

No.

DEPARTMENT OF HIGHER EDUCATION
MINISTRY OF EDUCATION
UNION OF MYANMAR

**SECOND
IMPLEMENTATION REVIEW STUDY REPORT
ON
THE PROJECT FOR CONSTRUCTION
OF
THE MYANMAR - JAPAN CENTER
FOR
HUMAN RESOURCES DEVELOPMENT
IN
THE UNION OF MYANMAR**

AUGUST, 2007

JAPAN INTERNATIONAL COOPERATION AGENCY
AZUSA SEKKEI CO.,LTD.

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PREFACE

In response to a request from the Government of the Union of Myanmar, the Government of Japan decided to conduct the second implementation review study on the Project for Construction of the Myanmar-Japan Center for Human Resources Development and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Myanmar the second implementation review study team from 21 January, to 6 February 2007.

The team held discussions with the officials concerned of the Government of Myanmar, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Myanmar in order to explain the intermediate report of the second implementation review study from 18 March to 25 March 2007. And the mission was sent again in order to explain the result of the implementation review study from 27 May to 2 June 2007, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Union of Myanmar for their close cooperation extended to the teams.

August, 2007

Masafumi Kuroki
Vice-President
Japan International Cooperation Agency

LETTER OF TRANSMITTAL

We are pleased to submit to you the implementation review study report on the Project for Construction of the Myanmar-Japan Center for Human Resources Development in the Union of Myanmar.

This study was conducted by Azusa Sekkei Co., Ltd. under a contract to JICA, during the period of 8 months from January, 2007 to August, 2007. In conducting the study, we have re-examined the feasibility and rationale of the project with due consideration to the present situation of Myanmar and formulated the most appropriate detailed design for the project under Japan's grant aid scheme.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,

August, 2007

Masaichi Yamamoto

Chief Consultant
Implementation Review Study Team on
the Project for Construction of
the Myanmar-Japan Center for
Human Resources Development
Azusa Sekkei Co., Ltd.

SUMMARY

SUMMARY

The Union of Myanmar (hereinafter referred to as “Myanmar”) is situated on the west of Indochina covering an area of 680,000 km², which is 1.8 times larger than that of Japan. The country is surrounded by mountains in the north, west and east and bordered by the Bay of Bengal on the south. The Irrawaddy River runs right in the middle of the country from north to south. The total population is 52,170,000 (in 2002), 5 million of which reside in the capital city, Yangon. The Bamar accounts for 70% of the nation with the remaining population consisting of 50 or more ethnic minorities. The official language of Myanmar is the Myanmar whereas English is widely spoken as a footstep of the colonial age by the U.K.

Since the change of administration in 1988 when Myanmar abandoned its Myanmar socialistic economic policies, it has been taking measures to shift to a market-based and open economy. The political chaos in the wake of the administrative change lingered until 1992, forcing the economy to stagnate. The reform started to yield results then and the economy got into gear mainly through expansion of agricultural production and foreign investment, which led to an annual growth rate of 7% constant through the following five years. However, the Asian Financial Crisis in 1997 significantly reduced investment from ASEAN countries, slowing down Myanmar’s economic development. The Myanmar government, therefore, formulated a “Five-year Economic Plan” with an aim to strengthen the economical diversity and stimulate another growth toward a market-based economy, and has been rehabilitating its economy accordingly.

More recently, however, the lack of foreign currency has become a very serious issue, caused by the unrealistic exchange rates and the rigid economic structure that the government put in place. Furthermore, the Consumer Price Index was 30% on a year-on-year basis in fiscal 1998 and 16% in fiscal 1999, illustrating an obvious inflation. The Gross Domestic Product per capita was 219 US dollars in 2005, according to “Statistical Yearbook” issued by Myanmar’s Central Statistical Organization.

Now, to reshape Myanmar’s economy and to realize sustainable development, reconstructing the various fields of its industry is considered to be the matter of top priority over all others. In particular, what Myanmar requires are to develop human resources, build up foreign trade and foster cooperation between business sectors. It is considered that creating human resources which contribute to activate economy will be the driving force to bring about development in this field.

On the other hand, Myanmar has maintained a good and close relationship with Japan and has been positioned as one of the important countries which Japan assists along with other Southeast Asian nations. Furthermore, at the Myanmar/Japan summit meeting in November, 1999, as then Prime Minister Obuchi expressed Japan’s readiness to offer cooperation for Structural Adjustment of Myanmar’s Economy. A

joint task force consisting of governmental representatives of the two countries, industrial and academic circles was established and cooperation commenced.

Under such circumstances, a Project Formation Study was conducted in March, 2000 to discuss establishment of the Center for Human Resources Development. The main activities of the Center will be to hold "business courses", "Japanese language courses" and "culture exchange programs". Thereafter, in light of the results of the above study, the government of Myanmar requested Japan's Grant Aid for the facility and equipment required to establish the Myanmar - Japan Center for Human Resources Development (hereinafter referred to as "MJC"). Moreover, the government of Myanmar requested that Technical Cooperation Project be initiated relative to the "business courses", "Japanese language courses" and "culture exchange programs" to be implemented by the MJC. In response thereto, the 1st and 2nd Preliminary Study Team by Technical Cooperation Project were dispatched in May and September, 2002 respectively. The Preliminary Study Team was dispatched to the Vietnam - Japan Human Resources Cooperation Center in Hanoi and the Lao - Japan Human Resources Cooperation Center in November the same year and the 3rd Preliminary Study Team was dispatched in January, 2003.

After conducting the above mentioned studies and having a background of circumstances, this Project is to construct required facility and equipment adequate to implement "business courses", "Japanese language courses" and "culture exchange programs" at the MJC in close collaboration with Technical Cooperation Project activities. In the event competent and capable personnel who can cope with market economy through activities of the MJC are brought up in the days and years to come, not only will Myanmar's shift to market economy be facilitated but also anticipated that closer relationship between Myanmar and Japan will become more real.

In response to the said requests, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team to Myanmar between 27 January and 22 February, 2003 and through discussions, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study. In order to explain and to consult with officials concerned of the Government of Myanmar on the components of the draft report, JICA dispatched the Basic Design Explanation Team to Myanmar between May 15 and 31, 2003. In consequence, the government of Myanmar's basic agreement was obtained.

Later, the delayed implementation of the project finally became prospective as a project for fiscal 2005 only and the exchange of note was concluded on June 27, of the same year. Then, this implementation review study re-verified the details of the basic design and made a research at a level enough to prepare bidding documents. However, the tenders for the construction project held in March and August 2006 ended up with failure and the project was not materialized. The field survey this time found out that one of the major causes of the failure was an extreme surge of construction material prices that Myanmar has

undergone for about two years since the Basic Design Study.

Based on the survey results, JICA organized a project implementation promotion study team jointly with the Minister of Foreign Affairs. The mission visited Myanmar in November 2006 and verified the necessity of prompt implementation of the project in discussion with the personnel concerned of the Government of Myanmar.

Following the above mission, JICA conducted the second Implementation Review Study between January and August 2007. The Study Team was dispatched to Myanmar from 21 January to 6 February, 2007 for the first field survey to discuss and confirm the contents of the request of the Myanmar Government, conduct site investigations and an economic trend survey, and collect relevant information. After returning to Japan, the Study Team analyzed the results obtained from the field survey in order to re-examine the contents and sizes of the facility and equipment planned in the detailed design drawn during the preceding Implementation Review Study and formulate a design modification proposal accordingly. The second field survey took place from 18 March 18th to 25th 2007 for an interim report on an outline of the study results. At that time, the Study Team explained the design modification proposal in detail and obtained basic agreement from the Myanmar Government through discussion. After returning from the second field survey, the Study Team again conducted analysis, this time, to actually make modifications to the detailed design and cost estimate documents. Finally, these modifications were approved by the Government of Myanmar during the third field survey, i.e. the final report on the study results, which took place from 27 May to 2 June.

This project aims to retain, in principle, the “area, functions and basic design” of the Center building planned in the original detailed design to the extent possible, when making design modification based on the results of the economic trend survey conducted in the recipient country. An outline of the finalized plan is provided below.

< Facility Plan >

	Room Name		Total Area (m ²)	Remarks
1	Lobby/ Exchange	1.1 Lobby/Exhibition Hall	304.00	Including 2 nd Floor Exhibition Space
		1.2 Library	177.00	Including PC Room & Locker Room
		A. Sub-Total	481.00	
2	Seminar	2.1 Seminar Room	126.00	2 rooms
		2.2 Computer Room	63.00	
		2.3 Culture Exchange Room	66.00	Divided into 2 rooms with partition
		2.4 Culture Exchange Room (Japanese-style Room)	32.00	
		Sub-Total	287.00	
3	Administration	3.1 Director Room	72.00	2 rooms
		3.2 Reception Room	36.00	Can be used as a small meeting room
		3.3 Administration Room	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	185.40	
		Interpretation Room Projection Room	3.60	
		4.2 Electronic Room	54.00	
		4.3 Machinery Space	18.00	
		4.4 Storage	4.00	2 rooms
		4.5 Kitchenette	18.30	3 rooms
		4.6 Toilets	55.00	On first & second floor Including Toilets for the disabled
		4.7 Circulation	189.20	
	Sub-Total	527.50		
Total			1,609.00	

< Equipment Plan >

	Category	Content	Number of items
1	Auditorium	Crystal Projector, 120-inch screen, wireless antenna	3
2	Furniture	Tables (Library, Auditorium, Seminar, Others), Chairs, Book shelves	660

In case this plan is to be implemented by Japan's Grant Aid, the construction term for the entire project is assumed to be about 10.5 months.

The Department of Higher Education, Lower Myanmar (hereinafter referred as to "DHE") will be the Project's implementing organization. According to a trial calculation performed by the Myanmar side, annual running cost (includes fees and charges for electricity, telephone, fuel, water supply and drainage services, etc.) of the MJC is estimated to be approximately 7.1 million Kyat, and personnel expenses are estimated at 27.6 million Kyat according to a trial calculation performed by those involved in the Second

Implementation Review Study. DHE is of the intention to apply to the Ministry of Education (hereinafter referred as to "MOE") for a special budget corresponding to running cost, personnel expenses, etc., in addition to expenses it must shoulder to newly establish the Center and it is expected that budget required to implement the Project and to maintain and run the new facilities will be secured. The revenue and expenditure plan in connection with the management and operation budget of the MJC is envisaged to be covered by not only MOE's special budget but also from fees to be collected for the various courses. If the MOE's budget and fees collected for the courses can be secured on a steady basis, it is believed that management of the MJC would not encounter difficulties.

The main effects assumed by implementing this Project are as described hereinafter.

(1) Direct Effects

- 1) 1,800 persons per year will benefit from taking business courses (long-term, medium-term, short-term) in the seminar rooms and computer room to be newly provided under the project. These rooms are indispensable for holding business and Japanese language courses. Another 120 persons per year will be able to take Japanese language courses (middle- and high-level, specialty course).
- 2) Japanese tea-ceremony and flower arrangement classes and other programs, which will contribute to promotion of bilateral cultural change between Japan and Myanmar, will be held in the cultural exchange room and the Japanese style room to be newly provided under the project.
- 3) The new Auditorium will provide a venue for Japanese speech contests, Japanese film festivals, lectures, exhibitions, workshops, etc.
- 4) The library, with stack space for about 5,000 books, including those concerning Japan or economy, and reading space, will enable the Center to accumulate and disclose relevant information and provide visitors with information they need, thereby playing an axial role in enhancing information exchange. As for books to be stored in the library, Japan's technical cooperation project had provided 1,310 books, 330 DVDs, and 37 CDs as of June 2006.

(2) Indirect Effects

- 1) Development of the Center will realize activities necessary for promotion of Japanese language education, market economy, and mutual understanding between Japan and Myanmar, thereby facilitating academic and mutual understanding between the two countries.

- 2) Through provision of programs related to promotion of Japanese language education, market economy, and mutual understanding between the two countries, the number of Japanese language and Japanese studies learners will increase, the quality and quantity of Japanese teachers will improve, and people capable of contributing to shifting to a market economy will be nurtured. In other words, human resources in the areas of shift to a market-based economy and education of the Japanese language will be developed in the recipient country.
- 3) Targeting other Asian nations, programs for information exchange and mutual understanding and other similar activities will be promoted by deepening the cooperative relationship with the Japan centers in those countries.

In conclusion, 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 universities under the supervision of the Department of Higher Education and expansion of educational functions in collaboration with universities inside and outside of Myanmar. 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.

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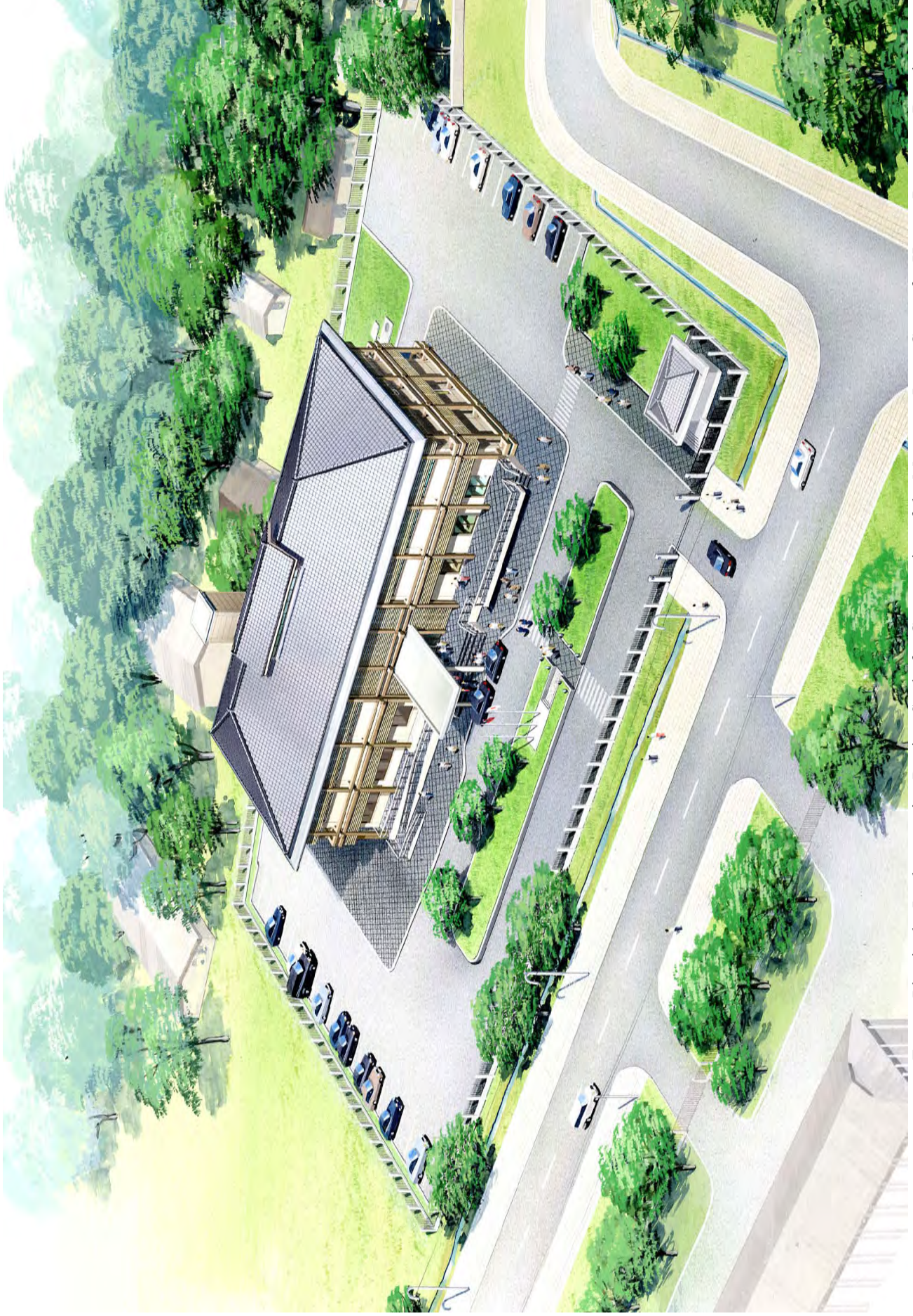
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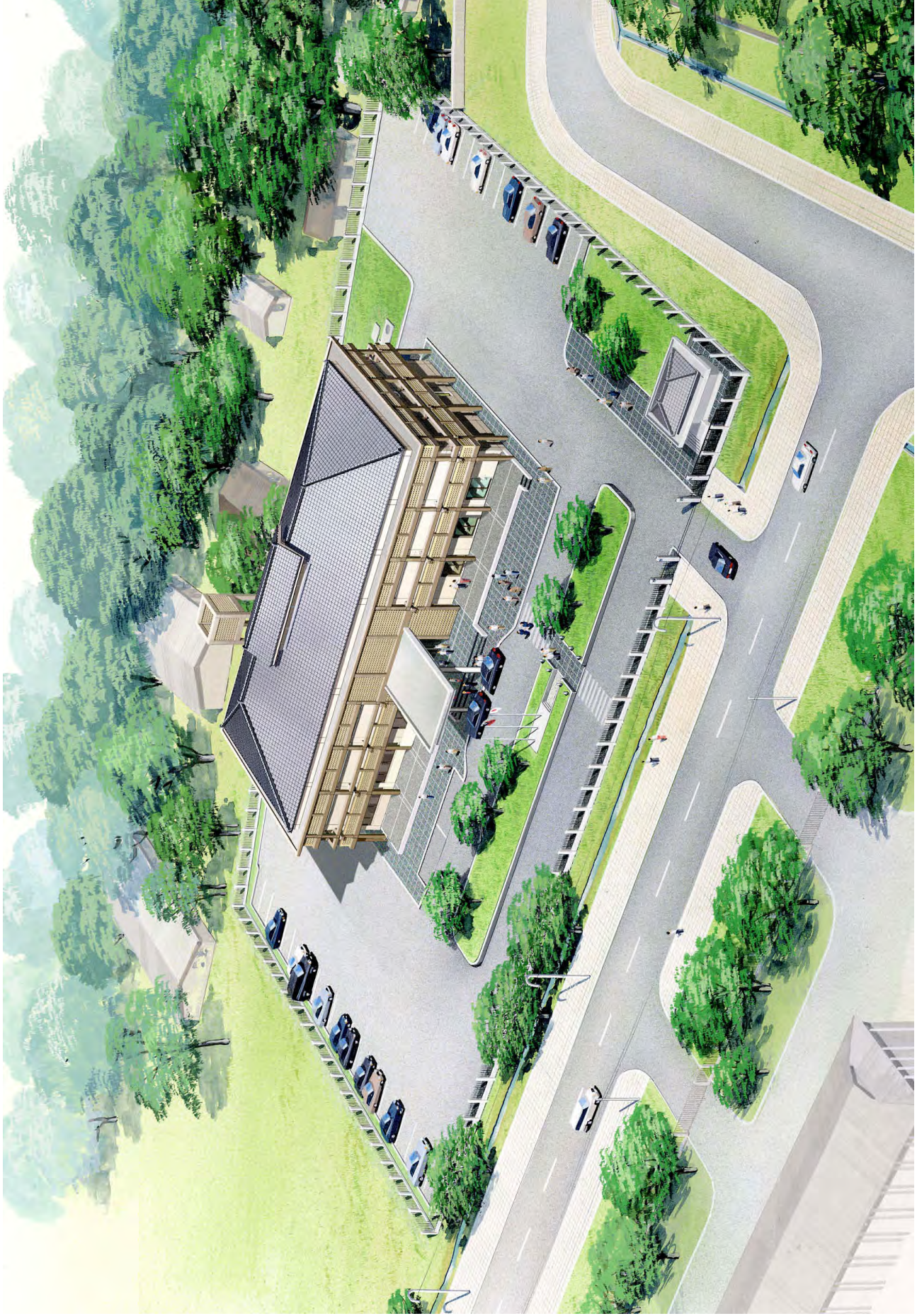
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Former Plan in the Implementation Review Study for Construction of the Myanmar-Japan Center for Human Resources Development



Optimized Plan in the Implementation Review Study for Construction of the Myanmar-Japan Center for Human Resources Development

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Abbreviations

B/D	Basic Design
CFDTC	Central Forestry Development Training Center
DG	Director General
DHE	Department of Higher Education
ED	Engineering Department
E/N	Exchange of Notes
GA	Grant Aid
GDP	Gross Domestic Product
GOJ	Government of Japan
IOE	Yangon Institute of Economics
ION	Institute of Nursing
IRS	Implementation Review Study
JICA	Japan International Cooperation Agency
M/D	Minutes of Discussions
MEP	Ministry of Electrical Power
MEPE	Myanmar Electrical Power Enterprise
MFR	Ministry of Finance and Revenue
MJC	Myanmar-Japan Center for Human Resources Development
MOE	Ministry of Education
MPT	Myanmar Posts & Telecommunications
PW	Ministry of Construction Public Works
R/D	Record of Discussion
SC	Steering Committee
TP	Technical Cooperation
VJCC-HNC	Vietnam-Japan Human Resources Cooperation Center in Hanoi
YCDC	Yangon City Development Committee
YU	Yangon University
YUFL	Yangon University of Foreign Languages

**Chapter 1 POSITION AND BACKGROUND OF THE SECOND
IMPLEMENTATION REVIEW STUDY**

Chapter 1

Position and Background of the Second Implementation Review Study

1-1 Position and Basic Policies of the Second Implementation Review Study

The purpose of the Second Implementation Review Study is to propose modification necessary for optimizing the project plan and implementation cost so as to accommodate the rapidly-increasing commodity prices in the Union of Myanmar (hereinafter referred to as “Myanmar”), based on the project contents and policies drawn up in the Basic Design Study and the previous Implementation Review Study. Since it was needed to review the detailed design drawings, cost estimate documents, and other components of the tender documents that were prepared in the last Implementation Review Study, for possible modifications, an investigation on the bearing capacity of soil of the project site and an economic trend survey were conducted. The collected basic data were reflected in the design modification. In addition, a basic policy in the design modification was set as to maximally keep the “floor area, functions, and basic design” of the center building.

1-2 Background of the Second Implementation Review Study

1-2-1 History before the Second Implementation Review Study

The Basic Design Study was carried out between January 27th and February 22nd, 2003, based on the outcomes of the Project Formation Study in 2000 and the Ex-ante Evaluation Study, which took place three times in May and September 2002 and January 2003. Following the Basic Design Study, the Draft Basic Design Study Team was dispatched from May 15th to 31st, 2003, in order to obtain consensus of the Myanmar Government on the contents of the basic design.

After that, although an Exchange of Notes (E/N) was to be signed immediately and the project implementation was expected to be facilitated, it was frozen for the next two years or so due to various factors.

On July 27th, 2005, an E/N was signed between the two countries, thereby re-initiating the implementation of the project. However, implementation of the project based on the basic design contents prepared two years ago was deemed as difficult, and hence an Implementation Review Study was called for in order to review the contents of the basic design and draw up the detailed design.

The Implementation Review Study verified the contents of the basic design and included surveys necessary for creating tender documents. Nevertheless, the tenders for the building construction held in March and August 2006 both ended up with failure, and again the project did not materialize at that point. Additional examination found that the tender failures were attributed largely to significant price hike in

construction materials, etc., which Myanmar experienced during the two years after the Basic Design Study.

In response to this, Japan International Cooperation Agency (JICA), together with the Ministry of Foreign Affairs (MOFA), formed a Project Implementation Promotion Study Team, which was dispatched to the country in November 2006. The Study Team held discussion with the parties concerned of the Myanmar Government and confirmed the necessity for prompt implementation of the project.

