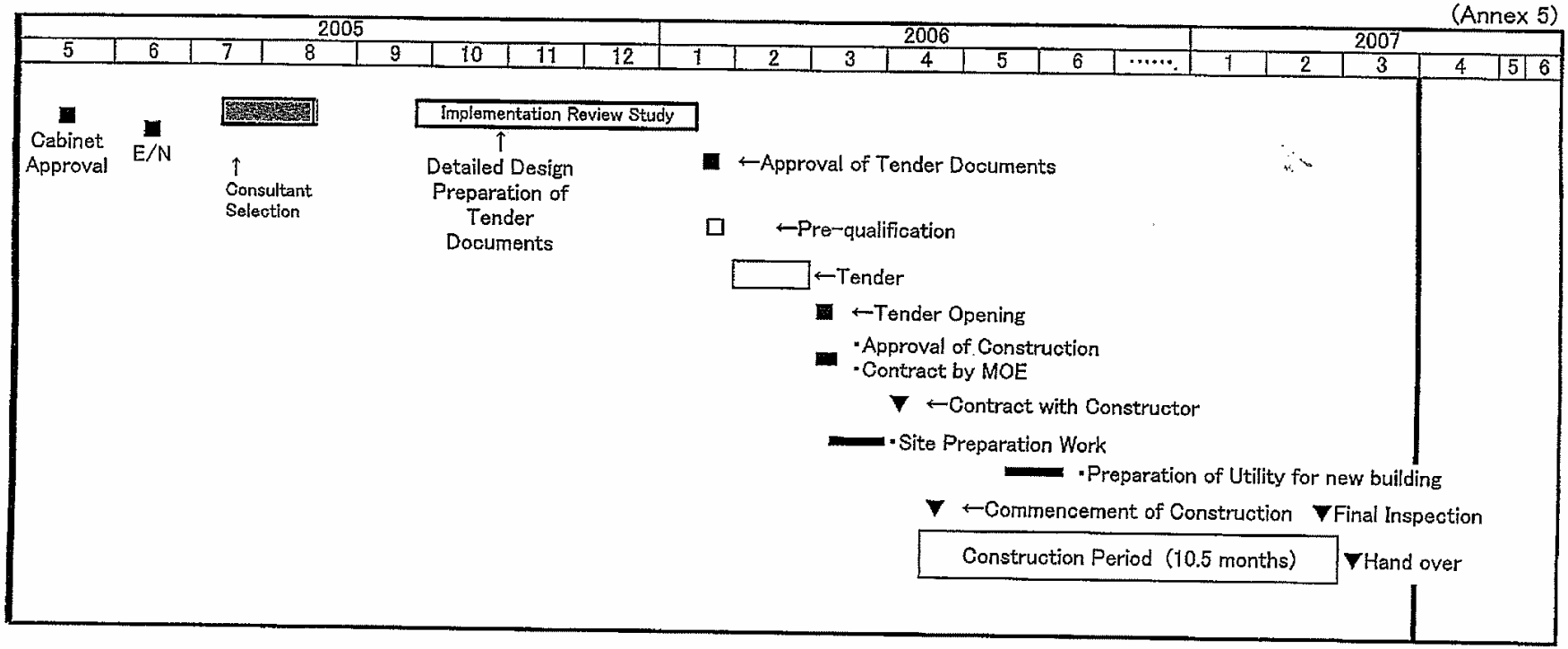
AZUSA SEKKEI Co.,Ltd Oct.24 2005

Portion by the Japanese Side	Portion by the Myanmar Side	Remarks
(1) Building Works Structure works, Finishing works	(1) Site Preparation (Before the construction) ① Ground clearance, Soil-filling and Flat leveling ② Remove of the Electrical poles(HT & LT) ③ Temporary power, water and telecommunication supply for the construction	
(2) Electrical Works Power/trunk facilities, lighting, power outlets, Public Address systems		
(3) Utilities and Facilities (a) Water Supply Construction works for the Water supply from the valve at the water supply meter to the building and all the related internal works for the water supply. (b) Sewerage / Septic tank Sewerage system including piping works up to the connection manhole. (c) Storm Drainage Storm Drainage system including piping works up to the connection manhole. (d) Sanitation facilities (waste water, treatment facility) (e) Reserve tank (f) Fire-extinguishing facilities (g) Electrical supply and transformer system Cabling works from the high tension receiving panel in the Substation to the facilities. (h) Telecommunication system Cabling works from MDF to the facilities, including installation of conduit from the cross connection point at the site boundary to MDF. (i) Lightning Protection System (j) Lighting system in the site	(2) External Works (Under or after the construction) ① Landscaping, Planting, Installation of fence/gate ⑤ Improvement of Walkway around the site	
	(3) Utilities & Facilities ④-e Water Supply Construction of the main feeder to the water valve/meter on the site (including valve/meter) ④-d Sewerage Piping works from the connection manhole on the site to the existing sewerage line including the repair work of the existing ditch. ④-c Storm Drainage Drainage line from the connection manhole in the site to the existing line including the expansion work of the existing drainage line.(if necessary) ④-b Electrical Work Cabling works from the existing power supply point to the new Electrical room in the new MJC Building	See attched cost estimation for reference.
(4) External Work Road, path and parking lots within the site		

Portion by the Japanese Side	Portion by the Myanmar Side	Remarks
(5) Equipment Equipment for Training and Operation & Maintenance	④-a Telecommunication Work Cabling works (for Direct/Extension) to Point Distribution for new MDF/PABX	
(6) Electric Room, Electric Generator Room, Pump Room	(4) General furniture not included in the Japanese portion	
	(5) Others ① Governmental works including the application and obtaining Governmental approvals and permissions ② Smooth custom clearance, tax exemptions and prompt internal transportation for the imported construction materials and equipment. ③ Commissions to the Japanese foreign exchange bank for its banking services based upon the Banking Arrangement namely the advising commission of the "Authorization to Pay" and payment commission	
	(6) Management, operation and maintenance cost for the new building and facilities	
	(7) Tax exemption and necessary preferential treatment for the construction staff from Japan or a third country	
	(8) Smooth entry, re-entry and departure of Myanmar for the Japanese technical staff	
	(9) All the expenses, other than to be born by the Japan's Grand Aid within the scope of the Project	

Project Implementation Schedule (Tentative)
for Construction of Myanmar-Japan Center for Human Resources Development

(Annex 5)



(Tentative)Schedule of Implementation Review Study for the Myanmar – Japan Center for Human Resources Development

