

MINISTRY OF EDUCATION
THE KINGDOM OF NEPAL

No. 1

BASIC DESIGN STUDY REPORT ON THE PROJECT FOR PROVIDING MATERIALS AND EQUIPMENT FOR THE CONSTRUCTION OF PRIMARY SCHOOLS (II) IN THE KINGDOM OF NEPAL.

JUNE 1996

BASIC DESIGN STUDY REPORT

ON

**THE PROJECT FOR PROVIDING
MATERIALS AND EQUIPMENT**

FOR

THE CONSTRUCTION OF PRIMARY SCHOOLS (II)

IN

THE KINGDOM OF NEPAL

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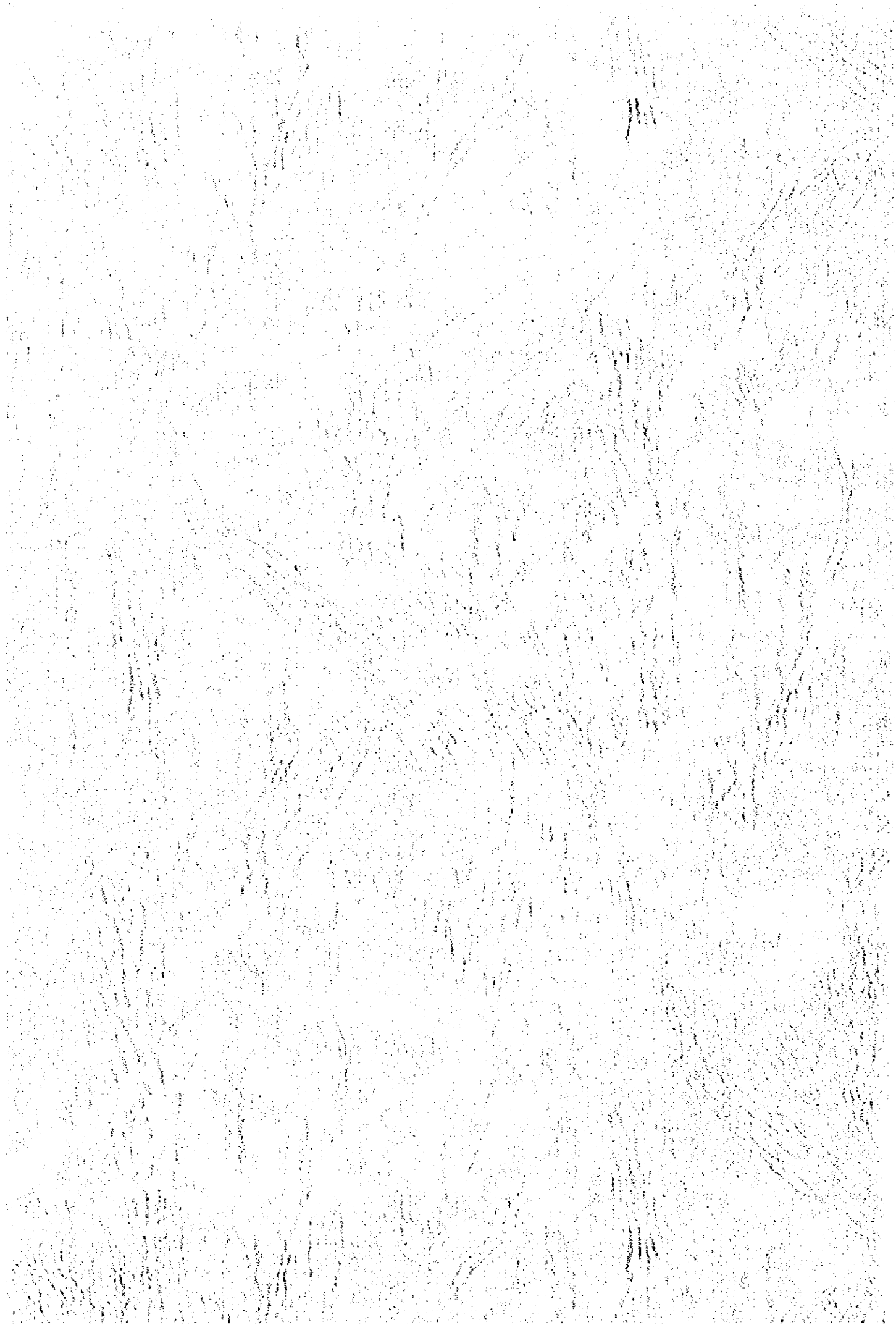
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PREFACE

In response to a request from His Majesty's Government of the Kingdom of Nepal, the Government of Japan decided to conduct a basic design study on the Project for Providing Materials and Equipment for the Construction of Primary Schools (II), and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Nepal a study team from February 20, 1996 to March 20, 1996.

The team held discussions with the officials concerned of His Majesty's Government of Nepal, and conducted a field survey at the study area. After the team returned to Japan, further studies were made, 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 HMG of Nepal for their close cooperation extended to the team.

June 1996



Kimio Fujita
President
Japan International Cooperation Agency

June, 1996

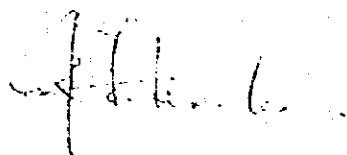
Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Providing Materials and Equipment for the Construction of Primary Schools (II) in the Kingdom of Nepal.

This study was conducted by Fukuwatari & Architectural Consultants Ltd., under a contract to JICA, during the period from 15 February 1996 to 4 July 1996. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Nepal and formulated the most appropriate basic 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,

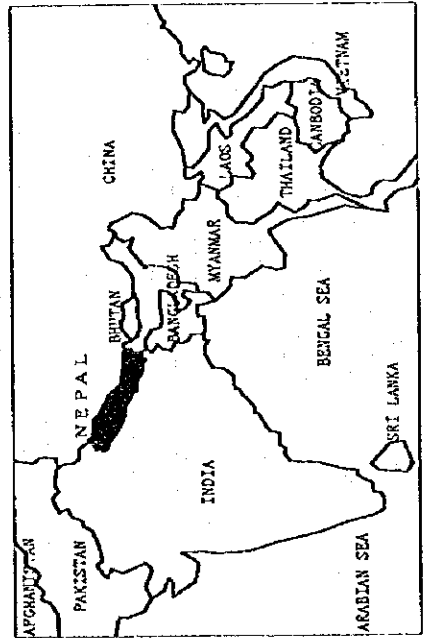
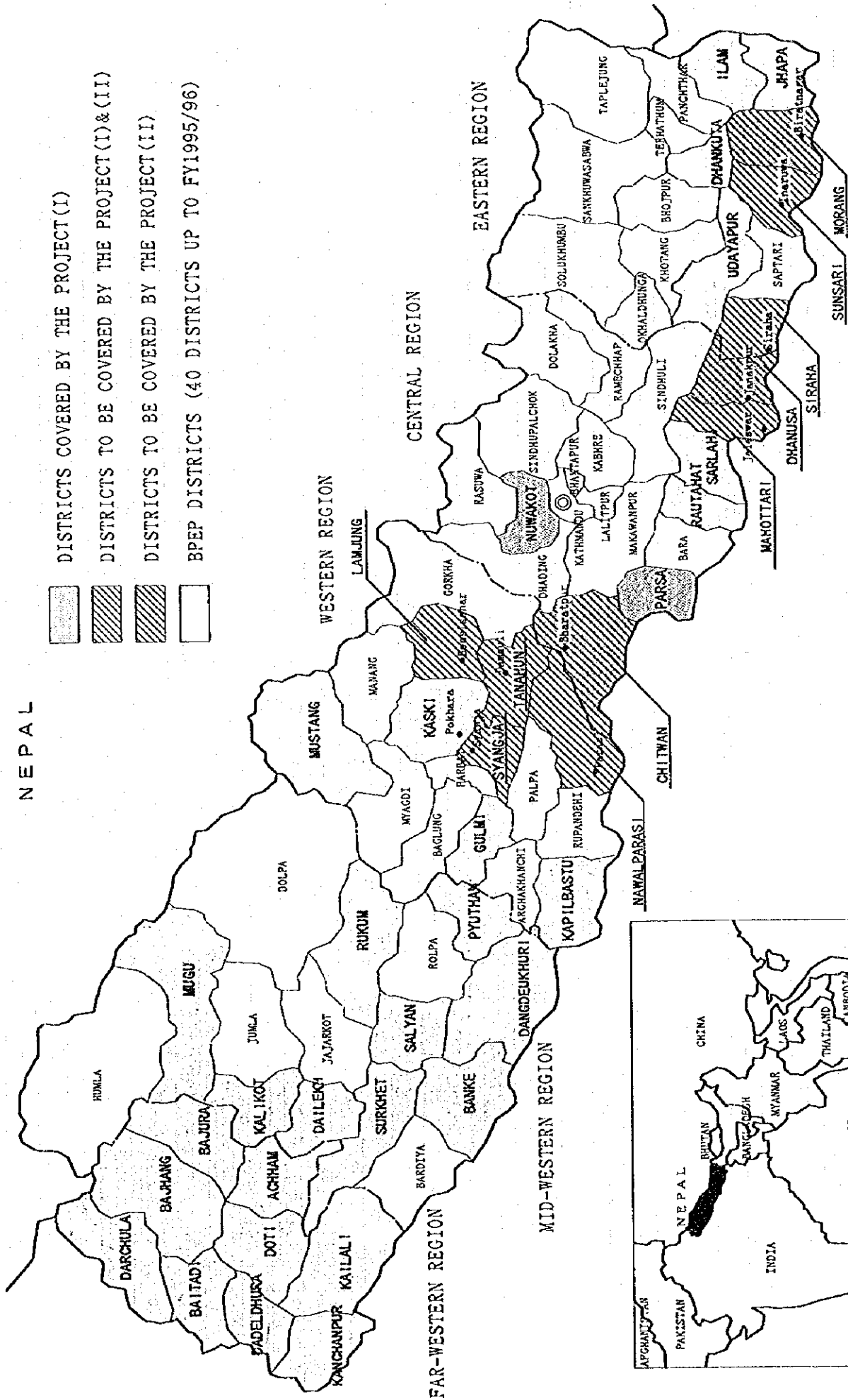


Isao Fukuwatari

Project manager,
Basic design study team on the
Project for Providing Materials and
Equipment for the Construction of
Primary Schools (II)
Fukuwatari & Architectural
Consultants Ltd.

NEPAL

-  DISTRICTS COVERED BY THE PROJECT (I)
-  DISTRICTS TO BE COVERED BY THE PROJECT (I) & (II)
-  DISTRICTS TO BE COVERED BY THE PROJECT (II)
-  BPEP DISTRICTS (40 DISTRICTS UP TO FY1995/96)



ABBREVIATIONS

ADB	- Asian Development Bank
CTSDC	- Curriculum, Textbook, Supervision, and Development Center
BPEP	- Basic and Primary Education Project
DANIDA	- Danish International Development Agency
DEO	- District Education Officer (Office)
HMG	- His Majesty's Government (of Nepal)
IDA	- International Development Association
JICA	- Japan International Cooperation Agency
MTR	- Mid-term Review of BPEP
MIHP	- Ministry of Housing and Physical Planning
MOE	- Ministry of Education
MOF	- Ministry of Finance
NFE	- Non-formal Education
NGO	- Non-governmental Organization
NORAD	- Royal Norwegian Development Cooperation
PEP	- Primary Education Project
PEDP	- Primary Education Development Project
PIU	- Project Implementation Unit
PPSMU	- Physical Planning and School Mapping Unit
RC	- Resource Center
RCMC	- Resource Center Management Committee
RP	- Resource Person
SETI	- Education for Rural Development Project in Seti Zone
SLC	- School Leaving Certificate
SMC	- School Management Committee
SRCP	- School Rehabilitation and Construction Project
SS	- Satellite Schools
UNDP	- United Nations Development Programme
UNESCO	- United Nations Educational, Scientific and Cultural Organization
UNICEF	- United Nations Children's Fund
UPE	- Universal Primary Education
USAID	- United States Agency for International Development

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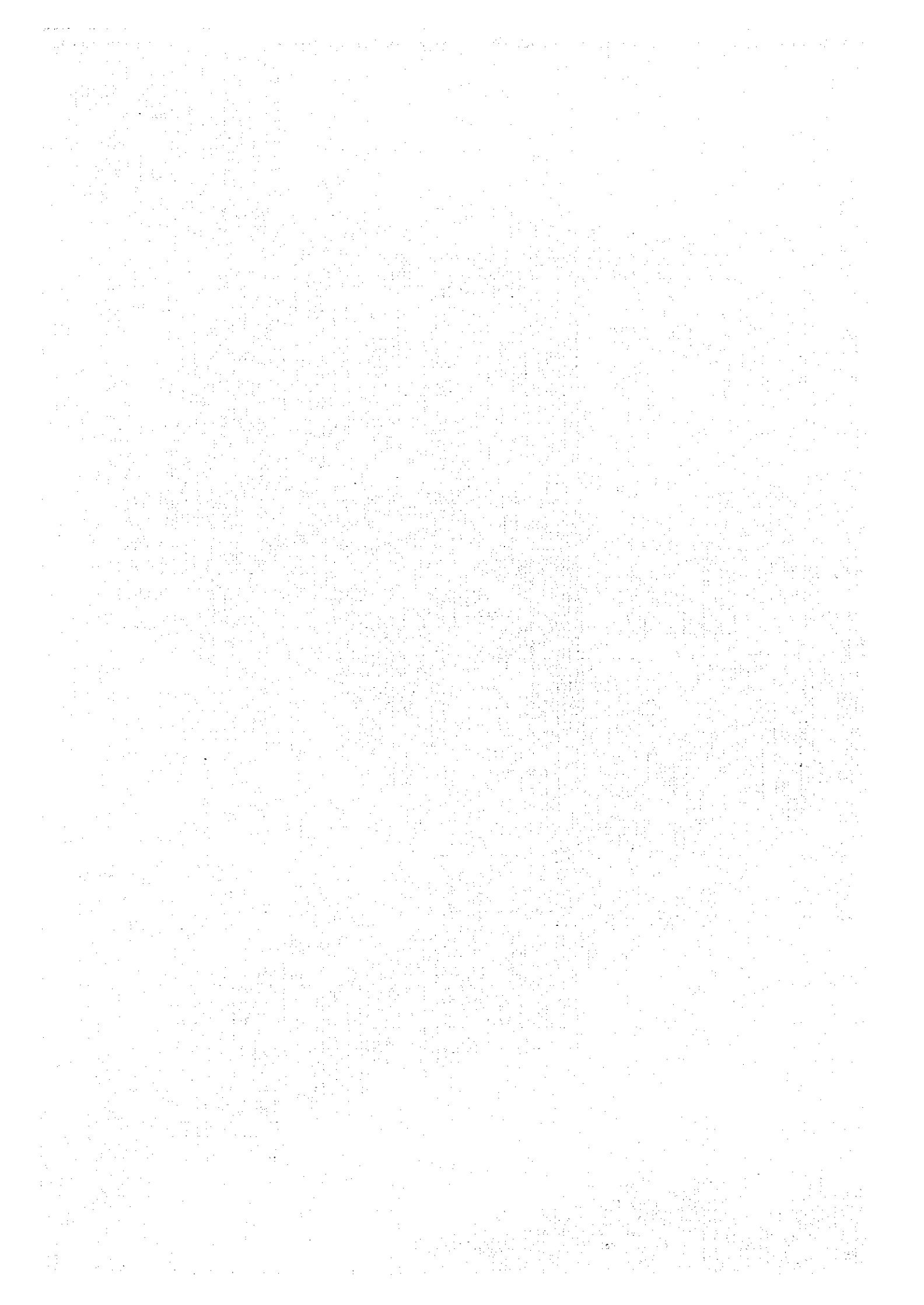
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Chapter 1 Background of the Project



Chapter 1 Background of the Project

1-1 Background of the Project

The Kingdom of Nepal, with a total population of 18,491,097 (census in 1991), is a laterally narrow country with an area of about 147,188 km². It extends approximately 220 km from north to south and approximately 880 km from east to west, and is located between 26°20' N. Lat. and 30°10' N. Lat. and between 80°15' E. Long. and 88°05' E. Long. The country consists of the southern region with its subtropical monsoon climate, the upland region with a warm climate to the north, and the Himalayan mountain region with a cold climate to the extreme north. Thus, geographically, the country has three distinct belts running east to west. The lower southern region called the Terai Plain is adjacent to India. Historically, the intermediate upland region, which is called the Hill, has been the core of Nepal, with the mountain region forming the third belt to the north. HMG of Nepal divided the land into five development regions with border lines running north to south, i.e., Far Western, Mid-Western, Western, Central and East Development Regions. The five development regions consist of 14 zones, which are subdivided into 75 districts.

The Nepalese economy has developed gradually recent years, indicating the following figures in 1993/94, — the per capita GNP, US\$202; GDP growth rate 3.36%; and average GDP annual growth rate from 1980 to 1993, 5.0%; while the population increased at an average annual rate of 2.1%. The poor indicators and slow progress in addressing human development issues have long been among the major problems of national economic development. According to UNDP's 1995 Human Development Report, Nepal ranks 151st out of 174 countries, with relatively low levels of literacy, per capita GDP, life expectancy at birth, as well as high infant mortality rate, poor access to safe drinking water and sanitation facilities, etc. In the educational sector, the problem of illiteracy is most acute. Only 39% of the population are literate and female literacy is less than 20%.

From the end of 1985, HMG of Nepal has been implementing a project for the Basic Human Needs for All, which aims to raise the living standards of the poor in terms of Foods, Clothes, Housing, Education, Health and Security by the year 2000. In the educational sector, HMG of Nepal is now proceeding with a nationwide project, – the Basic and Primary Education Project (hereinafter referred to as "BPEP").

BPEP is a coordinated set of programs designed to increase access to basic and primary education, to improve the quality of the teaching/learning situation, and to address the management and administration problems in education. From the start of BPEP in 1992, the project has been supported by IDA credit financing, and UNICEF, DANIDA, UNDP have been providing grant assistance. Then, from 1994, Japan participated in extending grant assistance under the Project for Providing Materials and Equipment for the Construction of Primary Schools, which was carried out after being divided into two phases, contributing to the construction of 948 class rooms in total, 440 and 508 classrooms for the 1/2 and 2/2 phases respectively. The 1/2 phase of the Project has been completed successfully, and the second phase is now under implementation.

BPEP, having made an important contribution to the development of basic education in Nepal, is in the fourth year of its implementation, and has reached to the mid-term of its planned project period. After elaborate preparations made over about one year, HMG of Nepal and the donors jointly carried out the Mid-term Review (MTR) of BPEP in January 1996. There, the importance of BPEP was reconfirmed and the donors are expected to continue their strong support toward the latter half of BPEP implementation. The findings and the recommendations of MTR should be taken into careful consideration so that the continued phases of the Project under Japan's Grant can be planned in close coordination with the roles of other donors.

When the Appraisal Report of IDA on BPEP made in 1992, the total number of classrooms planned to be constructed by 1999 was 19,000, out of which 11,500 will have been completed by the end of fiscal year 1995/96, leaving the balance of 8,500

classrooms still to be constructed. Thus, the demand for increasing primary school classrooms is still enormous and the construction of primary schools under BPEP should be given continued support, with close integration between each of the phases.

It should be clearly noted, however, that the Government of Japan shall not make any commitments beyond the implementation of a phase to be done under single fiscal year at one time. The Project is to be implemented phase by phase, and according to the Notes exchanged individually for each of the phases between the two governments.

1-2 Outline of the Request

In February 1995, HMG of Nepal made a request to the Government of Japan for grant aid assistance for the continued implementation of the Project for Providing Materials and Equipment for the Construction of Primary Schools. The items requested are listed below:

1) Project Sites:	15 BPEP Districts	
2) Construction Materials	Nos	unit
2-1) Construction of classrooms	4,500	room
2-2) Rehabilitation of classrooms	750	room
2-3) Toilet blocks	750	block
2-4) Water supply	750	set
2-5) Construction of Resource Centers	150	block
3) Equipment		
3-1) Truck	10	no.
3-2) Motorcycle	30	no.
3-3) 4WD vehicle	3	no.
4) Maintenance Tools	650	set
5) Black Boards	5,451	no.
6) Furniture	5,451	class

Chapter 2 Contents of the Project

Chapter 2 Contents of the Project

2-1 Objectives of the Project

The objective of the Project is to procure materials and equipment for the construction of primary schools and other related facilities to increase access to primary schooling and to improve its quality under the Basic and Primary Education Project (BPEP).

2-2 Basic Concept of the Project

The construction of primary schools under BPEP is carried out with community participation. In the case of school construction under IDA funds, the government supplies seed money to communities, which generate the necessary community support and participation. The funds provided by BPEP are to be used to procure the major construction materials and labour such as:

- 1) Bricks
- 2) Cement
- 3) CGI sheets
- 4) GI plain sheets
- 5) Reinforcement
- 6) Hold fast, hinges, J-hooks and other fittings
- 7) Skilled labour

The communities are to share the cost of the new building in terms of unskilled labour, supply of local materials, and local transportation costs. The community would either contribute in cash or provide the following materials and labour:

- 1) Sand
- 2) Aggregate

- 3) Wood
- 4) Unskilled labour
- 5) Local transportation of construction materials

Through the construction by community participation, not only the cost to be borne by the government is decreased, but the need of the facilities are to be the property of the communities, they sincerely do the management and maintenance of the facilities after the completion.