1-2-2 Contents of the Second Implementation Review Study

1) Period of the Second Implementation Review Study

As a result of the discussion between the two governments as mentioned above, JICA carried out the Second Implementation Review Study between January and August 2007. The First Field Survey was conducted from January 21st to February 8th, 2007, which covered discussion and confirmation on the contents of Myanmar's request, site investigations and information collection. In the following Work in Japan, the findings of the Field Survey were analyzed and reflected in re-consideration of the contents and sizes of the facility and equipment to be provided by the project. The Study Team prepared a proposal for a new design to the detailed design generated in the First Implementation Review Study, and discussed it with the parties concerned on the Japan side.

The Second Field Survey, i.e. an interim report on an outline of the study results, took place between 18th and 25th of March, 2007, in which the proposed modification to the detailed design was explained and discussed and eventually basic consensus from the Myanmar Government was achieved. Furthermore, the Study Team made corrections to the detailed design drawings and cost estimates during the following Work in Japan, and obtained final approval of the Government of Myanmar in the Third Field Survey, i.e. a final report on the results of the Second Implementation Review Study, which was conducted from May 27th to June 2nd, 2007.

2) Purpose and Method of the Second Implementation Review Study

The main purpose of the Second Implementation Review Study is a rational design modification to the contents of the detailed design assembled by the previous Implementation Review Study. Standing on the discussion with the Myanmar Government back in November 2006, the design modification must be carried out in such a way that the "floor area, functions, and basic design" of the architecture planned in the detailed design are maintained, as a basic rule, which shall be materialized through the following approaches.

(1) Work outside Japan

- (i) In order to generate a proper cost estimate reflecting the current increased prices, the Study Team carries out an economic trend survey in Myanmar as well as its surrounding countries. The results from a survey on the increase rate of construction-related prices for the past five years are used in forecasting increase rates in the future including the construction period.
- (ii) On the basis of the basic policy to maximally keep the "floor area, functions, and basic design" of the center building, the structural frame may be modified. An investigation on the bearing capacity of soil in the proposed construction site is carried out to provide the foundation for a possible modification.

(2) Work in Japan

- (i) Based on the results of the economic trend survey, project costs are newly estimated with the increase in commodity prices reflected, on the assumption of the same detailed design as drawn in the previous Implementation Review Study.
- (ii) A proposal for a new design, aiming to generate an optimized design, is prepared in consultation with the parties concerned in the Government of Japan.
- (iii) Based on the design modification proposal, or the proposal for an optimized design, approved by the Government of Myanmar, necessary corrections are made to the existing detailed design documents, including design drawings and cost estimates.

In light of the findings in this Implementation Review Study, detailed design drawings and a project cost overview, which can be applied to tender documents, were created while verifying and checking the detailed design incorporated with the design modification. The outcomes of the Implementation Review Study were wrapped up on the last day of August 2007.

3) Outline of the Results of the Second Implementation Review Study

The Second Implementation Review Study confirmed the following matters.

(1) Findings by surveys outside Japan

- (i) The increase rates of construction-related prices in Myanmar are significantly higher than those in five peripheral countries.
- (ii) The soil investigation with regard to the bearing capacity confirmed that the structural frame can be modified.

(2) Findings by surveys in Japan

- (i) In view of the findings by the economic trend surveys, a policy to reflect the rates of increase in construction and other prices into the newly planned cost estimates was verified.
- (ii) A design modification proposal, i.e. an optimized design proposal, was drawn up, reflecting

modification in the structural frame yet maximally keeping the "floor area, functions, and basic design" of the architecture, and was approved by the relevant parties of the Japanese Government.

(3) Outcomes from Discussion with Officials of the Government of Myanmar

- (i) The basic policies concerning the design modification were approved during the interim report on an outline of the study results (explanation on the draft report).
- (ii) The contents of the detailed design with design modification incorporated were approved during the final report on the study results (final explanation).

1-3 Conditions Surrounding the Project

1-3-1 Confirmation on the Construction Conditions and Design Policies

The items to be covered in the Second Implementation Review Study were reconfirmed with the Government of Myanmar as follows.

1) Project site

The project site lies in the corner of the premises of Hlaing College Campus situated in the northwestern part of Yangon City. This land lot belongs to the Ministry of Education (MOE), and a permission to use this land for constructing the Myanmar-Japan Center for Human Resources Development (MJC) was granted and confirmed during the previous Implementation Review Study in the form of a letter from the Director General of Department of Higher Education (DHE) (Lower Myanmar) of the Myanmar Government. Of the construction works to be borne by the Myanmar side, a) land grading (preparation) at the project site, b) installation of fences, and c) improvement of drainage ditches had been ordered to the Public Works Department (PWD) of the Myanmar Ministry of Construction, and the works commenced in October 2006 and were completed, except some parts, in April 2007.

[Project Site] Plot 1, Thamine College Street, Hlaing Campus, Yangon City

2) Facility

In discussion with the Myanmar government officials, the Study Team explained to them that the size, functions, design, etc. of the building shall follow the outcomes of the preceding Implementation Review Study as much as possible, and design modification is limited to, as a general rule, those aspects that cannot be avoided in order to respond to the modification experienced in the country after the last Implementation Review Study and those that have no significant impact on the facility. The Myanmar side understood those rules. More specifically, the Study Team and the Government of Myanmar mutually agreed to formulation of a new design proposal, which does not sacrifice the planned "floor area, functions, and basic design" of the architecture to the best extent possible.

3) Equipment

This project is a combination of construction of facility and provision of equipment. It was confirmed that there was no modification to the applications of the Center, such as business courses, Japanese language courses, and cultural exchange programs, and the methods of use of the Center.

1-3-2 Relevant Sector and Implementing Agency

1) Implementing Agency on the Myanmar side

The Ministry of Education (MOE) is responsible for governing this project and the Department of Higher Education (DHE) under control of the MOE is appointed as the implementing agency. The DHE is composed of Upper Myanmar and Lower Myanmar, which are equally positioned as subordinate to the Deputy Minister. The implementation agency for this project is played by the DHE (Lower Myanmar).

The following diagram shows the structure for implementing the project. The Center to be constructed in the project is put under the control of DHE, and the DHE shall be responsible for budgeting and staffing necessary for management of the Center. In addition, though the Center was positioned at the same level as “Yangon University” and “Other Universities” in the Basic Design Study, for it was planned within the premises of Yangon University, now that the site has moved out of Yangon University, it is positioned in the same category as “Universities under control of the DHE”.

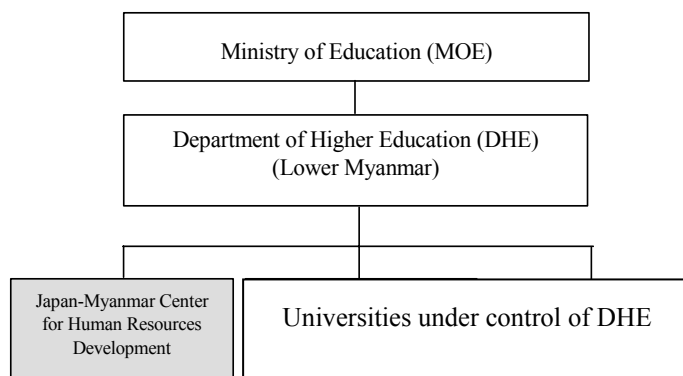


Figure 1-1:

Management Structure for the Japan-Myanmar Center for Human Resources Development

2) Management organization on the Myanmar side

The Center shall be operated at the responsibility of the DHE in cooperation with Japan. The management structure shall consist of a Steering Committee (SC) as the highest decision-making authority and a Management Committee (MC) thereunder. The latter will practically supervise the operation and administration of the Center.

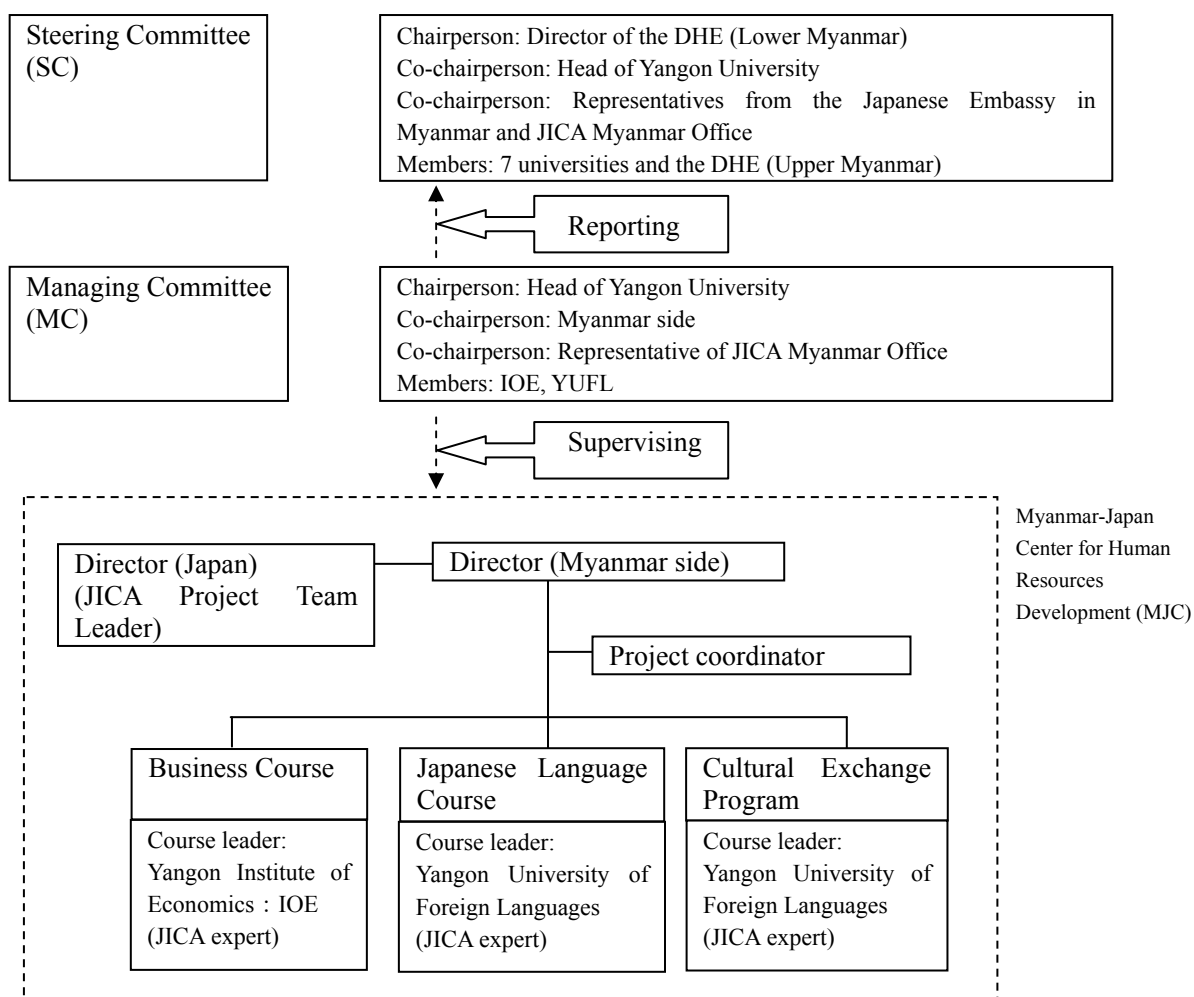


Figure 1-2: Management Organization for the Center

3) Technical Cooperation Structure

The Government of Myanmar aims to foster human resources who can contribute to shifting the Myanmar economy to a market-based economy, by providing educational opportunities and constructing human as well as information networks in the ongoing technical cooperation project rendered by the Government of Japan, “Myanmar-Japan Center for Human Resources Development” (September 2003 – August 2008), as part of their initiatives for human resource development. Furthermore, the government hopes to actively reinforce the bilateral relationship with Japan through education of the Japanese language or other forms of exchange programs.

The current Myanmar-Japan Center for Human Resources Development is managed by the tentative office located in Yangon Institute of Economy (YIE) and consists of the office, library and seminar rooms. Since August 2006 when the office was closed, the library alone has been operated by the university staff.

In preparation for opening the Center to be constructed under the project, it is desired to reopen the

office, organize preliminary courses, dispatch long-term experts, etc. as early as possible.

1-3-3 Conditions at the Project Site

The following works at the project site have been completed, except the parts that need tie-in with the building, by the PWD.

1) Installation of temporary fences around the project site

Steel panel walls were set up on the four facets of the project site as temporary fences, in preparation for the ground leveling work and actual installation of fences. Also a watch hut was constructed near the entrance on the west side of the project site, for the purpose of monitoring the site.

2) Installation of fences along the boundary of the project site

The fences, made up of concrete columns and brick walls, were installed on the four facets of the project site, except for the point where gates are to be installed. Installation of steel-made framing and gates will expectedly be realized by the FY2008 budget.

3) Ground leveling based on the design ground levels (GL)

The natural land shape of the project site has a moderate inclination of approximately 1/100 from east to west, but the ground leveling work has been almost completed based on the design GL designated in the exterior drawings contained in the detailed design. Having the center of the site as the base point, the entire land lot was flattened by cutting on the east side and filling on the west side.

4) Tree clearing in the project site and on the front road

All the trees, except for one in the southwestern corner of the project site, were cut down and removed from the project site and the front road, for the sake of the land grading work and the installation of fences.

5) Improvement of the drainage ditches

Since the existing drainage ditch on the west part of the project side was not deep enough for good water drainage, a new ditch made of bricks and mortar was laid. Another drainage ditch was also newly set up on the border between the site and the road in the north of the site, and was connected to the ditch on the west side via drainage conduits.

6) Relocation of electric poles

There are two transmission lines installed in the project site: high-voltage wire on the north side and low-voltage wire on the south side. These had remained unchanged as of May 2007, however, they will be relocated, targeting July this year, based on the confirmation made with the engineers concerned of the Myanmar Government.

Chapter 2 RESULTS OF THE FIELD SURVEY

Chapter 2 Results of the Field Survey

2-1 Findings concerning project policies

2-1-1 Respect for and confirmation on the results of the preceding Implementation Review Study

As described above, the Study Team confirmed with the Deputy Minister of Education, Mr. U Myo Nyunt, and the Director General of the DHE, Mr. U Zaw Htay, that the Myanmar side agrees to follow the results of the preceding Implementation Review Study and keep design modifications minimal with regard to both facility construction and equipment provision.

2-1-2 Construction issues in the new premises

1) Construction restrictions and licenses

With respect to regulations on construction of the Center building, the former Implementation Review Study achieved consensus, particularly on area-based building regulations and scenic guidance, at the Yangon City Development Committee (YCDC), and also the authority agreed that the details would not be modified from the basic design. Meanwhile, application for a construction license shall be made to the authority through the DHE prior to commencement of the construction after all necessary modifications are made to the detailed design.

Furthermore, the Study Team learned, when briefing the relevant personnel at Myanmar's Fire Department on the project, that it was necessary to apply for three licenses, namely pre-construction license, onsite construction guidance license, and post-construction license, based on the policy of the newly-appointed general manager of the Guidance Division. It is necessary to reconfirm with above-mentioned YCDC and the Fire Department as soon as a proposal on design policies is fixed.

2) Inspection of the soil bearing capacity.

In line with the policies for the field survey, the bearing capacity of the soil above the support ground of the buildings in the premises of the project site, which was determined during the Basic Design Study, was carried out in the form of four plate-load tests, which provided data necessary for preparing a more economical structure plan. (See Section 2-3 "Survey on natural conditions" for details.)

3) Development of infrastructure

The project site is a division from the land owned by the MOE in Hlaing College Campus, situated in the west of Lake Inya at the center of Yangon City.

The site extends 100 m from west to east and roughly 54 m to 73 m from north to south. It faces the Thamine College Street in the north. It is generally flat with a very slight inclination from east to west, and is totally clear without any buildings or other obstacles.

(On the other hand, as discussed later, transfer of the electric poles for high- and low-voltage wires

to the road side and outside of the premises in the south, respectively, is scheduled at the cost of Myanmar. Land preparation, including soil cutting and filling, and installation of fences had been generally completed as of April 2006.)

The basic infrastructure of the project site was reconfirmed as follows.

(i) Drinking water (water supply)

The main water pipe with a diameter of 12 in. to 20 in. is buried beneath Insein Road, one of the trunk roads of Yangon City, which runs from north to south, approximately 600 m west from the project site. An 18-inch pipe is buried near the intersection with Yawgikyaung Street, the front road of the premises, which will be branched into the project site. It was reconfirmed that the Myanmar side would be responsible for the meter and valves to be installed on the west side, facing the road, of the premises.

Although the area of the project site is subject to planned water supply disruption for a few hours a day, the project site shall have a water-receiving tank inside, and hence there is no concern in terms of water supply.

(ii) Wastewater (drainage)

An open conduit is laid along Yawgikyaung Street in the west of the site, which reaches Insein Road. This trench stretches northward along Insein Road, and joins the Hlang River after crossing Insein Road under the ground. The former Study identified several places where flow is stagnant due to lack of maintenance.

The stagnation is resolved by a massive volume of rainwater when it rains, but this does not solve the primary problem of drainage. Therefore, a request for improvement was made to the Myanmar side, during the last Implementation Review Study, as part of Myanmar's undertakings. It was reconfirmed that Japan should cover up to installation of connection manholes whereas Myanmar connection and thereafter.

(iii) Power (high-voltage line)

An overhead high-voltage line of 6.6kV is installed in the north of the project site with three concrete poles inside the premises. Although relocation of these electric poles 20 ft, or about 6 m, closer to the road was requested in writing by the DHE to Myanmar Electrical Power Enterprise (MEPE) and agreed during the last Study, it has not been realized yet. Thus, the request was made again.

With respect to introduction of power, it was reconfirmed that Japan would provide hand holes in the northeastern corner of the premises and cover up to piping inside the facility whereas the Myanmar side would undertake the wiring between the high-voltage line and the transformer to be installed within the facility.

(iv) Power (low-voltage line)

An overhead low-voltage transmission wire for street lamps is installed along the sidewalk in the north of the site, and it continues via wooden poles along the southern border line of the project site. Relocation of the low-voltage line in the south of the site was also requested to Myanmar.

(v) Communications (telephony)

Telephone lines are installed overhead on the opposite side of the front road in the north of the project site and underground on the near side of the road.

It was confirmed that the Japan side would install a connection pole in the northeastern corner of the site and provide the main distribution panel (MDF) in the Center whereas the Myanmar side would bear wiring up to the MDF.

Since these infrastructure elements are essential as temporary construction works for the building works, the Study Team requested to the recipient country, during the last Study, for completing the temporary introduction works prior to the commencement of the construction.

Based on the above, it was reconfirmed that the basic infrastructure in the project site, though some relocation of electric poles and improvement of drainage channels are still needed, had been completed as a whole.

2-1-3 Operational Problems in the New Project Site

1) Restricting access of the public

As the project site lies outside the Yangon University Campus, there is no particular access control put in place. The Second Implementation Review Study, however, confirmed that temporary fences of steel panel walls and actual fences had been set up around the project site so as not to allow the public to trespass.

2) Access to the Center

City circular buses and personal cars are the main means to access the project site. The Center is a 10-minute walk from Insein Road, one of the main roads in Yangon City, and a 15-minute walk from Pyay Road. It is approximately 150 m away from the nearest bust stop. It was confirmed that buses were in operation with an interval of 5 to 20 minutes in both directions, providing a sufficient transport capacity.

Table 2-1 Bus operation at the bus stop near the Center

Name of Road	Bus route	Route No.	Operation frequency (minutes/bus)
College Road	1 line	51-a	Every 20 minutes
Insein Road	10 lines	45, 48, 50, 98, 177, 207, 210, 211, 212, 226	Every 1 to 2 minute(s)
Pyay Road	5 lines	51(A), 51(B), 51(C), 51(D), 147	Every 5 to 10 minutes

Source: DHE

3) Surrounding facilities

The project site neighbors with roads on the north and west sides and is adjacent with land lots in the east and south. In the north, the university's accommodation facilities, namely Ingyin Hostel, Thazin Hostel, Gandamar Hostel and Gangaw Hostel from west to east, bristle on the opposite side of the front road, which are currently used as dormitories for the faculty staff as well as the university students. In the land in the west is abandoned Hti-Koe-Let Compound (the former cafeteria and the exercise field of the military), which is no longer used. The land neighboring in the south also belongs to the MOE, with an office and residential houses for workers engaged in construction projects by the Ministry of Construction. A few residents were acknowledged.

Further, MICT Park (Myanmar Information Communication Technology Park), renamed as IT Park (Info-Tech Park) today, extends approximately 100 m north from the project site, where ICT-related companies, including Myanmar Telecom and the IT Center, are enticed. This project is also positioned as one of the facilities to be constructed in this promising area.

2-1-4 Procedures for design modification, etc.

This Implementation Review Study aims to collect cost and technical information necessary for re-evaluation of the design drawn in the FY2006 study and prepare a proposal on design modification based on the collected data. With approval of the relevant officials of both governments of Japan and Myanmar, correction shall be made to the design drawings and cost documents during the FY2007 study.

2-1-5 Change after the previous Implementation Review Study

The position of this project in Myanmar has stagnated, particularly in terms of technical cooperation and soft components such as dispatch of experts, since the last Implementation Review Study. However, since November 2006 when the MOFA-JICA joint mission was dispatched to Myanmar for discussing with the MOE and the Ministry of National Planning and Economic Development and promising mutual cooperation for early realization of the project, the momentum for promotion of the project has heightened, as exemplified by the completion of works to be undertaken by Myanmar in the project site.

In the meantime, the tenders held in March and August resulted in failure, partially due to the price hike of construction materials in the recipient country. Moreover, the oil price and the labor cost in governmental ministries and agencies suddenly surged in December 2005 and April 2006, respectively, inflicting a peculiar prolonged instability to Myanmar's economy.

2-1-6 Implementation Schedule

The original E/N signed by the Government of Myanmar expired in March 2007. While the MOFA-JICA joint mission in November 2006 pledged re-signing of the E/N between the two countries, the E/N is slated for discussion at a ministerial meeting in July and signing in or after August.

February to mid-March	: Work (Analysis) in Japan
Mid to late March	: Field Survey II (Explanation on the draft report)
April to late May	: Modification of the design and cost estimate documents
Late May to early June	: Reporting in Myanmar (Explanation on the final report)
Late August	: Submission of the final report (both in Japanese and English)

Note: The Second Implementation Review Study was carried out in accordance with the schedule provided as Appendices “Study Schedule”.

2-1-7 Undertakings by Myanmar

With respect to the works to be born by the recipient country, as agreed during the preceding Implementation Review Study, the progress is as follows.

- 1) Land preparation, including soil cutting and filling
The land with a natural inclination of about 1/100 has been completely flattened by cutting and filling soil.
- 2) Installation of fences around the project site
Temporary fences have been installed around the project site, for the purpose of the land preparation works. Fences made of bricks for the actual construction have also been set up inside the temporary fences (within the boundary line of the site), except for where gates are to be placed.
- 3) Clearing of trees
All trees that interrupt construction of the building have been removed from the project site and from the front road.
- 4) Relocation of the electric poles on the north and south sides
The high- and low-voltage transmission lines shall be moved roughly 6 m closer to the road and out of the site, respectively.
- 5) Provision of temporary infrastructure for the construction works (power, communications, clean water, sewage, rainwater drainage)
- 6) Development of infrastructure for the site (power, communications, clean water, sewage, rainwater drainage)
 - i) Power: Wiring from the power branching point to the power room in the building
 - ii) Communications: Wiring from the telephone branching point to the MDP in the building
 - iii) Water supply: Introduction of city water, installation of connection valves and the meter within the project site
 - iv) Wastewater (sewage): Connection from the connection inlet, which receives sewage from the septic tank, in the project site to the drainage ditch of the city system, and repair of the drainage ditch.
 - v) Drainage (rainwater): Connection from the connection inlet, which receives rainwater collected in the premises, in the project site to the drainage ditch of the city system, and

repair of the drainage ditch.