(Annex 6-1)

2005									2006		
1-Oct	S	Implementation Review	1-Nov	T	Commensement of	1-Dec	Th	JICA starts examinatio	1-Jan	Su	
2-Oct	Su	Study from Sep. 29	2-Nov	W	Cost Estimation	2-Dec	F	of Cost Estimation	2-Jan	M	
3-Oct	M		3-Nov	Th		3-Dec	S		3-Jan	T	
4-Oct	T		4-Nov	F	Submission of summar	4-Dec	Su		4-Jan	W	
5-Oct	W		5-Nov	S	Report to JICA	5-Dec	M		5-Jan	Th	
6-Oct	Th		6-Nov	Su		6-Dec	T		6-Jan	F	
7-Oct	F		7-Nov	M		7-Dec	W		7-Jan	S	
8-Oct	S		8-Nov	T		8-Dec	Th		8-Jan	Su	
9-Oct	Su		9-Nov	W		9-Dec	F		9-Jan	M	
10-Oct	M		10-Nov	Th		10-Dec	S		10-Jan	T	Submission of Final
11-Oct	T		11-Nov	F		11-Dec	Su		11-Jan	W	Report to JICA
12-Oct	W		12-Nov	S		12-Dec	M		12-Jan	Th	
13-Oct	Th	Preparation of Detailed	13-Nov	Su		13-Dec	T		13-Jan	F	
14-Oct	F	Drawing, Specifications	14-Nov	M		14-Dec	W		14-Jan	S	
15-Oct	S		15-Nov	T		15-Dec	Th		15-Jan	Su	
16-Oct	Su		16-Nov	W		16-Dec	F		16-Jan	M	Completion of Study
17-Oct	M		17-Nov	Th		17-Dec	S	Implementation Review	17-Jan	T	
18-Oct	T		18-Nov	F		18-Dec	Su	Study - Draft Report,	18-Jan	W	
19-Oct	W		19-Nov	S		19-Dec	M	Explanatory Mission	19-Jan	Th	
20-Oct	Th		20-Nov	Su		20-Dec	T	from JAPAN	20-Jan	F	
21-Oct	F		21-Nov	M		21-Dec	W		21-Jan	S	
22-Oct	S		22-Nov	T		22-Dec	Th		22-Jan	Su	
23-Oct	Su		23-Nov	W		23-Dec	F		23-Jan	M	
24-Oct	M		24-Nov	Th		24-Dec	S		24-Jan	T	
25-Oct	T		25-Nov	F		25-Dec	Su		25-Jan	W	
26-Oct	W		26-Nov	S		26-Dec	M		26-Jan	Th	
27-Oct	Th		27-Nov	Su		27-Dec	T		27-Jan	F	
28-Oct	F	Return to Japan	28-Nov	M		28-Dec	W		28-Jan	S	
29-Oct	S		29-Nov	T		29-Dec	Th		29-Jan	Su	
30-Oct	Su		30-Nov	W	Completion of Cost	30-Dec	F		30-Jan	M	
31-Oct	M				Estimation	31-Dec	S		31-Jan	T	

(Tentative) Schedule of Tender & Construction Commensement for the Myanmar – Japan Center for Human Resources Development

2006

(Annex 6-2)

1-Jan	Su		1-Feb	W		1-Mar	W		1-Apr	S	
2-Jan	M		2-Feb	Th		2-Mar	Th		2-Apr	Su	
3-Jan	T		3-Feb	F	Delivery of Drawings	3-Mar	F		3-Apr	M	
4-Jan	W		4-Feb	S	to the Contractor	4-Mar	S		4-Apr	T	
5-Jan	Th		5-Feb	Su	for Cost Estimation	5-Mar	Su		5-Apr	W	
6-Jan	F		6-Feb	M	for Tender	6-Mar	M		6-Apr	Th	
7-Jan	S		7-Feb	T		7-Mar	T		7-Apr	F	
8-Jan	Su		8-Feb	W		8-Mar	W		8-Apr	S	
9-Jan	M		9-Feb	Th		9-Mar	Th	Myanmar Mission	9-Apr	Su	
10-Jan	T	Submission of Final	10-Feb	F		10-Mar	F	Tender Opening in	10-Apr	M	
11-Jan	W	Report to JICA	11-Feb	S		11-Mar	S	Tokyo, Japan	11-Apr	T	
12-Jan	Th		12-Feb	Su		12-Mar	Su		12-Apr	W	
13-Jan	F		13-Feb	M		13-Mar	M		13-Apr	Th	
14-Jan	S		14-Feb	T		14-Mar	T		14-Apr	F	
15-Jan	Su		15-Feb	W		15-Mar	W		15-Apr	S	
16-Jan	M	Completion of Study	16-Feb	Th		16-Mar	Th		16-Apr	Su	
17-Jan	T	Announcement	17-Feb	F		17-Mar	F		17-Apr	M	
18-Jan	W	on the News Paper	18-Feb	S		18-Mar	S	Return to Myanmar	18-Apr	T	
19-Jan	Th		19-Feb	Su		19-Mar	Su		19-Apr	W	
20-Jan	F		20-Feb	M		20-Mar	M		20-Apr	Th	Commensement of
21-Jan	S		21-Feb	T		21-Mar	T	Contractor enters	21-Apr	F	Construction
22-Jan	Su		22-Feb	W		22-Mar	W	Myanmar for	22-Apr	S	
23-Jan	M		23-Feb	Th		23-Mar	Th	Preparation	23-Apr	Su	
24-Jan	T	Delivery of Pre.	24-Feb	F		24-Mar	F		24-Apr	M	
25-Jan	W	Qualification Documen	25-Feb	S		25-Mar	S		25-Apr	T	
26-Jan	Th		26-Feb	Su		26-Mar	Su		26-Apr	W	
27-Jan	F	Deadline of PQ	27-Feb	M		27-Mar	M		27-Apr	Th	
28-Jan	S		28-Feb	T		28-Mar	T		28-Apr	F	
29-Jan	Su					29-Mar	W		29-Apr	S	
30-Jan	M	Examination of PQ				30-Mar	Th		30-Apr	Su	
31-Jan	T	Invitation to Tender				31-Mar	F				

Minutes of Discussions
on the Basic Design Study
on the Project for Construction of
the Myanmar-Japan Center for Human Resources Development
in the Union of Myanmar

In response to a request from the Government of the Union of Myanmar (hereinafter referred to as "Myanmar"), the Government of Japan decided to conduct a Basic Design Study on the Project for Construction of the Myanmar-Japan Center for Human Resources Development (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA dispatched to Myanmar the Basic Design Study Team (hereinafter referred to as "the Team"), headed by Kenji Iwaguchi, Special Assistant, the Regional Department 1, JICA, and is scheduled to stay in the country from January 30 to February 7, 2003.