In the case of the Project under Japan's Grant Aid, the principle is to provide to the communities, instead of money, materials for the construction of schools under the framework of Japan's Grant Aid. Accordingly, BPEP has introduced a new sub-system to the construction management system to handle materials delivered at depot centers from the Japanese side. Through experience in the first phase of the Project, it has been confirmed that the sub-system worked well in general, and that:

- 1) Not only the central administration of BPEP, but also the DEOs and BPEP local staff members are very keen to proceed with the Project supported by Japan.
- 2) The local communities, once they have been provided with the necessary materials and proper guidance, are efficient enough in the performance of construction work to sustain the Project. The net construction period is about three to four months; sometimes less than two months under optimum conditions.
- 3) The quality of the facilities constructed under the Project (1st phase) with Japan's Grant is generally good; in some cases, very impressive.
- 4) As far as school construction with community participation is concerned, the Project with Japan's Grant is working well and has more benefits for both the communities and BPEP than in other cases, under which the communities have to procure materials by themselves.

- 5) Some improvements have been achieved on the standard design of the facilities, taking advantage of the central procurement system. For instance, steel trusses and steel frames of doors and windows were used instead of those made of wood.

The main item to be covered by the Project is the procurement of materials for the construction of primary school classrooms. However, a limited number of other facilities such as RCs, toilet blocks, water supply facilities, and classroom furniture, as well as equipment for logistics are also included. Through discussions between Nepalese officials and the Study team, the requested items were reviewed and finalized as shown in the sections that follow.

2-2-1 Volume of the Project

As stated in the previous chapter of this report, 8,500 classrooms are still to be constructed in the next four years. On the other hand, in fiscal year 1996/97, BPEP can not afford to plan any construction of new classrooms unless Japan extends a grant for the continued phase of the Project. This is because of the recent shortage of IDA funds, and the contents of IDA support for the second phase of BPEP have not yet been determined. Under such circumstances, HMG of Nepal is anticipating that Japan will continue its support to BPEP with a considerable expansion in volume so that the engineering staff of BPEP already recruited will be kept working. The fund has been reserved to cover the cost to be borne by BPEP on the assumption that the Project will be carried out for the construction of 1,000 classrooms.

It is appropriate, therefore, to implement the Project with a volume of about 1,000 classrooms per one year, and for two consecutive years, — 2,000 classrooms in total.

2-2-2 Districts to be covered by the Project

While recognizing the importance of covering as many districts as possible, to realize efficient management for the construction of about 1,000 classrooms in a

year, seven to ten districts in total are considered to be appropriate. The districts were selected according to the following principles:

- 1) to be selected from the 40 districts in which BPEP has already been implemented
- 2) to be selected from districts for which school mapping survey has been completed
- 3) to exclude remote areas, to which transportation by vehicles of materials would be difficult
- 4) to give high priorities to districts covered by the first phase of the Project.
In Nuwakot and Parsa, classroom construction under BPEP will have been completed. Hence, these are not included in the project districts
- 5) to give high priority to the Western, Central and Eastern Regions, which have relatively high population density and good access for vehicles
- 6) to give high priorities to districts where the construction under BPEP is to be completed soon, or districts located near large industrial cities where the materials are procured.

The following ten districts have been selected as project districts:

- 1) Lamjung 2) Tanahun 3) Syangja 4) Nawalparasi 5) Chitwan
- 6) Mahottari 7) Dhanusha 8) Siraha 9) Suisari 10) Morang

2-2-3 Numbers of Facilities in each of the Project Districts

The numbers of facilities in each of the project districts have been determined as follows:

1) Classrooms

The total required number of classrooms to be constructed under BPEP in the 10 project districts is roughly estimated to be 3,500 (by BPEP), of which 2,000 are to be covered by the Project, being divided into two halves. While realizing the efficiency of the construction management, the balance between the communities also had to be considered. It should be noted that:

- a) In Tanahun, Chitwan, and Siraha, classroom construction under BPEP will be completed in 1996/97 so that no construction is necessary in these districts in the 2/2 phase.
- b) In Dhanusa and Morang, the classroom construction under BPEP will be completed in 1997/98 so that no construction is necessary in the later years.

2) Resource Centers

According to the Report on Mid-term Review of BPEP, construction of Resource Centers should not be given high priorities. However, the following RCs are to be included:

- a) In Syanja and Mahottari, classroom construction under BPEP will be completed in 1997/98. Therefore, the RCs in these districts are to be included for the sake of economic construction management, avoiding distribution of management staff in the later years just for the construction of RCs.
- b) In Sunsari, RPs have been fully appointed and have already started their work. Therefore, some RCs keenly in need are to be included.

3) Toilet Blocks

Toilet blocks are being utilized still on a pilot basis as educational materials for teaching how to use sanitary system rather than being fully used by every student every day. Therefore, 100 toilet blocks (about 10 % of the schools in number) are to be distributed.

4) Water Supply Units

The total number of class rooms - 2,000 - will be scattered throughout approximately 1,000 schools or a little less, of which 100 are generally assumed to have no existing water supply facilities. Therefore, 100 water supply facilities will have to be provided even for construction work.

5) Equipment for Logistics Support

The equipment procured under the first phase of the Project are to be re-used for the 2nd phase of the Project as well. The additional numbers of the equipment necessary for the 2nd phase are to be included.

6) Classroom Furniture

This item was included among the items requested for the first phase of the Project and was declined in consideration that:

- a) The Project was still at a pilot stage and control of construction work time schedule by SMC was thought to be unreliable.
- b) Therefore, it might have been difficult to deliver the furniture within the scheduled time limit.

During this field survey, the necessity of furniture was reviewed and it was found that the present design of furniture (benches and long tables) might not be appropriate because it would disturb the flexible grouping of students in the class.

BPEP strongly requested, however, that some furniture should be included, applying the standard designs recently developed by BPEP. It was agreed that about 10 % of the total classrooms should be supplied with furniture under the Project in the 2/2 phase.

The total numbers of facilities are shown in Tables 1, 2, and 3.

Table 1 Number of Facilities, Equipment and Furniture

	Phase-1/2	Phase-2/2	Total
1) New Classrooms	1,100	900	2,000
2) Resource centers	0	14	14
3) Toilet Blocks	50	50	100
4) Water Supply Facilities	50	50	100
5) Equipment			
a) Trucks	4	0	4
b) Tractors	3	0	3
c) Motorcycles	5	0	5
d) Facsimile Machines	7	0	7
6) Classroom Furniture	0	200	200

Table 2 Districtwise Number of Facilities for 1996/1997(1/2 Sub-phase)

No	District	No. of Classrooms			No. of RCs			Toilets			Water Supply	Furniture
		Terai	Hill	Total	Terai	Hill	Total	Terai	Hill	Total		
1	Lamjung		100	100					5	5		
2	Tanahun		50	50					5	5		
3	Syangja		120	120					5	5		
4	Nawalparasi	70	40	110				5		5	8	
5	Chitwan	120	80	200				5		5	8	
6	Mahottari	100		100				5		5	5	
7	Dhanusha	100		100				5		5	8	
8	Siraha	60		60				5		5	5	
9	Sunsari	70	30	100				5		5	8	
10	Morang	80	80	160				5		5	8	
	Total	600	500	1,100				35	15	50	50	

Table 3 Districtwise Number of Facilities for 1997/1998(2/2 Sub-phase)

No	District	No. of Classrooms			No. of RCs			Toilets			Water Supply	Furniture
		Terai	Hill	Total	Terai	Hill	Total	Terai	Hill	Total		
1	Lamjung		100	100								
2	Tanahun											
3	Syangja		180	180	6		6					
4	Nawalparasi	110	20	130				10		10	10	
5	Chitwan											50
6	Mahottari	130		130	4		4	10		10	10	
7	Dhanusha	140		140				10		10	10	50
8	Siraha											
9	Sunsari	120		120	4		4	10		10	10	50
10	Morang	100		100				10		10	10	50
	Total	600	300	900	14		14	50		50	50	200

2-2-1 Materials to be Provided

In principle, the same materials as those provided under the first phase of the Project will be provided. The details are presented in the later section 2-3-3.

2-3 Basic Design

2-3-1 Design Principles

The basic design has been done under the following principles:

1) Natural Conditions

Although there is a wide range of environmental conditions, which differ from place to place, (climate, geology, topography, infrastructure, etc.), the area in the ten project districts may roughly be divided into two categories, --Terai and Hill. BPEP has prepared two standard designs of facilities to meet the requirements for each of the two categories of natural conditions.

2) Social Conditions

Within the area to be covered by the Project, there are many differences in social conditions such as culture, religion, language, and customs. BPEP is still seeking a way to reflect these differences on the standard designs.

Considering the present situation, however, it is practical to apply only limited types of standard designs that fulfill basic needs and to meet the enormous demand for classrooms to be constructed.

3) Conditions on Construction

In Nepal, there are no authorized building codes or regulations yet. Foreign design standards—often those of India—are utilized on an individual project basis. The Ministry of Housing and Physical Planning, however, has recently been working on a Draft Building Code of Nepal. The study team recommends that PPSMU pay due consideration to the contents of the draft in developing their standard designs of school buildings.

4) Utilization of Local Materials and Sub-contractor

Construction of the facilities is to be done with community participation. Therefore, the maximum use of local methods of construction, materials and manpower would naturally be advantageous. The standard designs of the facilities have been prepared applying these principles.

5) Maintenance

The operation and maintenance of the facilities of the Project are also to be provided by the communities. In this respect as well, the maximum use of local methods of construction and materials would naturally be advantageous. Furthermore, use of sophisticated equipment, which might result in high running and maintenance costs are not recommendable.

6) Grade

As stated previously in this report, with the proper support of BPEP, the quality of the facilities constructed under the Project (1st phase) is generally acceptable or better. The same grade will be maintained.

7) Time Schedule

In assessing the time schedule of the Project, the following points are important:

a) For the sake of the economic management of the Project cycles, this Basic Design Report should cover two phases.

b) Rainy season (June to September), which makes transportation of materials and construction work impractical in many areas.

c) Avoiding busy farming seasons in rural areas, manufacturing of bricks is normally done after harvesting crops in autumn.

d) Fiscal year of Nepal starts in the middle of July. It is advisable, therefore,

that the Exchange of Notes between the two countries be done in June or before, when the Action Plan is prepared.

- e) The construction period for each school is estimated to be about three to four months, and the entire work period for the construction of the schools including delivery and local transportation of materials from depot centers to construction sites will be six months.

2-3-2 Standard Design of the Facilities

The standard designs of the facilities prepared by BPEP are summarized as shown in tables-4 and 5 and the drawings. The floor areas are calculated according to the standard Japanese method, namely the plan sizes are measured at centerlines of the walls.

Table 4 Total Planning Area

	Remark
(Area of School Building) -Hill- Total Area (Two Rooms): 81.9m ² (One Room= 31.53m ²) -Terai- Total Area (Two Rooms): 90.9m ² (One Room = 31.53m ²)	Including Verandah 18.8m ² : 22.5 × 15.08ft ² : 22.5 × 15.08ft ²
(Area of Resource Center Building) 48 × 21 = 1,152 ft ² = 107.0m ²	Including Verandah 14.1m ²
(Area of Toilet Block) 4.75 × 8.17 = 152ft ² = 14.1m ²	
Phase 1/2 Total: 94,600m² (81.9 × 600 + 90.9 × 500 + 14.1 × 50)	
Phase 2/2 Total: 76,400m² (81.9 × 600 + 90.9 × 300 + 107.0 × 14 + 14.1 × 50)	

Table 5 Structure and Finish Schedule

Classrooms (Hill)	
(Structure)	
	Single Story, Stone Masonry, 16" thick
(Roof)	MS Tubular Truss, 26 Gauge-CGI sheet (Commercial)
(Foundation)	Continuous Footing
(External)	
(Roof)	26 Gauge-CGI sheet (commercial), 2mm Translucent sheet
(Wall)	Mortar Pointing
(verandah)	Cement Plaster Finish
(Internal)	
(Floor)	Cement Plaster Finish
(Wall)	Mortar Pointing, Lime Finish
(Opening)	1.5" Solid Core Plywood Flush Shutter for door/window Enamel paint MS door and window frames, Enamel paint
(Ceiling)	MS Truss Exposed

Classrooms (Teral)	
(Structure)	
	Single Story, Brick Masonry, 12" thick
(Roof)	MS Tubular Truss, 26 Gauge-CGI sheet (Commercial)
(Foundation)	Continuous Footing
(External)	
(Roof)	26 Gauge-CGI sheet (Commercial)
(Wall)	Mortar Pointing
(verandah)	Cement Plaster Finish
(Internal)	
(Floor)	Cement Plaster Finish
(Wall)	Mortar Pointing, Lime Finish
(Opening)	1.5" Solid Core Plywood Flush Shutter for door/window Enamel paint MS door and window frames, Enamel paint
(Ceiling)	MS Truss Exposed

Resource Center (Teral)	
(Structure)	
	Single Story, Brick Masonry, 14" thick
(Roof)	MS Tubular Truss, 26 Gauge-CGI sheet (Commercial)
(Foundation)	Continuous Footing
(External)	
(Roof)	26 Gauge-CGI sheet (Commercial)
(Wall)	Mortar Pointing
(verandah)	Cement Plaster Finish
(Internal)	
(Floor)	Cement Plaster Finish
(Wall)	Mortar Pointing, Lime Finish
(Opening)	'1.5" Solid Core Plywood Flush Shutter for door/window Enamel paint MS door and window frames, Enamel paint
(Ceiling)	MS Truss Exposed

Toilet Blocks (Hill)	
(Structure)	
	Single Story, Stone Masonry, 15" thick
(Roof)	Salwood Beam, 26 Gauge-CGI sheet (Commercial)
(Foundation)	Continuous Footing
(External)	
(Roof)	26 Gauge-CGI sheet (Commercial), 2mm Translucent sheet
(Wall)	Mortar Pointing
(Internal)	
(Floor)	Cement Plaster Finish
(Wall)	Mortar Pointing, Lime Finish
(Opening)	'1.5" Solid Core Plywood Flush Shutter for door/window Enamel paint Salwood door and window frames, Enamel paint
(Ceiling)	Beam Exposed

Toilet Blocks (Tera)	
(Structure)	
	Single Story, Brick Masonry, 9" thick
(Roof)	Salwood Beam, 26 Gauge-CGI sheet (Commercial)
(Foundation)	Continuous Footing
(External)	
(Roof)	26 Gauge-CGI sheet (Commercial)
(Wall)	Mortar Pointing
(Internal)	
(Floor)	Cement Plaster Finish
(Wall)	Mortar Pointing, Lime Finish
(Opening)	1.5" Solid Core Plywood Flush Shutter for door/window Enamel paint Salwood door and window frames, Enamel paint
(Ceiling)	Beam Exposed

1) Classrooms

BPEP has just developed a new series of standard designs of classrooms and RCs, including the introduction of plan variations for different space capacities, as well as of new structural details. The new design, however, is still at the pilot stage, being applied at a limited number of construction sites. For the next phase of the project, therefore, the same standard design as in the first phase will be applied with minor modifications as stated below:

- a) Plan variations will be introduced, but the extra materials are to be borne by the local community to simplify construction management by BPEP.
- b) An enlarged verandah will be located at the front.
- c) Steel frames of doors and windows be upgraded.
- d) Weight of doors and windows be decreased.
- e) Materials (cement and paint) for black boards be included.

The details of these items will be reviewed at the detailed design stage.

2) Resource Centers

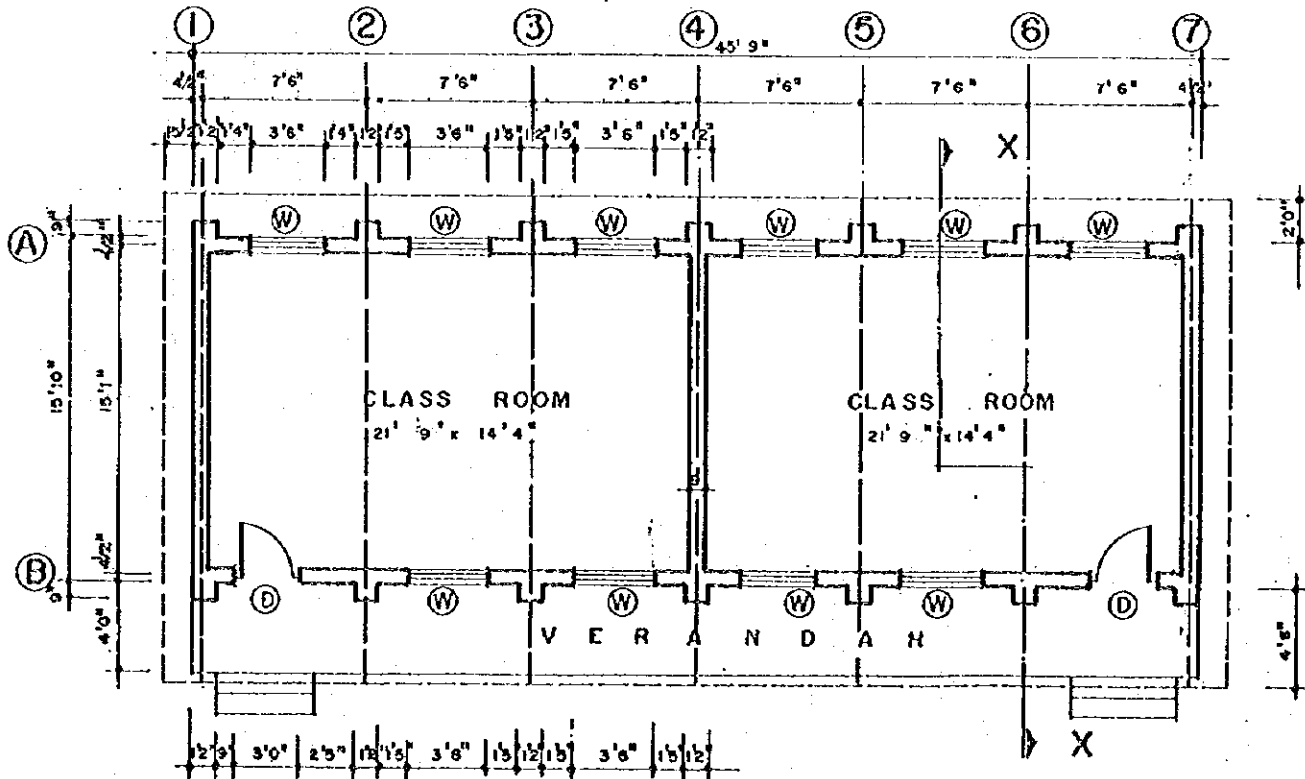
The same principles as those stated above for the classrooms be applied.

3) Toilet Blocks

A new design with two booths and a separate tank will be applied as shown in the drawings attached.

4) Water Supply Facilities

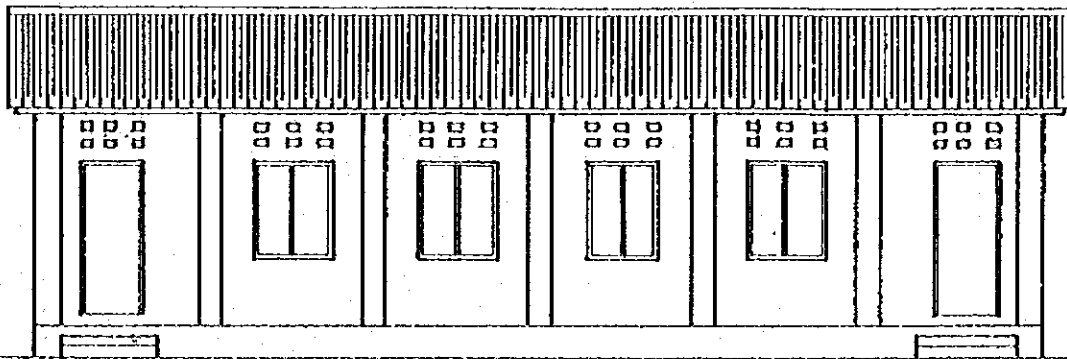
Water supply facilities will be provided only in Terai districts and with the same design as in the previous phases, which consists of a hand pump, filter and mild steel pipes of 48m in length.