2-1-8 Analysis of the economic trend

1) Summary of the survey results

i) Overview of the Myanmar economy

In December 2006, the Myanmar Government gave a press release on its economic trends after quite a while.

According to the announcement made, the nation accomplished an economic growth of 12.8% during the period between 2001/02 and 2005/06, 1.83 times (1.128⁵) higher than the target growth rate posted in the four-year plan, which is 11.3%. The income per capita was also announced as an increase from K50,927 in 2000/01 to K221,217 in 2005/06. Considering the average actual market rate being K1124/US\$ between April 2005 and March 2006, it is calculated as US\$197/capita.

In this press release, the inflation rate, which the Study is concerned with, was announced as 25.18% at the beginning of the four-year plan and 21.13% at the end. At the same time, the government mentioned that it went up from 3.76% in March 2005 to 16.4% in September 2006. Major economic indicators, including the consumer price index (CPI), in May 2006 were the latest figures announced in the press release, which shows 15.98% of the year-on-year growth in May.

ii) Trends in CPI and wholesale price

Myanmar generates and announces the CPI, but not the wholesale price index.

According to the aggregate index, it grew 1.237-fold during 22 months between July 2004 and May 2006, or at an annual rate of 12.3%. The food index similarly went up by 1.237 times, whereas the apparel industry, house rent or the like, oil-related products, and services and miscellaneous were 1.055-fold, 1.383-fold, 1.204-fold, and 1.120-fold, respectively. The overall increase during the five years between 2000 and 2005 was 24.3% per year and 25.0% per fiscal year. The latter is attributed to the increase by 1.57 times from FY2001 to FY2002.

There are four types of exchange rates in Myanmar: official parity rate, exchange center rate, FEC rate, and actual market rate. Different transaction forms adopt different types of rates. If the CPI is divided by the actual market rate, it decreased by 0.91 in the aggregate index.

As Myanmar's staple food is rice, the government is very sensitive about rice price trends. The rice price was relatively stable in 2004 and 2005, however, early 2006 witnessed a sudden (3-fold) surge in prices of cheap rice, which resulted in 93% up of the rice wholesale price and 67% up of the retail price in 2006 (as for relatively inexpensive Emata). These rice price trends are expected to have significant influence on inflation in 2007.

Furthermore, the price raise for oil-related products (8 times) by the government in October 2005 and the wage increase for public servants (approximately 10 times) in early 2006 are expected to give a fatal blow to this accelerated inflation.

iii) Price trends for construction materials

Overall construction costs are considered as to reflect fluctuation in the Kyat/US\$ exchange rate (according to major construction companies in Myanmar). The price survey conducted by Bank of Tokyo-Mitsubishi UFJ names diesel, teak and cement as commodities related to construction materials. The average increase of these three items in 2006 was 29%. On the other hand, local construction material suppliers state that an average increase rate for major 10 construction materials was 23%, i.e. assuming the price in November 2005 as 100, the price in January 2007 was 124.

iv) Forecasting an inflation rate in 2007

Forecast based on the current trends is 24%, the inflation rate for the past five years. EIU forecasts it as 27.7% for 2007, higher than the forecast based on the past trends. In the meantime, major construction companies in Myanmar project it as 20-25% on the domestic currency basis and 10-15% on the foreign currency basis.

v) Price trends in other Asian nations

For the purpose of this report, an overall trend was ascertained by using the CPIs and exchange rates in the 14 Asian countries where JICA's overseas offices are situated. While an average inflation rate was 5.1% during the five years, 2005 experienced a worse figure of 7.1%.

2) Trends in price fluctuation

If an inflation rate is derived from the CPI of Myanmar, it was below 10% in 2006 but 24% on average during the past five years. Additionally, inflation rates obtained by simply taking an average of the CPIs in the other Asian countries are as shown in the table below.

Table 2-2: Inflation rates in Myanmar

	Average in the past 5 years (%/year)	Average in the past 3 years (%/year)	Past 1 year (%)
Myanmar	24.3	16.0	9.4
Average of other (14) Asian nations	5.2	5.9	7.1

(Source: CSO Statistical Yearbook 2006
IMF International Financial Statistics)

As for prices of construction materials, the Study Team was only able to collect data on the fluctuation observed during the last four years and between November 2005 and January 2007. Based on these data available, the results are as follows.

Table 2-3: Price increase rates for construction materials

	Average in the past 4 years (%/year)	Past 1 year (%)
Construction cost (unit price per square meter)	17.1	26.7
Average of major 10 construction items	n.a.	22.8

(Source: Dynamic Group Tokyo Enterprise)

Here, it is critical to pay attention to the discrepancy between the construction cost/construction material prices and the CPI.

Moreover, a surge in construction materials prices occurred in Myanmar immediately before the tendering held in August 2006. The prices for the ten representative items in April 2006 were 10% higher compared with the previous month. Also, diesel went up by 31% in February 2006 and aggregate by 27% in May 2006, over the previous month. In consequence, a maximum price rise of approximately 25% can be forecast for the construction period coming up in 2008. On top of that, the CPI projection model forecasts the increase rate of construction cost as 29.7% in 2007 and 14.6% in 2008, thus necessitating some measures to be in place when actually implementing the project.

3) Outline of the survey on unit prices of construction materials

In this Implementation Review Study, the Study Team collected data on the latest unit prices of relevant commodities, based on the results of the construction materials unit price survey conducted since August 2006 when the second tendering was held. Regarding gasoline, diesel fuel, teak and cement, the price transitions were ascertained, similarly to the previous time, using the price transition list prepared by the Yangon Office of the Bank of Tokyo-Mitsubishi UFJ and the data provided by local contractors.

i) Gasoline

Although the government announced a raise of the official parity price for petroleum by nine times in November 2005, the wholesale price did not soar. According to the Bank, it started climbing in February 2006, 128.0% over the price in November 2005, reached as high as 140.0% in March, and then slowly declined down to 112.0% in July. It appeared to increase rapidly after that and hit a high at 152.0% in December. The data collected from local constructors also suggest that it recorded the maximum 152.0% in January 2007, and the prices in the other months also seem to remain in the approximate range of the Bank's figures. (See Figure 2-1)

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07
Gasoline (MUFJ)	2500	2700	2700	3200	3500	3200	3100	2900	2800	2800	3100	3300	3600	3800	
(Local contractors)	2300	2400	2500	2900	2800	3000	3200	2800	2800	2800	3000	3000	3300	3500	3800

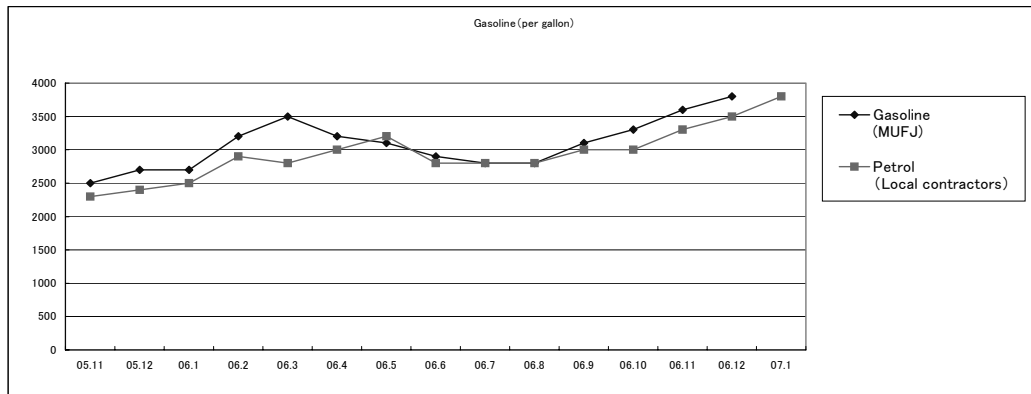


Figure 2-1: Comparison of gasoline prices

ii) Diesel fuel

The price of diesel fuel shows similar trends. The Bank's table presents the highest price increase in the first half of 2006 as 125.0% in April. The price got on a declining trend later, but recovered up to 118.8% in July, giving a sign of another upward trend. In fact, it reached 131.25% in December 2006, breaking all past records.

The data from the local contractors, though contains slight differences, show the market prices generally within the approximate range. The price decreased in December and January, followed by a record high at 105.6% in February to April. Then it stayed at the level of November 2005 (100%). It started to climb again in September, and established a record at 127.8% in January 2007 (See Figure 2-2).

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07
Diesel (MUFJ)	3200	3300	3200	3600	3800	4000	3800	3500	3800	3800	4200	4200	3800	4200	
Diesel (Local contractors)	3600	3000	2900	3800	3400	3800	3600	3600	3600	3600	4000	3900	4200	4200	4600

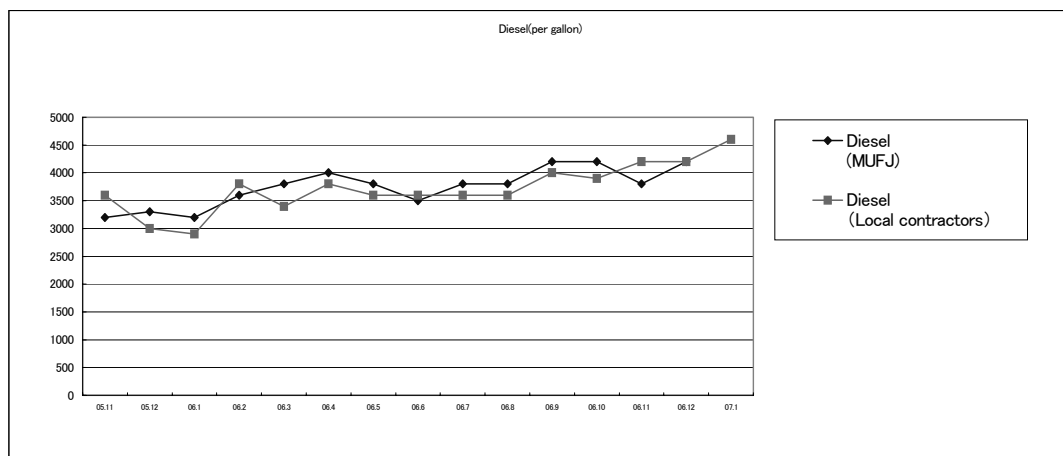


Figure 2-2: Comparison of diesel prices

iii) Teak

The Bank's table and the data from the contractors show quite inconsistent figures as to the teak price between November 2005 and May 2006. This is most likely because, as timber prices sensitively reflect the demand-and-supply balance and the transportation situation, a large disparity occurred between the data sorted out by the Bank and the actual market prices in the private sector. As for the second half of 2006, the price underwent an extreme surge by 208.3% in October, according to the Bank, but the contractors' information indicates that it gradually went up to the maximum 189.5% in January 2007. In either case, there is no sign that the unit price hike will cool down. (See Figure 2-3).

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07
Teak (MUFJ)	1E+06	1E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	3E+06	2E+06	2E+06	
Teak (Local contractors)	950000	1E+06	955000	1E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06

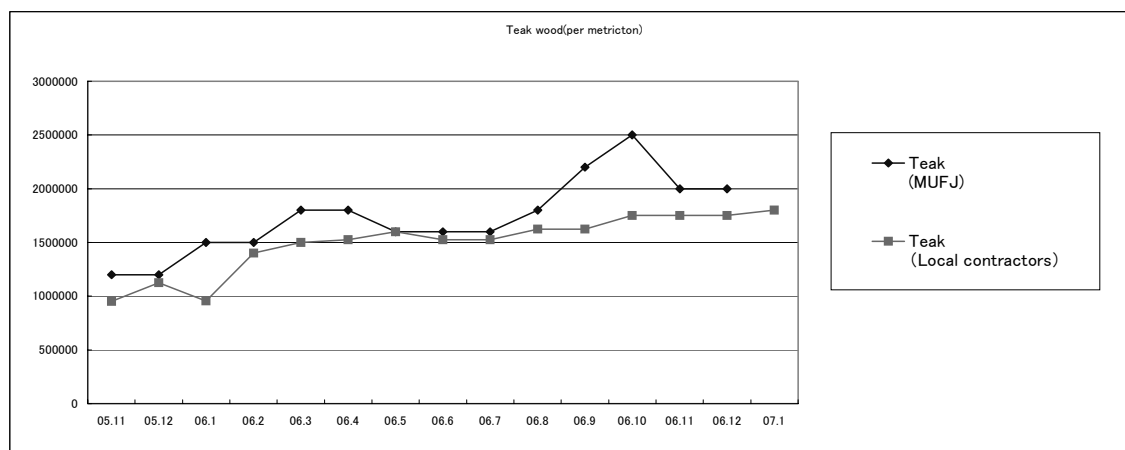


Figure 2-3: Comparison of teak prices

iv) Cement

There is virtually no discrepancy in the data on cement between the Bank and the contractors. The reason for this is attributed to the fact that the domestic cement price is controlled by the government, which allows no gap between the officially-released data and the actual market price. While the price ranges from 80% to 97% over the price in November 2005, no drastic jump has been observed. This is most likely because the new capital city is enjoying a construction boom whereas the number of construction projects has decreased in Yangon City as a whole, maintaining the demand-and-supply balance for cement. (See Figure 2-4).

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07
Cement (MUFJ)	5500	4700	5000	4900	5500	6100	5500	5000	5500	5400	5300	5000	5200	5200	
Cement (Local contractors)	5750	4550	4660	4800	5050	5590	5600	4765	5110	5175	5225	5100	5000	5160	5660

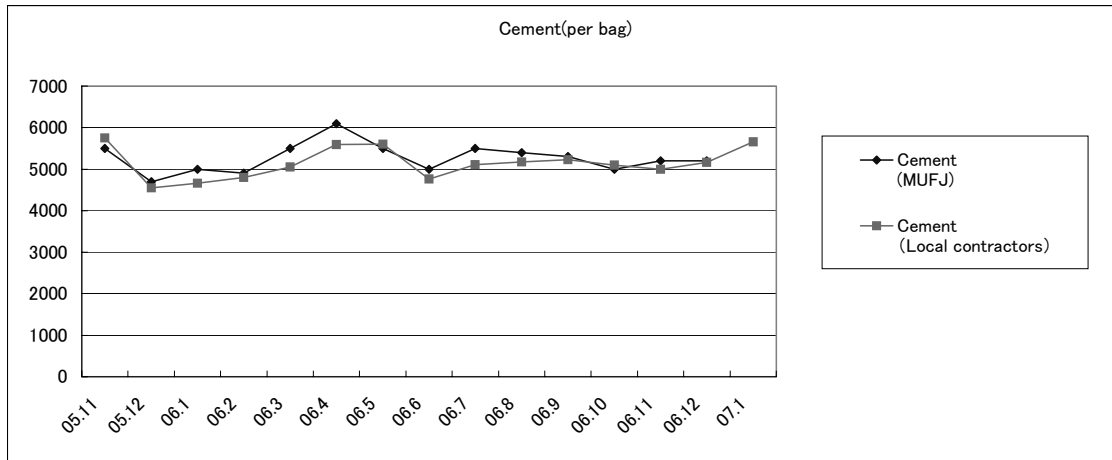


Figure 2-4: Comparison of cement prices

Based on the results of comparison above, a detailed analysis on the unit price of ten major construction materials was conducted using data provided by local research companies and construction operators.

4) Transition of unit prices of construction materials

As unit prices of construction materials are set based on variant measurement and price units, the Study Team assumed the unit prices used in the cost estimation during the First Implementation Review Study, as of November 2005, as 100%, and expressed the unit prices in the following months in comparative percentage.

i) Cement

As for cement, there was no major difference between the Bank's data and the local contractors' information. An annual variance remained within a 80%-100% range in comparison with the price in November 2005. This is attributed to the fact that while the total volume of construction works has decreased in Yangon City, the new capital is undergoing a construction boom, maintaining the balance between demand and supply as to cement. The price returned to 100% in February. (See Figure 2-5)

ii) Sand

The price for sand and gravel decreased in February 2006 (down to 57.4%), but hit a high in May (107.1%). Afterward, it was on a declining trend until August and further down to 47.1%, a record low, in October. It went on a recovery trend later and came back to 77.1% in February. This is assumedly because all the concrete works as part of the construction boom in new capital Naypyidaw have been nearly completed. (See Figure 2-5).

iii) Aggregate

As for aggregate, the price continuously rose since November 2005, reached the highest 187.6% in May 2006, and plateaued at around 110% later on. However, it again showed an anomalous surge of 145.7% in February. (See Figure 2-5)

Above all, of the three constituents of concrete, cement currently stays at 100%, the same level as in 2005, sand shows a recovery trend from the bottom price, and aggregate is on an anomalously-steep rise. (See Figure 2-5).

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07
1 Cement	100	79.1	81	83.5	87.8	97.2	97.4	82.9	88.9	90	90.9	88.7	87	89.7	98.4	100.4
2 Sand	100	102.9	102.9	57.4	69.4	85.7	107.1	82.3	70.3	72.9	60	47.1	47.1	55.7	70.3	77.1
3 Aggregate	100	107.3	118.9	111.2	124.6	147.6	187.6	147.6	124.6	115	118.9	111.2	111.2	105.4	109.3	145.7

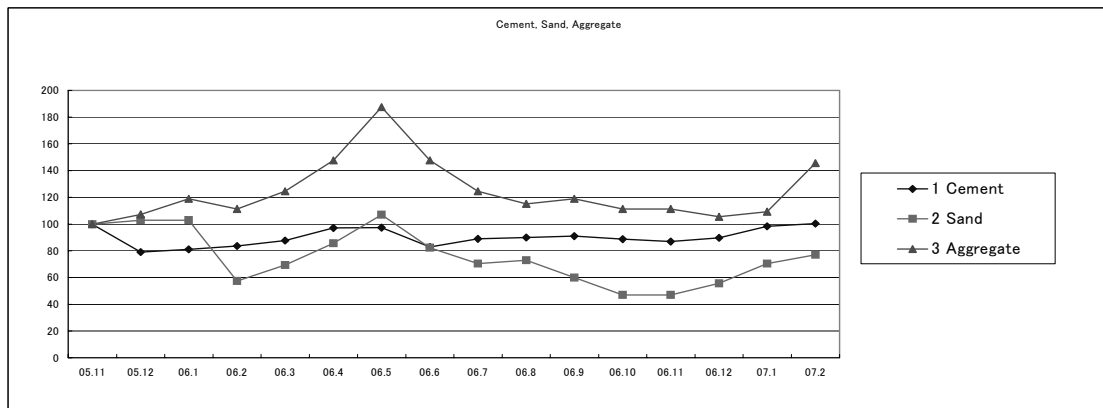


Figure 2-5: Price fluctuation for cement, sand and aggregate

iv) Bricks

The brick price tends to increase in the dry season from May to October while bricks are under the drying process and are short in the market. In this survey, too, the highest 134.6% was attained in June. At the same time, however, a significant increase of 130% or higher was recorded in December 2005 and January 2006, which was probably triggered by the increase in the demand for this inexpensive yet workable material, arising out of the construction boom in the new capital. Furthermore, the price does not seem to drop but fluctuates at around 120% probably because bricks can be used in variable ways ranging from interior to exterior materials (See Figure 2-6).

v) Teak

The teak price showed a steep rise in February 2006 (147.4%), and since then it has kept a high level at 160% or higher with an indication of further surge in and after August. It achieved a record high at 189.5% in January 2007, and stayed at around the same level. In early March an increase rate exceeding 200% was reported. This kind of price hike for high-grade materials is expected to bring significant impact on formwork, fittings and interior materials. (See Figure 2-6).

vi) Glass

As for glass, the price transition survey focused on transparent glass with a thickness of 6 mm, which is most widely available in Myanmar, as the subject. The price stayed at almost the same level between November last year and March this year, started increasing in April (118.4%) and flattened at 121% (See Figure 2-6).

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07
4 Brick	100	134.6	130.8	117.3	125	121.2	125	134.6	126.9	126.9	132.7	132.7	140.4	121.2	119.2	119.2
5 Teak Wood	100	118.4	100.5	147.4	157.9	160.5	168.4	160.5	160.5	171.1	171.1	184.2	184.2	184.2	189.5	199.5
8 Glass	100	100	100	100	100	118.4	118.4	113.2	126.3	121.1	121.1	121.1	121.1	121.1	121.1	121.1

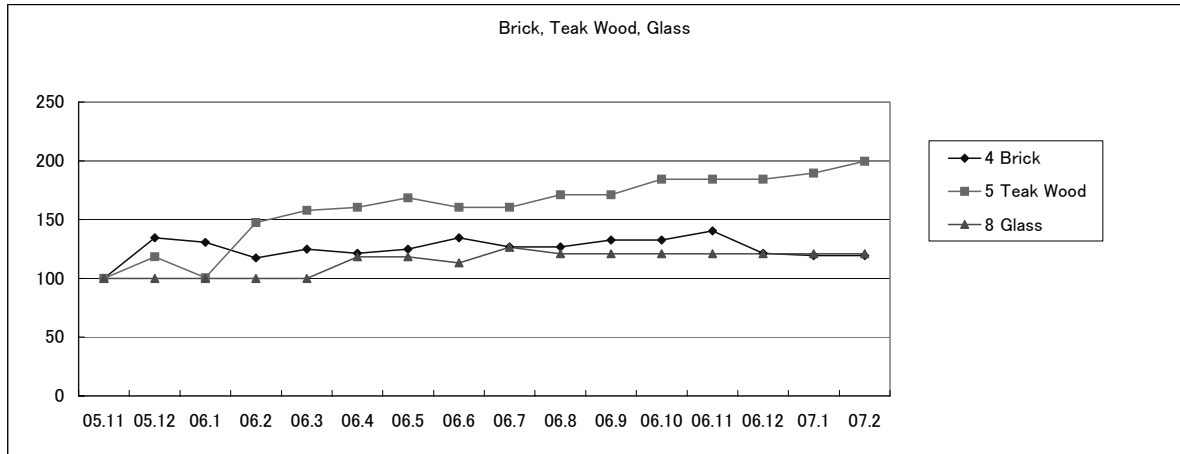


Figure 2-6: Price transition for bricks, teak and glass

vii) Steel bars

As for the price trend of steel bars, D-12 and D-22, which are both most largely used in the project, were investigated. Although the target prices are based on Japanese steel whereas the contractor prices are for Thai products, considering that tenderers assume Thai products in their cost estimation, this review was conducted for the comparison purpose. The price maintained the same level as in November 2005 by March 2006, went up to 119.4% last April and has remained at as high as 120% since then. Chinese-made steel bars have been largely supplied since late 2006, but due to the shortage in supply against demand, there have been many cases of speculative dealings where some contractors buy up steel bars and sell to others at higher prices. In February the prices of D-25 and D-12 marked a record high at 135.7% and 132.5%, respectively. (See Figure 2-7).