The Team held discussions with the officials concerned of the Government of Myanmar and conducted a field survey at the study area.

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

Yangon, February 7, 2003

Kenji Iwaguchi
Leader
Basic Design Study Team
Japan International Cooperation Agency (JICA)

U Saw Lwin
Director General
Department of Higher Education
Ministry of Education
Union of Myanmar

Witness:

Dr. Soe Yin
Rector
University of Yangon
Union of Myanmar

ATTACHMENT

1. Objective of the Project

The objective of the Project is to establish the Myanmar-Japan Center for Human Resources Development (hereinafter referred to as." the MJC"), to operate (a) business courses, (b) Japanese language courses and (c) culture exchange programs, in order to contribute to the promotion of market economy in Myanmar, mutual understanding and friendly relations between Myanmar and Japan, through the construction of the building and procurement of equipment under the Grant Aid, in collaboration with the technical cooperation project.

2. Project Site

The Project site is located in the University of Yangon as shown in Annex 1-1 and 1-2.

3. Responsible and Implementing Organization

The Department of Higher Education (Lower Myanmar), the Ministry of Education, is responsible for implementation of the Project as shown in Annex 2-1.

For implementing the Project, Steering Committee and Managing Committee will be established, whose chairpersons are the Director General of the Department of Higher Education (Lower Myanmar) and the Rector of the University of Yangon, respectly.

The organization chart of the above is shown in Annex 2-2.

4. Components requested by the Government of Myanmar

As the result of discussions, requested components by the Myanmar side were confirmed as shown in Annex-3.

JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

5-1. The Myanmar side understands the Japan's Grant Aid scheme explained by the Team, as described in Annex-4.

5-2. The Myanmar side will take the necessary measures, as described in Annex-5, for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented.

6. Schedule of the Study

6-1. The consultants will proceed to further studies in Myanmar until February 21, 2003.

6-2. JICA will prepare the final report in English and dispatch a mission to Myanmar in order to explain its contents around May, 2003.

6-3. In case that the contents of the report is accepted in principle by the Government of Myanmar, JICA will complete the final report and send it to the Government of Myanmar by August, 2003.

7. Other Relevant Issues

7-1. The Myanmar side shall secure, clear and level the land necessary for construction of the facilities before commencement of any actual site work.

7-2. The Myanmar side shall provide necessary permissions, licenses and other authorizations to the provisional consultant and contractor(s) for smooth and convenient implementation of the Project, as required.

7-3. The Myanmar side shall assign exclusive counterpart personnel during the Project.

7-4. The Myanmar side shall exempt the Japanese juridical and physical nationals engaged in the Project from customs duties, internal taxes including VAT, and other physical levies which may be imposed in Myanmar regarding the procurement of equipment and materials and services under the verified contracts.

7-5. The Myanmar side shall ensure enough budget and personnel to properly operate and maintain the facilities and equipment after the completion of the Project.

7-6. The Myanmar side shall submit answers in English to the questionnaire, which the Team handed to the Myanmar side by February 14, 2003.

7-7. In order to secure fairness, transparency and competitiveness of the tendering of the Project, the Myanmar side shall not disclose the technical details of the basic design study, which were discussed with the Team, to the third parties.

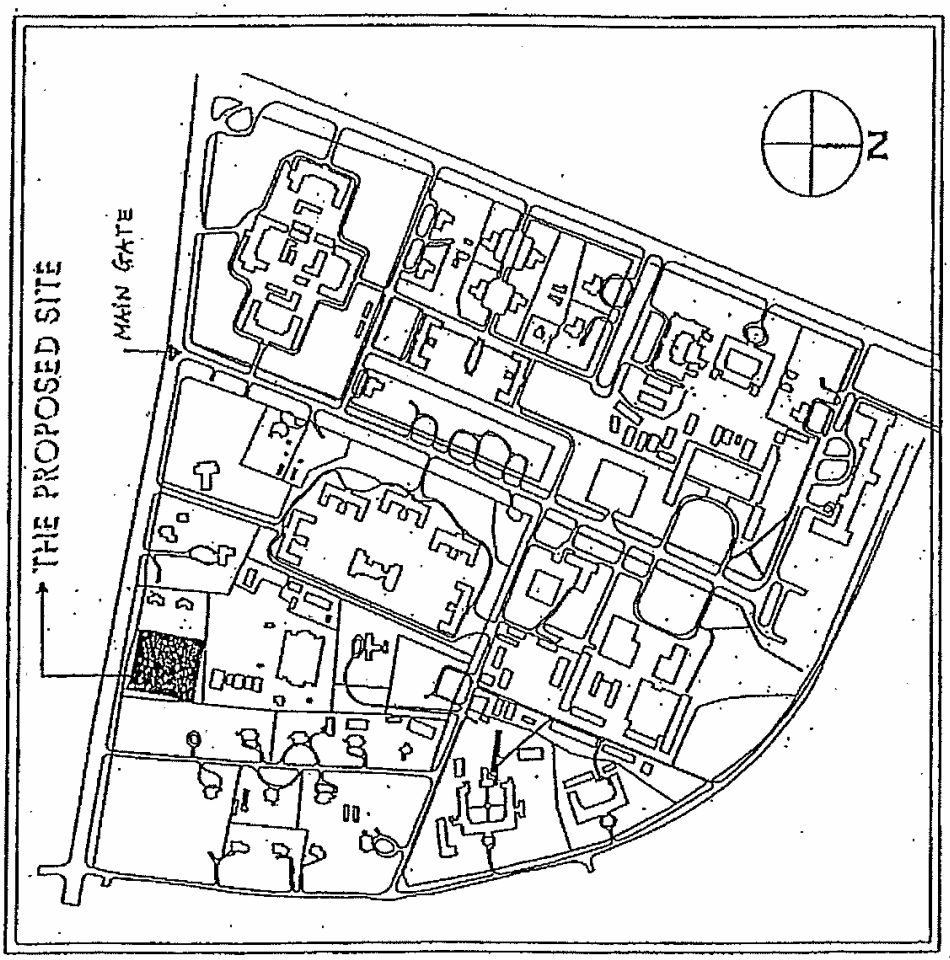
7-8. The Myanmar side shall expedite the cabinet approvals for consultant's agreement and contractor(s)'s contract(s) for smooth implementation of the Project.