GROUND FLOOR PLAN 1:100

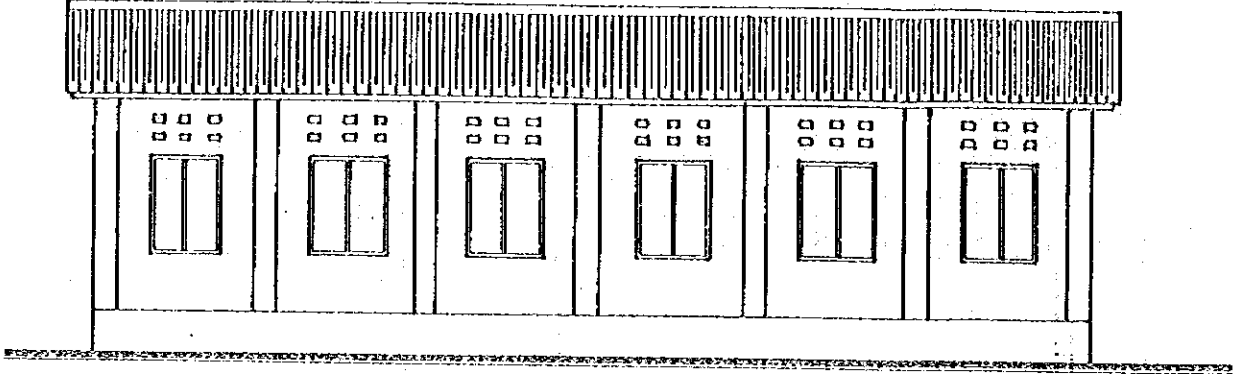
OPENING SCHEDULE

No.	DESCRIPTION	SIZE	Nos.
1.	DOOR-D	3'0"X7'0"	2
2.	WINDOW-W	3'6"X4'6"	10

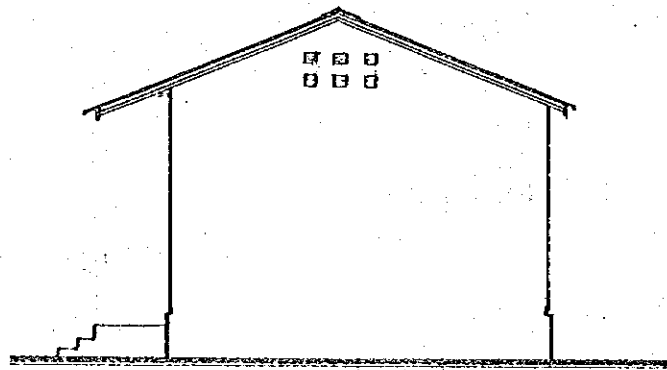


FRONT ELEVATION 1:100

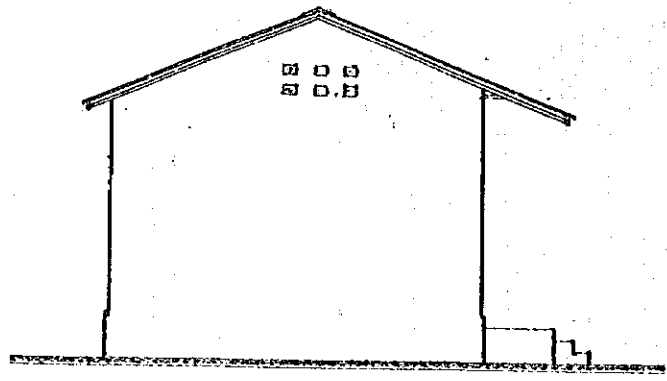
BPEP DRAWING-2	School Bulding (Terai)	Elevations
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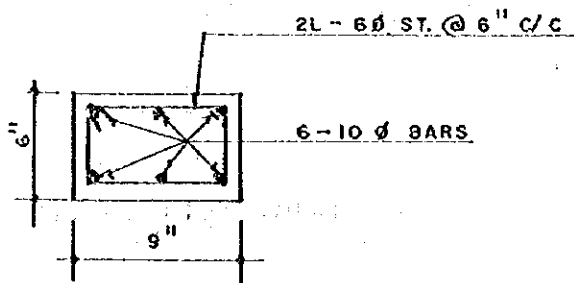
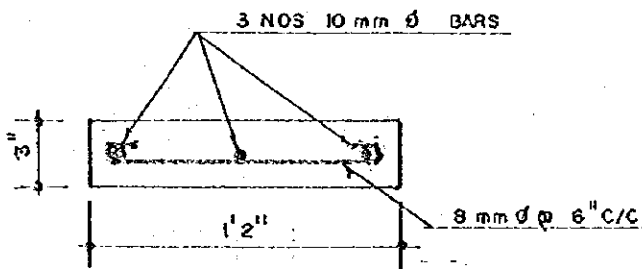
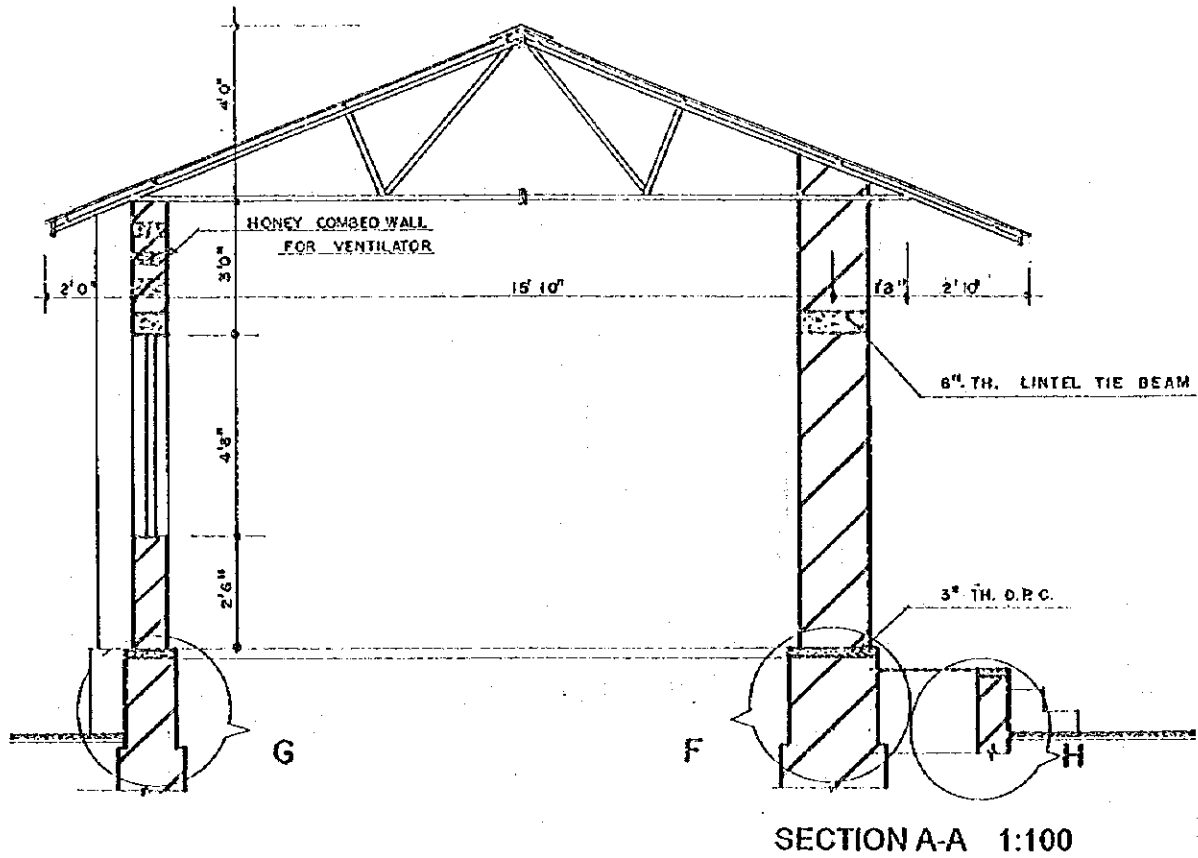
BACK ELEVATION 1:100



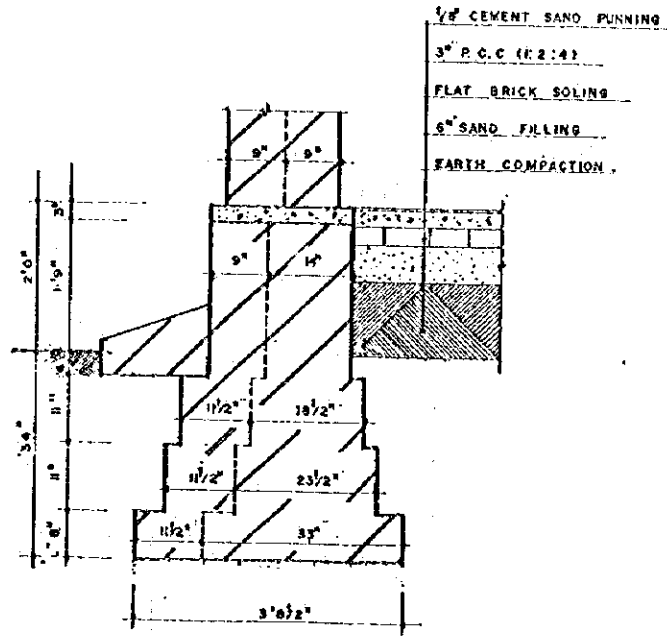
SIDE ELEVATION 1:100



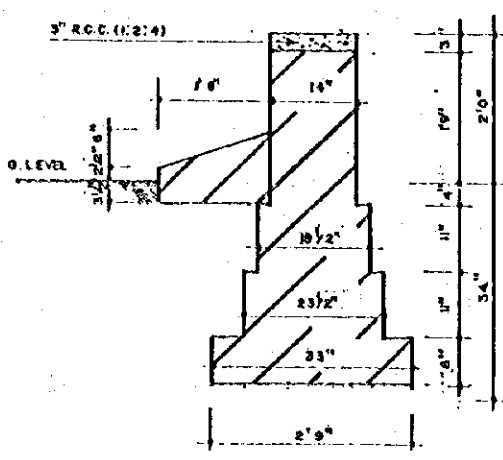
SIDE ELEVATION 1:100



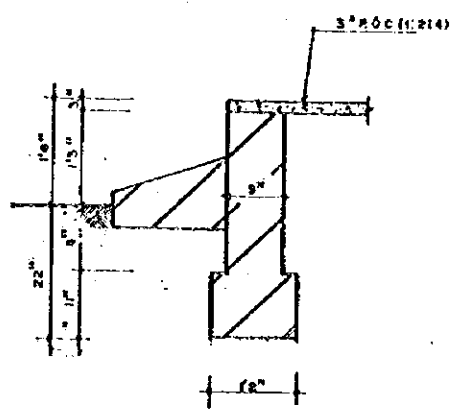
BPEP DRAWING-4	School Building (Teral)	Foundation Details
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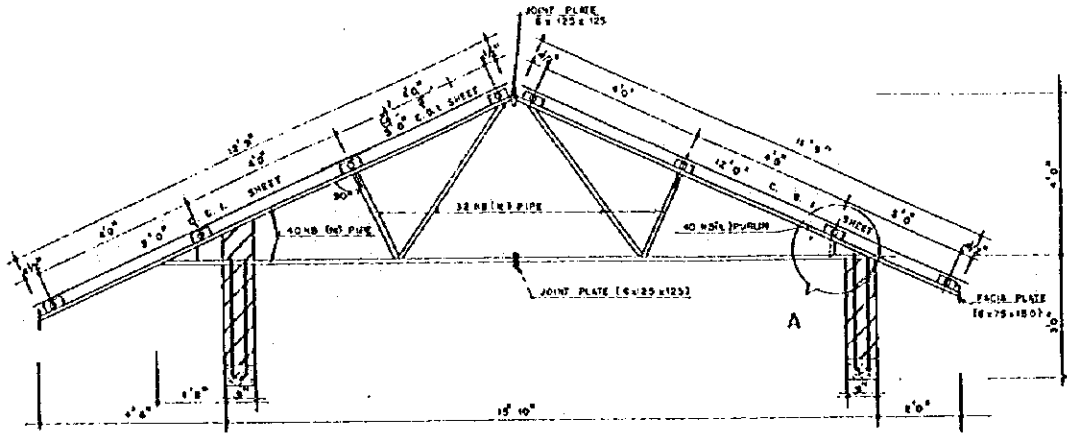
DETAIL at F 1:30