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07
6 SteelD-25	100	103.5	93.2	98.8	104	119.3	125.9	123.5	124.5	124	111.9	110	111	113.3	120.7	135.7
7 SteelD-12	100	97	95.6	98.4	104	119.4	125	125	124.5	124.1	119.8	119.4	114.3	116.8	121.3	132.5

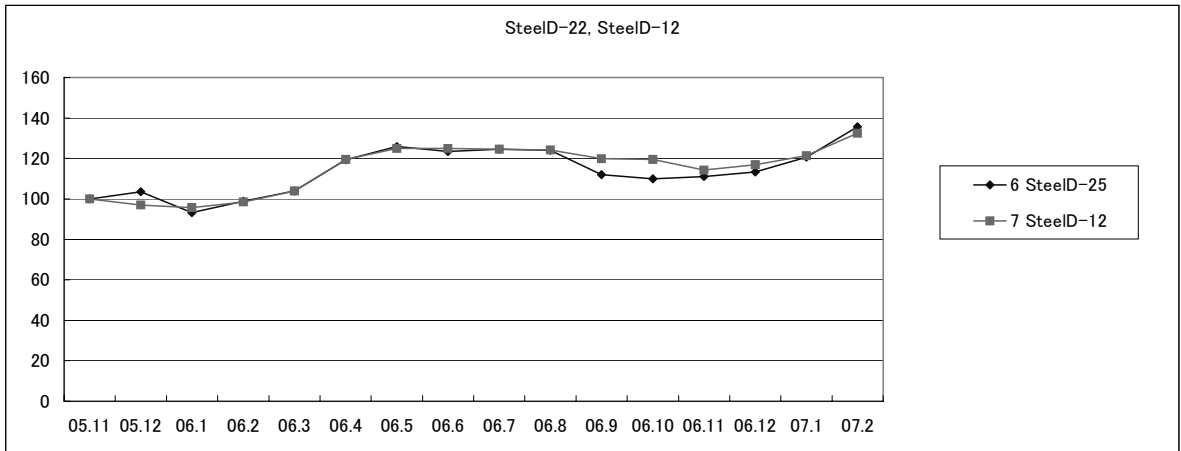


Figure 2-7: Price trends for steel bars

viii) Gasoline

Though the government announced an increase of the oil official parity price by nine times in November 2005, the wholesale price did not soar up. However, the price gradually and steadily went up and reached a record high at 173.9% this February. The rising trend is expected to continue in the future. (See Figure 2-8).

ix) Diesel fuel

Diesel fuel shows similar trends. The diesel price achieved a record high at 144.4% this February. (See Figure 2-8).

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07
9 Petrol	100	104.3	108.7	126.1	121.7	130.4	139.1	121.7	121.7	121.7	130.4	130.4	143.5	152.2	165.2	173.9
10 Diesel	100	83.3	80.6	105.6	94.4	105.6	100	100	100	100	111.1	108.3	116.7	116.7	127.8	144.4

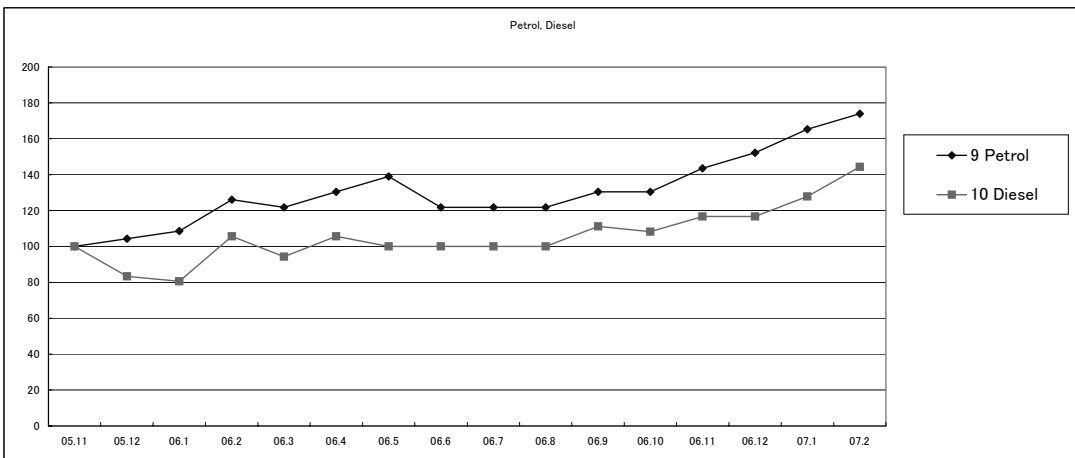


Figure 2-8: Price trends for gasoline and diesel

x) Observations

Based on the price transitions described above, the following table compares the average price hike rate for each construction material, price surge for construction materials experienced at the first tendering in March 2006 and the second tendering in August 2006, and the latest increase rate as of January 2007, which was identified by the Second Implementation Review Study. (See Figure 2-9).

	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07
Average	100	103.1	101.2	104.6	108.9	120.5	129.4	119.1	116.8	116.7	116.8	115.3	117.6	117.6	124.3	134
Tender	100				101.3					113.2						

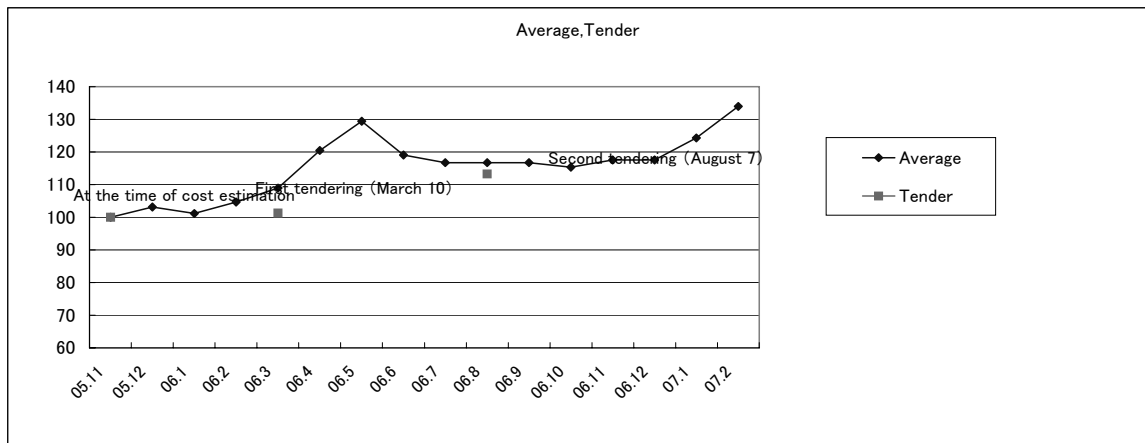


Figure 2-9: Average price increase rate for construction materials

The average increase rate referred here is derived by simply taking an average of the unit prices of the subject construction materials and is not a weighted average. Therefore, it does not show fluctuation of the total value, yet is adopted as an indicator in consistence with the price hike timings.

Since November 2005, it showed a slight increase of 103.1% in December and returned to 101.2%, the November standard, in February 2006. However, it showed a gradual increase trend since March and reached the highest, 129.4%, in May, followed by a moderate decline. It entered a plateau in July and has remained at 116%-117%. The plateau continued until December, but the price started to climb again in January 2007 and hit a record high of 134.0% in February, breaking the record achieved in May 2006.

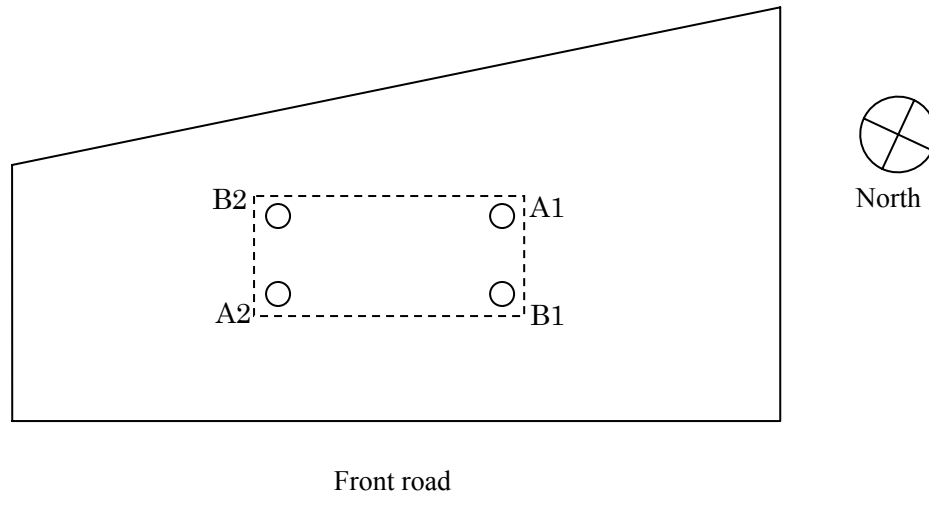
2-2 Results of Survey on Natural Conditions

2-2-1 Investigation on the Soil Bearing Capacity

1) Procedures of the soil bearing test

The soil bearing test was carried out in the following manner.

- i) Test points: The following four points in the construction site proposed for this project were tested. These points correspond to the four corners of the Center building.



- ii) Test depth: The depth at each test point is tabulated as follows.

Point (in the order of testing)	Position (direction)	Depth from the design ground level
A2	Northeast	-0.9 m (a depth of app. -1.2 m from the ground surface)
B1	Northwest	-1.2 m (a depth of app. -0.6 m from the ground surface)
A1	Southwest	-1.5 m (a depth of app. -0.9 m from the ground surface)
B2	Southeast	-0.6 m (a depth of app. -0.9 m from the ground surface)

- iii) Outline of the test method: The soil bearing test was carried out in accordance with ASTM D1194, which is most commonly used in the country. Major items tested are as follows.

Planned max. load: This was tested to obtain data necessary for judging whether the allowable bearing capacity can be set at 100KN/m^2 . In that case, the ultimate bearing capacity will be 300KN/m^2 , three times as much, and the maximum load planned for this project is set at 338KN/m^2 (24KN if converted into a loading platform with a diameter of 30cm), with additional 10% plus.

Test tools: Mainly, loading platform with a diameter 300 mm and a thickness 25 mm, a

pile driver with reaction units weighing 9.5 tons. Displacement gauge (dial gauge with a scale of 0.01 mm)

Based on the above, a hole of 3 m × 3 m was manually dug at each of the test points, and covered with steel beams arranged in a double cross, on top of which the 9.5-ton heavy machine was placed. Using the jack, the displacement was measured starting with a load of 3KN, an eighth of 24KN, up to 24KN by adding an extra weight every 30 minutes, in accordance with the test procedures stipulated by the ASTM.

- iv) Test results: As the result of the plate load test, it was deemed that the ultimate bearing capacity was achieved at Test Point No. B1 with the planned maximum load, in general. However, it was not achieved apparently at the other three points, even with the planned maximum load. Thus, based on the test results, the ultimate bearing capacity at the project site is derived as 339kN/m² from the following equation, when the ultimate bearing capacity is set at the planned maximum load.

$$\begin{aligned} \text{Ultimate bearing capacity} &= \text{Planned max. load} / \text{area of platform} = 24\text{kN}/\pi \times 0.15^2 \\ &= 339\text{kN/m}^2 \end{aligned}$$

2) Bearing capacity

Based on the ultimate bearing capacity obtained as the result of the plate load test, the bearing capacity of soil at the project site can be calculated as 113kN/m² based on the following equation.

$$\begin{aligned} \text{Long-term allowable stress (bearing capacity)} &= 1/3 \text{ of the ultimate bearing capacity} \\ &= 339/3 \\ &= 113\text{kN/m}^2 \end{aligned}$$

Further, Article 93 in the Enforcement Ordinance of the Building Standard Law stipulates a long-term allowable bearing capacity as follows.

Soil type	Long-term allowable stress (kN/m ²)
Rigid clay	100
Clay	20

With the above data in mind, the long-term allowable stress (bearing capacity) for the project site is set to 100 kN/m².

3) Foundation planning

As the bearing capacity was confirmed as at a sufficient level, the underground foundation method was switched from the double slab method, as in the original detailed design, to the independent footing method. In addition, the lower end of the foundation was set as -1.2m from the design ground level uniformly, in consideration of workability and reliability of the soil bearing capacity.

**Chapter 3 IMPLEMENTATION PLAN FOR
THE OPTIMIZED DESIGN**

Chapter 3

IMPLEMENTATION PLAN FOR THE OPTIMIZED DESIGN

3-1 Facility Planning

(1) Method of preparation of the optimized design

The Second Implementation Review Study Team conducted three major investigations in Yangon City, Myanmar, as part of Field Survey I, the work entrusted for FY2006, namely (i) study on cost-related matters, (ii) investigation on the project site (the soil bearing test at the site), and (iii) survey on price fluctuation factors. After returning to Japan the Study Team analyzed the data obtained and prepared a proposal for an optimized design.

(2) Background of preparation of the optimized design

Based on the results of (i) study on cost-related matters, (ii) investigation on the project site (the soil bearing test at the site), and (iii) survey on price fluctuation factors, conducted in Myanmar, the Study Team prepared a new design proposal as to the detailed design. The proposal was discussed with and approved by the personnel concerned of the MOFA and JICA, and was submitted to the officials of the Myanmar Government, including those of the MOE, as an optimal design.

(3) Basic policies concerning the optimized design

The following three points were posted as basic policies in preparing the optimized design.

- 1) The modification must not drastically undermine the area and functions of the Center building.
- 2) Modification to the appearance of the building must be kept minimal.
- 3) Interior finishing must be at the same level as the human resources development centers in other countries.

As the contents presented by the Japan side at the time of the basic design in 2003 are an international commitment in a sense, the optimized design stands on a precondition that the number and floor area of rooms necessary for a human resources development center shall be kept as much as possible. Moreover, of the design purposes, the Japanese-taste design of the building appearance shall be followed considering that the Center will be constructed through Japan's grant aid assistance, while, at the same time, it should be of a grade and at a level not far from the human resources development centers constructed in other countries under Japan's grant aid scheme.

(4) Results of discussion with the Myanmar side

The Study Team surveyed the latest unit prices of construction materials as well as the procurement methods, in conjunction with cost estimation in the project, both in Myanmar and a third country (Thailand), during the "Interim report on the study results (draft final report)/ Field Survey II", the work entrusted for FY2006, and explained about the optimized design to the Government of Myanmar

(Deputy Minister of Education).

1) Items of modification explained by the Study Team

- (i) Underground foundation method : Modification from the double-slab method with a depth of 2.9 m to the long-strip footing method with a depth of approximately 1.8 m.
- (ii) Roof structure method : Modified from the steel truss on top of the concrete deck roof to the steel truss alone.
- (iii) Septic tank : Modification from the cast-in-place concrete method to ready-made FRP products.
- (iv) Interior materials : Modification from porcelain tiles to ceramic tiles in some parts.
- (v) Appearance : The number of decorating louvers is decreased from four to three (north, east and west), and the material is modified from GRC to hollow blocks. The water tower is also modified from the whole area wall method to hollow blocks for the tank installation part.
- (vi) Layout : The interpreting booth on the mezzanine is cancelled. Instead, the pantry by the stage is turned into a multi-purpose space, which can also be used as an interpreting room. The gallery on the second story is cancelled. (The maintenance space by the window is not modified.)
- (vii) Air-conditioner : Install air-conditioners in the Auditorium, instructor room, director rooms, and computer room.
- (viii) Exterior : In addition to construction of the gate and the guard station and tree clearing, asphalt paving work should be undertaken by Myanmar.

2) Requests from Myanmar

- (i) Underground foundation method : Provide additional documents to explain that there is no safety concern.
- (ii) Roof structure method : Provide additional documents to explain that there is no safety concern.
- (iii) Septic tank : Provide additional documents to explain about FRP since FRP products are not common in Myanmar.
- (iv) Interior materials : Make sure that the modification of tile type will not degrade the quality.
- (v) Appearance : None in particular. (No problem is expected from the modification.)
- (vi) Layout : None with regard to cancellation of the mezzanine.
Examine if it is possible to set up an interpreting room in the back (by the entrance) of the Auditorium. (The number of seats can be reduced from current 1,400 to around 1,200.)
- (vii) Air-conditioner : No problem provided that air-conditioners can additionally be installed in other rooms later. (During the interim report)
It is preferred to install air-conditioners in the rooms designated in the

- B/D. (During the final report)
- (viii) Exterior : Myanmar shall undertake the paving work including the parking space (based on an assumption of concrete pavement). On the other hand, it is preferred that the Japan side will cover the apron section around the building (interlocking pavement) for a width of about 2 m, excluding the north side.

During the interim report on the study results (draft final report), the Study Team explained the above details to the Deputy Minister of Education, with aid of perspective drawings for the appearance (before and after the modification), A2-size presentation boards (layout, floor, cross-section and elevation plans).

As a result of discussion, the Government of Myanmar was generally satisfied with the above new proposal, provided that the previously-mentioned requests are incorporated. Hence, the Study Team held another explanatory session for the Minister of Education on the same day. The Study Team also explained and obtained approval that the team would continue to modify the design documents, etc., to reflect the requests raised by the Myanmar side into the optimized design.

Even during the final report on the study results (final report), the Study Team again explained the details to the Minister of Education, Deputy Minister of Education, Director General of the DHE, etc., with aid of perspective drawings for the appearance (before and after the modification), A2-size presentation boards (layout, floor, cross-section and elevation plans), and drawing and specification documents of the detailed design.

The Minister of Education himself raised many questions and three requests: (i) Provide advice on planting in the exterior in such a manner that is suited to a Japan center; (ii) Use Myanmar-produced construction material as much as possible; and (iii) Resume the plan in the B/D with respect to air-conditioners. The Study Team promised to reflect these three requests into the optimized modification to the extent possible, after discussing during the same meeting, and consequently obtained approval of the Myanmar side for the modification to the detailed design, which fulfilled the purpose of the Second Implementation Review Study.

(5) Contents of the optimized design

While the items to be cut out are as explained in (4) above, the following tables provide modification in the floor area of the building and the specifications of the equipment.

[Building]

Table 3-1: Number and area of rooms (after modification)

	Section	Room Name	Total Area (m ²)	Delta in area (m ²)	Remarks
1	Lobby/ Exchange	1.1 Lobby/ Exhibition Hall	304.00	9.08	Including 2 nd Floor Exhibition Space
		1.2 Library	177.00		Including PC Room &Locker Room
		Sub-Total	481.00	9.08	
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 (one for the Japan side and one for the Myanmar side)
		3.2 Reception Room	36.00		Also serves 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	185.40	3.60	
		Interpretation Room Projection Room	3.60	11.40	
		4.2 Electronic Room	54.00		
		4.3 Machinery Space	18.00	18.50	Including 2 AC Rooms
		4.4 Storage	4.00	12.50	2 rooms
		4.5 Kitchenette	18.30		3 rooms
		4.6 Toilets	55.00		Including toilets for the disabled on all stories.
		4.7 Common space (staircases, corridors, etc.)	189.20	15.62	30.7% (Including 18.5% for the Lobby and the Exhibition Hall.)
Sub-Total	527.50	61.62			
Total			1,609.00	70.70	

Note: "Delta in area" in the above table means the area reduced from the detailed design.

[Equipment]: No modification from the detailed design

Table 3-2: List of equipment to be provided under the project (no modification)

No.	Description	Q'ty	Location	Remarks	GA	TC
1	Wide display system			To be used as an AV system in the Lobby to play films introducing Japan.		
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	For mixing input sound and switching output		○
2-2	Monitor Speaker	1 set	Projection room	For audio monitoring		○
2-3	Cassette Tape Recorder	1	Projection room	For playing BGM		○
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	For transmitting video image, multi-format		○
2-7	DVD/CD Player	1	Projection room	For playing BGM and video image		○
2-8	Power Control Unit	1	Projection room	Power source for audio and video equipment		○
2-9	Crystal Projector	1	Auditorium	Multi system,	○	
2-10	Screen Control Switch	1	Projection room	For operating the electric screen		○
2-11	Wireless Tuner	1	Projection room			○
2-12	Digital Equalizer	1	Projection room	For sound correction		○
2-13	Power Amplifier	1	Projection room	Rated power output 120W+120W		○
2-14	Main Speaker	1 set	Auditorium	Power handling capacity; 160W with fittings for attaching to the ceiling		○
2-15	Sub Speaker	1 set	Auditorium	Power handling capacity; 160W with fittings for attaching to the ceiling		○
2-16	LCD Projector	1	Auditorium	3,200ANSI、 with fittings for attaching to the ceiling		○
2-17	120-inch Motorized Screen	1	Auditorium		○	
2-18	Wireless Antenna	1 set	Auditorium		○	
2-19	Wireless Microphone	4 sets	Auditorium	Hand type, Tie-pin type		○
2-20	Dynamic Microphone	2 sets	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 (scheduled)

(6) Major technical modification

1) Structural planning

1. Bearing capacity at the project site

In the boring test with an excavation of 30 m below the ground surface, no stable supporting layer was found at the project site (Hlaing Campus). In light of the characteristics of the delta area in the river basin, the support layer can be estimated as 50 to 60 m deep. Furthermore, based on the result of the load test, it was deemed appropriate to set the long-term allowable stress of the soil (bearing capacity) as 100 kN/m^2 (10t/m^2) at a depth of -1.2 m from the ground level.

The bearing capacity at the former project site (inside the Yangon University Campus) was measured as 80 kN/m^2 at a depth of - 2.0 m from the ground level, which was the planned depth for the foundation slab surface, based on the same test, indicating that the new project site in the Hlaing Campus has a greater bearing capacity at a shallower point.

2. Foundation of the building

The foundation method for the Center building was planned as the mat foundation with having the support layer at - 2 m below the ground level, at the time of the basic design. As the first story is at GL+0.9 m and the basement level is GL-2.0 m, the mat foundation was planned as a double-slab approach with a height of 2.9 m.

In this Second Implementation Review Study, the Study Team has set the support layer at GL-1.2 m, based on the results of the load test, and decided to modify the structure to the independent footing method with a ground contact area of 8/10, which was calculated based on the bearing capacity.

3. Roof structure of the building

The roof structure was planned as a sloped roof with steel-frame base and tiles on top of the reinforced concrete roof slab at the time of the basic design. The steel frame columns were arranged in such a way as to distribute the load onto the roof slab. In reconsidering the structural plan, the roof truss with steel frame was carried down, in order to form a sloped roof with tiles, because tile roof is one of the essential design elements. Without the roof slab, the load of steel frame will be directly transferred to the beams and the columns, bringing a higher strength to the building as a whole than the former design. In addition, because the slab is cancelled, the load of the building will be less and the quantities of concrete and steel bars necessary for beams and columns will be reduced.

2) Septic tank

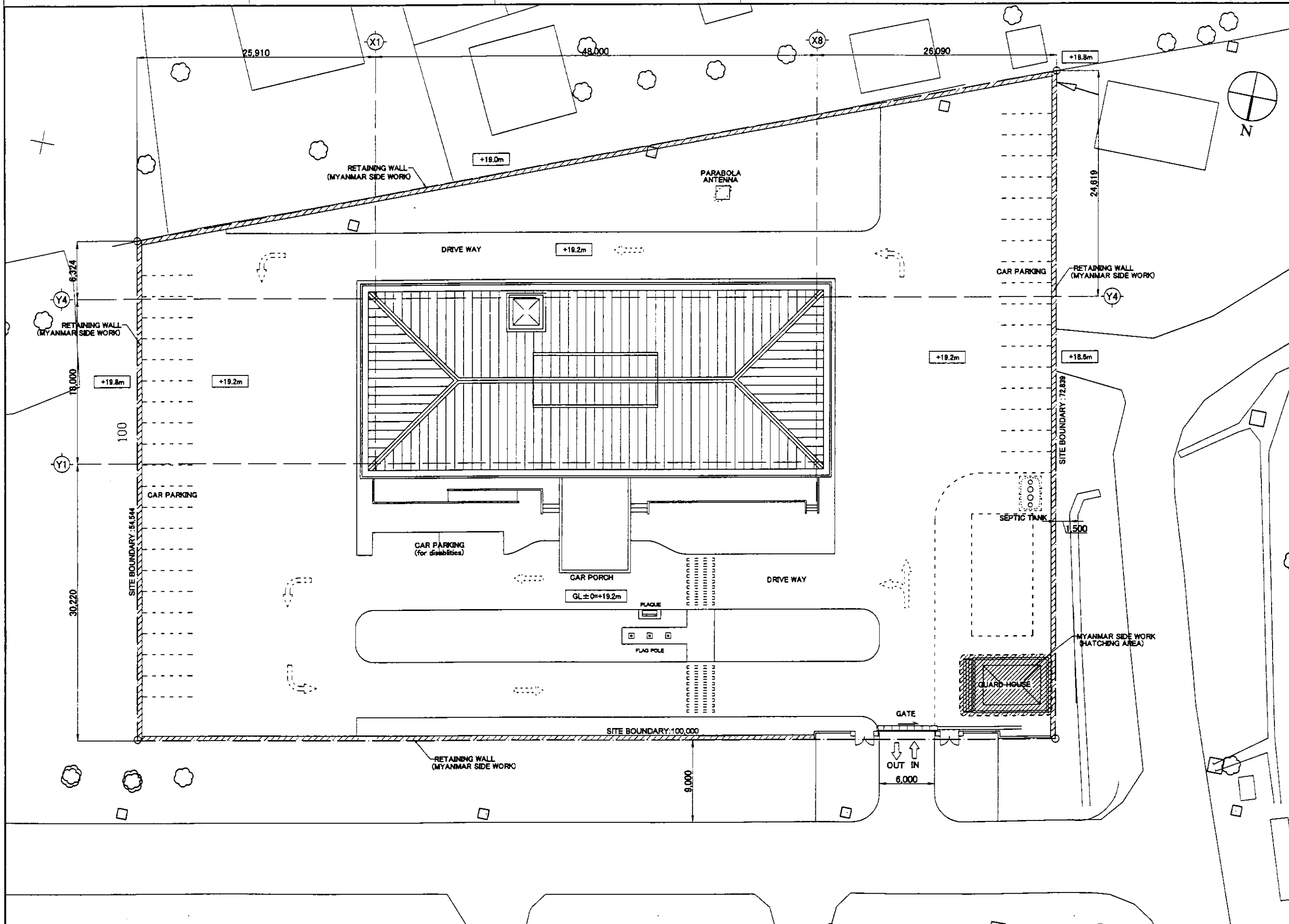
The septic tank was planned to be constructed by excavating the ground and casting concrete in place at the time of the basic design. This was naturally derived due to the fact that septic tanks are not commonly used in Yangon City. The Study Team, however, surveyed on construction materials available not only in Yangon City but also in Bangkok, Thailand, and found ready-made products that satisfy the standards set in the basic design.