7-9. The Department of Higher Education (Lower Myanmar) discussed that with reference to Annex 1-1, 1-2, 2-1, 2-2, 3,4 and 5 in the advent of implementation the terms laid down in those Annexes will be reassessed and carried out as necessity indicates.

(Annex 1-1)

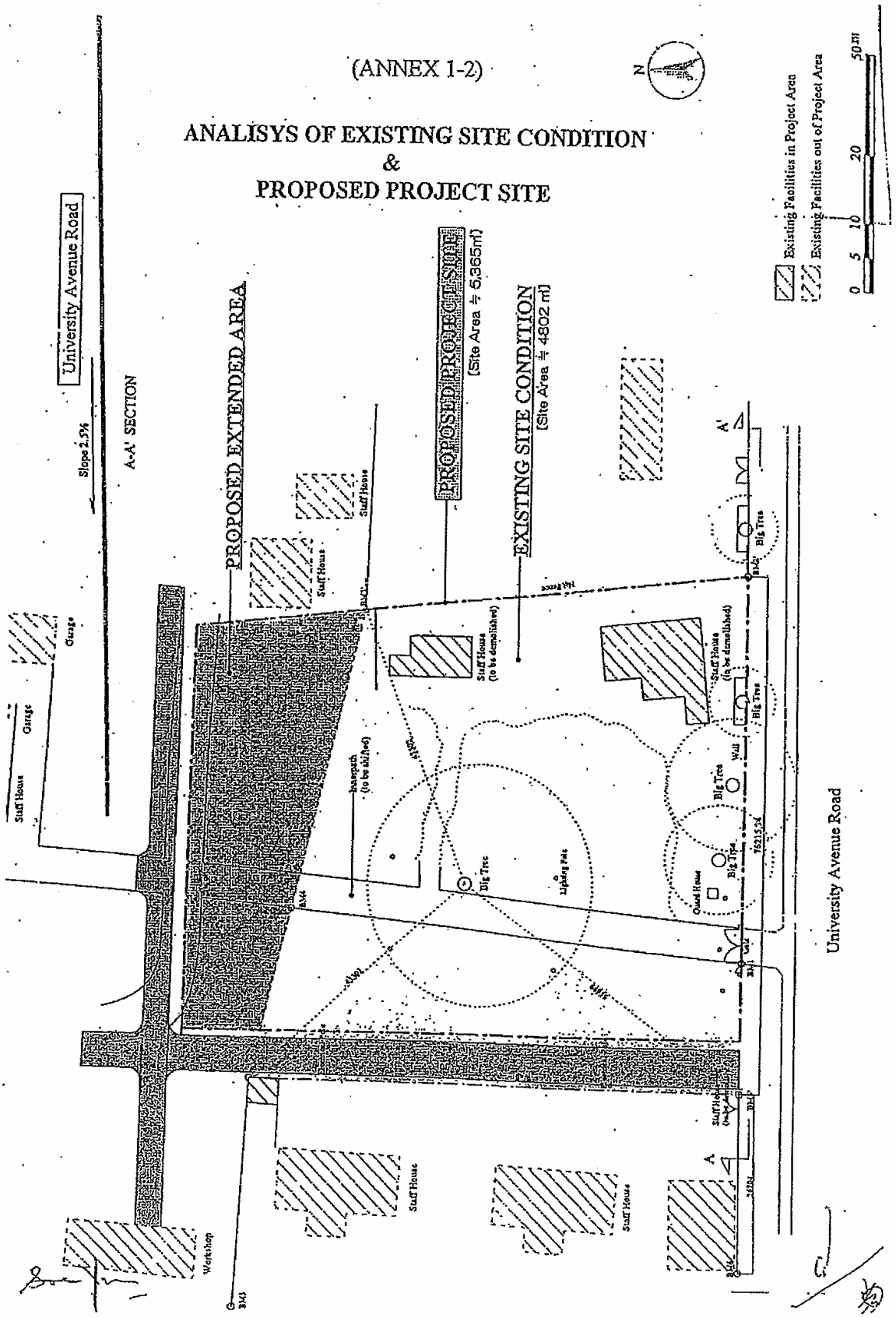
PROJECT SITE

UNIVERSITY OF YANGON

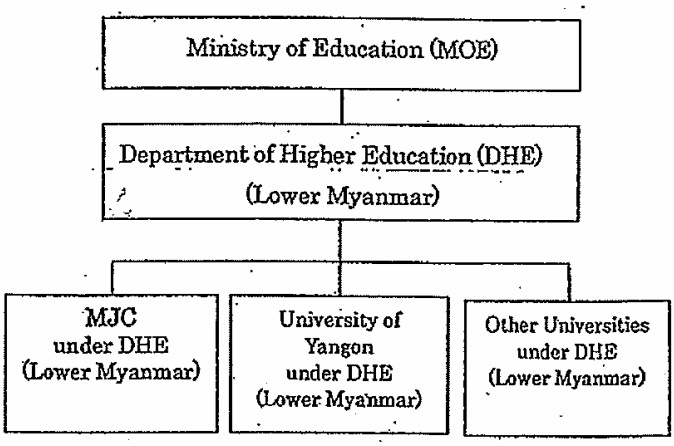


(ANNEX 1-2)