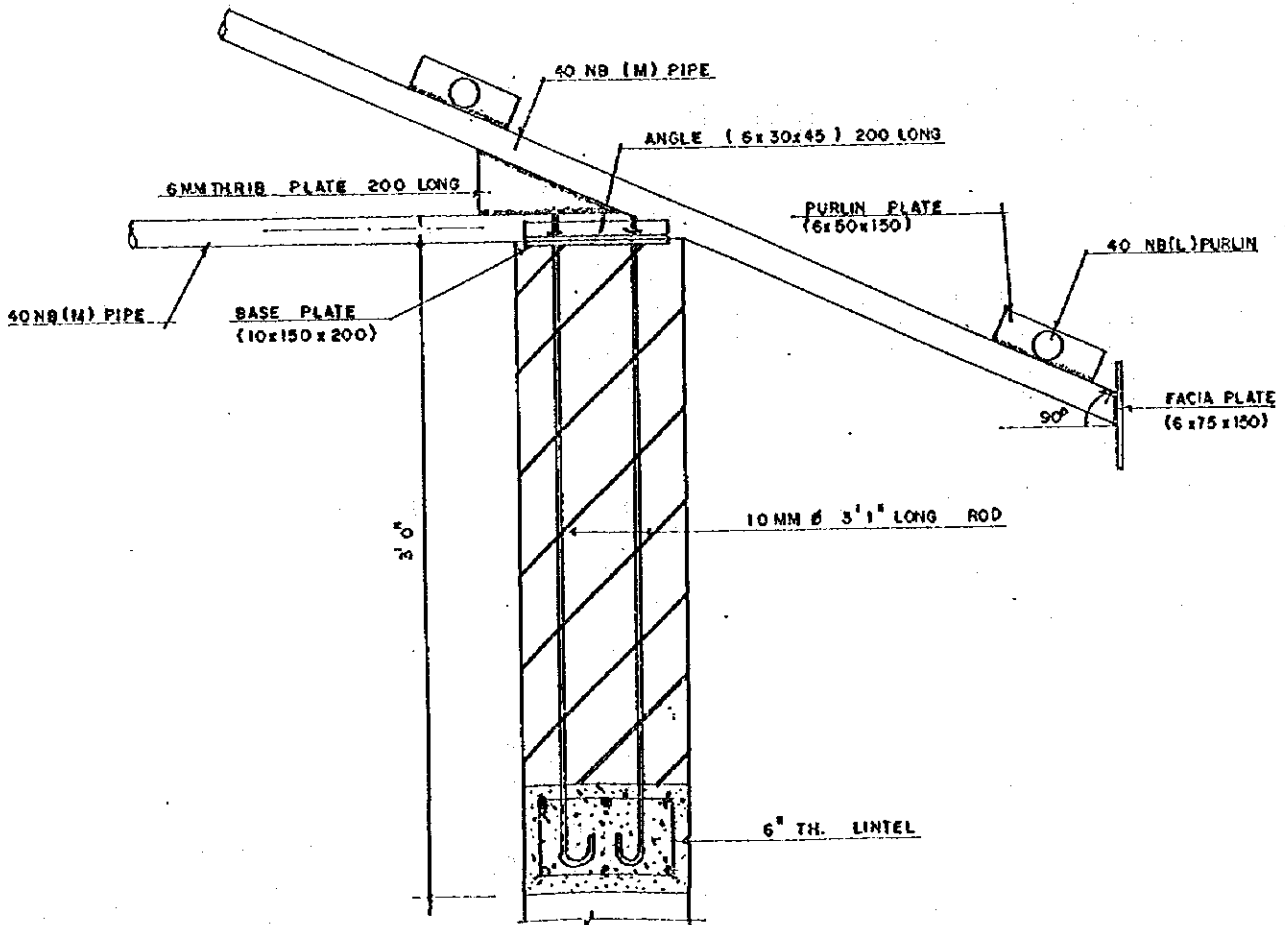
DETAIL at G 1:30



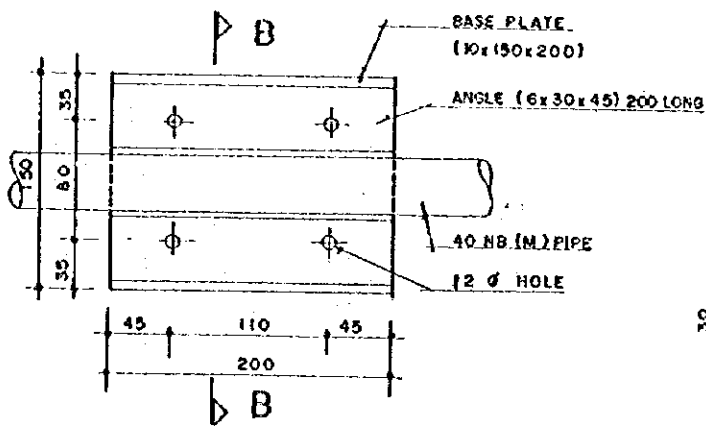
FOUNDATION DETAIL at H 1:30



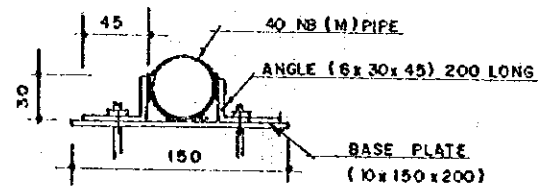
TRUSS DETAIL 1:50



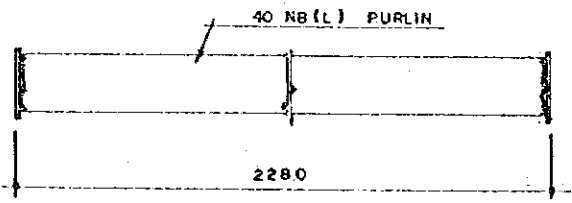
DETAIL at A 1:10



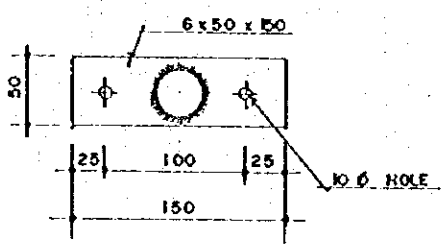
BASE PLATE DETAIL 1:5



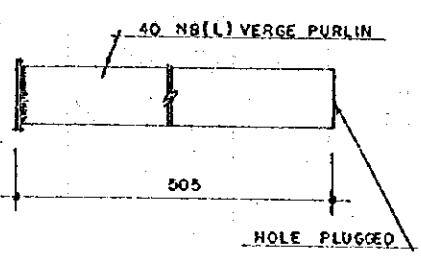
SECTION B-B 1:5



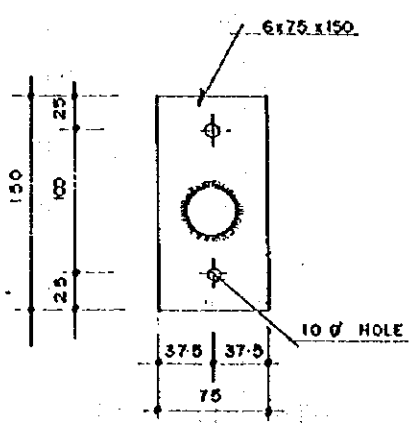
PURLIN DETAIL 1:5



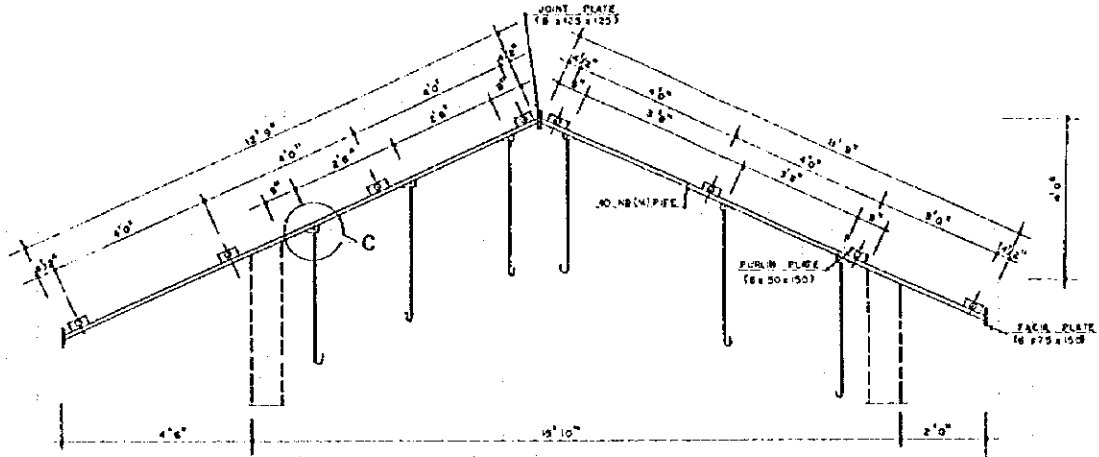
PURLIN PLATE 1:5



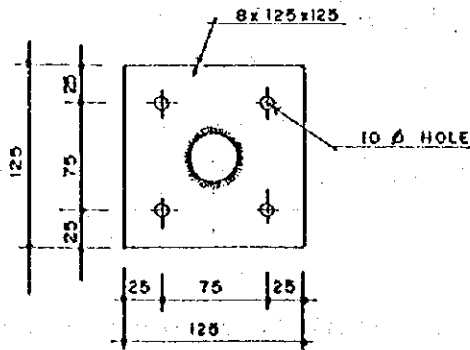
VERGE PURLIN 1:5



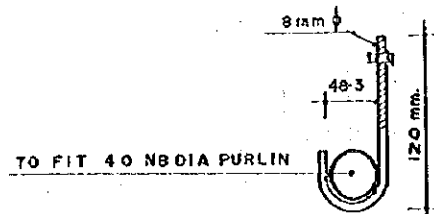
FACIA PLATE 1:5



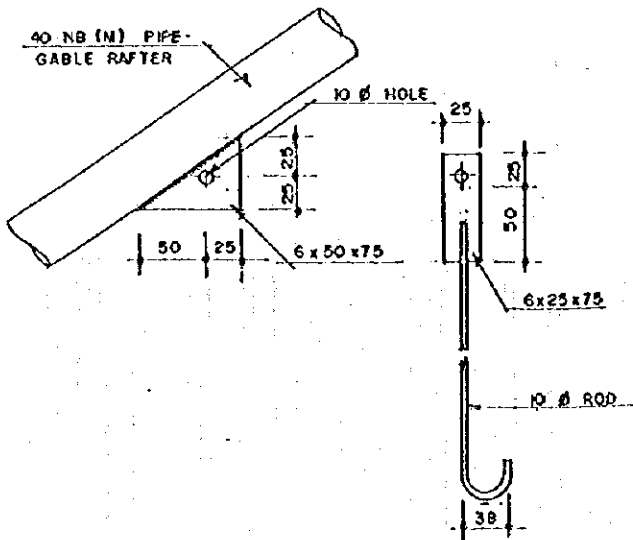
GABLE RAFTER DETAIL 1:50



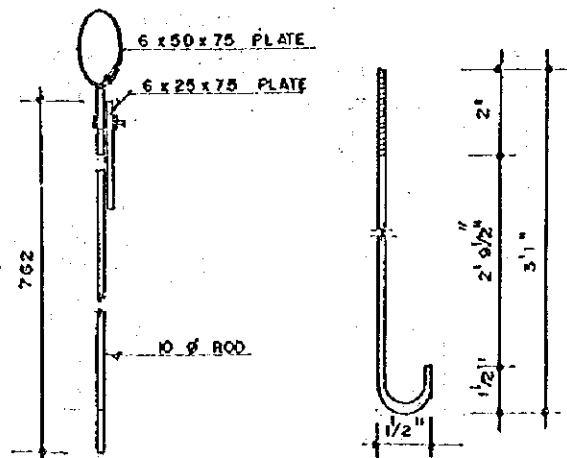
JOINT PLATE 1:5



J-HOOK DETAIL 1:5

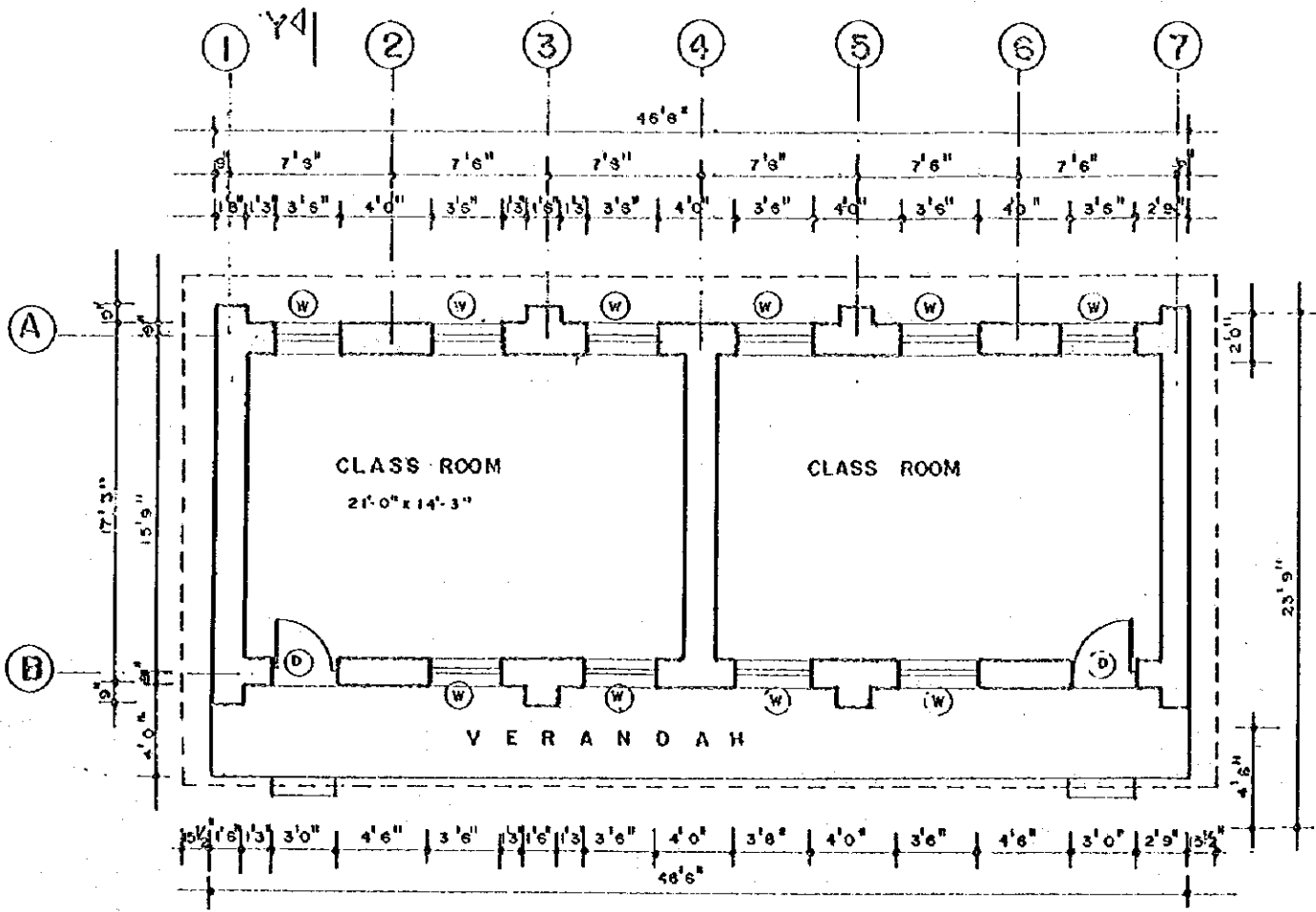


DETAIL at C 1:5



ANCHORING BOLT for TRUSS

BPEP DRAWING-8	School Building (Hill)	Plan, Front Elevation
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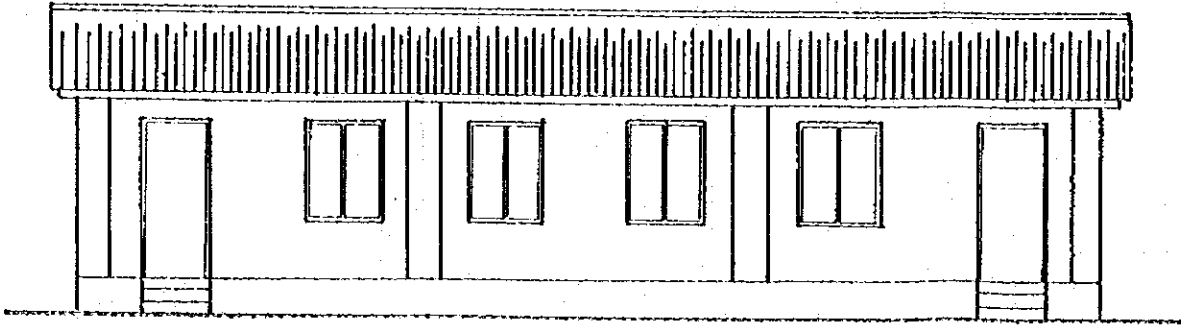


Y <

GROUND FLOOR PLAN 1:100

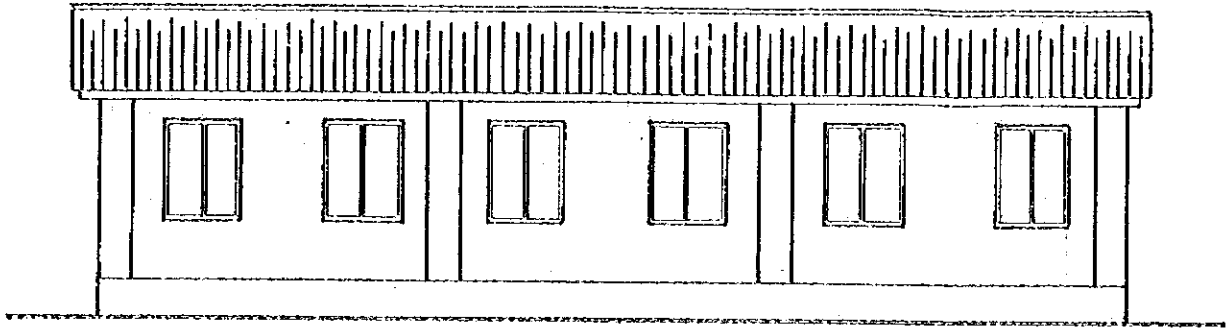
OPENING SCHEDULE

No.	DESCRIPTION	SIZE	Nos.
1.	DOOR-D	3'0"X7'0"	2
2.	WINDOW-W	3'6"X4'6"	10

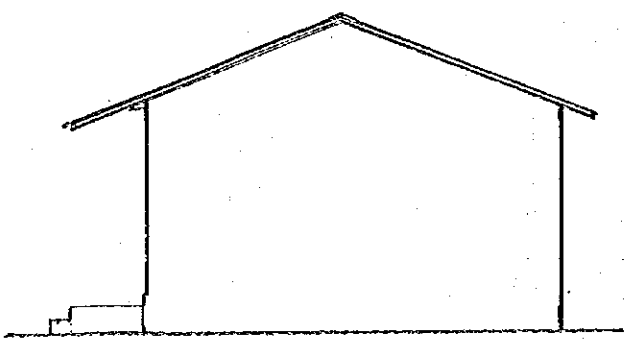


FRONT ELEVATION 1:100

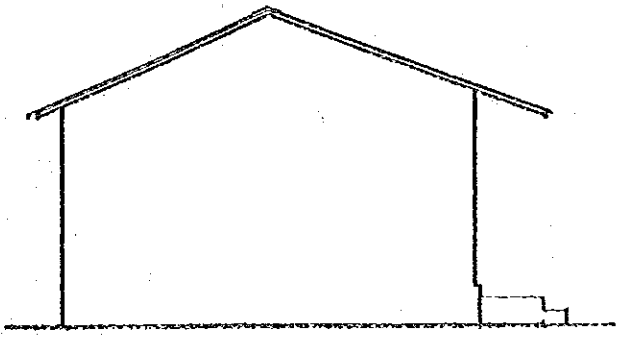
BPEP DRAWING-9	School Building (Hill)	Elevations
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BACK ELEVATION 1:100

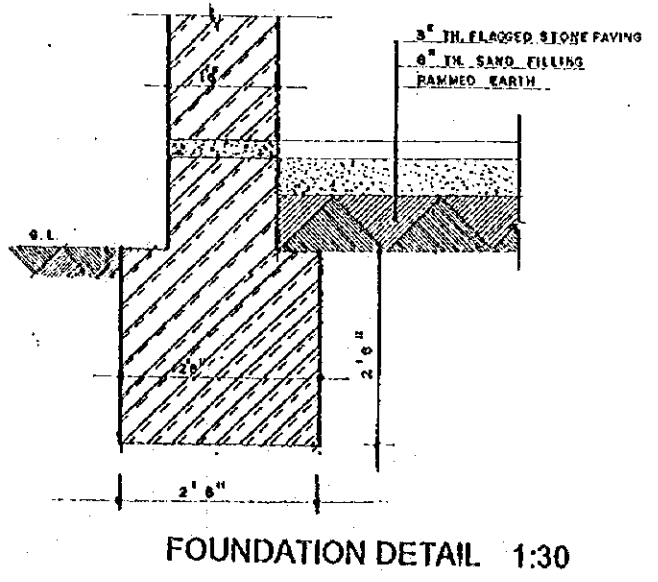
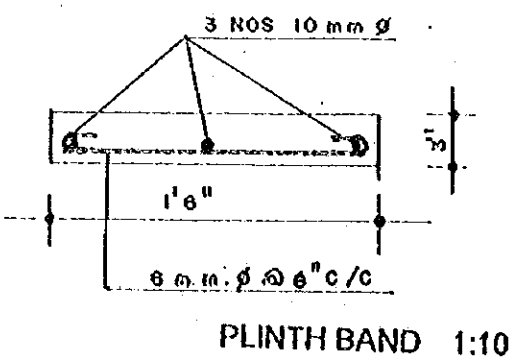
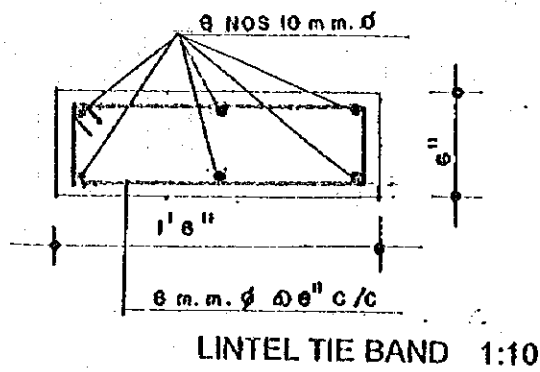
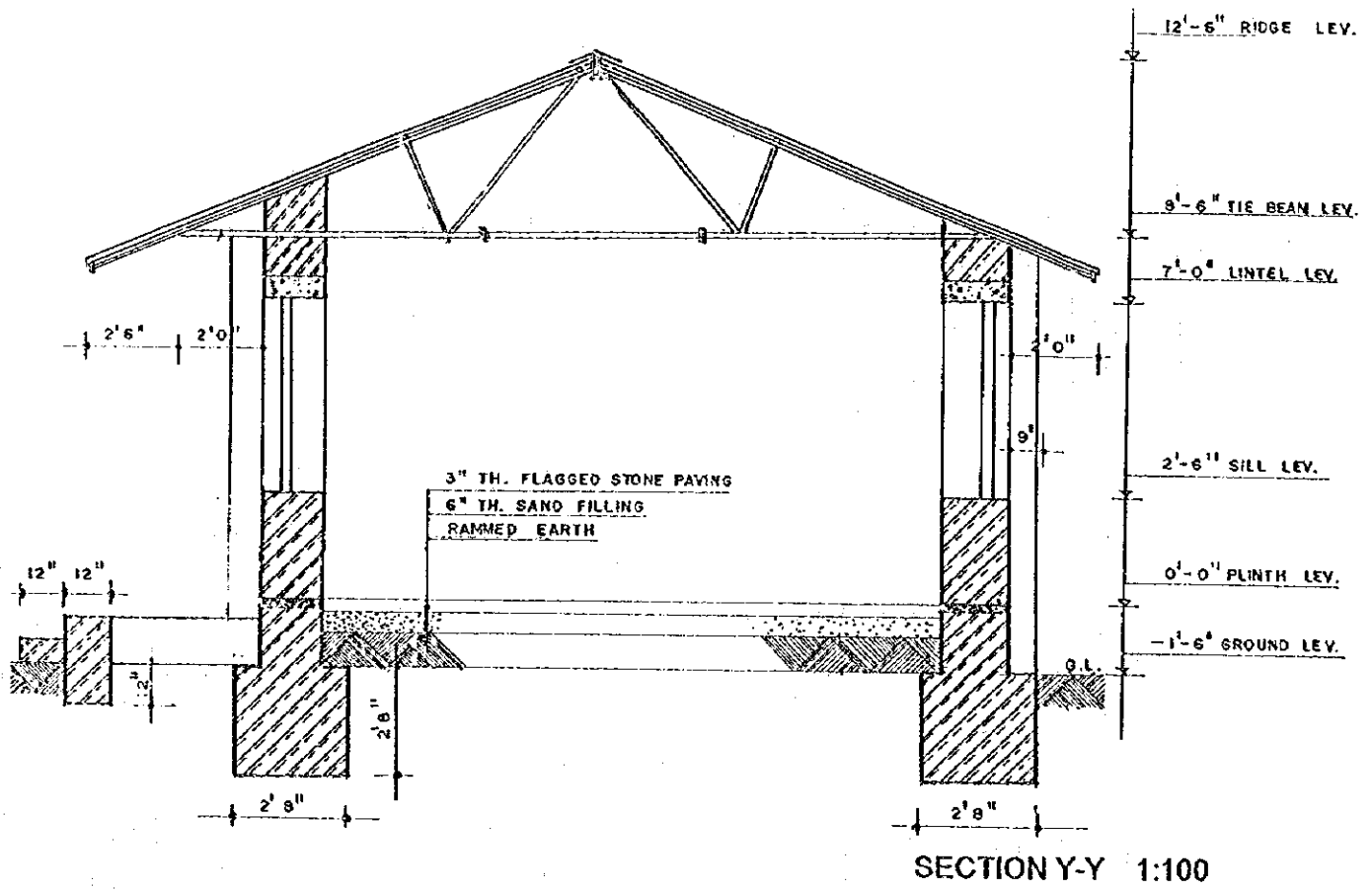


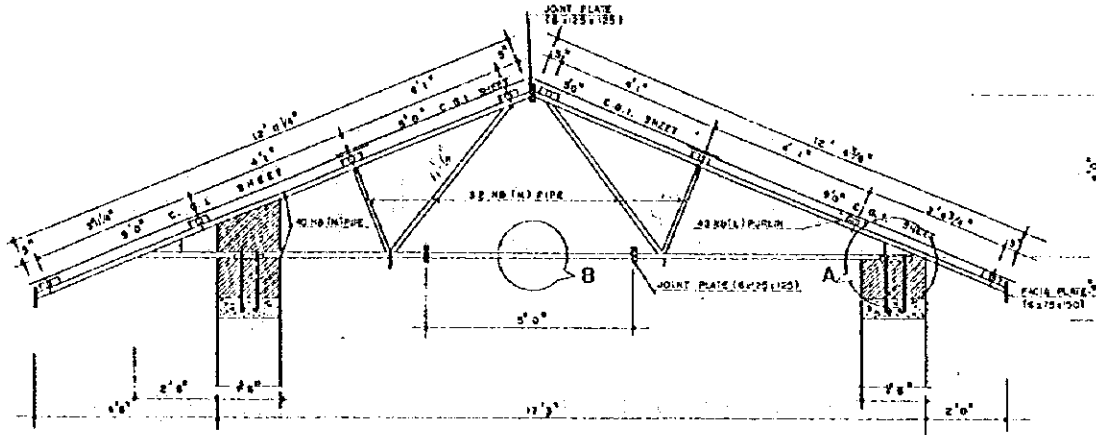
SIDE ELEVATION 1:100



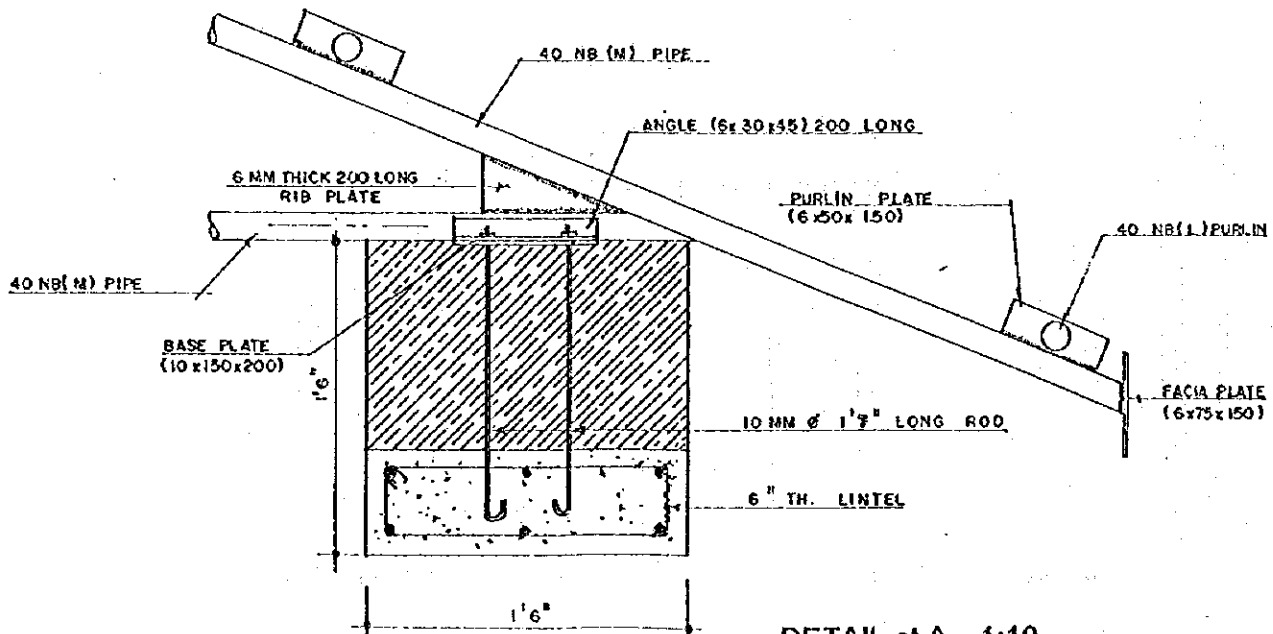
SIDE ELEVATION 1:100

BPEP DRAWING-10	School Building (Hill)	Section, Lintel Tie Beam Detail
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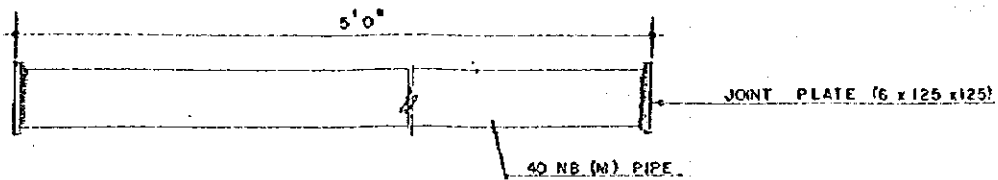