In Bangkok, FRP (fiber-reinforced plastic) is commonly adopted for septic tanks, and the existing distribution route supports export of these products to Yangon City, as confirmed by the Study Team.

As a precondition of use of FRP septic tanks is that they are buried under the ground, they are reinforced by reinforced fiber and are free of structural problems. Since they are used underground, they will not be exposed to sunshine, which might deteriorate the plastic, and therefore can be used semi-permanently with a yearly maintenance. Septic tanks produced on site by casting concrete are no longer used in Japan, in consideration of risks of cracking and water leakage. Above all, the Study Team decided to adopt FRP septic tanks.

(7) Detailed design drawings (optimized design)

- 1) Layout Plan
- 2) 1st Floor Plan
- 3) 2nd Floor Plan
- 4) Roof Plan
- 5) Elevation Plan
- 6) Cross-section Plan 1
- 7) Cross-section Plan 2



LEGEND

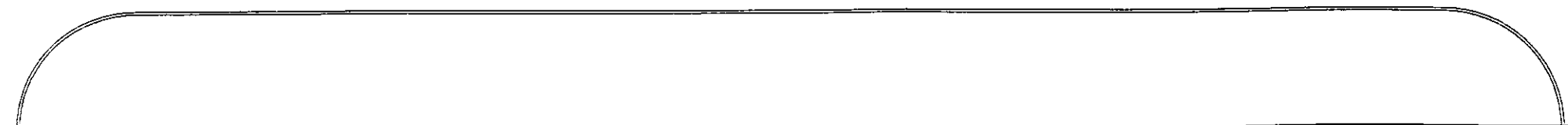
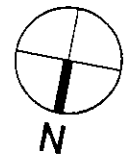
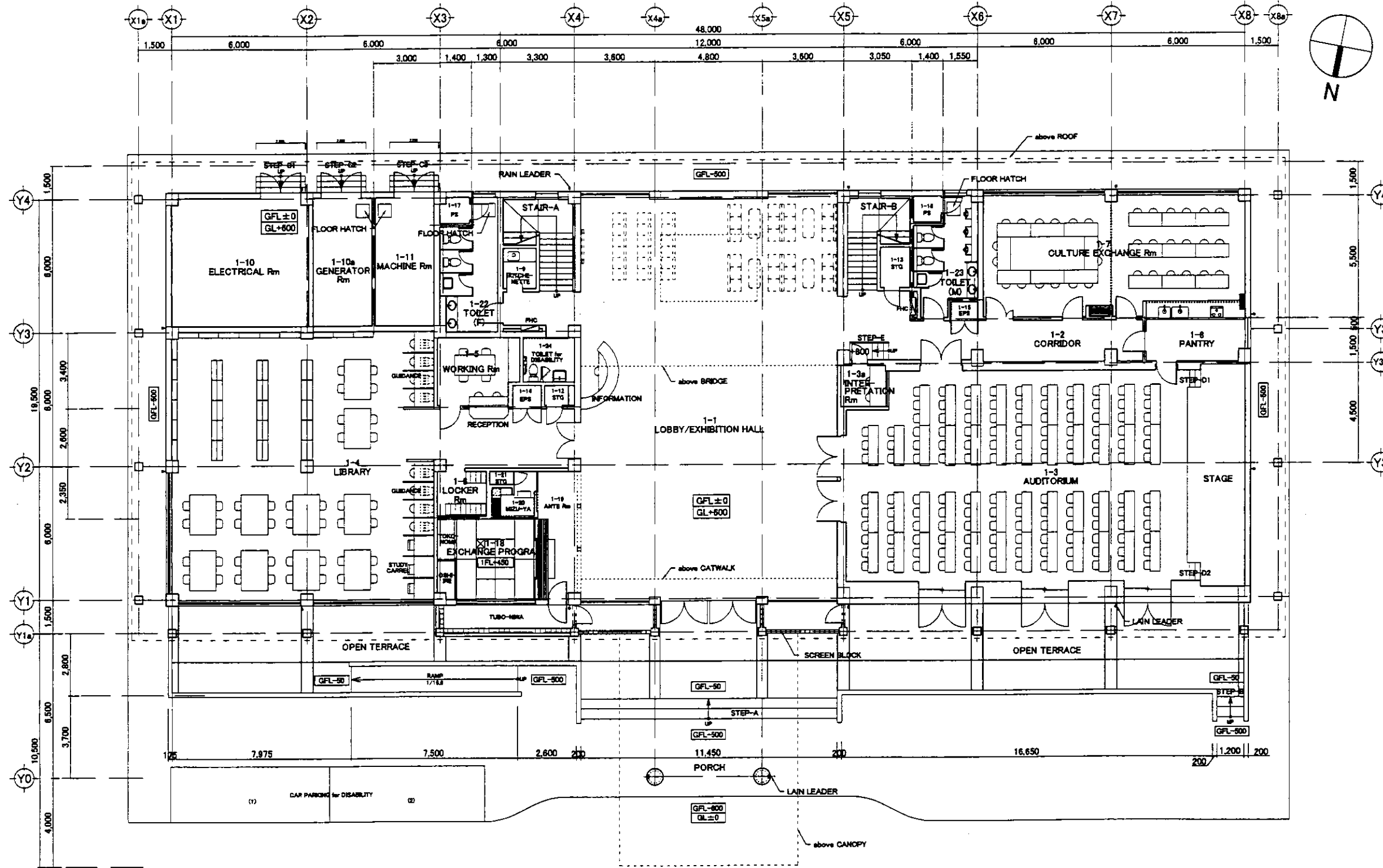
	SITE BOUNDARY
	RETAINING WALL and FENCE (MYANMAR SIDE WORK)
	BENCH MARK

※19.2m : LEVEL AT RECLAIMED LAND

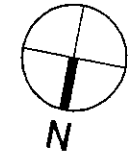
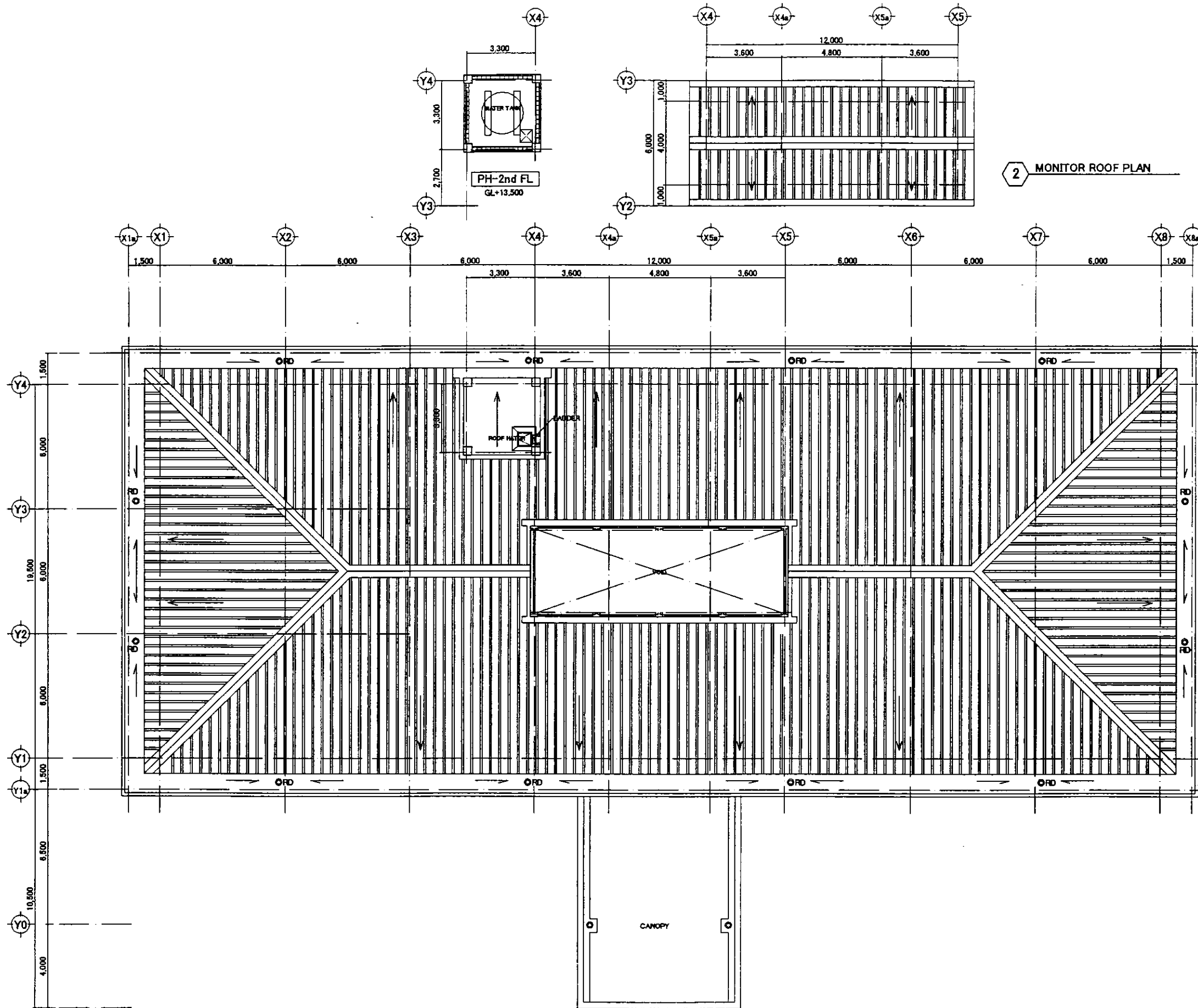
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		BVG NO.
		A-005

THE PROJECT FOR
CONSTRUCTION OF THE MYANMAR-JAPAN CENTER
FOR HUMAN RESOURCES DEVELOPMENT

AZUSA SEKKEI CO., LTD.
Architects, Engineers and Consultants
2-1-31 HIGASHI SHINJUKU-KU SHIBASAKI-CHO, TOKYO, JAPAN



JOB NO.	DATE	TITLE	THE PROJECT FOR CONSTRUCTION OF THE MYANMAR-JAPAN CENTER FOR HUMAN RESOURCES DEVELOPMENT
	MAY 2007		
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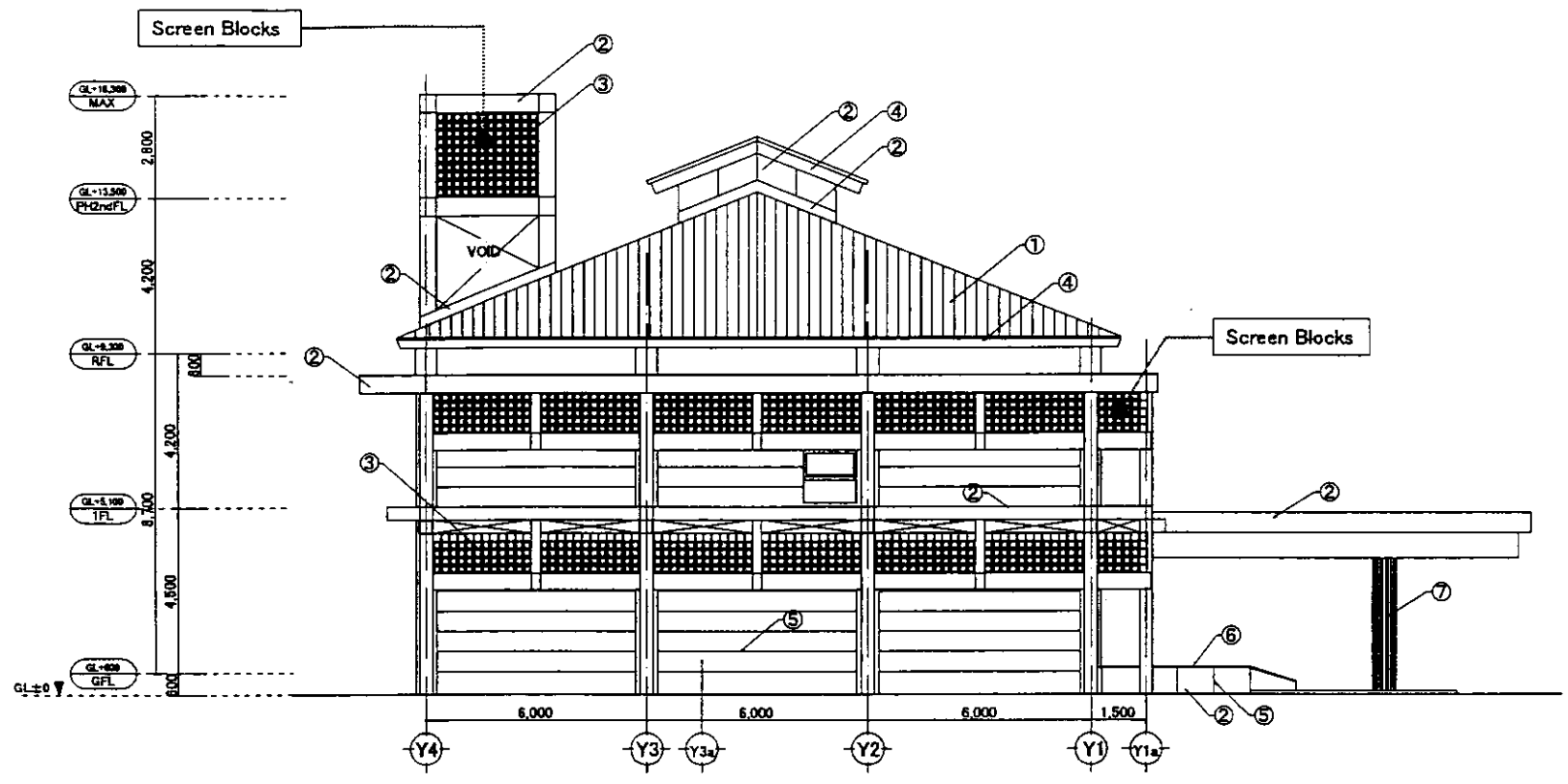
2 MONITOR ROOF PLAN

1 ROOF FLOOR PLAN

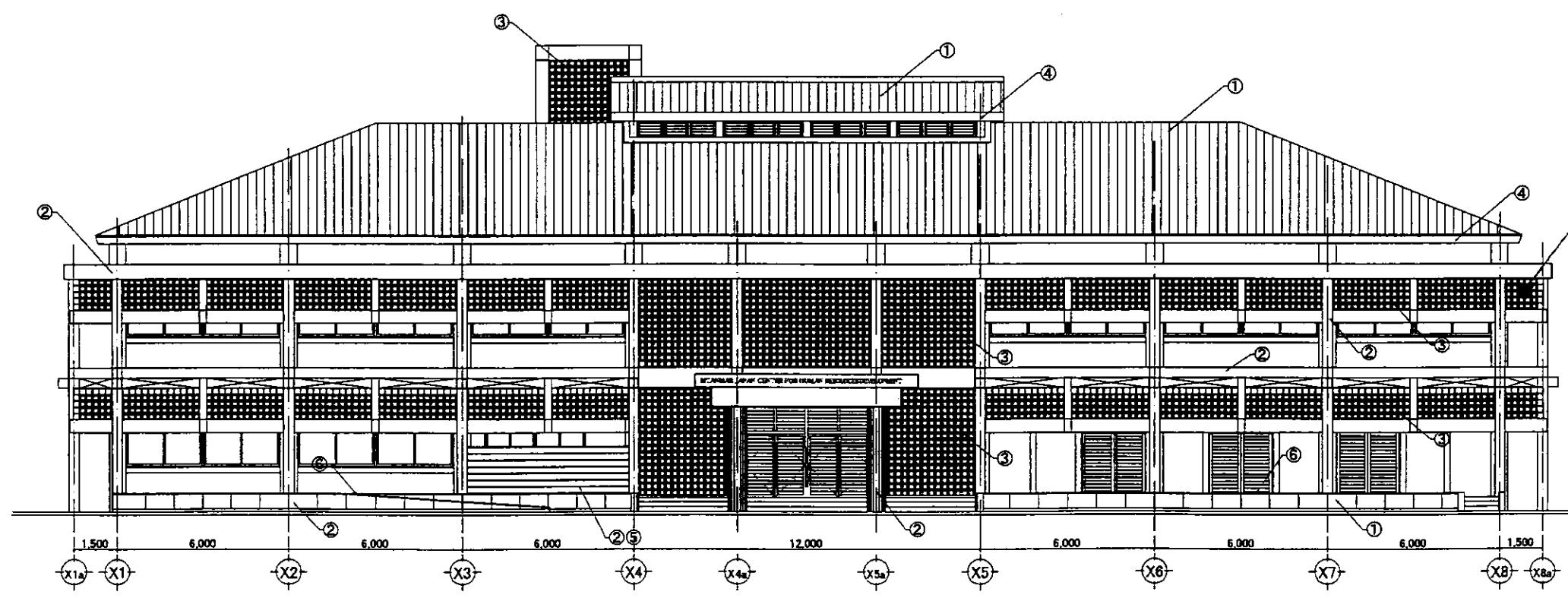
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DRAWN	CHECKED	SCALE 1 : 200

THE PROJECT FOR
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TOKYO, JAPAN



2 EAST ELEV.



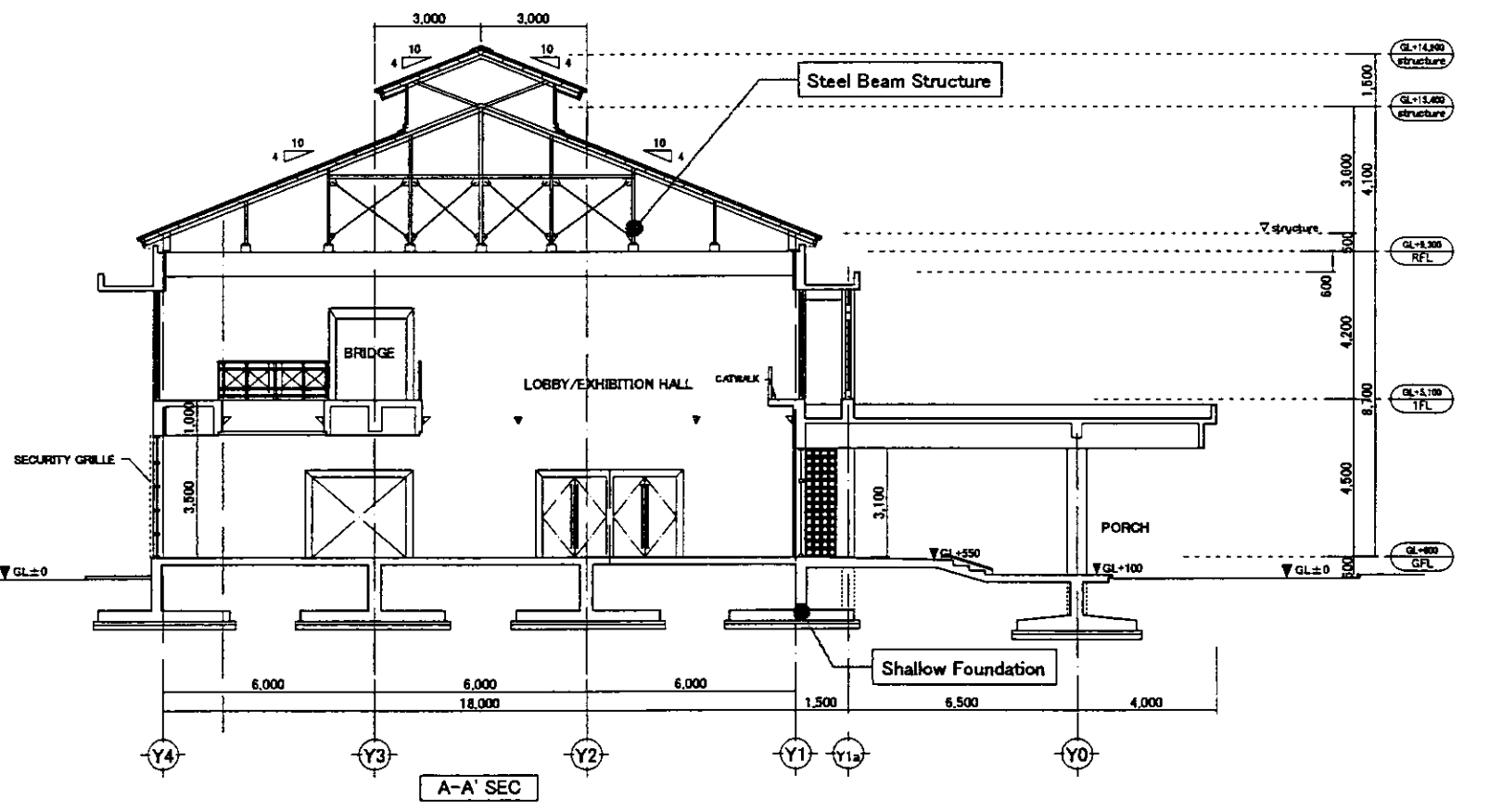
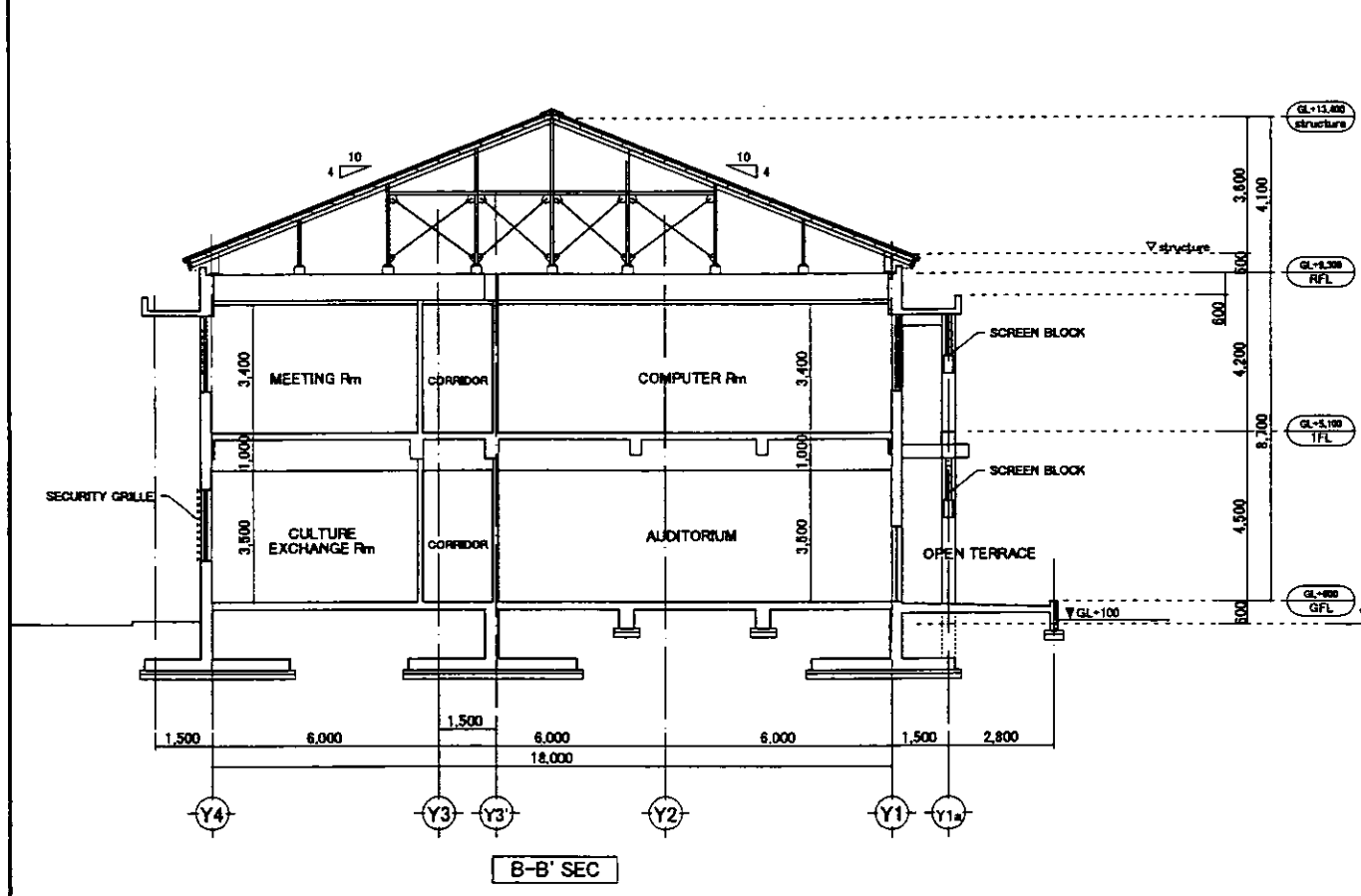
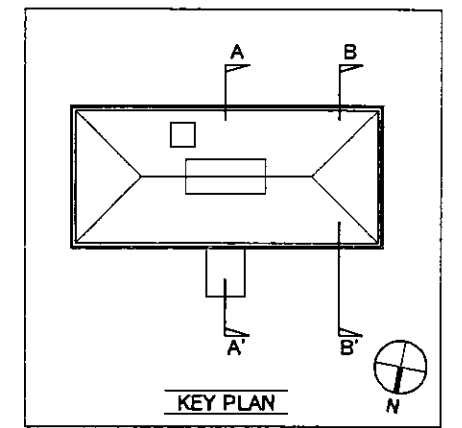
1 NORTH ELEV.