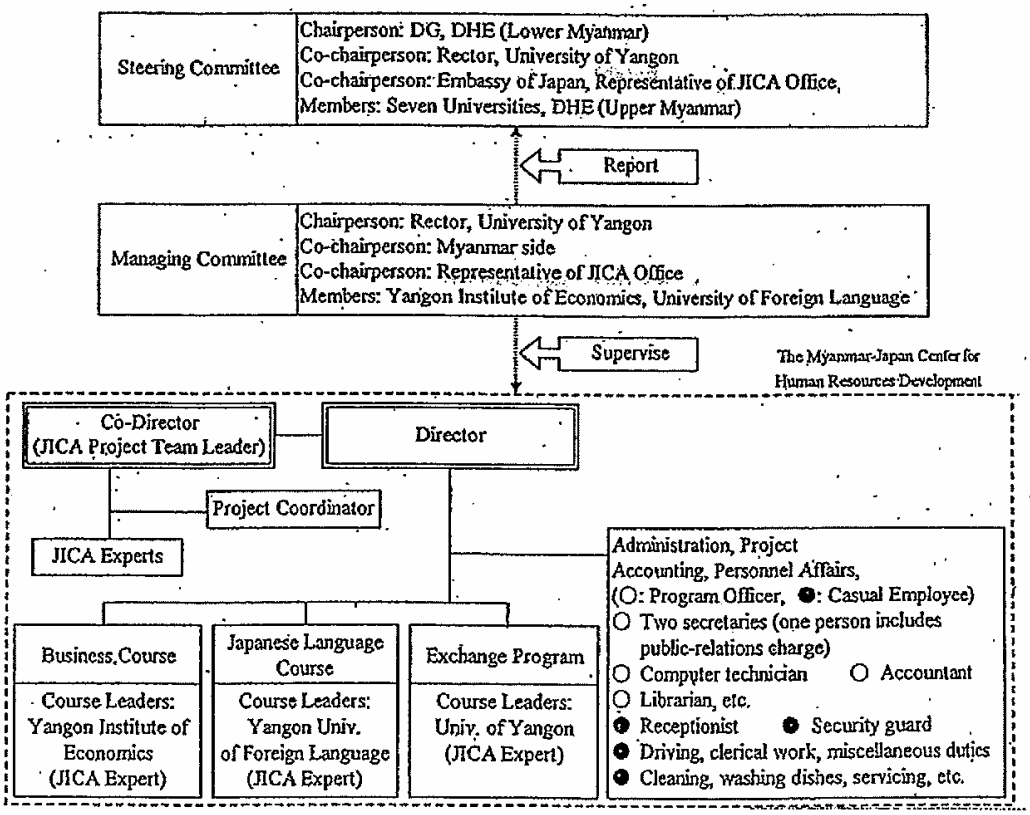
ANALISYS OF EXISTING SITE CONDITION & PROPOSED PROJECT SITE



(Annex 2-1)



(Annex 2-2)



(Annex-3)

Items Requested by the Myanmar Side

No.	Item	Contents
<Facility>		
1	Lobby / Exchange Zone	
	(1) Lobby	
	(2) Library	
	Reading Desk	●For 40 persons
	Internet Booth	●For 8 PC booths
	A/V booth	●2 video viewing booths
	Study Carrel	●5 study booths
	Control Desk	●For 1 librarian
	Rack Room	●For 5,000 books
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	(1) Multi-Purpose Room	●80 persons, partition into 3. 2 translators booths included.
	(2) Seminar Room	●30 persons x 2 rooms
	(4) Computer Room	●For 20 PC's
	(5) Cultural Exchange Room	●1 room with 8 tatami mats
	(6) Room for Exchange Program	●5 persons x 2 rooms, 15 persons x 1 room
	(7) Pantry	●For beverage
3	Administration Zone	
	(1) Director Room	●2 rooms
	(2) Reception Room	
	(3) Administration Office	●For 6 administration staff
	(4) Instructor Room	●For 9 instructors
	(5) Meeting Room	●20 persons x 1 Room
4	Others	
	(1) Auditorium	●150 persons x 1 room, for seminar and sports competition
	(2) Circulation	●Corridors, staircases
	(3) Toilets	●As required
	(4) Machinery Space	●Power, pump, generator, air conditioner, etc.
	(5) Storage Space	●For seminar equipment, office supplies, etc.
<Equipment>		
1	(1) Vehicle	●2 mini-buses
	(2) Lobby Display System	●Large size display with satellite transmission system
	(3)Fixed A/V system	●For multi-purpose room/ Auditorium

(Annex-4)

JAPAN'S GRANT AID SCHEME

The Grant Aid scheme provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Proced

Japan's Grant Aid Scheme is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for the Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

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

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the recipient country.

Finally, for the smooth implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

Confirmation of the background, objectives, and benefits of the requested Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.

- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of a Basic Design of the Project.
- Estimation of cost of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For smooth implementation of the Study, JICA uses registered consulting firms. JICA selects firms based on proposals submitted by interested firms. The firms selected carry out a Basic Design Study and write a report, based upon terms of reference set by JICA.

The consulting firms used for the Study are recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

3. Japan's Grant Aid Scheme

1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

2) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as natural disaster, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

3) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

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

However, the prime contractors, namely consulting, constructing and procurement firms,

are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

4) Necessity of "Verification"

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

5) Undertakings required to the Government of the recipient country

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

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

6) "Proper Use"

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

7) "Re-export"

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

8) Banking Arrangement (B/A)

a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.

b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions to the Bank.

(Annex-5)

Major Undertakings to be taken by Each Government

NO	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot	●	
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the building	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1)Electricity		
	a.The distributing line to the site		●
	b.The drop wiring and internal wiring within the site	●	
	c.The main circuit breaker and transformer	●	
	2)Water Supply		
	a.The water distribution main to the site		●
	b.The supply system within the site (receiving and/or elevated tanks)	●	
	3)Drainage		
	a.The city drainage main (for storm, sewer and others) to the site		●
	b.The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4)Gas Supply		
	a.The gas main to the site		●
	b.The gas supply system within the site	●	
	5)Telephone System		
	a.The telephone trunk line to the main distribution frame / panel (MDF) of the building		●
	b.The MDF and the extension after the frame / panel	●	
	6)Furniture and Equipment		
	a.General furniture		●
	b.Project equipment	●	
8	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
10	To accord Japanese nationals, whose services may be required in connection with the supply of the products and the services under the verified contract, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●

B/A : Banking Arrangement
A/P : Authorization to Pay

Minutes of Discussions
on the Implementation Review Study
on the Project for Construction of the Myanmar-Japan Center for Human Resources Development
in the Union of Myanmar

In September 2005, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Implementation Review Study Team for the Project for Construction of Myanmar-Japan Center for Human Resources Development (hereinafter referred to as "the Project") to the Union of Myanmar (hereinafter referred to as "Myanmar"), and through discussion, field survey, and technical examination of the study results in Japan, JICA prepared a draft final report of the study.

In order to explain and to consult Myanmar on the components of the draft final report, JICA sent to Myanmar the Draft Final Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. ARAI Kazuhisa, Team Director, ICT and Governance Team, Grant Aid Management Department, JICA from December 18, 2005 to December 24, 2005.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Yangon, December 23, 2005

新井 和久

ARAI Kazuhisa
Leader
Draft Report Explanation Team
Japan International Cooperation Agency

U Saw Lwin
Director General
Department of Higher Education
(Lower Myanmar)
Ministry of Education

ATTACHMENT

1. Components of the Draft Final Report

   The Department of Higher Education agreed and accepted in principle the components of the draft final report explained by the Team.