TRUSS DETAIL 1:50

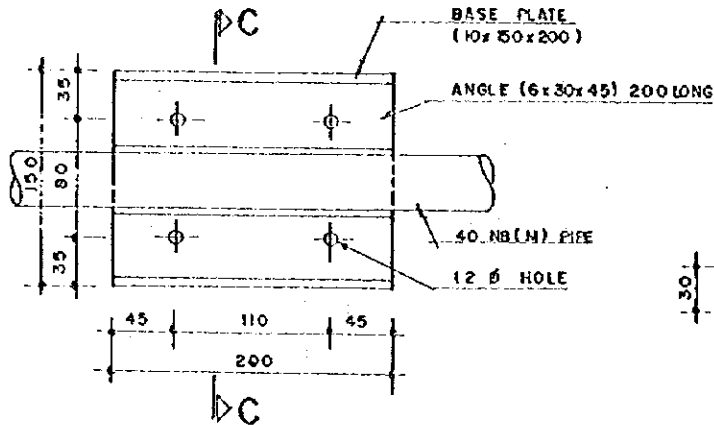


DETAIL at A 1:10

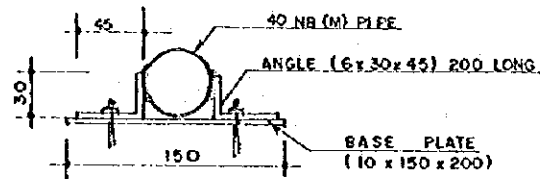


DETAIL at B 1:5

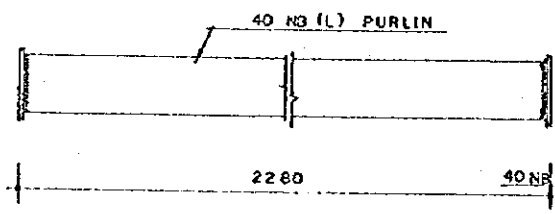
BPEP DRAWING-12	School Building (Hill)	Truss Detail
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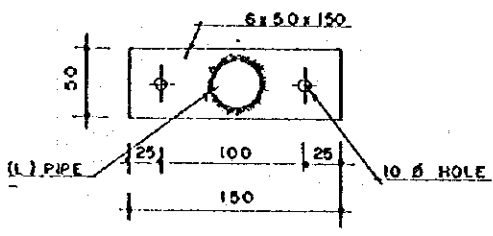
BASE PLATE DETAIL 1:5



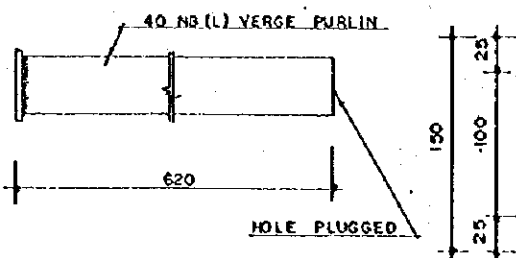
SECTION C-C 1:5



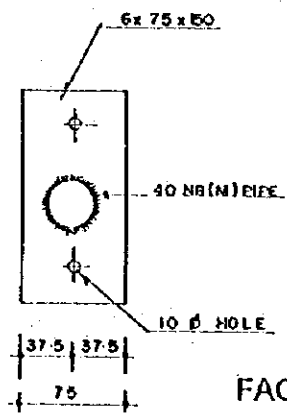
PURLIN DETAIL 1:5



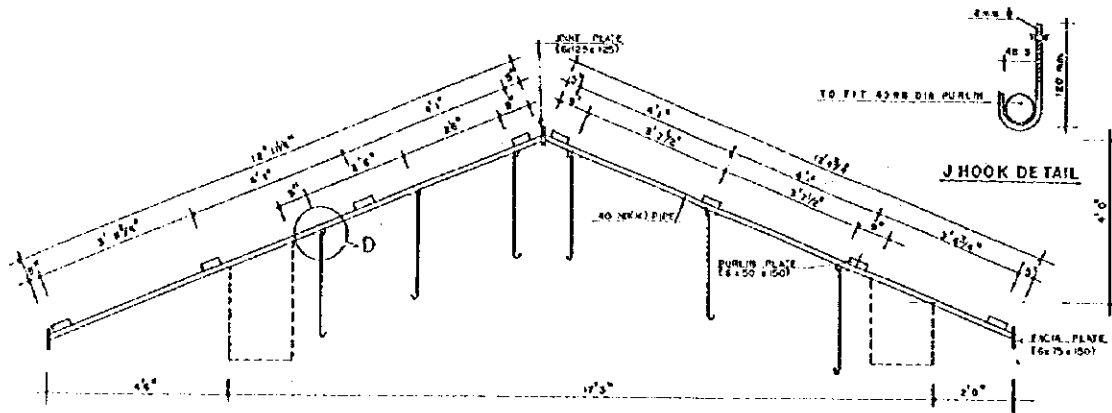
PURLIN PLATE 1:5



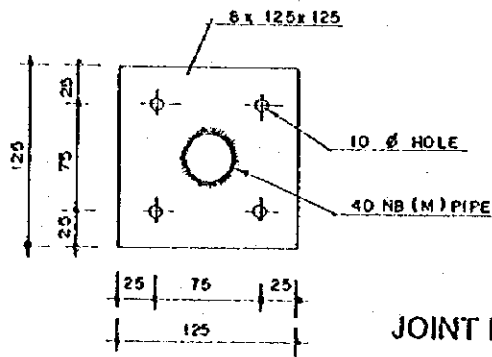
VERGE PURLIN 1:5



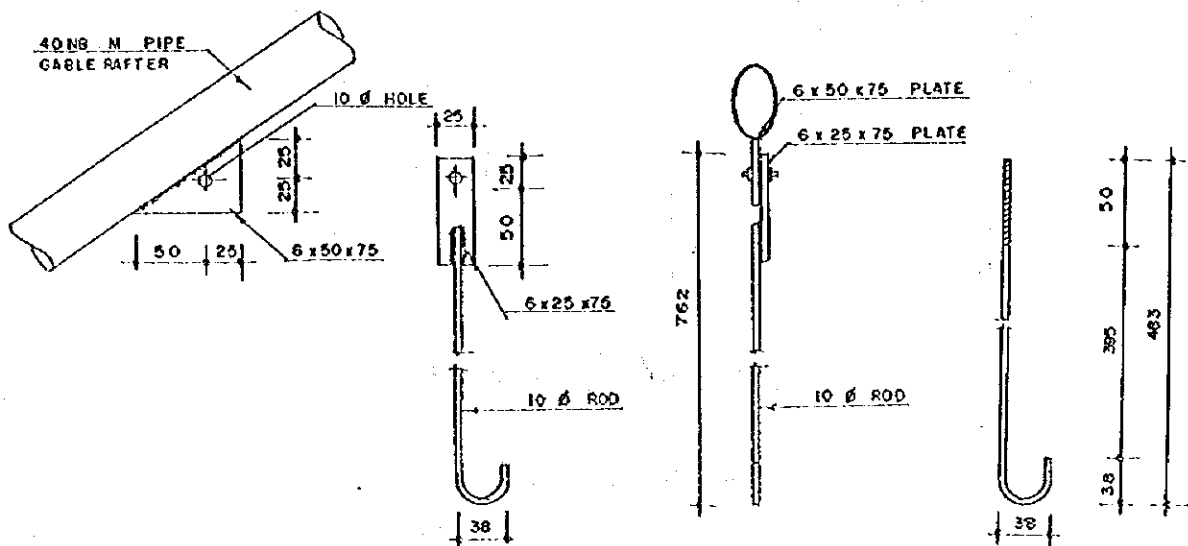
FACIA PLATE 1:5



GABLE RAFTER DETAIL 1:50

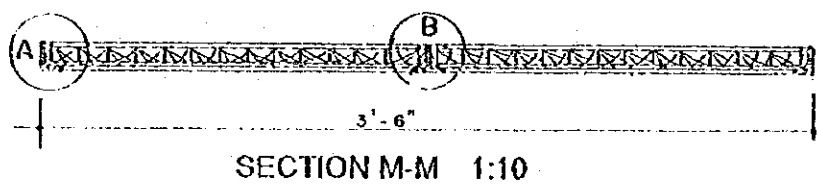
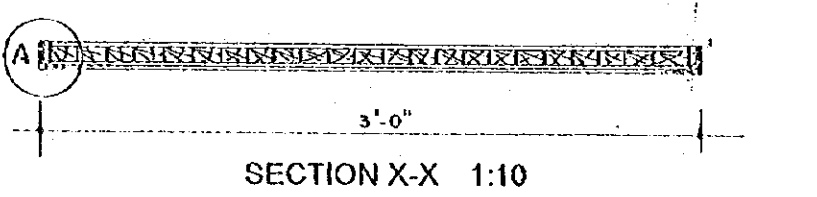
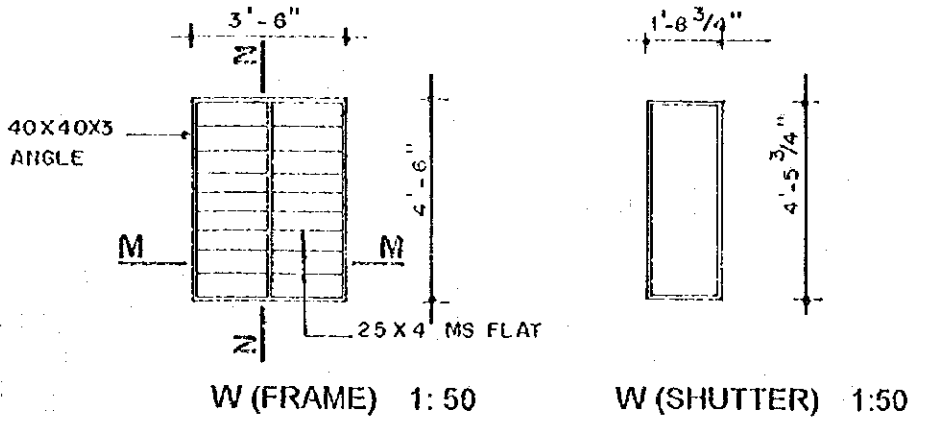
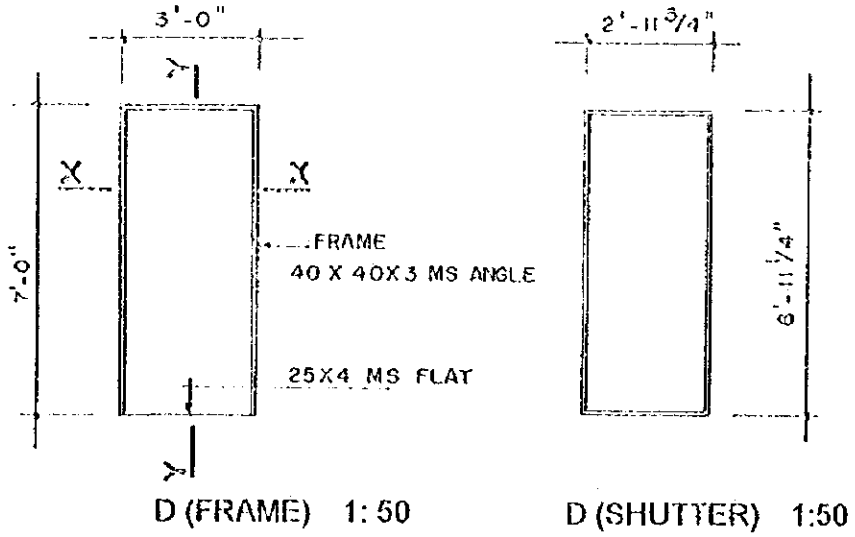


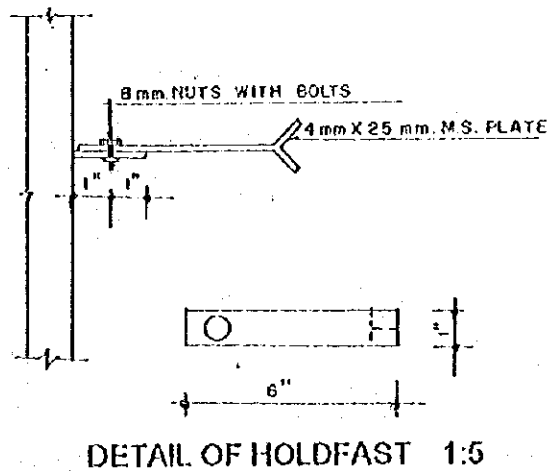
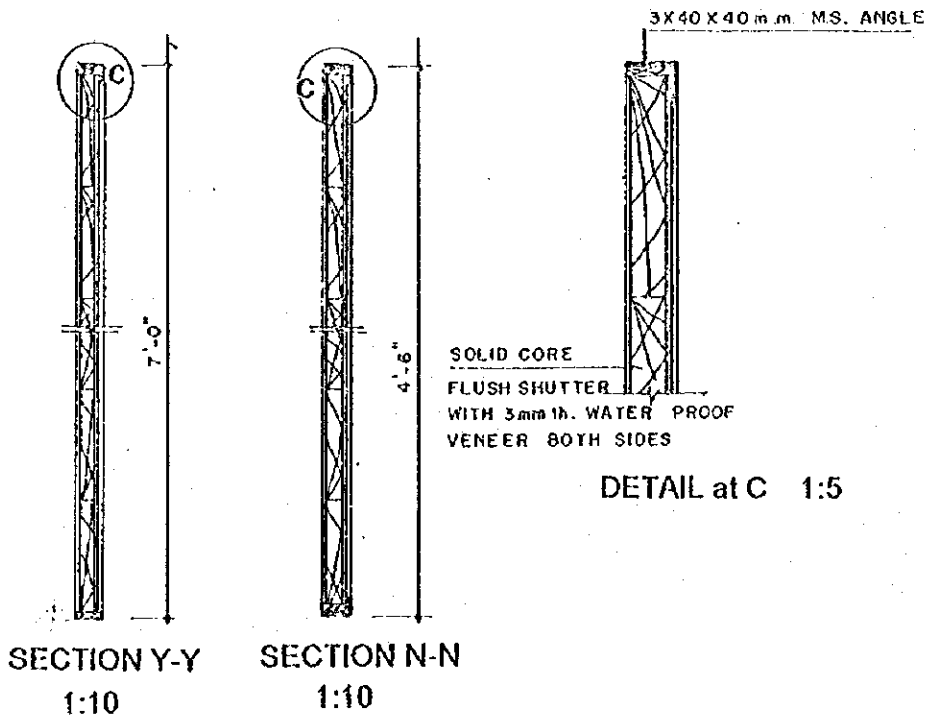
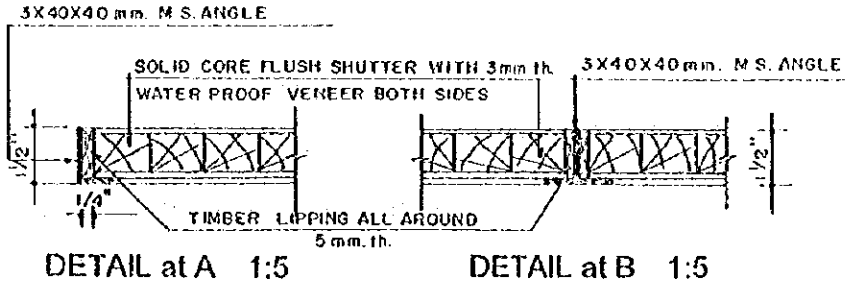
JOINT PLATE 1:5



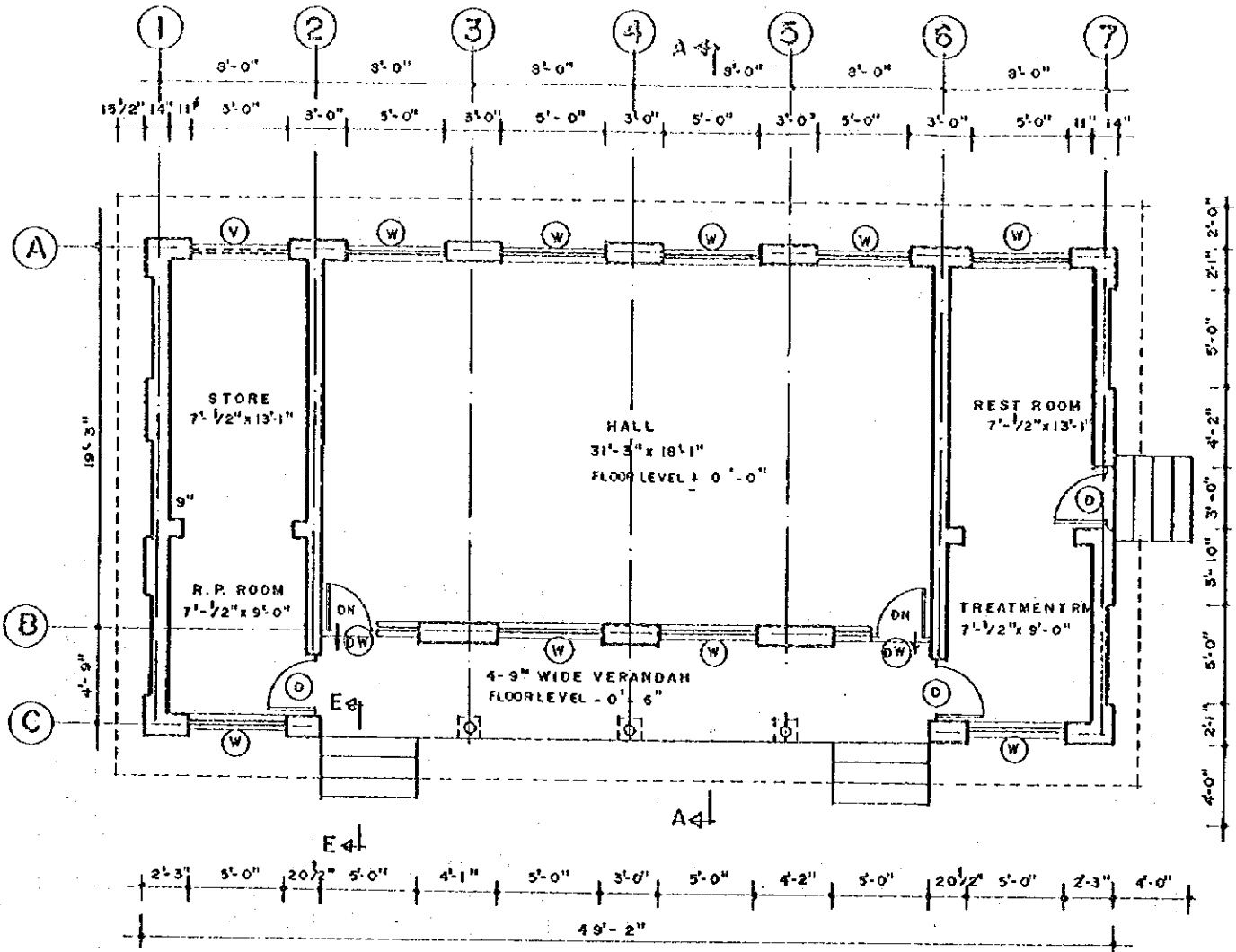
DETAIL at C 1:5

ANCHORING BOLT for TRUSS

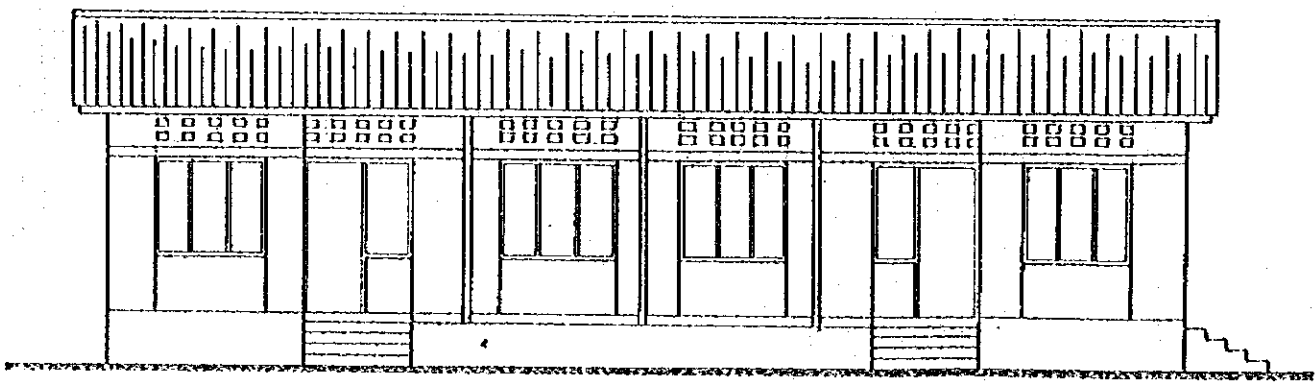




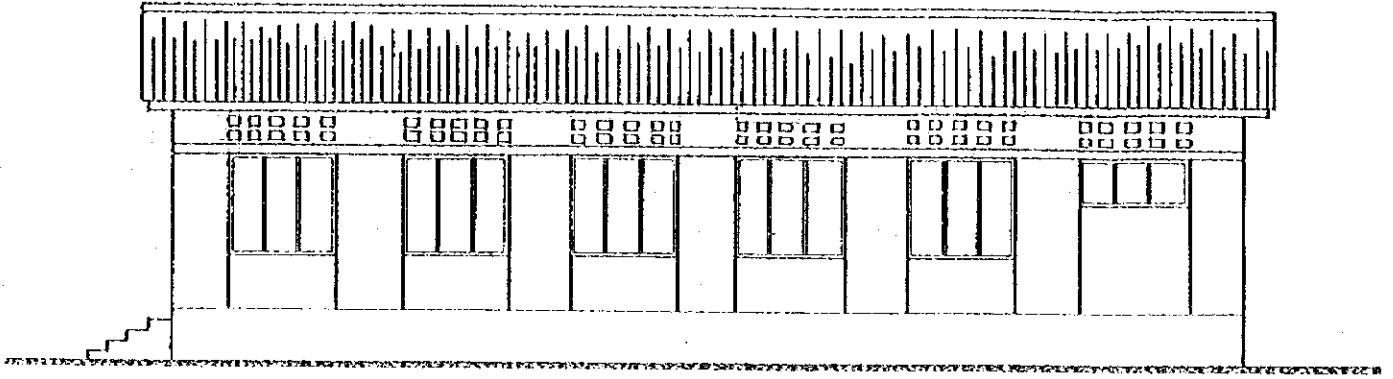
BPEP DRAWING-16	Resource Center	Plan, Front Elevation
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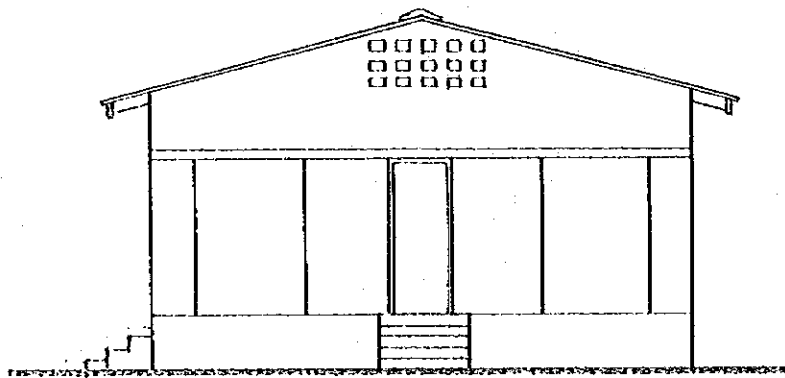
GROUND FLOOR PLAN 1:100