NO.	MATERIAL / FINISH
1	LOCAL ROOF TILE
2	ACRYLIC TEXTURE COAT
3	SCREEN BLOCK w/ACRYLIC RESIN PAINT
4	GALVANIZED STEEL STEET #0.4
5	FALSE JOINT
6	COPING:TERRAZZO
7	RAIN LEADER:PVC
8	
9	
10	

JOB NO.	DATE	TITLE
	MAR 2007	NORTH ELEVATION EAST ELEVATION
REF. NO.	CHECKED	
DRAWN	CHECKED	SCALE 1:200

THE PROJECT FOR
CONSTRUCTION OF THE MYANMAR-JAPAN CENTER
FOR HUMAN RESOURCES DEVELOPMENT

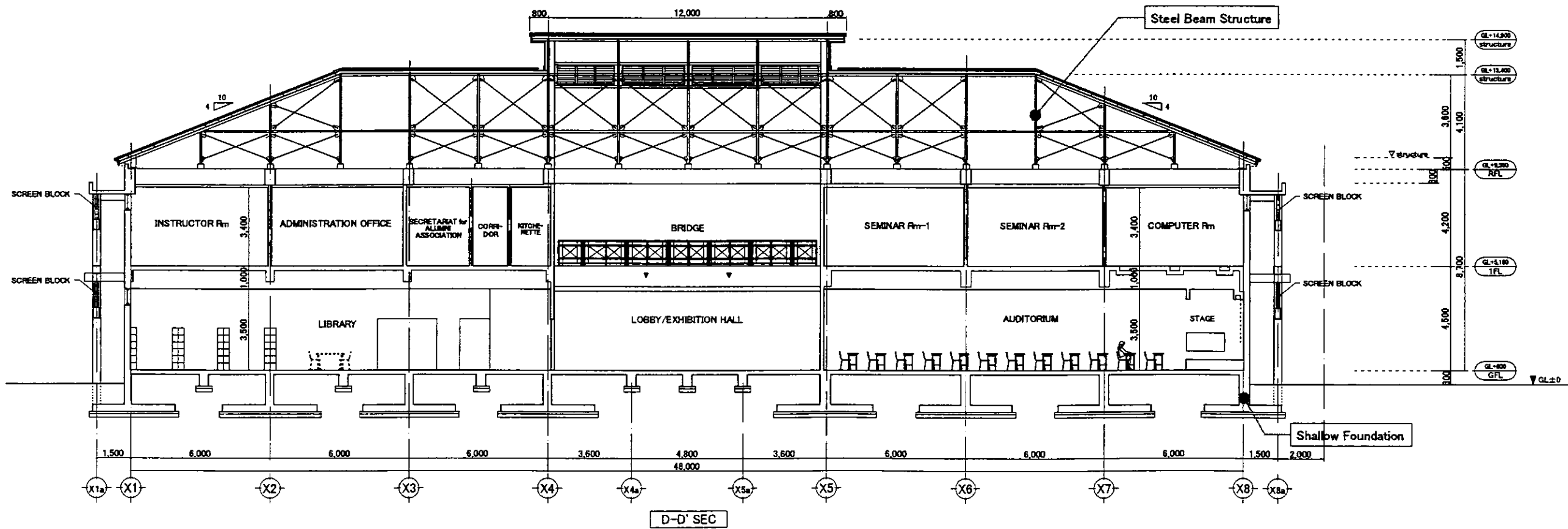
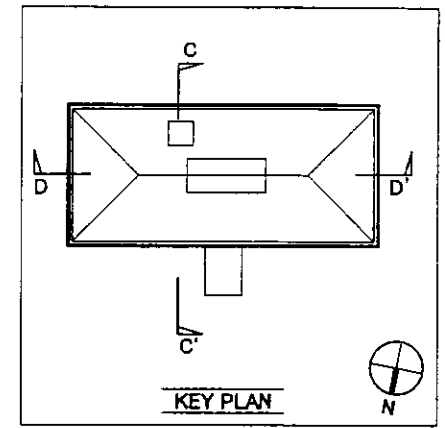
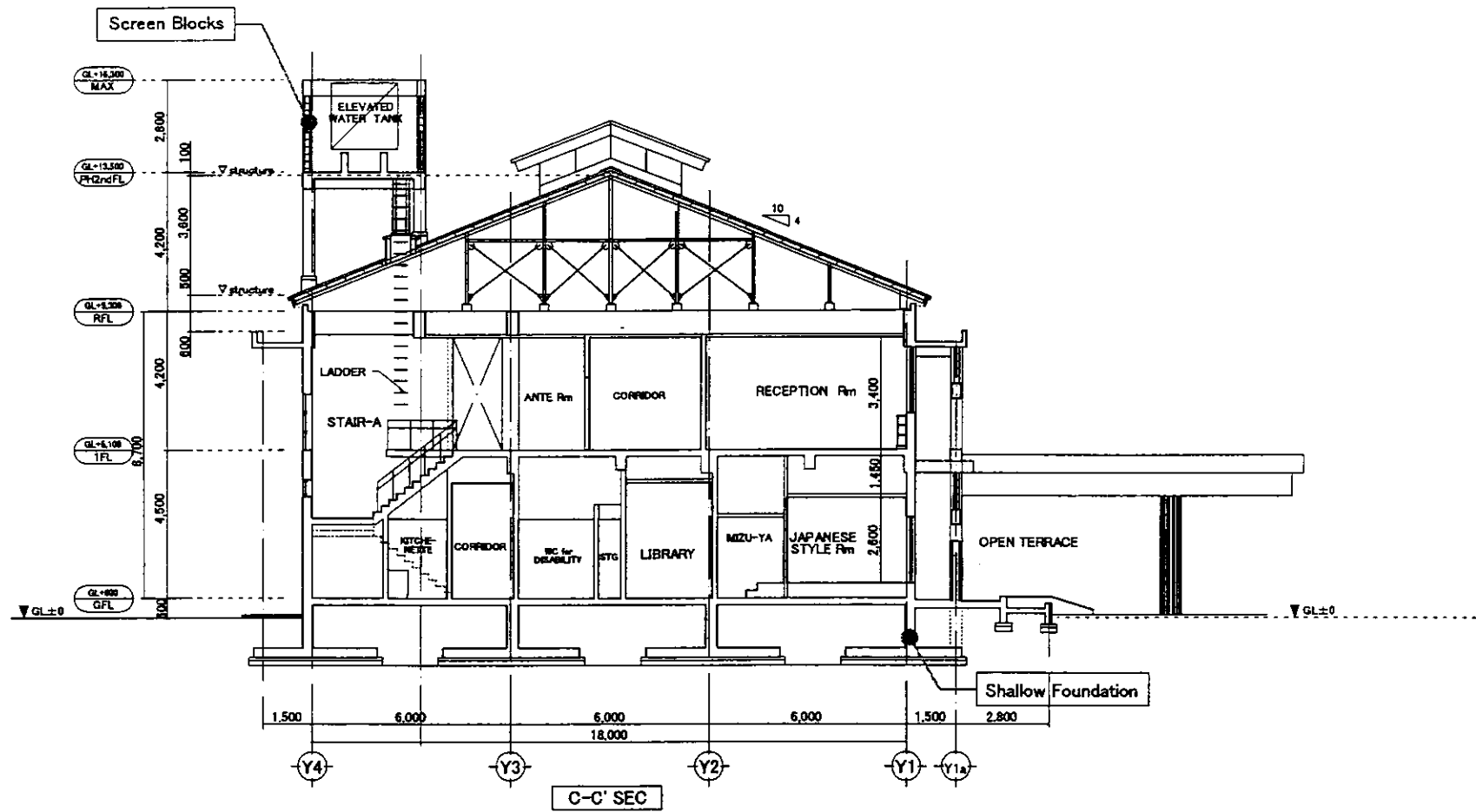
AZUSA SEKKEI CO., LTD.
Architects, Engineers and Consultants.
2-2-21 HIGASHI SHINAGAWA SHINAGAWA-KU,
TOKYO, JAPAN



JOB NO.	DATE	TITLE
	MAR 2007	SECTION-1
REF. NO.	CHECKED	
DRAWN	CHECKED	SCALE 1 : 200

THE PROJECT FOR
CONSTRUCTION OF THE MYANMAR-JAPAN CENTER
FOR HUMAN RESOURCES DEVELOPMENT

AZUSA SEKKEI CO., LTD.
Architects, Engineers and Consultants.
2-4-2 NIGASSHI SHINAGAWA-KU,
TOKYO, JAPAN



JOB NO.	DATE	TITLE
	MAR 2007	SECTION-2
REF. NO.	CHECKED	
DRAWN	CHECKED	SCALE 1 : 200

THE PROJECT FOR
CONSTRUCTION OF THE MYANMAR-JAPAN CENTER
FOR HUMAN RESOURCES DEVELOPMENT

AZUSA SEKKEI CO., LTD.
Architects, Engineers and Consultants.
2-1-11 HIGASHI SHINJYUWA SHINJYUWA-KU,
TOKYO, JAPAN

3-2 Implementation Plan

3-2-1 Implementation Policy

(1) General

- 1) The signed E/N expired on March 31st, 2007.
- 2) The two governments of Japan and Myanmar shall sign an E/N concerning this grant-aid project again, after a cabinet meeting of the Japanese Government.
- 3) Upon the signing of the E/N, Japan shall officially commit the assistance, and will initiate actual implementation of the project following the Second Implementation Review Study.
- 4) 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.

(2) Tender

- 1) The tender for the construction of the facility 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 the presence of JICA officers.

(3) Construction

- 1) According to the result of the field survey, construction materials which are acceptable in quality and production volume should be procured locally in Myanmar as much as possible, in order to improve cost reduction and easiness of maintenance.
- 2) For the planning of construction labor, inadequacy of labor standards can be observed in some aspects. It is important to have a Japanese contractor as a prime contractor for training the local contractors and laborers, as well as to be in charge of the construction in order to maintain the quality required for the Project.

(4) Implementation Organization

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.

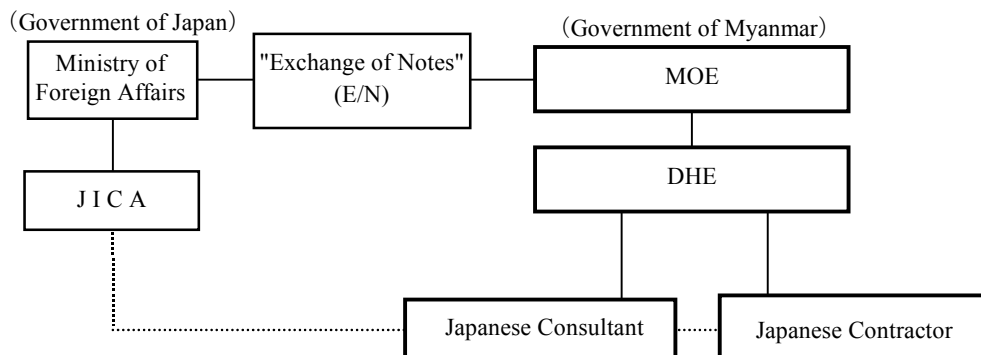


Figure 3-1: Implementation Organization

3-2-2 Implementation Conditions

- (1) The technical level and construction management capacity of Myanmar subcontractors have drastically improved since ten years ago when an expansion of the Nursing School was carried out by Japan's grant aid assistance. There are apparently more buildings constructed in Myanmar's unique architectural style or by highly-difficult techniques than before. Although they are capable of completing a construction project by the deadline if it only involves Myanmar's traditional architectural patterns, it is necessary to confirm in more detail whether their technical skills are good enough to manage the schedule with regard to a construction project which involves unfamiliar construction and finishing methods. Thus, the construction schedule must carefully be controlled with special attention paid to technical guidance to local contractors.
- (2) A Japanese contractor will be the prime contractor in accordance with the Grant Aid scheme and they will undertake the construction by sub-contracting the works to the local contractors. 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) The rainy season in Myanmar starts in May and ends in October. This will have a significant impact on the construction schedule, therefore, the civil engineering works are planned to be completed basically before the rainy season. In reviewing the implementation schedule of the project as a whole, the construction plan, including temporary works planning, has to be drawn with due consideration given to the necessity of carrying out finishing works for both interior and exterior as well as electrical and mechanical works during the rainy season.

(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.

3-2-3 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 3-3: Extent of Works

Portions by the Japanese Side	Portions by the Myanmar Side
<p>(1) Building Works: Structural works, finishing works, specific furniture, etc.</p> <p>(2) Electrical Works: Power trunk facilities, lighting, power outlets, P/A systems, etc.</p> <p>(3) Utilities and Facilities</p> <p>a) Water Supply: Providing water tanks, pumps and related internal piping work</p> <p>b) Sewerage system including piping works up to the connection manhole</p> <p>c) Sewage treatment plant</p> <p>d) Fire-hydrant and extinguishing facilities</p> <p>e) Electrical supply and transformer system, cabling work from main switchgear panel to the facilities.</p> <p>f) Telecommunication system Piping work from boundary to MDF, PABX work, its wiring and telephone work from MDF</p> <p>g) Lightning Protection System</p> <p>h) Lighting system in the site</p> <p>i) Air conditioning system</p> <p>j) Mechanical ventilation system</p> <p>(4) Exterior Work: Peripheral part around the building</p> <p>(5) Electric Room, Electric Generator Room, Pump Room</p>	<p>(1) Site Preparation</p> <p>a) Ground preparation works (such as demolishing trees and relocating wires and electric poles, removing the existing inner path and back-filling and leveling of the Site)</p> <p>b) Providing temporary power and water supply, telephone line for the construction.</p> <p>c) Replacement of approach road for the new path</p> <p>(2) Exterior works Construction of security fences, landscaping, planting, setting up of the gate and the guard house, pavement in the parking area, and all the other works not included in Japan's undertakings.</p> <p>(3) Infrastructure works</p> <p>a) Water supply Introduction of water pipe from the existing feed-water conduit to the water supply valve in the project site.</p> <p>b) General wastewater Piping from the connection inlet (handhole) inside the project site to the existing discharge ditches.</p> <p>c) Power supply Relocation of the existing power poles, and works and costs for introducing power to the designated point in the project site.</p> <p>d) Telecommunication Work Providing new telephone lines and paying the charge</p> <p>(4) General Furniture not included in the portion by the Japanese side</p> <p>(5) Other Procedures</p> <p>a) Procedures of the permission and approval by Myanmar Government</p> <p>b) Building permission application procedures, all service line connection application procedures, duty free procedures and customs clearance procedures</p> <p>c) Bank Commission to A/P</p> <p>(6) Expenses for the maintenance, administration, and management</p> <p>(7) Tax exemption and necessary preferential treatment such as customs tariff and income tax, for the construction staff from Japan or a third country</p> <p>(8) Smooth entry, re-entry and departure from Myanmar for the Japanese technical staff</p> <p>(9) All the expenses, other than those to be borne by Japan's Grant Aid within the scope of the Project</p>

3-2-4 Consultant Supervision

(1) Basic Policy

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

Table 3-4: Plan of Personnel necessary for Supervision

Supervisor	Period (Month)
Resident Supervisor (Architect)	10.5
Chief Consultant	Approx. 1.7
Building construction (Architectural engineers)	Approx. 0.3
Building construction (Structural engineers)	Approx. 0.3
Building construction (Electrical and Mechanical engineers)	Approx. 0.7

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 implementation conditions as mentioned in 3-2-2.

(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.

(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.

3-2-5 Quality Control Plan

(1) Basic Policy

The Detailed Design drawings were developed based on the basic design 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.

During the period of construction, 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.

Although many of the materials can be procured locally in the Project, in order to maintain the quality, verification of warranties, or surprise inspections, etc., need to be carried out when appropriate.

1) Earthwork

According to the boring investigation report which was made in the Implementation Review Study, the ground condition of the project site was found good, however, the rainy season must be considered for the progress schedule and the curing plan.

2) Reinforcing Bar Work

In order to maintain quality, Mill-Sheets etc. submitted by the contractor must be verified, and to carry out surprise inspections such as tensile tests will be necessary if needed.

3) Concrete Work

There are 3 ready mixed concrete plants in and near Yangon City. They are an hour's distance by car from the project site, with enough supply capacity. The important methods for the supervision works for the concrete construction (items for the supervision and inspection method, etc.) are as follows:

(i) Concrete material

Table 3-5: Inspection methods of concrete material

Material	Item to be inspected	Method of inspection
Cement	Hydration Heat	Dissolution Heat
Sand/ Gravel/ Crushed Stone	Grain size	Sieve analysis
	Oven dry specific gravity	Specific gravity & ratio of water absorption
Water	Alkali reactivity	Alkali reactivity test
	Organic impurities	Water quality test

(ii) Items to be inspected for the mixing test

Table 3-6: Items to be inspected for the concrete mixing test

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

(iii) Items to be inspected before the concrete casting

Table 3-7: Items to be inspected before the concrete casting

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

- (iv) Items to be inspected in the progress schedule (Inspection for the accuracy of concrete casting)

Table 3-8: Items to be inspected in the progress schedule

Item to be inspected	Method of inspection
Strength 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

3-2-6 Construction Equipment/Material Procurement Plan

(1) Labor

- (i) Situation on procurement of engineers and laborers in the recipient country

Although the construction companies in Myanmar have skilled workers, their qualities vary. Therefore, a Japanese construction company shall be appointed to the prime contractor, to provide guidance to local construction companies and workers. In addition, dispatch of skilled workers from Japan or a third country shall not be considered by adopting construction methods of which local laborers are capable.

- (ii) Labor conditions and other regulatory items based on the Labor Standards Law of the recipient country

i) Daily working hours: 8 hours

ii) Weekly working hours: 44 hours (6 days a week)

iii) Overtime allowance: Twice the standard wage (Overtime should not exceed 12 hours a week)

iv) Leave allowance per year:

- Temporary leave: A temporary leave of up to 6 days a year is allowed for personal urgent reasons.
- Paid leave: Those who have completed 24 days or more per month for 12 consecutive months are entitled to a consecutive 10-day paid holiday.

v) Others: The social insurance premium rate is 1.0%.

(2) Construction materials

- (i) Situation on procurement of construction equipment and materials in the recipient country

Construction equipment and materials that are procurable in Myanmar include steel bars and stone material, teak, etc. as for concrete and finishing material. However, the supply of steel bars in the country is not very stable, as those available in the country are of poor quality while imports from neighboring countries, supplied through local agents in Myanmar, are very

expensive. Similarly, special attention must be paid to quality as for the other finishing materials imported and procured by distributors in Yangon City. Thus, in selecting the construction methods, sufficient consideration must be given to the level of construction skills in the country, with a view to future maintenance activities, etc.

(ii) Items to be procured from Japan or a third country (ies)

Refer to “List of procurement sources of construction equipment and materials” (on the next page)

Table 3-9: List of procurement sources of construction equipment and materials

Equipment/material	Myanmar	Japan	Third-country	Remarks
Construction materials				
Sand/Gravel	○			
Cement	○			
Bricks	○			
Form/Timber	○			
Steel bars		○		The supply and quality of Myanmar steel bars are not stable. The cost of Japanese steal bar is less expensive.
Steel frames			○	Thailand: Infeasible to fabricate and process in Myanmar.
Concrete blocks	○			
Wooden doors & windows	○			
Metal doors & windows			○	Thailand: To secure quality.
Glass	○			
Waterproofing	○			
Plywood substrate	○			
Tiles	○			
Free-access floor	○			
Paint	○			
Roof materials	○			
Miscellaneous metals	○		○	
Electric Materials				
Electric Cable			○	To secure quality
Main distribution panel, distribution panel			○	To secure quality
Lighting Appliances			○	To secure quality
Wiring Equipment		○		The supply and quality of Myanmar product are not stable. The product of the third country is more expensive with low quality.
Telephone Appliance			○	To secure quality
Public-address equipment			○	To secure quality
Fire alarms			○	To secure quality
Utility Materials				
Pumps			○	To secure quality
Chlorine sterilizer			○	To secure quality
Pipes/Valves			○	To secure quality
Sanitary Fixtures			○	To secure quality
Slop sink		○		No product to meet the specification in Myanmar and the third country. Japanese product is less expensive.
Air-conditioners			○	Thailand: Unstable supply
Air blower			○	Thailand: Unstable supply
Duct materials			○	Thailand: Unstable supply

(3) Construction machinery

Most of construction equipment can be procured in Myanmar. In consideration of economical efficiency and convenience, machinery available in the country shall be employed by lease. The lease charge per unit was determined by taking and comparing quotations from three local suppliers.