2. Japan's Grant Aid Scheme

   The Myanmar side understood and reconfirmed the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Myanmar as explained by the Team and described in Annex-4 of the Minutes of Discussions signed on February 7, 2003.

   Both sides reconfirmed to take the undertakings described in Annex-5 of the above mentioned Minutes of Discussions and the undertakings for the new site described in Annex 4-1, 4-2 and 4-3 of the Minutes of Discussions signed on October 26, 2005.

   These are attached as Annex-1 of this Minutes of Discussions.

3. Schedule of the Study

   JICA will complete the final report in accordance with the confirmed items and send it to the Government of Myanmar by the end of March 2006.

4. Other Relevant Issues

4-1. The Project must be completed by the end of March 2007. The general schedule from the Exchange of Notes to the hand over of the building is described in Annex-2.

4-2. Because the term of construction is extremely tight, the Myanmar side shall expedite all of the necessary procedures for smooth implementation of the Project, especially approval for the tender documents, approval for the consultant's agreement and contractor(s)'s contract(s), permission and licenses and other authorizations to the consultant and contractor(s). The Department of Higher Education will thus take full responsibilities for the smooth implementation.

4-3. The updated and detailed schedule for the implementation of the Project until the commencement of construction is described in Annex-3.

4-4. The Team handed one copy of he draft engineering design of the facilities to the Department of Higher Education. Both sides agreed that this draft design is confidential and should not be duplicated or released to any outside parties.

4-5.All of the matters agreed in the Minutes of Discussion signed before this document (dated February 7, 2003 and October 26, 2005) shall remain valid, except for the matters specified in this document.

Annex 1. Undertakings

Annex 5 of the Minutes of Discussions signed on February 7, 2003

Annex 4-1, 4-2 and 4-3 of the Minutes of Discussions signed on October 26, 2005

Annex 2. General Schedule until the Hand Over

Annex 3. Detailed Schedule until the Commencement of Construction

Annex -

(Annex-5)

Major Undertakings to be taken by Each Government

NO	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot	●	
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the building	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1)Electricity		
	a.The distributing line to the site		●
	b.The drop wiring and internal wiring within the site	●	
	c.The main circuit breaker and transformer	●	
	2)Water Supply		
	a.The water distribution main to the site		●
	b.The supply system within the site (receiving and/or elevated tanks)	●	
	3)Drainage		
	a.The city drainage main (for storm, sewer and others) to the site		●
	b.The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4)Gas Supply		
	a.The gas main to the site		●
	b.The gas supply system within the site	●	
	5)Telephone System		
	a.The telephone trunk line to the main distribution frame / panel (MDF) of the building		●
	b.The MDF and the extension after the frame / panel	●	
	6)Furniture and Equipment		
	a.General furniture		●
	b.Project equipment	●	
8	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
10	To accord Japanese nationals, whose services may be required in connection with the supply of the products and the services under the verified contract, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●

B/A : Banking Arrangement
A/P : Authorization to Pay

Landscaping / Planting / Installation of fence

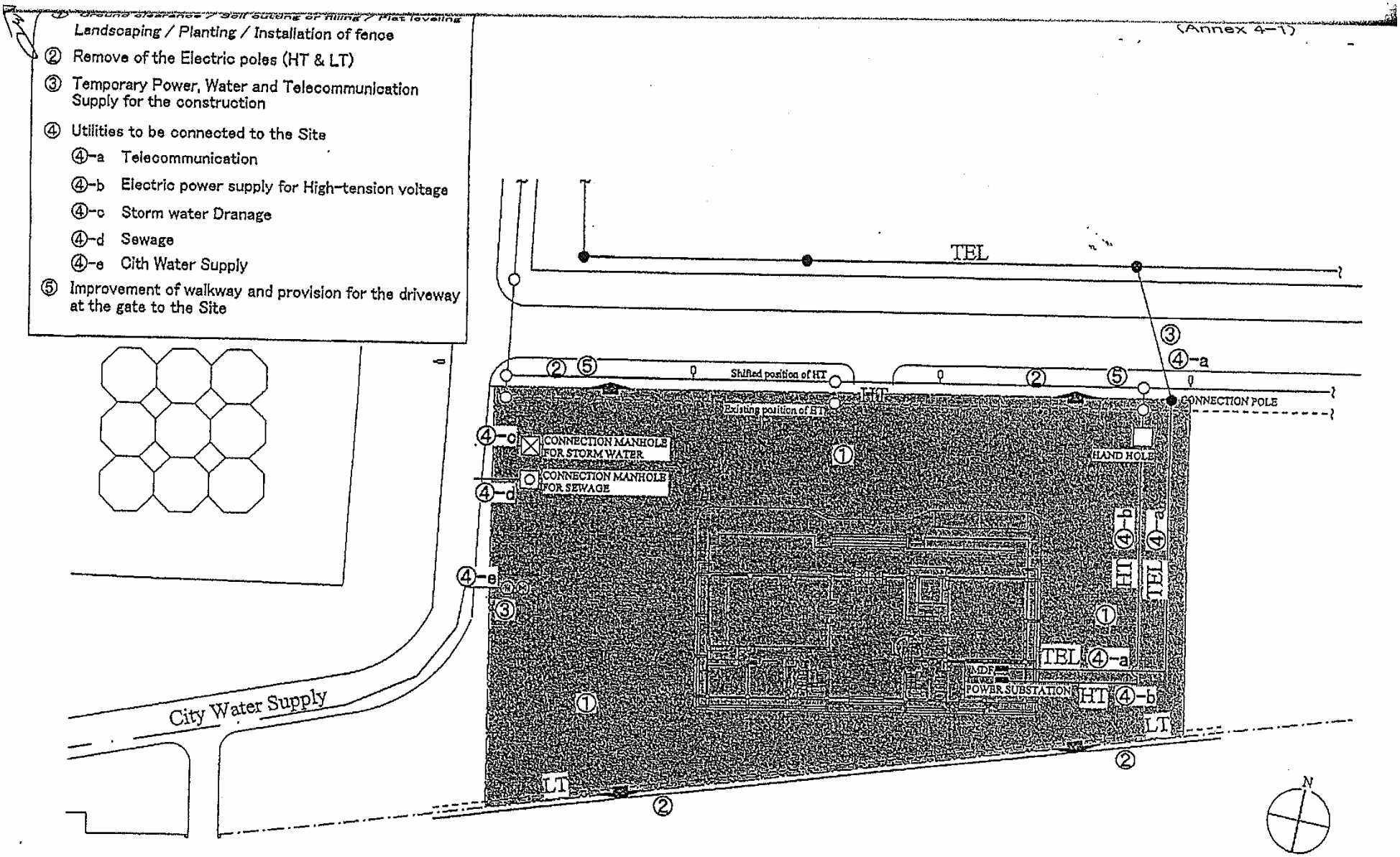
② Remove of the Electric poles (HT & LT)