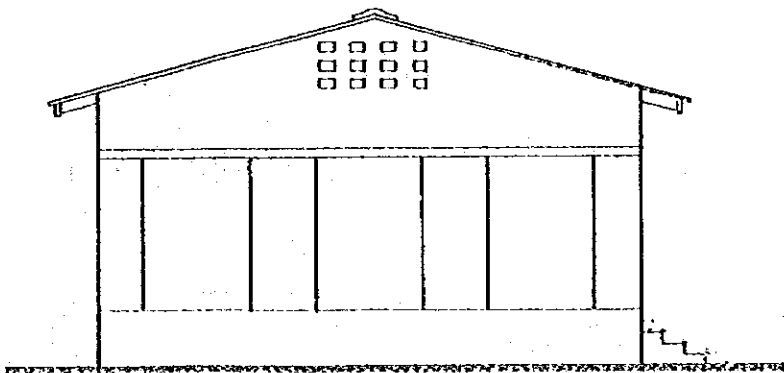
FRONT ELEVATION 1:100



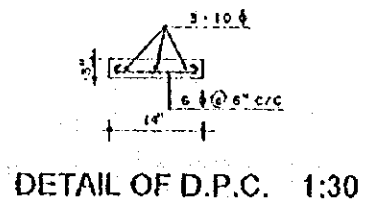
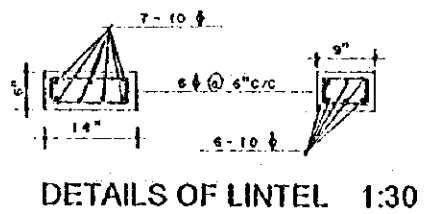
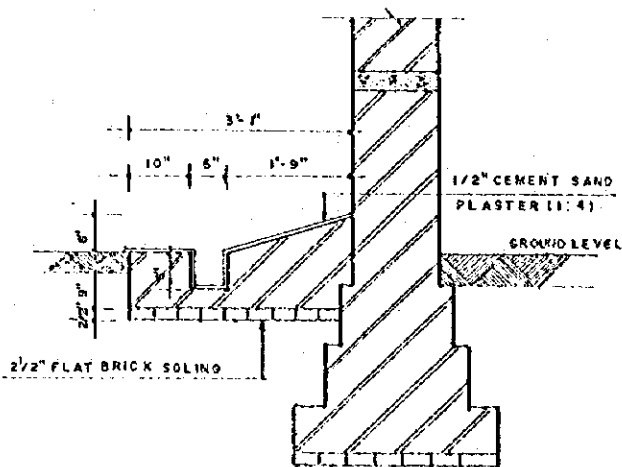
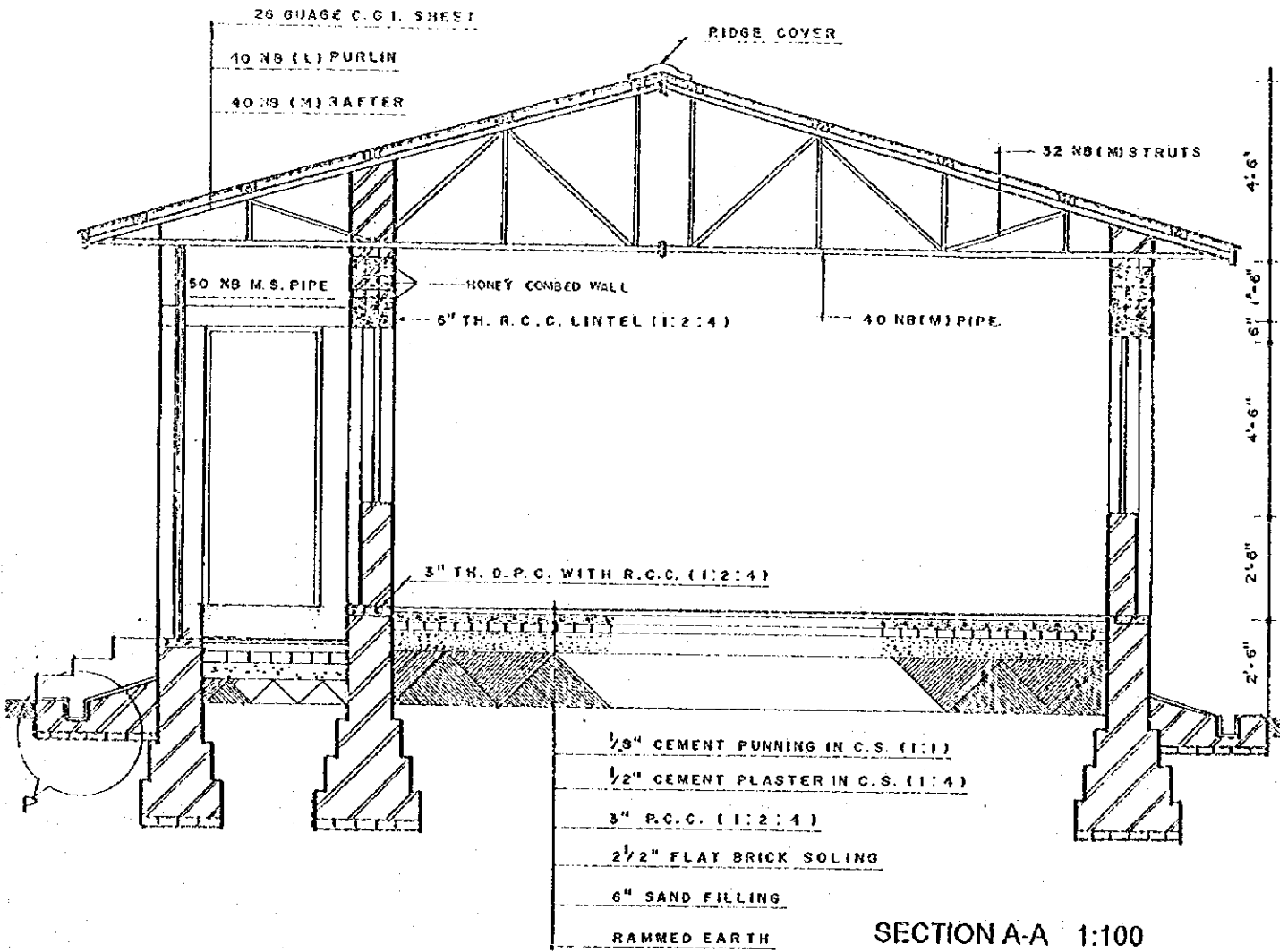
BACK ELEVATION 1:100

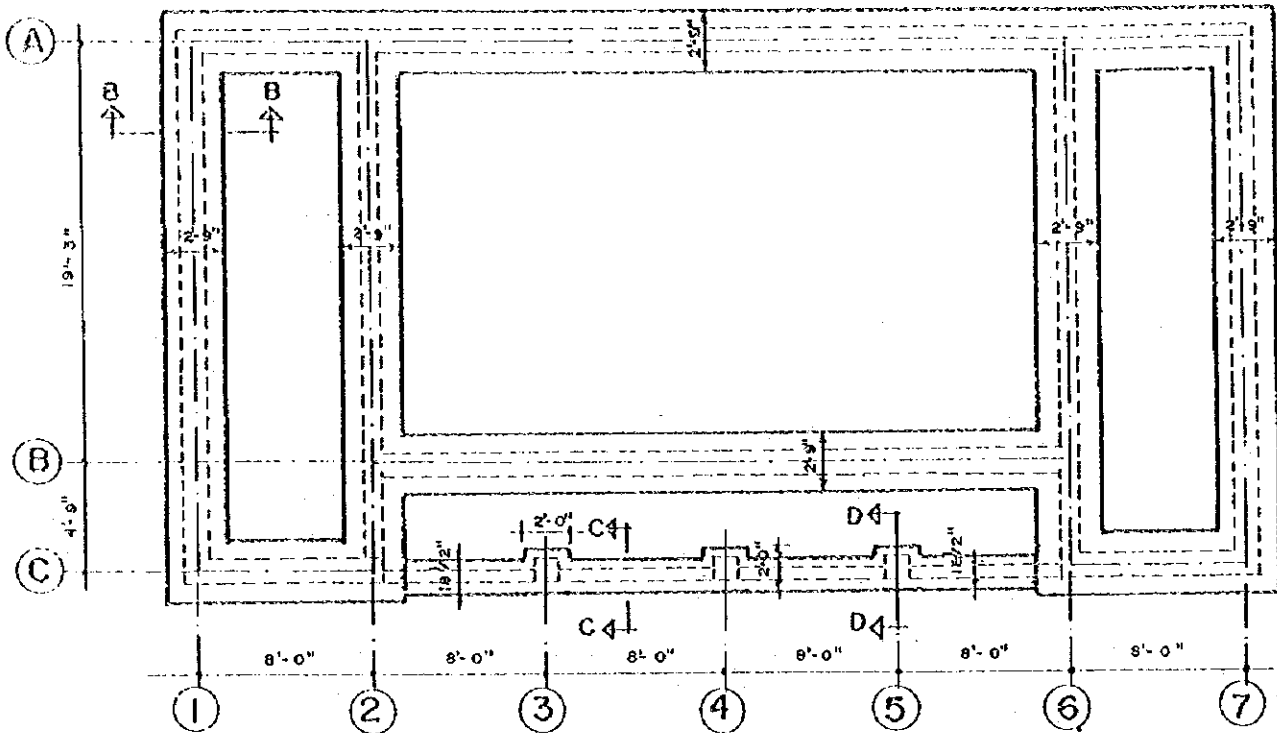


SIDE ELEVATION 1:100

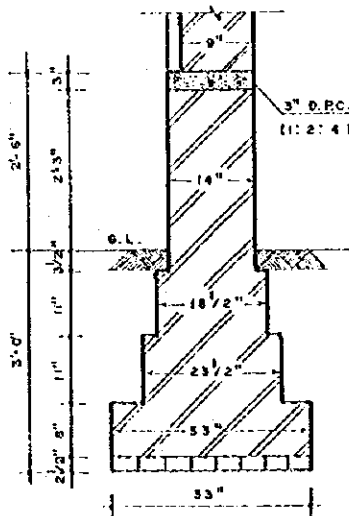


SIDE ELEVATION 1:100

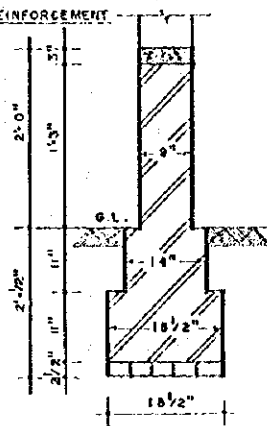




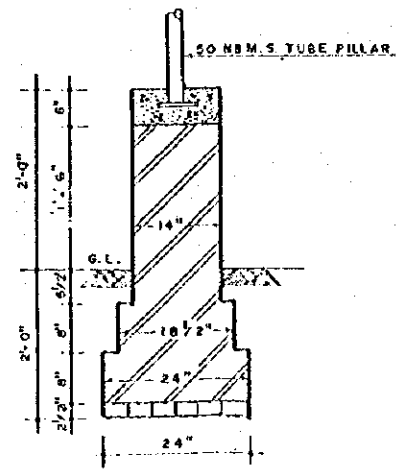
TRENCH PLAN 1:100



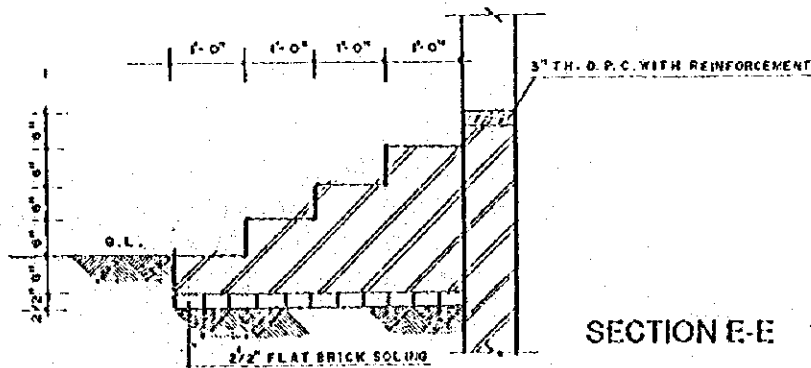
SECTION B-B 1:10



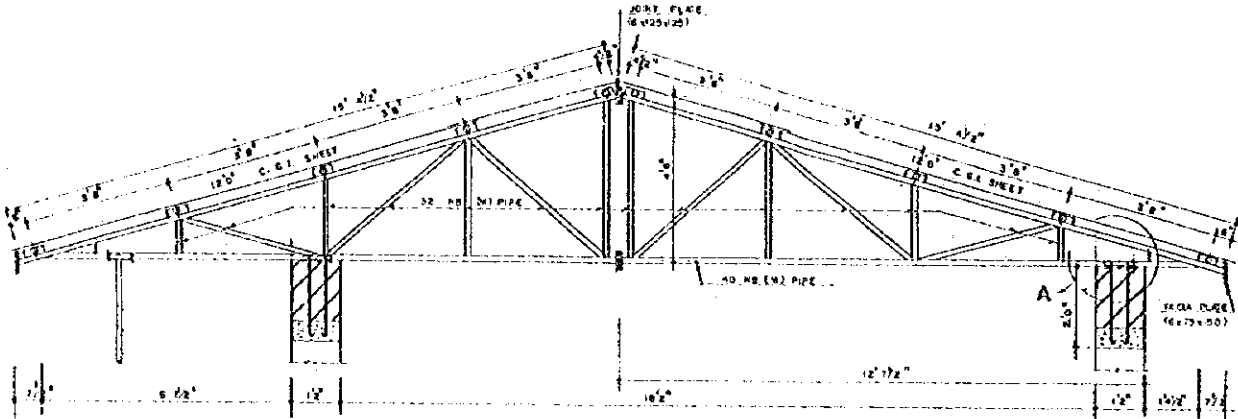
SECTION C-C 1:10



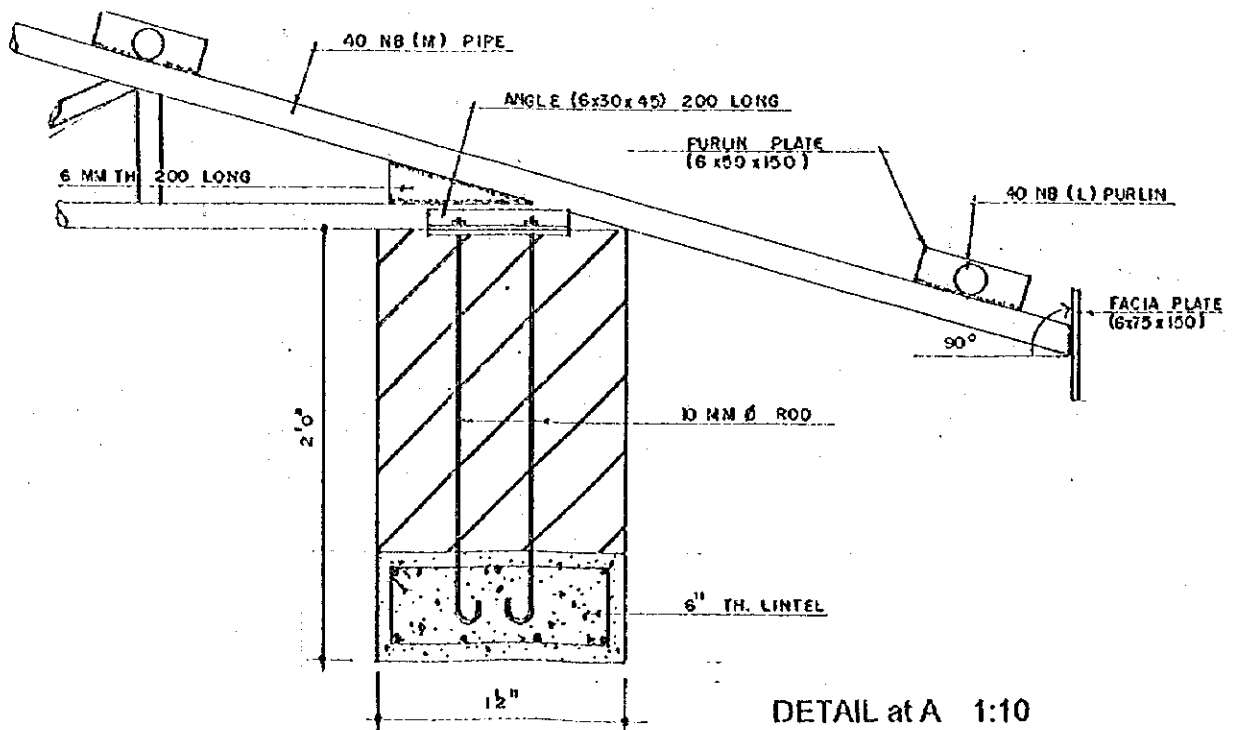
SECTION D-D 1:10



SECTION E-E 1:30



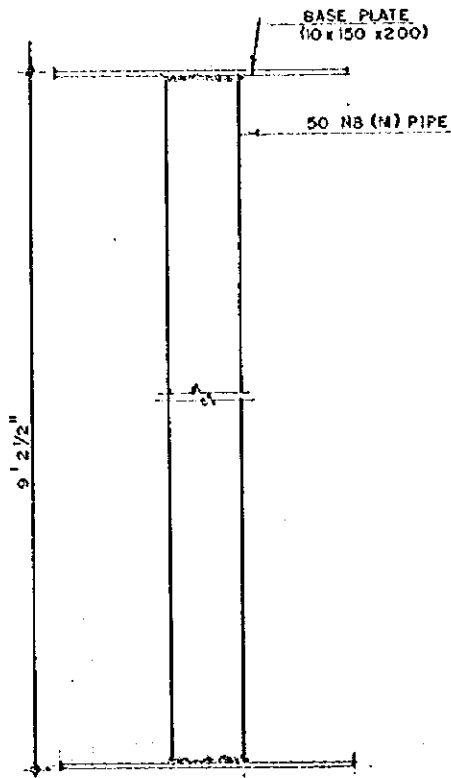
TRUSS DETAIL 1:50



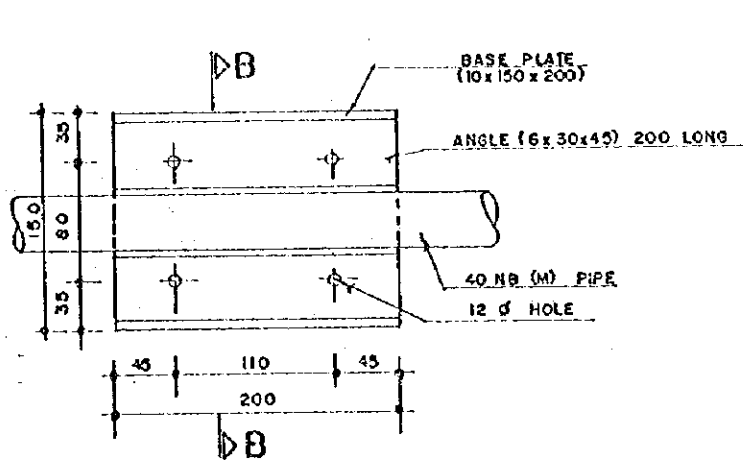
DETAIL at A 1:10

OPENING SCHEDULE

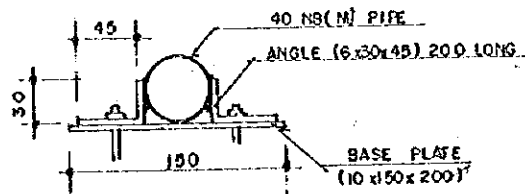
No.	DESCRIPTION	SIZE	Nos.
1.	WINDOW-W	5'0"X4'6"	9
2.	VENTILATION-V	5'0"X2'6"	1
3.	DOOR-D	3'0"X7'0"	3
4.	DOOR-DW	5'0"X7'0"	2