Table 3-10: Specifications for construction machinery

Equipment	Specifications	Construction type	Remarks
Truck crane	25 t	Erection of steel frame	
Generator	50KVA	Common temporary works	2 units

(4) Preparation of a transportation/packaging plan

With respect to transportation after purchase, the equipment and materials shall be delivered via container marine transportation as a general rule. The main trade port in Myanmar is Yangon Port. The following table lists up the number of days required by each route after export clearing.

Shipped from Japan (Tokyo Port) in dedicated containers

Export clearing	2 days	
Loading	2 days	
Marine transportation	8 days	(Tokyo Port → Singapore)
Marine transportation	5 days	(Singapore → Yangon)
Import clearing / unloading	3 days	(Yangon Port Bond Warehouse)
Transportation in Myanmar	0.5 days	11 km
Total		20.5 days

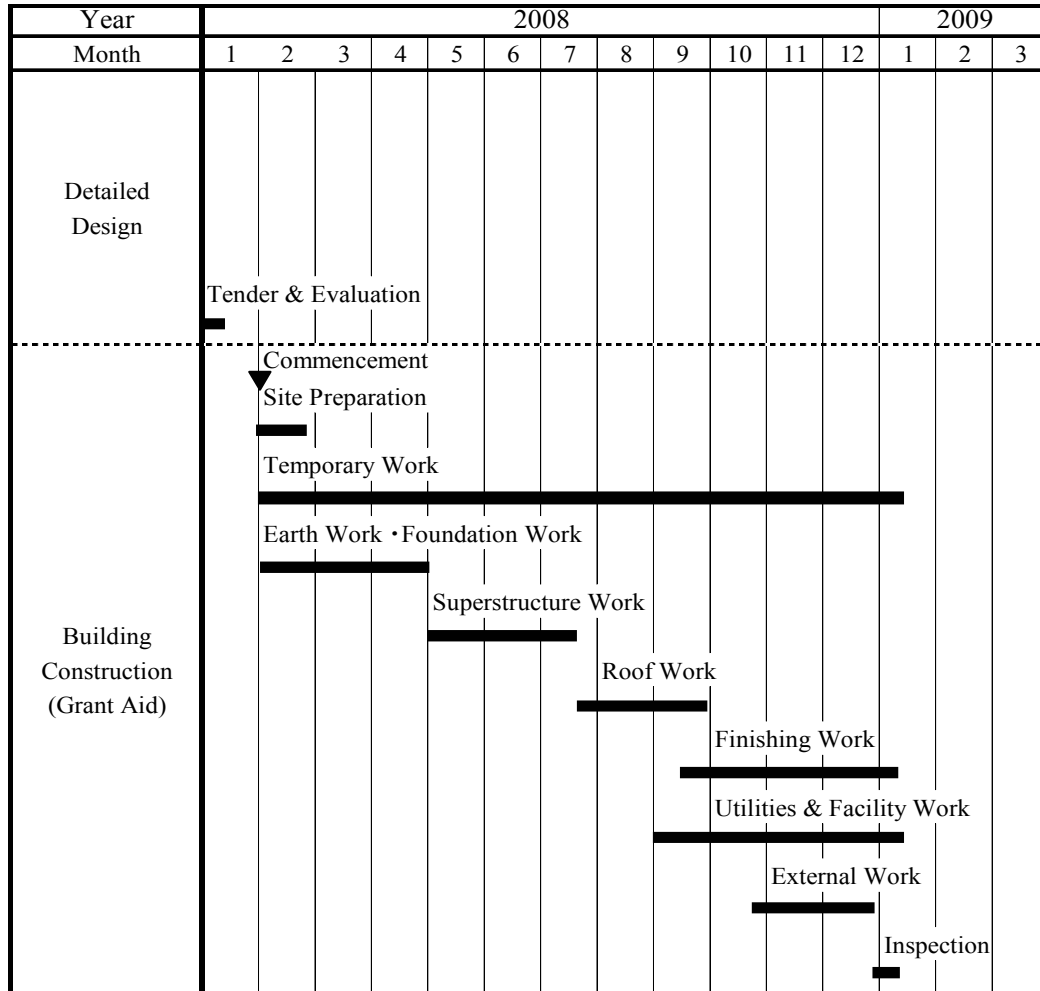
Shipped from Thailand (Bangkok Port) in dedicated containers

Export clearing	3 days	
Loading	2 days	
Marine transportation	6 days	(Bangkok Port → Yangon Port)
Import clearing / unloading	3 days	(Yangon Port Bond Warehouse)
Transportation in Myanmar	0.5 days	11 km
Total		14.5 days

3-2-7 Implementation Schedule

The following table is a proposed implementation schedule provided that the facility construction and equipment procurement are carried out in the most efficient way.

Table 3-11: Project Implementation Schedule



When planning the schedule, it is vital to give due consideration to unique conditions in Myanmar. The influence of the rainy season (May to October) to the earth work, foundation work and superstructure work should be taken into consideration. It is essential to keep appropriate construction term to avoid the cracks on the concrete or plastering works.

3-3 Summary of Undertakings by recipient country

3-3-1 Undertakings by the Japan Side

Facility

- 1) Rooms in the MJC(seminar rooms, library, Auditorium, etc.)
- 2) Furniture and fixtures
- 3) Equipment (large-size screen, etc.)
- 4) Consultant's Fee for Assistance in tendering and construction supervision

3-3-2 Undertakings by the Myanmar Side

(1) Responsibilities of the Myanmar side

1) Tax Exemption

- Securement of tax exemption, custom clearance, and domestic transportation for the equipment and materials purchased for the Project under Japan's grant aid scheme.
- Based on the authenticated contract the custom tariff, income tax, or other public finance surcharges shall be exempt, regarding the equipment and service provided by the and the Japanese who are involved in this Project.

2) Assistance with Entry Permit and Stay

- Based on the authenticated contract, assistance will be provided for the entry and their stay in Myanmar for the Japanese nationals who will be involved in this Project.

(2) Undertakings by the Myanmar Side

The undertakings by the Myanmar side in this Project are noted as follows:

1) Before Commencement of 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 before the construction starts. (already completed)
- Improving of the wastewater discharge ditches outside the premises (already completed)
- Relocating high voltage and low voltage power line and its electric poles to out side of the Site.
- Providing temporary power and water supply, telephone line and sewerage for the construction.

2) During the Construction Work

- Installation of fences around the Site.
- Landscaping and planting, in the Site.
- To purchase and install office furniture, curtains and carpets, etc., for the new building.
- Construct to bring in 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.

Considering that the DHE, the implementing agency, has no experience in receiving assistance under Japan's grant-aid scheme, it is imperative to provide ample explanation on the contents, schedule, etc. of the works to be undertaken by the recipient country and make sure they understand all, in order to implement the project smoothly.

3-4 Maintenance and Operation Plan

(1) Maintenance and Operation Plan for Facilities

Although the facility 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 Review 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 the future by the opening of the Center, as well as to conduct daily inspections, preparation of documents, and the education and training of maintenance staff.

(2) Maintenance and Operation Plan for Equipment

The equipment planned for the project are some audiovisual equipment only. The daily maintenance will be conducted by the MJC staff. If professional repair is required, the manufacturer's service centers will be commissioned. However, the service centers are located in the neighboring countries of Myanmar, 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.

3-5 Project Cost Estimation

3-5-1 Administration, Operation and Management Cost

(1) Expenses Required for MJC

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

1) Electricity Cost

i) Condition

Maximum Demand	130 kw
Load Factor	0.35

ii) 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)

iii) Monthly Electricity Cost

$$\text{Energy Charge } 130 \text{ kw} \times 720 \text{ H / month} \times 0.35 \times 5 \text{ Kyat / kwh} = 163,800 \text{ (Kyat / month)}$$

iv) Annual Electricity Cost

$$163,800 \text{ Kyat / month} \times 12 \text{ months / year} = \mathbf{1,965,600} \text{ (Kyat / year)}$$

2) Telephone Cost

i) Condition

Direct Line: 2-Lines

Outside Line: 3-Lines

ii) Table of Telephone Charge by Myanmar Post & Telecommunication (MPT)

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

iii) Assumed call time

Local call (0-30 km)	900 minutes / month / line
Long distance call (30 km or more)	300 minutes / month / line
International call	150 minutes / month / line

iv) Monthly Telephone Cost

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

v) Annual Telephone Cost

$$112,500 \text{ Kyat / month} \times 12 \text{ months / year} = \mathbf{1,350,000} \text{ (Kyat / year)}$$

3) Fuel Cost

i) Condition

Conditions Stand-by Generator 100 KVA 3 ϕ 415V 50Hz: 1 unit

Fuel consumption: 26L / hour

Assuming Operating Time: 10 hours / week

ii) Fuel cost

Diesel Fuel 40 Kyat / L (For Governmental Use)

iii) Annual Fuel Cost

$$26 \text{ L / hour} \times 10 \text{ hours / week} \times 52 \text{ weeks / year} = 13,520 \text{ (L / year)}$$

$$13,520 \text{ L / year} \times 40 \text{ Kyat / L} = 540,800 \text{ (Kyat / year)}$$

4) Data Communication Cost

*According to the Tariff of Bagan Cybertech

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

ii) Annual Data Communication Cost

$$120,000 \text{ Kyat / month} \times 12 \text{ Months / year} = 1,440,000$$

	Annual Fee	180,000
	Total	1,620,000 (Kyat / year)

5) Water Supply Cost

i) Maximum consumption of water per day 15 m³ / day

ii) Unit Cost for water supply 100 Kyat / m³

iii) Annual Water Supply Cost

$$15 \text{ m}^3 / \text{day} \times 360 \text{ days / year} \times 0.7 \times 100 \text{ Kyat / m}^3 = 378,000 \text{ (Kyat / year)}$$

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	378,000
Total	5,854,400 5,900,000 (Kyat / year)

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) Chief consultant/ Maintenance planning	Masaichi Yamamoto	January21- February 6	Azusa Sekkei Co., Ltd.
2) Structural Planning	Shotaro Hayashiya	January21- February 4	Azusa Sekkei Co., Ltd.
3) Facility planning	Akira Chiba	January 21- February 3	Azusa Sekkei Co., Ltd.
4) Economy Trend Analysis	Kozo Baba	January21- 28	System Craft Co., Ltd.

2) Draft Explanation

Duty	Name	Study period	Affiliation
1) Leader	Toshiyuki Iwama	March 19 - 24	JICA
2) Planning Administration	Katsuhiko Ando	March 19 - 24	JICA
3) Chief consultant/ Maintenance planning	Masaichi Yamamoto	March 18 - 25	Azusa Sekkei Co., Ltd.
4) Architectural Planning	Yasuhiro Nakajima	March 18 - 25	Azusa Sekkei Co., Ltd.
5)Procurement planning/ cost estimation	Yasuhiko Yanagi	March 14 - 21	Azusa Sekkei Co., Ltd.

3) Final Explanation

Duty	Name	Study period	Affiliation
1) Leader	Kohei Sato	May27 - June2	JICA Myanmar Office
2) Planning Administration	Katsuhiko Ando	May27 - June2	JICA
3) Chief consultant/ Maintenance planning	Masaichi Yamamoto	May27 - June2	Azusa Sekkei Co., Ltd.
4) Architectural Planning	Yasuhiro Nakajima	May27 - June2	Azusa Sekkei Co., Ltd.

2. Study Schedule

1) Implementation Review Study

January 21, 2007 - February 6, 2007 (17 days)

Jan. 21	Sun	11:00 18:00 19:00	Departure from Narita by NH953 (Yamamoto/Hayashiya/Chiba/Baba) Departure from Bangkok by TG305 Arrival at Yangon
Jan. 22	Mon	9:00-10:00 10:00-10:45 11:00-12:00 13:00-15:00 15:00-16:00 16:00-17:00	Witnessing of the construction site(all team members) Research on local construction companies(all team members) Courtesy visit to JICA Myanmar office(all team members) Research on local construction companies(all team members) Courtesy visit to Department of Higher Education, Ministry of Education(Yamamoto) Inquiry of Quotation to soil research companies (Yamamoto/Hayashiya)
Jan. 23	Tue	10:00-12:00 14:00-15:00 15:00-16:00 16:00-17:00 17:00-18:00 18:00-19:00 9:00-18:00	Meeting with PWD at Ministry of Education (Yamamoto/Hayashiya/Chiba) Research on local construction companies (Yamamoto/Hayashiya/Chiba) Courtesy visit to Embassy of Japan (Yamamoto) Inquiry of Quotation to soil research companies (Yamamoto/Hayashiya) Confirmation of specification for soil testing (Hayashiya) Team meeting(all team members) Research in the city (Baba/Chiba)
Jan. 24	Wed	1:00-11:00 11:00-12:00 14:00-16:00 9:00-18:00	Team meeting(all team members) Meeting with soil research companies (Yamamoto/Hayashiya) Meeting with soil research companies (Yamamoto/Hayashiya) Research in the city (Baba/Chiba)
Jan. 25	Thu	9:30-10:00 11:00-12:00 13:30-15:00 15:00-16:00 17:30-18:00 9:00-18:00	Interim report on the selection of soil surveyor at JICA Office (Yamamoto) Meeting with soil research companies (Hayashiya) Confirmation of Bench Mark at construction site Making contract with local soil research company (Yamamoto/Hayashiya) Report to JICA Office Research in the city (Baba/Chiba)
Jan. 26	Fri	10:00-12:00 13:00-14:00 14:30-15:30 15:30-16:30 18:00-19:00 9:00-18:00	Research on local construction companies (Yamamoto/Hayashiya/Chiba) Meeting with soil research company (Yamamoto/Hayashiya) Report on the selection of soil research company to JICA Office (Yamamoto) Notice to lost soil research companies(rejected candidate) Team meeting(all team members) Research in the city (Baba/Chiba)
Jan. 27	Sat	9:00-10:00 10:00-11:30 14:00-15:30 16:00-17:00 9:00-18:00	Confirmation of the progress at construction site (Yamamoto/Hayashiya) Team meeting(all team members) Confirmation of the progress at construction site (Yamamoto/Hayashiya) Leave for Japan via Bangkok(Baba) Research in the city (Chiba)
Jan. 28	Sun	10:00-12:00 13:00-14:00 14:00-18:00	Confirmation of the progress at construction site (Yamamoto/Hayashiya) Team meeting(all team members) Data arrangement
Jan. 29	Mon	9:00-10:00 10:00-11:30 13:00-14:30 14:30-15:30 15:00-17:00 9:00-18:00	Confirmation of the progress at construction site (Yamamoto/Hayashiya) Research on construction materials (Yamamoto/Hayashiya) Research on equipment company (Yamamoto/Hayashiya/Chiba) Confirmation of the progress of inspection Research on local construction companies(Yamamoto/Hayashiya) Research in the city (Chiba)
Jan. 30	Tue	9:30-10:30 10:30-11:00 11:00-11:30 16:00- 17:00-17:30 18:00-23:00	Meeting with the Director General of Department of Higher Education, Ministry of Education (Yamamoto) Observation of soil testing at construction site Report to JICA Office Leave for Bangkok(Chiba) Receiving attached letter at JICA Office (Yamamoto) Witness loading test at construction site

Jan. 31	Wed	9:30-10:30 10:30-11:00 11:00-11:30 14:00-18:00 9:30-18:00	Research on local construction companies(Yamamoto) Submitting attached letter to DHE (Yamamoto) Research on local construction companies(Yamamoto) Observation of soil testing at construction site Research on local construction companies (Yamamoto)
Feb. 1	Thu	9:30-10:00 10:00-10:30 11:30-12:00 14:00-15:00 16:00-17:00 17:00-18:00	Meeting with the Director Genral of Department of Higher Education, Ministry of Education (Yamamoto) Report to JICA Office Research on local construction companies Research on local construction companies Interim report to JICA Office (Yamamoto) Observation of soil testing at construction site (Yamamoto/Hayashiya)
Feb. 2	Fri	9:30-11:00 11:30-12:00 14:00-15:00 16:00-17:00	Confirmation of the progress of construction site (Yamamoto/Hayashiya) Interim report to Embassy of Japan(Yamamoto/Hayashiya) Research on local construction companies(Yamamoto) Data collation
Feb. 3	Sat	5:00- 10:00-12:00 13:00-16:00 16:00-	Departure from Bangkok(Chiba) Confirmation of the progress of construction site (Yamamoto/Hayashiya) Data collation Leave for Japan via Bangkok(Hayashiya) Leave for Bangkok(Yamamoto)
Feb. 4	Sun	9:00-12:00	Data arrangement (Yamamoto)
Feb. 5	Mon	9:00-10:00 11:00-12:00 13:00-14:30 15:00-17:00	Research at Material Fabricator (Yamamoto) Research at Material showroom Research at Material Fabricator Research at Material showroom
Feb. 6	Tue	5:00-	Departure from Bangkok(Yamamoto)

(2) Draft Explanation

March 14, 2007 - March 25, 2007 (12 days)

Mar.14	Wed	11:00- 18:00- 19:00-	Departure from Narita by NH953 (Yanagi) Departure from Bangkok by TG 305 Arrival at Yangon
Mar.15	Thu	9:00-17:00	Interview with local construction companies and agencies
Mar.16	Fri	9:00-17:00	Interview with local construction companies and agencies
Mar.17	Sat	9:00-12:00	Site inspection of the progress
Mar.18	Sun	11:00- 18:00- 19:00- 19:45-	Departure from Narita by NH953 (Yamamoto/Nakajima) Departure from Bangkok by TG 305 Arrival at Yangon Leave for Bangkok by TG 305 (Yanagi)
Mar.19	Mon	9:00-11:00 14:00-15:00 16:00-17:00 20:00- 9:00-18:00	Site inspection(Yamamoto/Nakajima) Courtesy visit to JICA Myanmar office Making document Meet with Mr. Iwama and Mr. Ando, JICA Research on construction materials/unit prices in Bangkok (Yanagi)
Mar.20	Tue	10:00-11:00 13:00-14:00 15:00-16:00 16:30-18:00 9:00-18:00 23:55-	Courtesy visit to JICA Myanmar office, discussion on draft explanation Courtesy visit to DHE, meeting with Mr. U Zaw Htay Courtesy visit to Embassy of Japan, discussion on draft explanation Meeting with local construction company Research on construction materials/unit prices in Bangkok(Yanagi) Leave for Narita by NH954 (Yanagi)

Mar 21	Wed	9:00-10:00 10:30-18:00 11:00-12:00 13:00-14:00 15:00-15:30 16:00-18:00	Making document for draft explanation to the Minister of Education Leave for Nay Pyi Taw by car(JICA member, Nakajima) Interview with local construction company(Yamamoto) Meeting at geological research company (Yamamoto) Meeting at JICA Myanmar office Arrangement of draft explanation document (Yamamoto)
Mar 22	Thu	6:45- 8:00- 10:30-11:30 11:30-19:30	Leave for Nay Pyi Taw by Air Mandalay(Yamamoto) Meet JICA member at hotel Courtesy visit to Ministry of Education, explanation of new design of MJC to the vice Minister of Education Leave for Yangon by car with JICA member(Yamamoto/Nakajima)
Mar 23	Fri	9:30-10:30 14:00-14:30 15:00-15:30 16:00-17:00 17:45-	Meeting with PWD engineers at DHE (Yamamoto/Nakajima) Report to JICA Myanmar office Report to Japan embassy Interview with local construction company Leave for Bangkok by TG306(Iwama/Ando)
Mar 24	Sat	10:00-13:00 14:00-17:00 19:45-	Research of construction material (Yamamoto/Nakajima) Data arrangement (Yamamoto/Nakajima) Leave for Bangkok by TG306(Yamamoto/Nakajima)
Mar.25	Sun	8:00-	Arrival at Narita by NH916(Yamamoto/Nakajima)

(3) Final Explanation

May 27, 2007 - June 2, 2007 (7 days)

May.27	Sun	11:00- 18:00- 19:00-	Departure from Narita by NH953(Ando/Yamamoto/Nakajima) Departure from Bangkok by TG305 Arrival at Yangon
May.28	Mon	9:30-10:30 11:30-12:00 14:00-16:30	Confirmation of schedule at JICA Myanmar office Confirmation of explanation policy at Embassy of Japan Meeting with PWD engineers at DHE (Ando/Yamamoto/Nakajima)
May.29	Tue	9:30-11:00 13:00-14:00 15:00-16:00	Research of construction material (Yamamoto/Nakajima) Interview with local construction companies(Yamamoto) Interview with local construction companies(Yamamoto)
May.30	Wed	10:30-11:30 13:00-14:30 14:30-15:00	Leave for Nay Pyi Taw by GT607(Sato/Ando/Yamamoto/Nakajima) Explanation of new design of MJC to the Minister, Deputy Minister and Director General of MOE Meeting with Director General
May.31	Thu	16:10-17:10 18:00-19:30	Leave for Yangon by WQ132 Confirmation of discussed issues with the Minister at JICA Myanmar office
June.1	Fri	10:00-11:30 15:00-16:00 19:45-	Meeting with PWD engineers at DHE (Ando/Yamamoto/Nakajima) Report to JICA Myanmar office Leave for Bangkok by TG306(Ando/Yamamoto/Nakajima)
June.2	Sat	8:00-	Arrive at Narita by N916(Ando/Yamamoto/Nakajima)

3. List of Parties Concerned in the Recipient Country

Embassy of Japan	
Masashi Ogawa	Counselor
Yoshimura	Secretary
Tomofumi Yokoyama	Secretary
JICA Myanmar Office	
Michiko Umezaki	Resident Representative
Kohei Sato	Deputy Director
Minako Sugawara	
Yoshiko Honda	Program Officer
Kana Takamatsu	Program Assistant of Education
Ministry of Education (MOE)	
H. E. U Myo Nyunt	Deputy Minister of Education
U Zaw Htay	Director General of Department of Higher Education
Daw Age Chit	Deputy Director
U Nyan Win Aung	
Daw Thin Thin Cho	
U Kyaw Myint	
U Myint Acong	
U Myint Thiein	
Aye Myint	
Union of Myanmar Federation of Chambers of Commerce & Industry(UMFCCI)	
Zaw Min Win	Vice President
U Aung Myint	Consultant
Mung Aung	Senior Researcher
U Tun Aung	Central Executive Committee Member
Thein Han	Executive Committee Member
Myanmar Garment Manufactures Association	
U Myint Soe	Chairman
Myanmar Rice & Paddy Trader's Association	
Myo Aung Kyaw	Secretary General
ICONS International Cooperation Co., Ltd.	
Yoshimi Miura	Technical Adviser (JICA Expert)
JETRO	
Tomohiro Ando	Resident Representative
Institute of Developing Economies(IDE-JETRO)	
Koji Kubo	Research Officer (JICA Expert)
Bank of Tokyo-Mitsubishi UFJ	
Hiroyuki Nagata	Resident Representative
Khaing Swe Oo	Research Officer

KMD Computer Co.,Ltd.	
Thaung Tin	Chairman & CEO
NIBBAN Electric & Electronic	
Aung Thein	General Manager
Myanmar TNG Trading Int'l Co.,Ltd.	
Win Naing	Manager Director
Myanmar Industries Association	
U Paw Hein	General Secretary
Myanmar Securities Exchange Center Co.,Ltd.	
Shigeto INAMI	Managing Director
Dynamic Group	
Nyein Aung	Chairman
Soe Win	Technical Consultant
The Tokyo Enterprise Co.,Ltd.	
Shigeo HANA	Vice President
Joseph	Interpreter
Hazama Corporation Myanmar Office	
Shigeaki Okouchi	Resident Representative
KAPPER Co.,Ltd	
Kazuhiro KURAMOTO	President
EXE CORPPRATION	
Masahiro Kageyama	Admin Manager(Sakura Tower & Residence)
Aye Thein	Chief Engineer (Sakura Tower & Residence)
Constructor	
The Seaboard Holding Co., Ltd.	
Manop Pumkhem	Managing Director
Golden Midas	
Kuk Tae Kim	Managing Director
Kane Engineering Co., Ltd.	
San Yu	Managing Director
Asia World Company Limited	
Kazuo Susa	Consultant
Soil Surveyor	
Suntac Technologies	
Tin Myint	General Manager

April 4th, 2007

H.E. U Myo Nyunt
Deputy Minister for Education
The Union of Myanmar

Your Excellency,

I would like to express my sincere gratitude for kindly providing an opportunity to discuss the Project for the Construction of the Myanmar-Japan Center for Human Resources Development on March 22, 2007 at your office in Nay Phy Taw. It would be pleased to mention that the both sides reached an understanding that JICA will further undertake the necessary works to realize the Project which beneficial to both sides in respect of the importance of the human resources development in Myanmar.