③ Temporary Power, Water and Telecommunication Supply for the construction

④ Utilities to be connected to the Site

- ④-a Telecommunication
- ④-b Electric power supply for High-tension voltage
- ④-c Storm water Dranage
- ④-d Sewage
- ④-e Cith Water Supply

⑤ Improvement of walkway and provision for the driveway at the gate to the Site



Undertakings by Myanmar side

PROPOSED SITE AREA

1/710

AZUSA SEKKEI CO.,LTD

Oct. 24 2005

Extent of Works

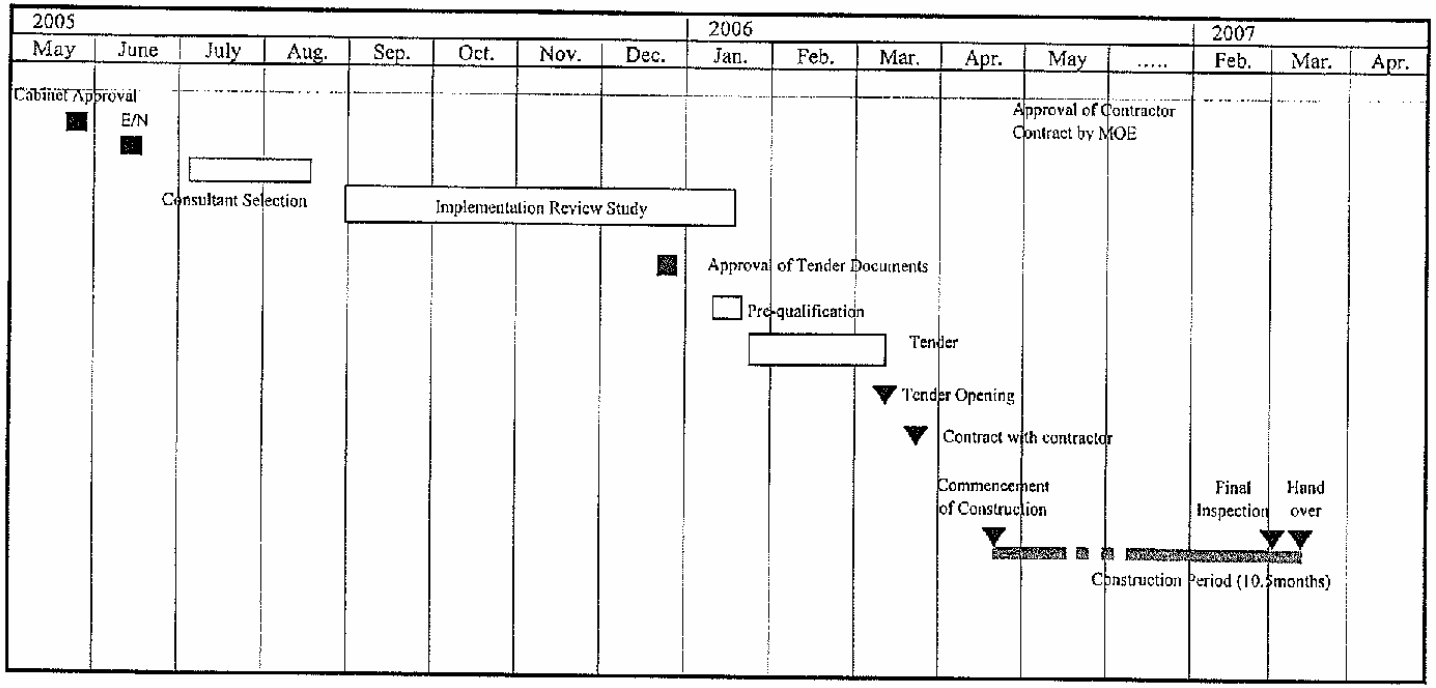
AZUSA SEKKEI Co.,Ltd Oct.24 2005

Portion by the Japanese Side	Portion by the Myanmar Side	Remarks
(1) Building Works Structure works, Finishing works	(1) Site Preparation (Before the construction) ① Ground clearance, Soil-filling and Flat leveling ② Remove of the Electrical poles(HT & LT) ③ Temporary power, water and telecommunication supply for the construction	
(2) Electrical Works Power/trunk facilities, lighting, power outlets, Public Address systems	(2) External Works (Under or after the construction) ① Landscaping, Planting, Installation of fence/gate ⑤ Improvement of Walkway around the site	
(3) Utilities and Facilities (a) Water Supply Construction works for the Water supply from the valve at the water supply meter to the building and all the related internal works for the water supply. (b) Sewerage / Septic tank Sewerage system including piping works up to the connection manhole. (c) Storm Drainage Storm Drainage system including piping works up to the connection manhole. (d) Sanitation facilities (waste water, treatment facility) (e) Reserve tank (f) Fire-extinguishing facilities (g) Electrical supply and transformer system Cabling works from the high tension receiving panel in the Substation to the facilities. (h) Telecommunication system Cabling works from MDF to the facilities, including installation of conduit from the cross connection point at the site boundary to MDF. (i) Lightning Protection System (j) Lighting system in the site	(3) Utilities & Facilities ④-e Water Supply Construction of the main feeder to the water valve/meter on the site (including valve/meter) ④-d Sewerage Piping works from the connection manhole on the site to the existing sewerage line including the repair work of the existing ditch. ④-c Storm Drainage Drainage line from the connection manhole in the site to the existing line including the expansion work of the existing drainage line.(if necessary) ④-b Electrical Work Cabling works from the existing power supply point to the new Electrical room in the new MJC Building	See attched cost estimation for reference.
(4) External Work Road, path and parking lots within the site		