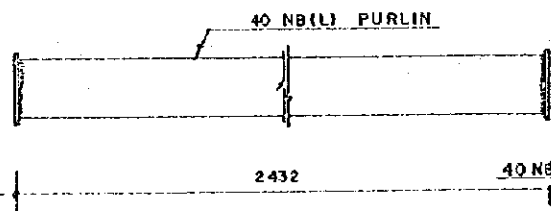
DETAIL OF POST 1:5



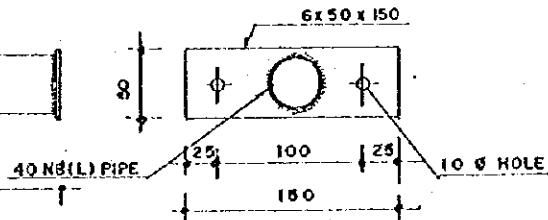
BASE PLATE DETAIL 1:5



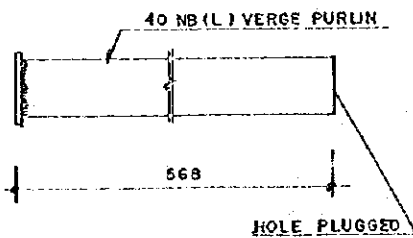
SECTION B-B 1:5



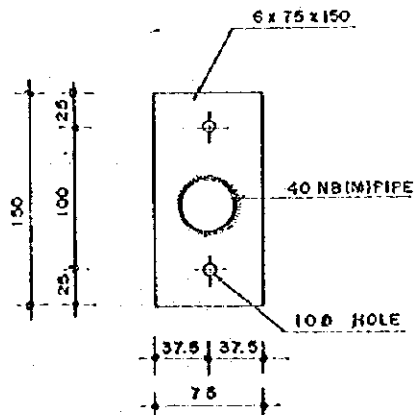
PURLIN DETAIL 1:5



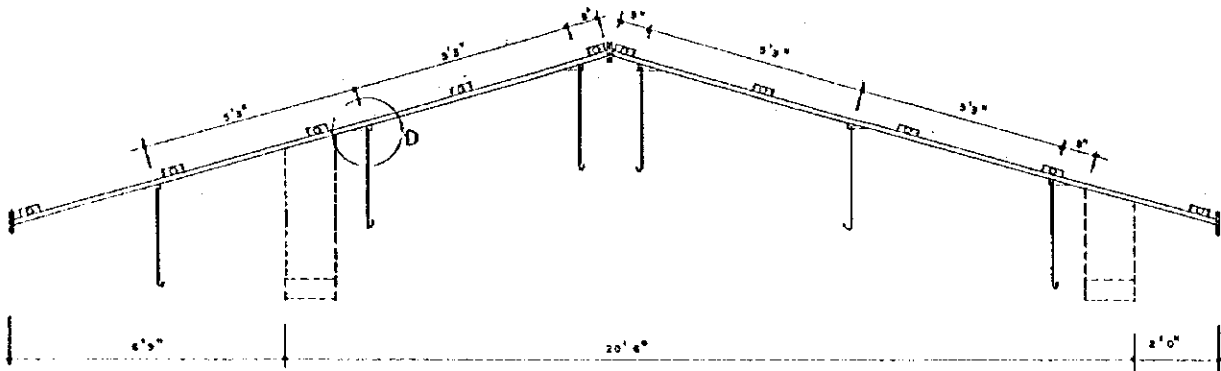
PURLIN PLATE 1:5



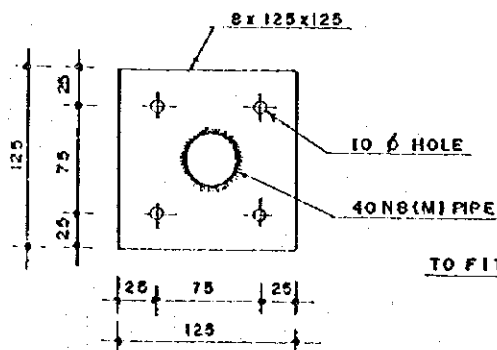
VERGE PURLIN 1:5



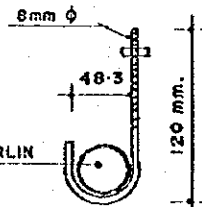
FACIA PLATE 1:5



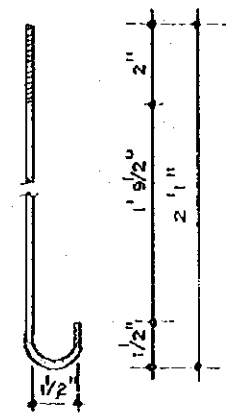
GABLE RAFTER DETAIL 1:50



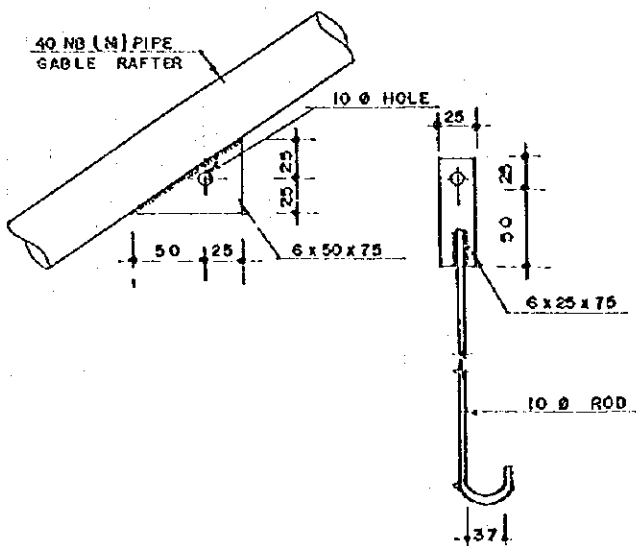
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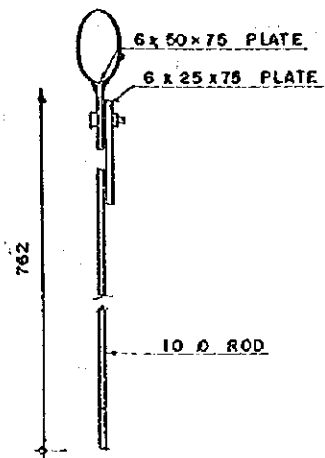
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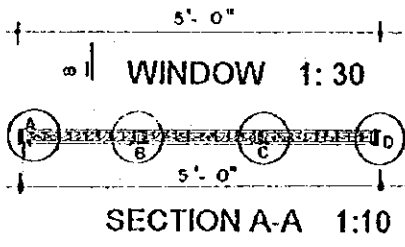
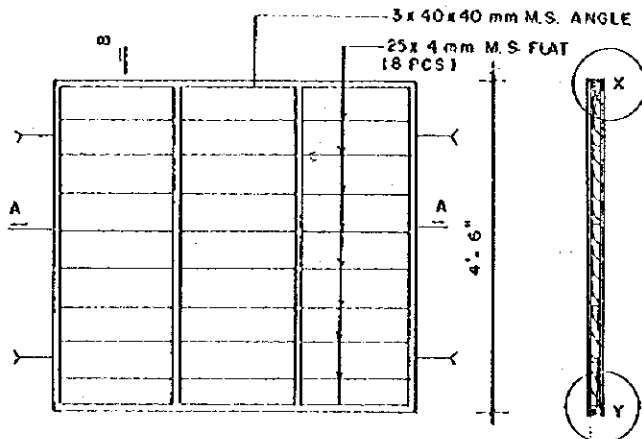


ANCHORING BOLT for TRUSS

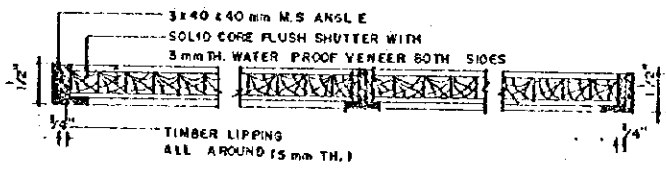


DETAIL at D 1:5

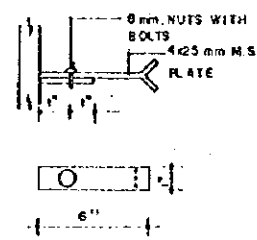
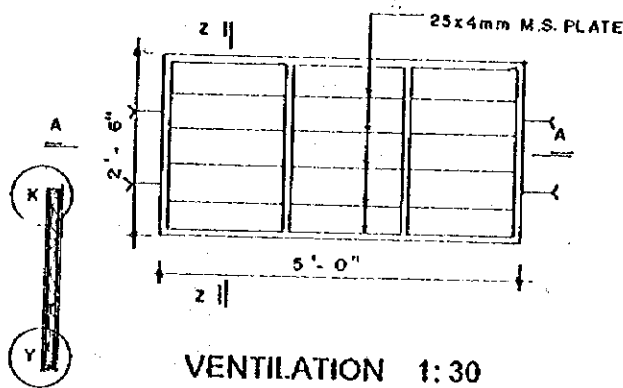




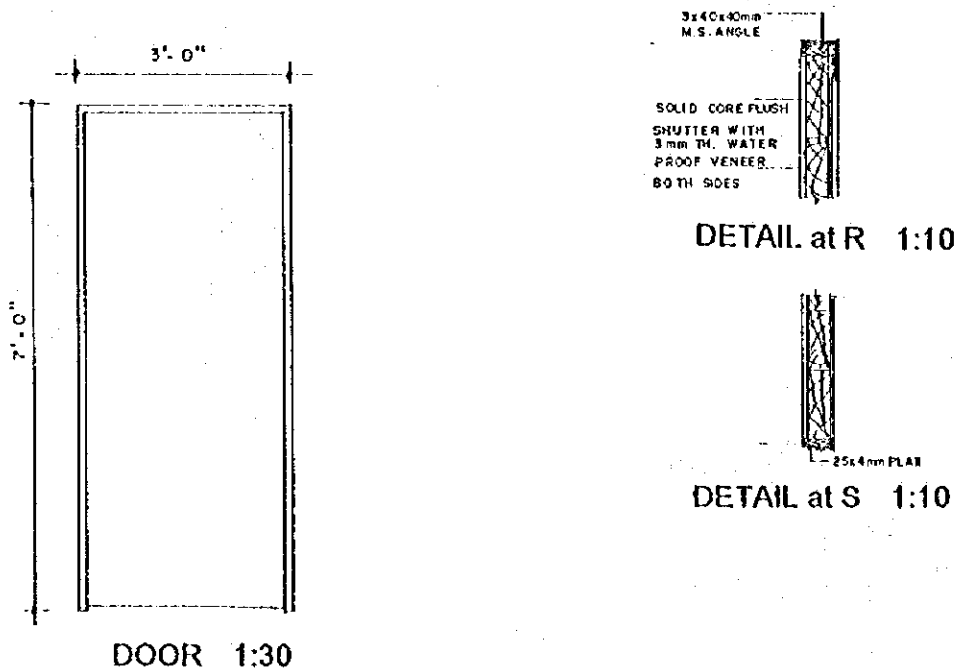
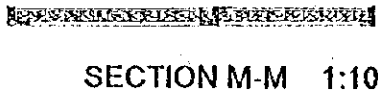
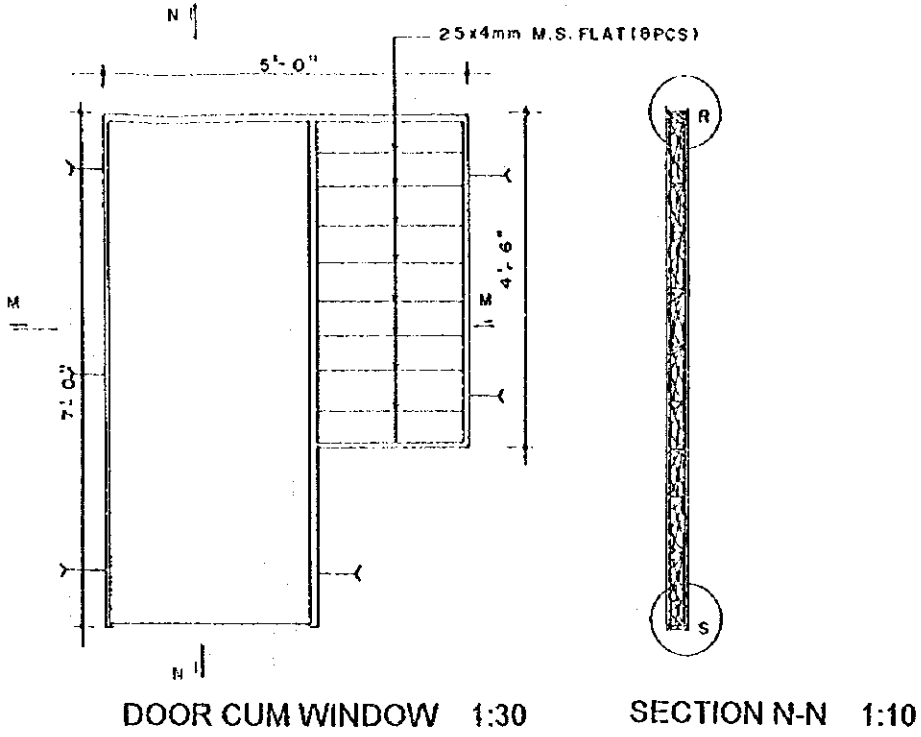
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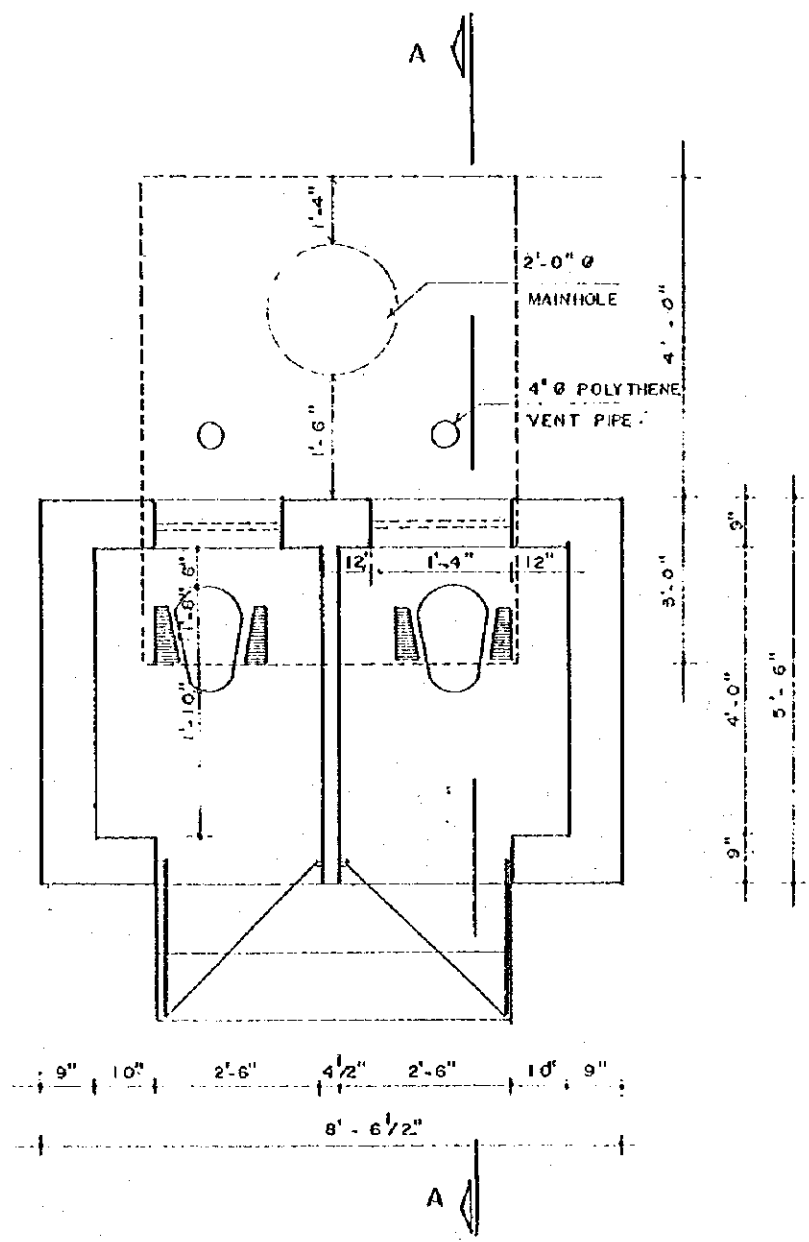
DETAIL at A DETAIL at B, C DETAIL at D 1:10



DETAIL OF HOLDFAST 1:5

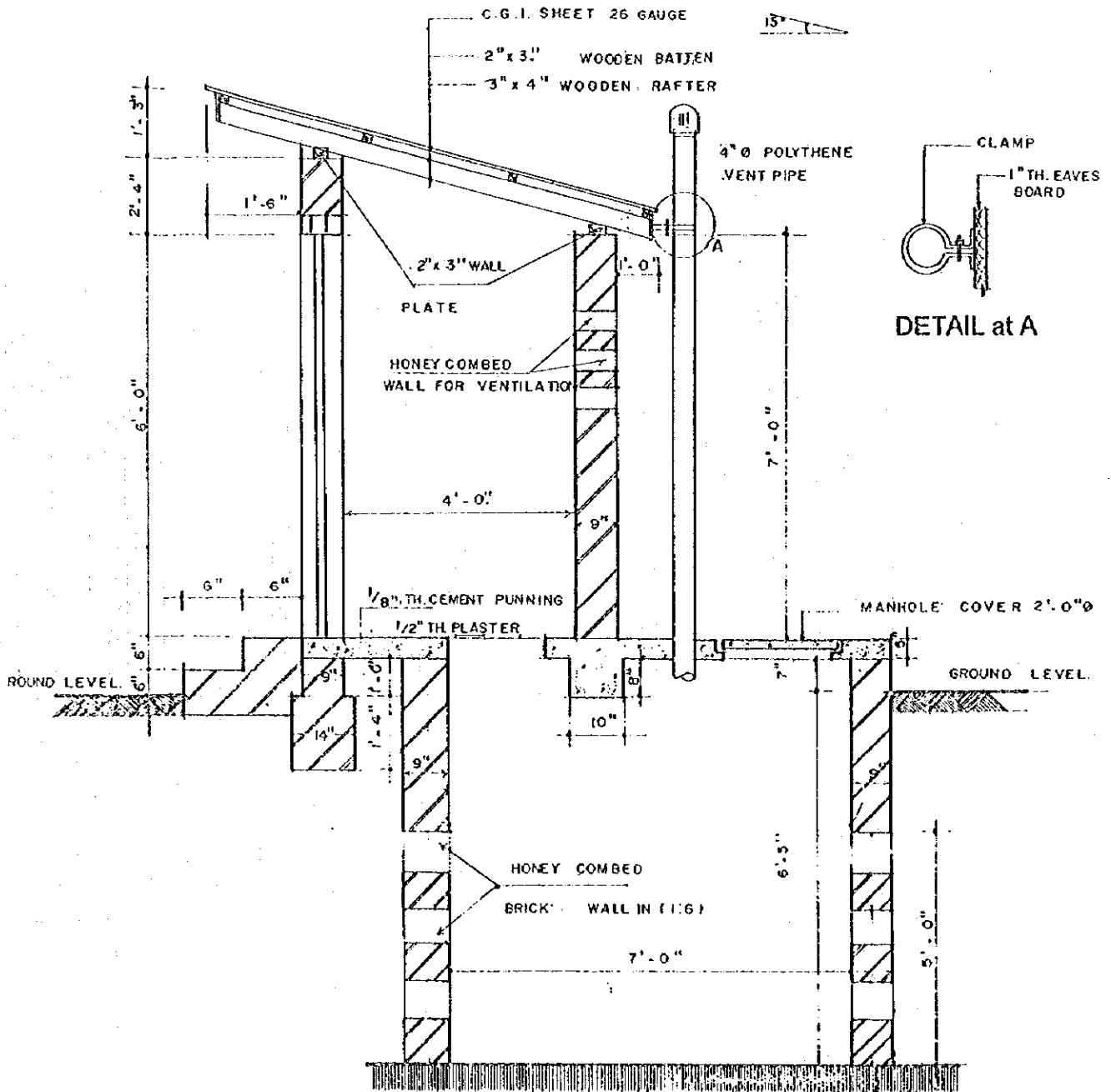


BPEP DRAWING-25	Pit Latrine (Tera)	Plan
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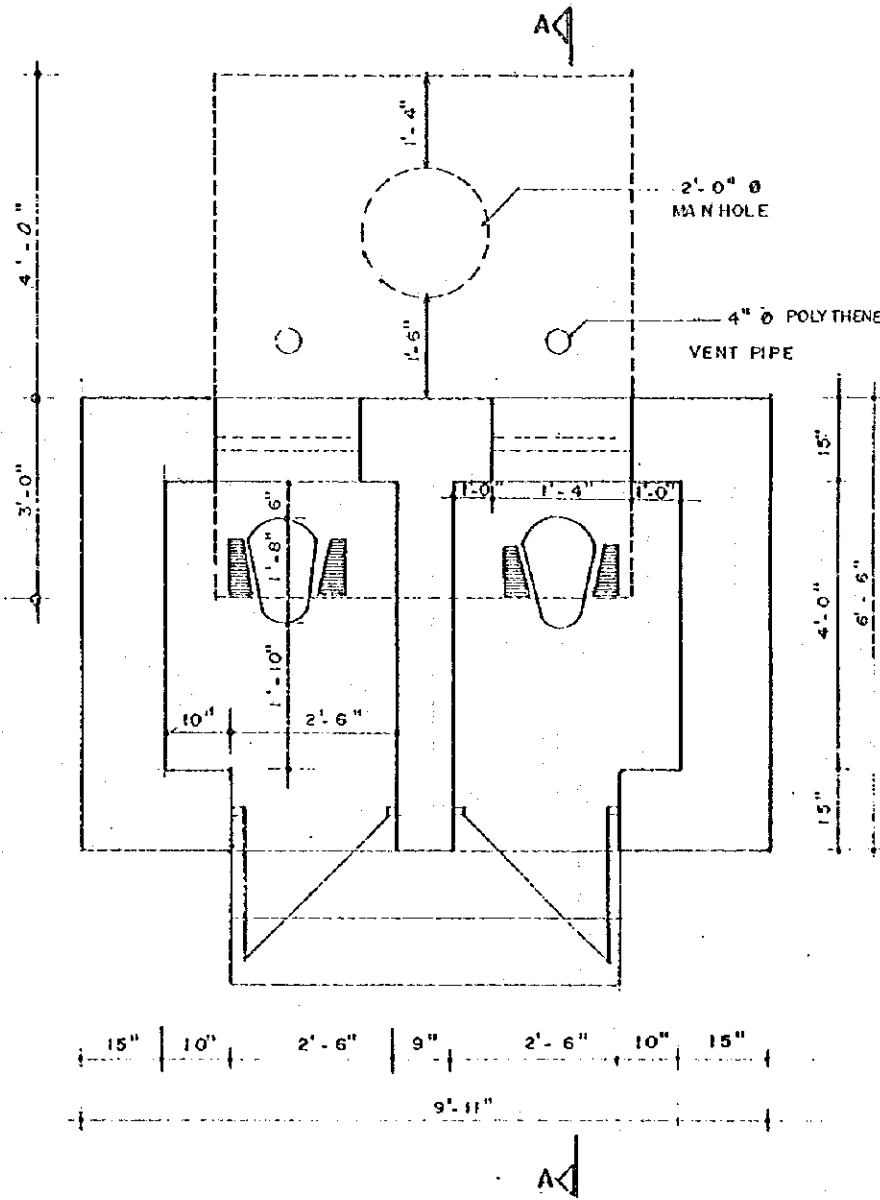
PLAN 1:30