I am writing to you this letter to provide our mutual reference to which the two sides will make to go through the necessary procedures. For that purpose, it is confirmed that the following points were discussed between the both sides. It would be very much appreciated if you could confirm receipt of this letter or inform me of any comment you may further have.

1. Design Concept

The Team presented the new design concept and the contents of modification to the Myanmar side and explained that the function and the quality originally planned would not be affected and would remain the same. The Team will also consider the location of the interpreter booth in the detailed design.

2. Structural Concept

Upon the request by the Myanmar side, structural concept of the new building is attached as Annex 1. As the result of the plate load testing at the site, the soil bearing capacity is enough to support the building. Regarding the roofing structure system, the sloped tile roof is remained and the load of it is directly conveyed to the columns and steel beams

structure instead of conveying through the concrete roofing slab in the former design. The total strength of the building is kept the same or more and the load of the building structure is reduced. As the result of them, the foundation system is simplified.

3. Japan's Grant Aid Scheme

The Team presented the Major Undertakings to be taken by Each Government as shown in Annex 2. The Team is very pleased to note that the site preparation is progressing very well. The Team asked if it is possible to do the landscaping including access roadway and parking lot by the Myanmar side. The Myanmar side proposed that the Japanese side will cover the apron around the building. The Team will consider the apron of about 2 meters.

4. Schedule of the Study

The Team will proceed to the detailed building and structural design in accordance with the discussed items and will explain it by end of May, 2007.

5. Other Relevant Issues

5-1 The Team explained the tentative implementation schedule as shown in Annex 3.

5-2 The Team asked the Myanmar side to secure the permission for entry, construction, etc. needed for the implementation of the project.

Sincerely Yours,



Toshiyuki Iwama
Leader of the Implementation Review Study Mission on the Project for the
Construction of the Myanmar-Japan Center for Human Resources
Development

cc. Daw Myo Nwe, Director-General of FERD, Ministry of National Planning
and Economic Development

cc. U Maung Maung Khin, Director of FERD, Ministry of National Planning
and Economic Development

Annex 1. Structural system of the new building

Annex 2. Major Undertakings to be taken by Each Government

Annex 3. Tentative implementation schedule

The Project for Construction of the Myanmar – Japan Center for Human Resources Development in the Union of Myanmar

Keystone Explanation on the Structural System of the Building

1. The Soil Bearing Capacity of the Construction Site

As a result of the Boring Test at the Construction Site, the solid layer to support the building was not confirmed at the level of 30 meter from the surface of the ground (Ground Level = GL). The depth is assumed to be 50 – 60 meter, according to the general characteristics of delta soil along the Yangon River. Also, as a result of the Plate Load Testing at the Site, it was confirmed as appropriate to settle the soil bearing capacity as 100kN/m² at the level of 1.2 meter from GL.

The soil bearing capacity at the level of 2.0 meter from GL of the former Site in the Yangon University was confirmed as 80kN/m², and thus the soil bearing capacity of the Site in the Hlaing Campus was confirmed much stronger in the shallow level from the ground.

2. The Foundation Plan of the Building

The foundation of the building in the Basic Design stage was designed as the “Mat Foundation”, assuming that the supportive layer lies at 2.0 meter from GL. The Mat Foundation was designed as the “Double Slab” structure, which depth is 2.9 meter, considering the ground floor level of 0.9 meter from GL and base level of 2.0 meter from GL.

In this Implementation Review Study, the supportive layer was settled at the level of 1.2 meter from GL according to the result of Testing, and the Isolated Footing or Beam Foundation system was adopted on the condition that the base area of the footing should be kept more than 8/10 of the double slab foundation. The simpler foundation system was adopted at the shallow ground level, by considering the advantageous condition of the new Site.

3. The Roofing Structure Plan of the Building

The roofing structure plan in the Basic Design stage was designed as the double – structure system; the roof slab made of reinforced concrete and the steel framing to formulate the sloped tile roof on top of it. The load of the roof was designed to be conveyed through columns to the slab. For the new design of the structural system, since the sloped tile roof is the very important design factor, the steel beam structure was remained as the main structure. Thus the load of the roof is directly conveyed to the columns & beams of the building, the total strength of the building is kept the same or more, compared with the former design. On the other hand, the load of the concrete slab was eliminated, and as a result, the amount of concrete and steel bars for the beam and the column was reduced even by keeping the same structural strength of the building.

Therefore, based on the above policy, the Structural System of the building will be re-designed in the Detailed Design Stage.

Keynote Explanation on the Septic Tank

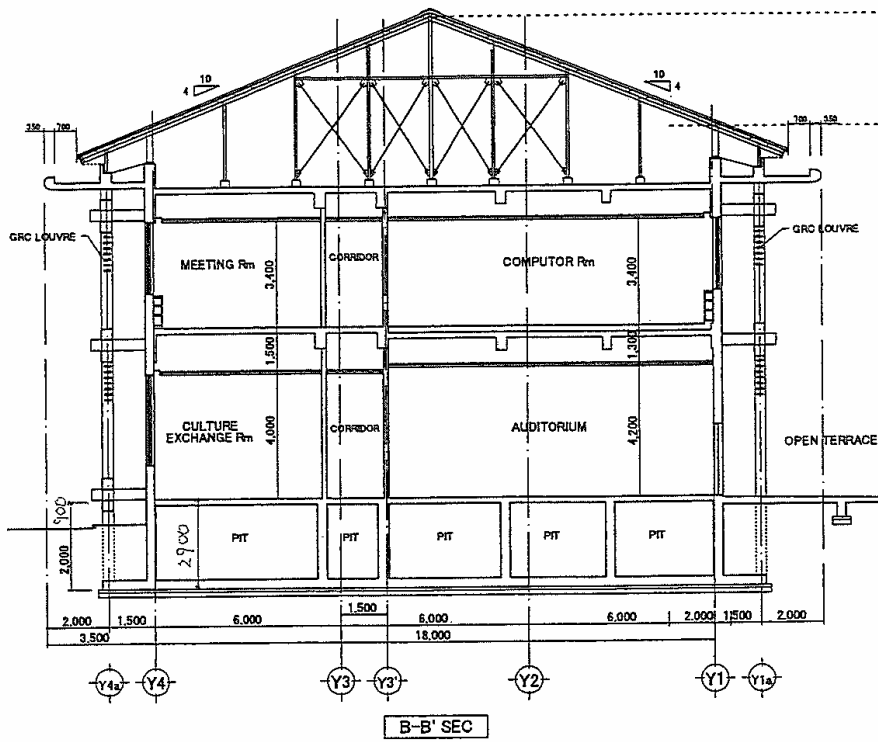
The design of the septic tank in the basic design stage was the “Concrete Reservoir Tank”, specially built at the Construction Site by digging the soil and pouring the concrete to formulate the base, wall and ceiling. This idea was inevitable, because the septic tank was not generally adopted in Yangon City at that time. The Implementation Review Study team found that the ready-made reservoir to meet the bio-standard settled in the Basic Design Stage, after researching the products and material not only in Yangon but in Bangkok, Thailand.

It is quite common to utilize the ready-made reservoir made of FRP (Fiber-Reinforced Plastic) in Bangkok and in Japan, and was confirmed possible to import it to Yangon.

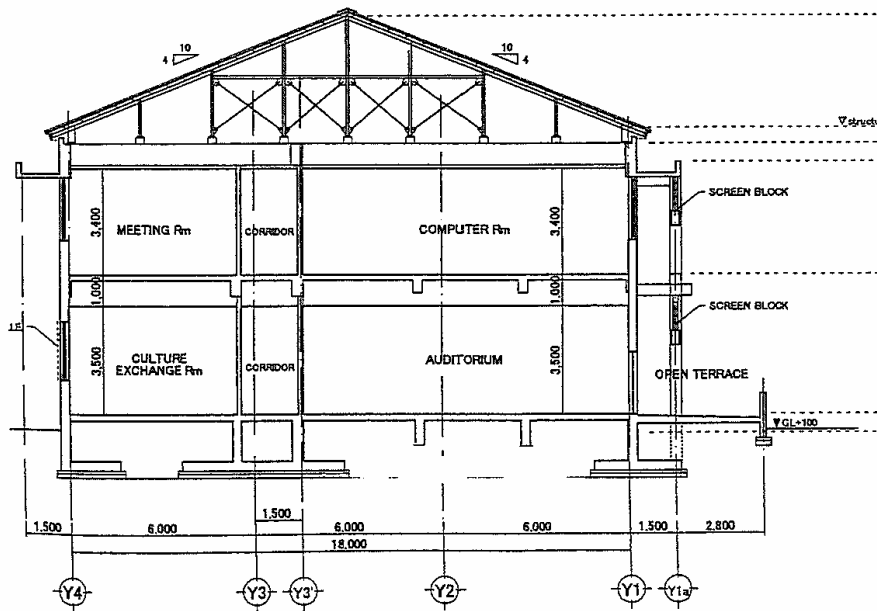
FRP Reservoir was designed to resist the soil pressure, by adopting the Fiber-Reinforced Plastic, as it is embedded underground. And being buried underground, there is no worry about the deterioration of plastic due to sunlight. As for the durability of the product, once settled underground, it can be utilized permanently with the good maintenance once a year.

On the other hand, the concrete reservoir built manually at the site may cause the water leakage due to the concrete crack on the surface, and thus it is not used in Japan any more.

Therefore, the Implementation Review Study Team recommends to utilize the FRP Reservoir as the Septic Tank for the Project.

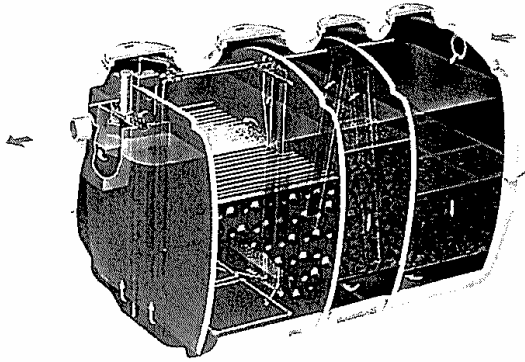


ORIGINAL DESIGN



NEW DESIGN

DC Series



DC - series systems contains anaerobic filtration, contact aeration, and return sludge processes which enable the systems to achieve high effluent quality. The treated water can often be used for plant irrigation or land application.

Application:

Home	Gas station
Condominium	Restaurant
Office	Factory
etc.	

System capacity: 3.0 to 40 cubic meter.

*BOD: 20 ppm.

AC Series

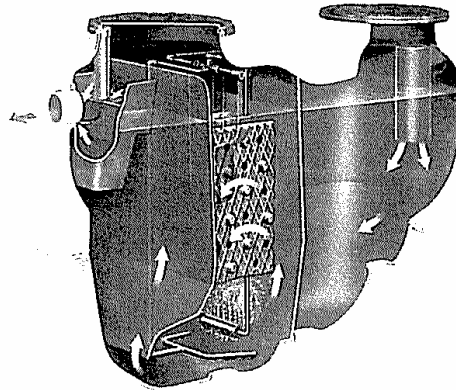
AC series is a contact aeration system which contains contact media. In addition to being highly effective, they can be easily cleaned with back-wash system provided.

Application:

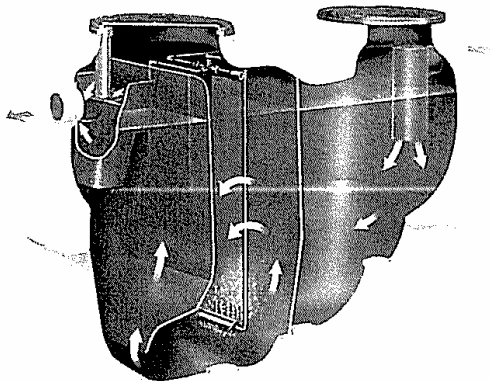
Factory	Office
School	Home
etc	

System capacity: 1.6 to 11.4 cubic meter.

*BOD: 30 ppm.



A Series



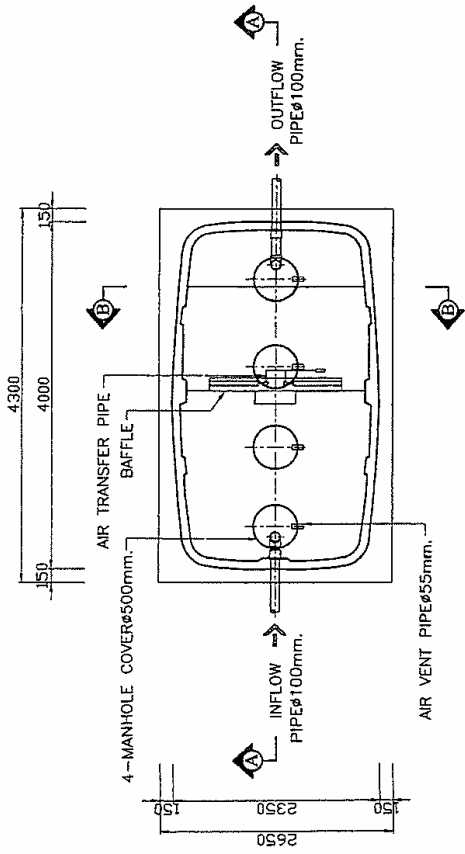
A series employs extended aeration method which is free of hydrogen sulfide (H_2S), and they are generally used to handle toilet waste.

Application:

Factory	Office
Home	

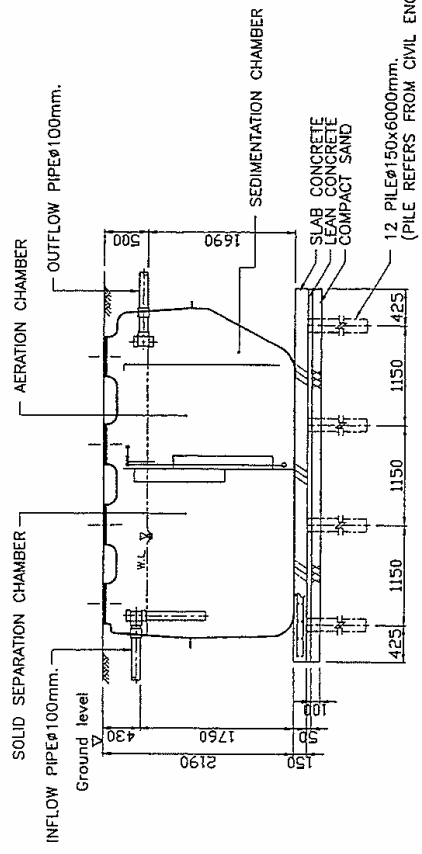
System capacity: 1.6 to 12 cubic meter.

*BOD: 50 ppm.

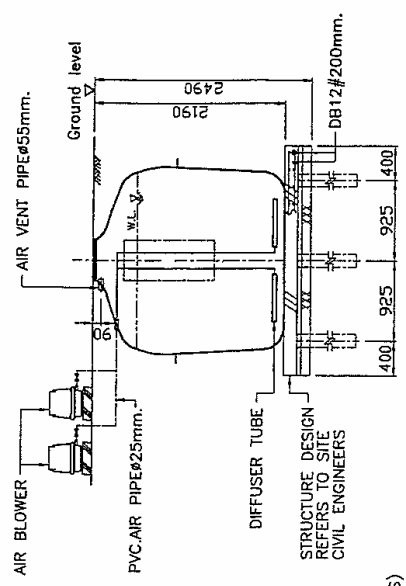


SPECIFICATION TABLE		
No.	ITEM	CONTENT
1	CAPACITY	
1.1	SOLID SEPARATION CHAMBER	6,302 m ³
1.2	AERATION CHAMBER	3,905 m ³
1.3	SEDIMENTATION CHAMBER	1,061 m ³
1.4	TOTAL	11,268 m ³
2	MATERIAL	
2.1	CHAMBER	FRP
2.2	SEPARATION PLATE, BAFFLE	FRP
2.3	AIR TRANSFER PIPE	PVC
2.4	DIFFUSER TUBE	PP
2.5	MANHOLE COVER	ABS
2.6	INFLOW, OUTFLOW PIPE	PVC (100mm)
2.7	AIR BLOWER	100L/MIN (2UNIT)

PLAN



SECTION A-A



SECTION B-B

SAMPLE

TITLE		Aeration Wastewater Treatment Tank	
MODEL		HICLEAR 1200 A	
DWN	01/01/03	DOCUMENT No.	0
CHKD		SCALE	N.T.S.
APPD		DRAWING No.	HCD 0297017

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		●
	To construct roads		●
5	1) Within the site		●
	2) Outside the site		●
6	To construct the building	●	
	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		●
7	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	●	
	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
8	1) Advising commission of A/P		●
	2) Payment commission		●
	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
9	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

May 30, 2007

H.E. Dr. Chan Nyein
Minister for Education
The Union of Myanmar

His Excellency,

I would like to express my sincere gratitude for kindly providing an opportunity to discuss the Project for the Construction of the Myanmar-Japan Center for Human Resources Development on May 30, 2007 at your office in Nay Phy Taw. It would be pleased to mention that the both sides reached an understanding that JICA will further undertake the necessary works to realize the Project which beneficial to both sides in respect of the importance of the human resources development in Myanmar.

I am writing to you this letter to provide our mutual reference to which the two sides will make to go through the necessary procedures. For that purpose, it is confirmed that the following points were discussed between both sides. It would be very much appreciated if you could confirm receipt of this letter or inform me of any comment by 6th of June, 2007.

1. Detailed Design

The Team presented the components of the detailed building and structural design to the Myanmar side and explained that the function of the building and the strength of the structure would remain the same as the original design. The Team also explained the location of the interpreter booth in the building.

2. Japan's Grant Aid Scheme

The Team presented the major undertakings to be taken by each government as shown in Annex 1. As the result of the former meeting in March 2007, the Myanmar side will undertake the landscaping including access roadway and parking lots, and the Myanmar side proposed that the Japanese side will cover the apron of about 2 meter around the building.

3. Schedule of the Study

The Team will complete the detailed design in accordance with the confirmed items by the middle of June, 2007.

4. Other Relevant Issues

4-1 The Team explained the tentative implementation schedule as shown in Annex 2.

4-2 The Team asked the Myanmar side to secure the permission for entry, construction, etc. needed for the implementation of the project.

4-3 The Team explained the project cost estimation including the construction fee, supervising services and contingency as attached in Annex 3, and asked the Myanmar side not to be duplicated or released to any outside parties before the signing of all the Contracts for the Project.

Sincerely Yours,



Kohei Sato

Leader of the Implementation Review Study Mission on the Project for the Construction of the Myanmar-Japan Center for Human Resources Development

cc. Daw Myo Nwe, Director-General of FERD, Ministry of National Planning and Economic Development

cc. U Maung Maung Khin, Director of FERD, Ministry of National Planning and Economic Development

Annex 1. Major Undertakings to be taken by Each Government

Annex 2. Tentative implementation schedule

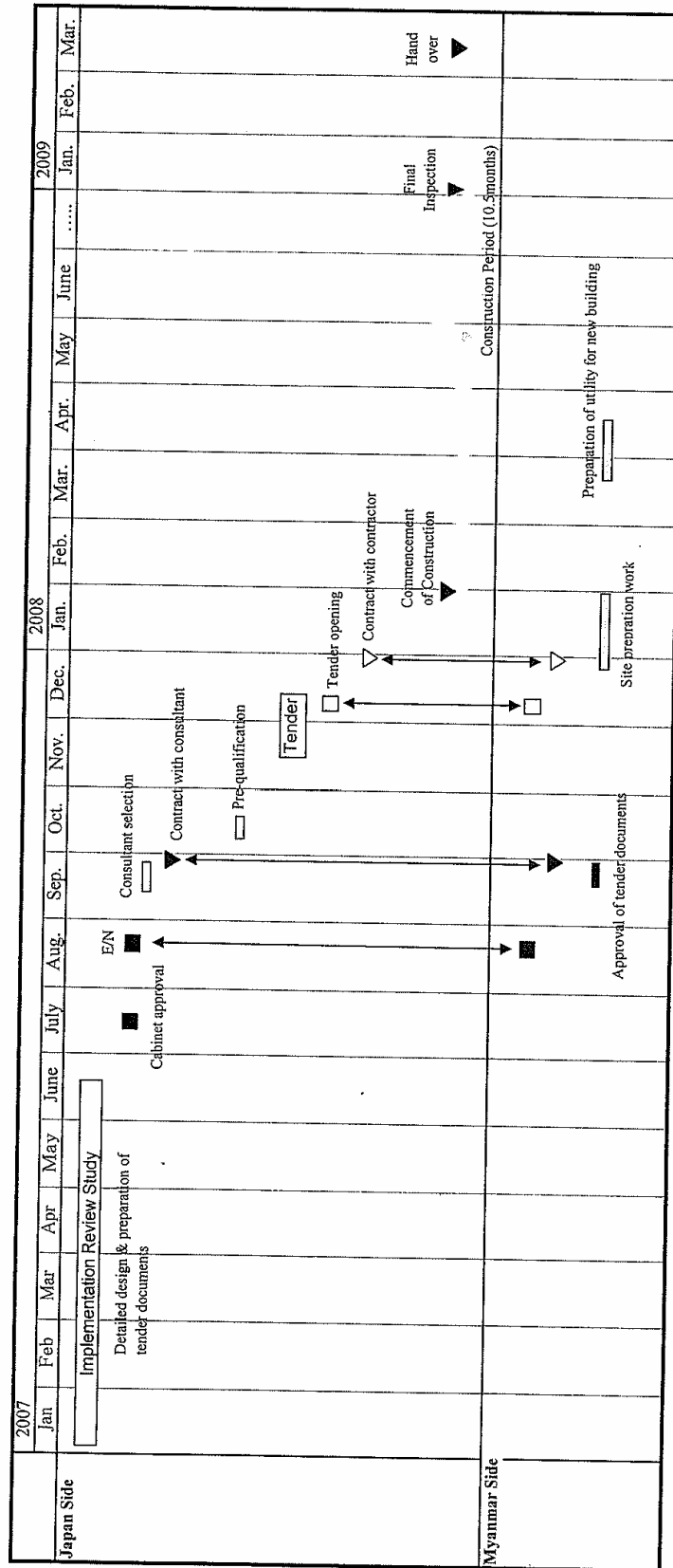
Annex 3. Project Cost Estimation

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) 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	●	
	5) Furniture and Equipment		
	a. General furniture		●
	b. Project equipment	●	
8.	To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9.	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom 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)

Tentative implementation schedule



5. Other Relevant Data

Collected Data
Myanmar's Economic Development(2006,December) Copy
Press Conference on economic growth of Myanmar
Foreign Exchange Rate(3-Jan-97~28-Dec-06)
Wholesale Price of Rice (2002-Jan~2006-Dec)
Local Labor Cost
Price List of Cabling Equipment
Working Drawing of Brick Fencing
Water Drainage Plan Around the Site
Myanmar Business Guide Book(2006) Copy
Price List of Long Cable and Pipe
TELEPHONE TARIFF Copy
The Report on Construction Materials
Purchased Material
Statistical Yearbook 2004(Central Statistical Organization)
Selected Monthly Economic Indicators April 2006(Central Statistical Organization)

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