Portion by the Japanese Side	Portion by the Myanmar Side	Remarks
(5) Equipment Equipment for Training and Operation & Maintenance	④-a Telecommunication Work Cabling works (for Direct/Extension) to Point Distribution for new MDF/PABX	
(6) Electric Room, Electric Generator Room, Pump Room	(4) General furniture not included in the Japanese portion	
	(5) Others ① Governmental works including the application and obtaining Governmental approvals and permissions ② Smooth custom clearance, tax exemptions and prompt internal transportation for the imported construction materials and equipment. ③ Commissions to the Japanese foreign exchange bank for its banking services based upon the Banking Arrangement namely the advising commission of the "Authorization to Pay" and payment commission	
	(6) Management, operation and maintenance cost for the new building and facilities	
	(7) Tax exemption and necessary preferential treatment for the construction staff from Japan or a third country	
	(8) Smooth entry, re-entry and departure of Myanmar for the Japanese technical staff	
	(9) All the expenses, other than to be born by the Japan's Grand Aid within the scope of the Project	

General Schedule

Annex-2



Detailed Schedule

1-Dec	Thu		1-Jan	Sun	Japanese Holiday	1-Feb	Wed		1-Mar	Wed		1-Apr	Sat	● < Preparation Work by Myanmar side
2-Dec	Fri		2-Jan	Mon	Japanese Holiday	2-Feb	Thu		2-Mar	Thu		2-Apr	Sun	
3-Dec	Sat		3-Jan	Tue	Japanese Holiday	3-Feb	Fri		3-Mar	Fri		3-Apr	Mon	
4-Dec	Sun		4-Jan	Wed	Myanmarese Holiday	4-Feb	Sat		4-Mar	Sat		4-Apr	Tue	
5-Dec	Mon		5-Jan	Thu	1. Signing of Consultant Agreement 2. Application for Banking Arrangement	5-Feb	Sun		5-Mar	Sun		5-Apr	Wed	
6-Dec	Tue		6-Jan	Fri	Verification of the Agreement by the Government of Japan	6-Feb	Mon		6-Mar	Mon		6-Apr	Thu	
7-Dec	Wed		7-Jan	Sat		7-Feb	Tue		7-Mar	Tue		7-Apr	Fri	
8-Dec	Thu		8-Jan	Sun		8-Feb	Wed		8-Mar	Wed		8-Apr	Sat	
9-Dec	Fri		9-Jan	Mon	Japanese Holiday	9-Feb	Thu		9-Mar	Thu	● < Myanmar Mission	9-Apr	Sun	
10-Dec	Sat		10-Jan	Tue	Announcement of the Tender	10-Feb	Fri		10-Mar	Fri	Tender Opening	10-Apr	Mon	
11-Dec	Sun		11-Jan	Wed		11-Feb	Sat		11-Mar	Sat		11-Apr	Tue	
12-Dec	Mon		12-Jan	Thu		12-Feb	Sun		12-Mar	Sun		12-Apr	Wed	
13-Dec	Tue		13-Jan	Fri		13-Feb	Mon		13-Mar	Mon		13-Apr	Thu	
14-Dec	Wed		14-Jan	Sat		14-Feb	Tue		14-Mar	Tue		14-Apr	Fri	
15-Dec	Thu		15-Jan	Sun		15-Feb	Wed		15-Mar	Wed		15-Apr	Sat	
16-Dec	Fri		16-Jan	Mon		16-Feb	Thu		16-Mar	Thu		16-Apr	Sun	
17-Dec	Sat		17-Jan	Tue	1. Examination of Pre Qualification 2. Opening of Banking Arrangement	17-Feb	Fri		17-Mar	Fri	Contract with Contractor	17-Apr	Mon	
18-Dec	Sun	● < Draft Final Report Explanation	18-Jan	Wed		18-Feb	Sat		18-Mar	Sat	Return to Myanmar	18-Apr	Tue	
19-Dec	Mon		19-Jan	Thu	Invitation to Tender	19-Feb	Sun		19-Mar	Sun		19-Apr	Wed	
20-Dec	Tue		20-Jan	Fri		20-Feb	Mon		20-Mar	Mon	Contractor enters Myanmar	20-Apr	Thu	Commencement of Construction
21-Dec	Wed		21-Jan	Sat		21-Feb	Tue		21-Mar	Tue		21-Apr	Fri	
22-Dec	Thu		22-Jan	Sun		22-Feb	Wed		22-Mar	Wed	Verification of the Contract by the Government of Japan	22-Apr	Sat	
23-Dec	Fri		23-Jan	Mon	Delivery of Drawings	23-Feb	Thu		23-Mar	Thu		23-Apr	Sun	
24-Dec	Sat		24-Jan	Tue		24-Feb	Fri		24-Mar	Fri		24-Apr	Mon	
25-Dec	Sun		25-Jan	Wed		25-Feb	Sat		25-Mar	Sat		25-Apr	Tue	
26-Dec	Mon		26-Jan	Thu		26-Feb	Sun		26-Mar	Sun		26-Apr	Wed	
27-Dec	Tue		27-Jan	Fri		27-Feb	Mon		27-Mar	Mon		27-Apr	Thu	
28-Dec	Wed		28-Jan	Sat		28-Feb	Tue		28-Mar	Tue		28-Apr	Fri	
29-Dec	Thu		29-Jan	Sun					29-Mar	Wed		29-Apr	Sat	
30-Dec	Fri		30-Jan	Mon					30-Mar	Thu		30-Apr	Sun	
31-Dec	Sat		31-Jan	Tue					31-Mar	Fri				

5. Other Relevant Data

Document	Place to Obtain
Endeavors in the High Education Sub-sector: Education Promotion Programmers and Plans (1997-2002)	Ministry of Education
Development of Education in Myanmar: Promoting Accessibility, Quality and Diversity November, 2004	Ministry of Education
Salary Survey 2005	Myanmar Survey Research
Removal Plan No.1 of Electrical Poles	Myanmar Electrical Power Enterprise (MEPE)
Removal Plan No.2 of Electrical Poles	Myanmar Electrical Power Enterprise (MEPE)
Master Plan of Main – City Water	VCDC HLAING TOWENSHIP
Requirements	Fire Services Department
Quotation for City Water - Withdrawal Construction	Nyan Htum (Licensed Master Plumber)

6. References

(1) Tender Document(draft) : Invitation to Tender

(2) Tender Document(draft) Volume Ⅰ Division A : Tender Requirement

(3) Tender Document(draft)) Volume Ⅰ Division B : Form of Contract

(4) Tender Document(draft) Volume Ⅰ Division C : Conditions of Contract

(5) Tender Document(draft) Volume Ⅱ : Technical Specifications

(6) Tender Document(draft) Volume Ⅲ : Drawings

As per attached,


JICA