BPEP DRAWING-26	Pit Latrine (Tera)	Section
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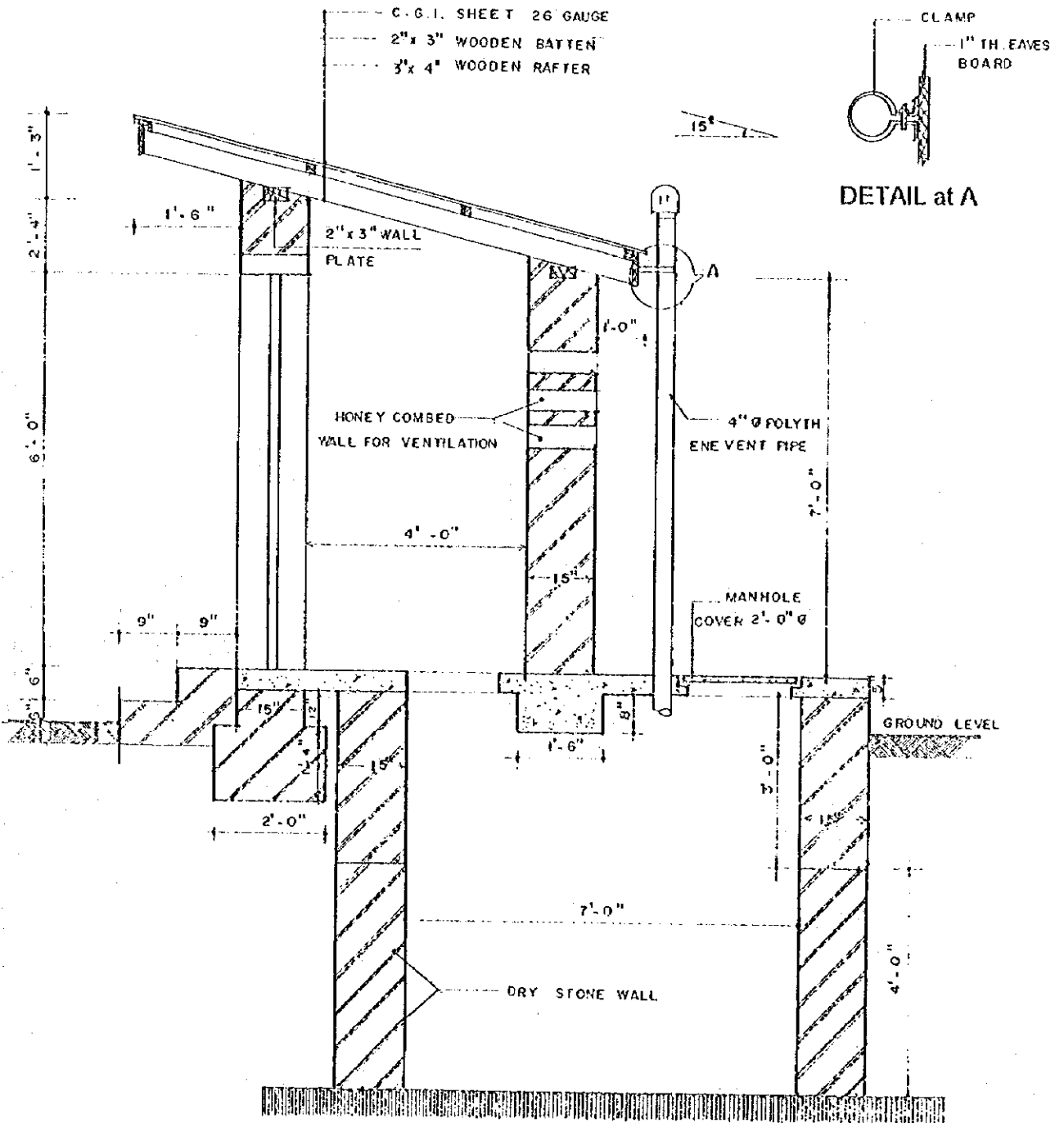


SECTION A-A 1:30

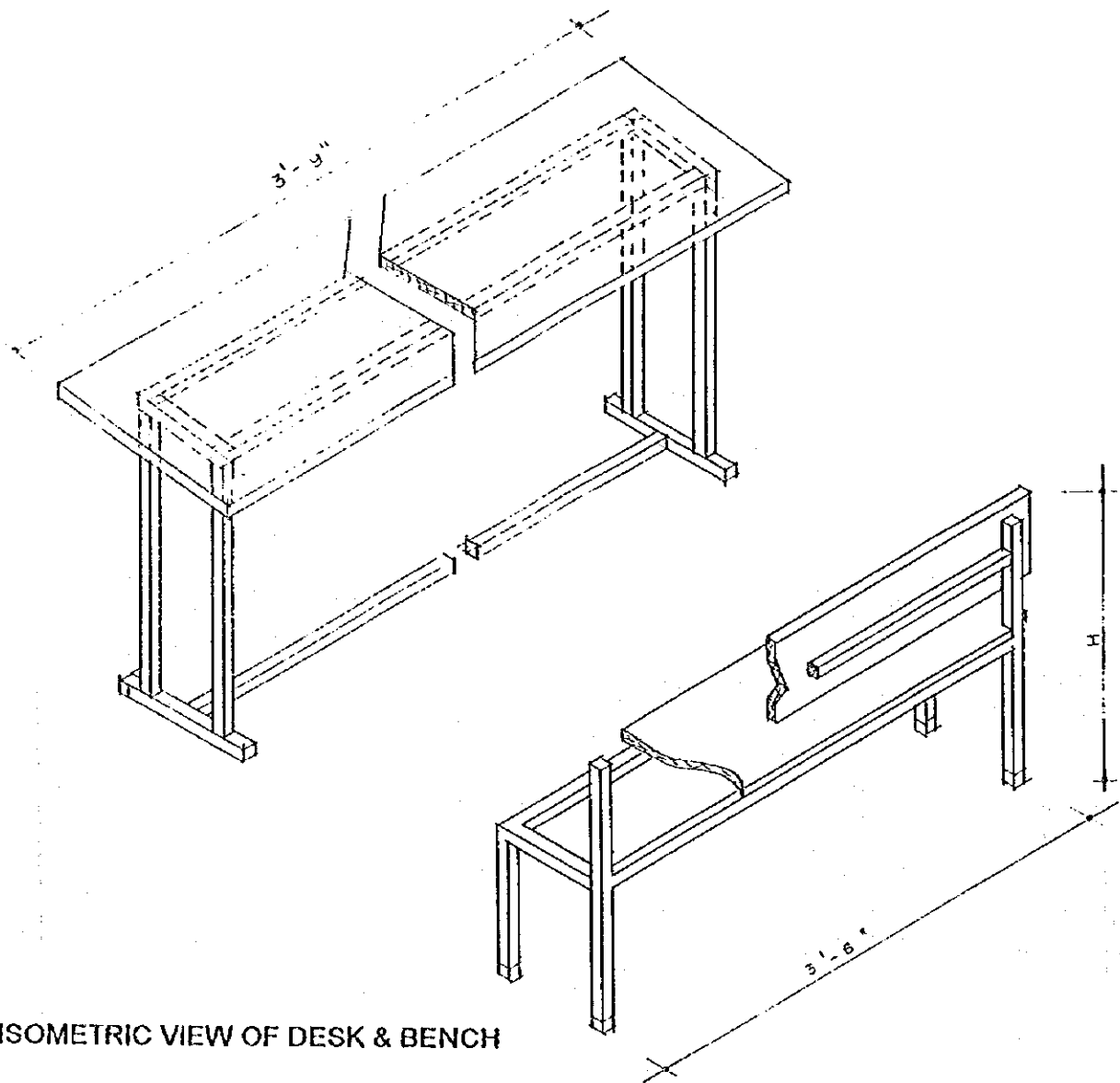
BPEP DRAWING-27	Pit Latrine (Hill)	Plan
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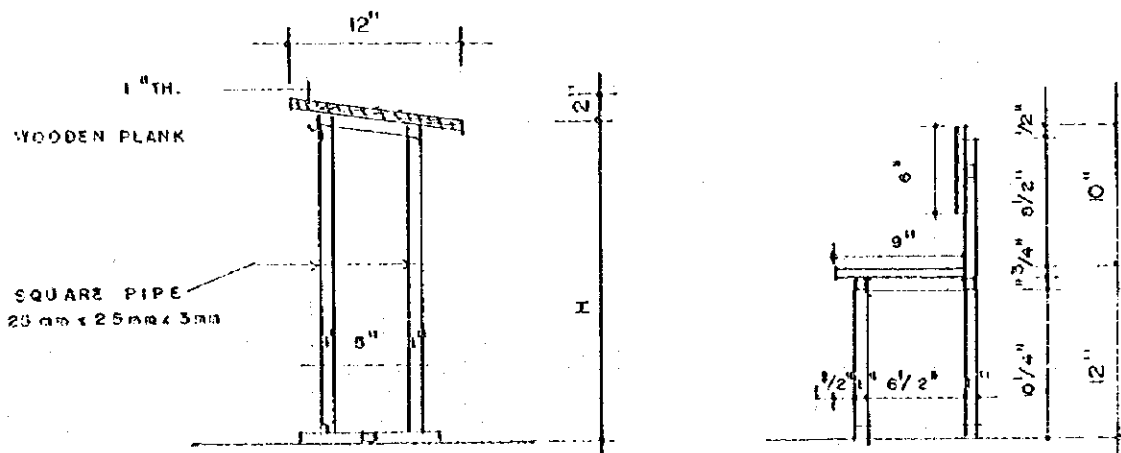
PLAN 1:30



SECTION A-A 1:30



ISOMETRIC VIEW OF DESK & BENCH



SECTION 1:50

2-3-3 Basic Design

1) List of Materials

The unit quantities of materials necessary for a block of facilities, as well as their total quantities for the entire Project are shown in Tables 6, 7, and 8 respectively.

Table 6 Quantities of Main Items Per Facility

Item	Unit	2Classrooms (Hill)	2Classrooms (Terai)	Resource Center	Toilet (Hill)	Toilet (Terai)
(Structure, Wall)						
Ordinary Portland Cement	Bags	53	207	291	13	25
Bricks (Chimney)	Pcs	0	11,380	67,400	0	5,150
10mm dia Tor steel	Kg	280	290	510	150	120
6mm dia Mild steel	Kg	120	83	180	6	1
(Roof)						
26 Gauge-CGI sheet (commercial)	sheet	5ft:23,9ft:23, 12ft:23	5ft:12, 9ft:16	15ft:48, 2ft:18	9ft:5	9ft:5
MS Tubular truss set as per drawing	no. ft ²	1,170	1,080	1,510	0	0
(Finish)						
Enamel paint	l	10	11	12.5	1.5	1.5
Primer paint	l	5	5.5	6.5	1	1
Decorative lime	Kg	30	40	51	4	9
(Opening)						
Salwood	ft ³	1.5	1.5	4.3	10	9
Solid Core Plywood Flush door & window as per drawing	ft ²	221	221	338	29	29
MS door & window frames set as per drawing	ft ²	221	221	338	0	0

Table 7 Materials to be Procured under the Project

No.	Materials	Unit	Approximate Quantity
1	Ordinary Portland Cement	Bag	141,436
2	Bricks (Chimney)	Pe	26,047,950
3	Salwood	Cft	5,475
4	Softwood (1" x 6") , for formwork	Cft	20,673
5	26 Gauge - CGI sheet (commercial)	Bdle	8,730
6	26 Gauge - GI sheet (commercial)	Sft	85,344
7	2 mm Translucent sheet	Sft	21,360
8	10m dia Tor steel	Kg	283,846
9	6mm dia Mild steel	Kg	92,820
10	Binding wire	Kg	4,252
11	MS Tubular trusses as per drawing	Sft	1,137,550
12	50 NB dia MS tube pillar set as per drawing	Set	42
13	MS door and window frames set	Sft	204,232
14	8mm dia J-Hook set with one cup washer & two bitumin washers.	Set	402,210
15(a)	4" (100mm) long Tower Bolts for windows.	Pe	40,896
15(b)	6" (150mm) long Tower Bolts for doors.	Pe	4,340
16	4" x 1" Handles	Pe	24,960
17(a)	6" (150mm) long Hinges for doors.	Pe	600
17(b)	4" (100mm) long Hinges for windows/ventilators.	Pe	0
18	6"(150mm) long Mild steel Holdfast	Pe	1,200
19	10"(250mm) long Sliding bar locking set	Pe	2,270
20(a)	3/4" (20mm) Screws for handles & tower bolts.	Pe	412,520
20(b)	1.25" (30mm) Screws for hinges.	Pe	236,595
21(a)	Ordinary nails (2" and 2.5")	Kg	4,648
21(b)	Roofing nails (2.5"/3")	Pe	5,650
22	Enamel paint	Lit	10,235
23	Primer paint	Lit	5,146
24	Decorative lime	Kg	34,539
25	Hand Pump Set with 1.5" dia 48m long (M) GI pipe and Filter	Set	100
26	4" dia Polythene Pipe for Vent Pipe with Cowl	Set	100
27	38mm Solid Core Plywood Flush Door/Window Shutters	Sft	207,078

Table 8 Equipment and Furniture to be Procured under the Project

No.	Equipment	Unit	Quantity
1	4t Truck	No.	4
2	4t Tractor	No.	3
3	100cc Motorcycle (On-Road Type)	No.	5
4	Facsimile Machine	No.	7
5	Classroom Furniture (Bench and Long Table)	Set	200

2) Specifications of Materials and Equipment

The materials and the equipment will have the following specifications, on the basis of which detailed descriptions will be determined at the detailed design stage:

a) Roofing Materials (CGI sheets, CPVC sheets)

CGI sheets (26") will be generally procured for roofing. Some CPVC sheets (2 mm thick.) will be procured for the sky-light of RCs.

b) Roof Trusses (Wood, Steel)

Steel pipe trusses will be procured for the construction of classrooms and RCs.

Traditional timber beams will be provided for other buildings.

c) Cement

Ordinary Portland cement conforming to NS: 49-2041 or IS: 269-1989 for 33 grade ordinary portland cement or equivalent will be procured.

d) Bricks

Bricks, which are locally manufactured in a chimney or those of equivalent quality will be procured.

e) Reinforcing Steel Bars

Reinforcing Steel Bars procured shall be cold twisted bars conforming to IS: 1786-1966 or equivalent.

f) Doors and Windows

Metal door/ window frames will be procured for the construction of RCs and SSs.

Wooden Door/ window panel shatters will be procured generally.

g) Hardware for Doors and Windows

Hardware, which is locally purchasable, or those of equivalent quality

will be procured.

h) Hand pump

- 1) Cast iron castings conforming to IS: 210-1978 Grade FG 220 Standard.
- 2) Plunger assembly (RDRS type) of Mild steel with a hard steel bush.
- 3) Rod pin and fulcrum Pin of Mild steel.
- 4) Flapper valve of tanned leather. 108mm x 5mm thick.

i) Trucks

Engine : Direct injection diesel
4,400 cc displacement
90 Ps(66kw) at 2,800rpm

Loading capacity : 4,000 kg

j) Tractors

Engine : Direct injection diesel
2,500 cc displacement

Loading capacity : 4,000 kg

k) Motorcycles (On-Road Type)

Engine : 4-stroke OHC single cylinder air-cooled
97 displacement

Max Horsepower : Approx. 7.2 PS/8,500rpm

l) Facsimile Machines

Facsimile machines which have the following specifications will be procured.

- with Automatic dialing.
- Document Sizes : Max width 222 mm Mini Width 148 mm
- Type : Desk-top transceiver

m) Classroom Furniture (Bench and Long Table)

Desks and long chairs made of wooden panels and steel pipe frames will be procured.

Chapter 3 Implementation Plan

Chapter 3 Implementation Plan

3-1 Implementation Plan

3-1-1 Implementation Concept

In case the Project is executed with Japan's Grant Aid, an Exchange of Notes is to be signed by the two governments. Then, the works to be covered by the Japanese side will be carried out by a Japanese consultant and a Japanese supplier, both of which are to utilize local manpower, technology, and materials to the maximum.

While the Japanese side prepares for the work, various steps for the construction of schools are to be taken by the Nepalese side -- BPEP and the local communities. Close coordination between the sections concerned of the Japanese side and Nepalese side will be essential.

3-1-2 Implementation Organization

1) Executing Agency

The Project will be executed by BPEP under MOE, and PPSMU will be in direct charge of the implementation of the Project. The Director of BPEP will take full responsibility for the implementation of the Project. Furthermore, in each of the districts where the Project is to be implemented, the District Education Officer (DEO) is to issue certificates and other documents upon receipt and delivery of materials and/or equipment. The DEO will also be responsible for managing logistics support up to the delivery of the materials to local communities.

District overseers/engineers, who are to be recruited and posted by BPEP, may act on behalf of the DEO regarding the procedures stated above, depending on the situation around each construction site.

2) Japanese Consultant

Soon after the Exchange of Notes by the two countries, the Japanese consultant shall enter into a consultancy agreement with BPEP in accordance with the Japan's Grant Aid System. In executing his services, Japanese staff members are to make short visits to the sites leaving the most routine works to local suitably qualified staff members, thus providing good services at relatively low cost.

On the basis of the agreement, the consultant shall provide his services as follows:

Phase 1 Detailed Design Phase:

The consultant shall prepare the detailed design documents for the procurement and the delivery of the materials and equipment.

Phase 2 Tender Phase:

The consultant shall provide BPEP with the assistance necessary to select a supplier and to enter into a contract with the supplier.

Phase 3 Procurement and Delivery Phase:

The consultant shall, in cooperation with BPEP, supervise the procurement of materials and equipment up to their delivery to BPEP. The consultant shall also provide engineering services to BPEP regarding the proper methods of storing, transporting, and using materials and equipment.

3) Japanese Supplier

Procurement and delivery to BPEP of materials and equipment covered by the Project shall be executed by a Japanese supplier, who will be selected by tender. The time schedule for providing materials shall be determined in the contract in accordance with the Japan's Grant Aid System. In executing his work, as in the case of the consultant, he is expected to fully utilize local man-power, and to assure proper competition among local suppliers of the materials.

4) School Management Committee (SMC)

Construction work shall be done by the Nepalese side within the framework of the Construction/ Rehabilitation of Primary Schools by Community Participation under BPEP. The local communities, normally SMCs, are to enter into construction contracts with BPEP.

3-1-3 Implementation Method

1) Material Depot Centers

Material depot centers, where construction materials procured by the Japanese side are to be delivered to BPEP, are supposed to be established in the district centers. All ten district centers selected for the Project are accessible by truck. However, for some materials which can be manufactured near the construction sites—for instance bricks—delivery at a few scattered points might be more appropriate. This matter is to be reviewed at the detailed design stage.

2) Transportation of Materials from the Depot Centers to the Construction Sites

From the district centers to each construction site, the materials are to be transported by BPEP to the nearest points accessible by truck, where the materials are to be handed over to the community representatives, who will transport them to the construction sites either by wagon, donkey, or porter depending on the situation.

3) Storage of Materials at the Depot Centers

BPEP will prepare necessary facilities at depot centers such as warehouses, stock yards, etc. Where the tent warehouses procured under the first phase of the Project are utilized, such work as transportation and re-installation of them shall be done by BPEP. DEO will be responsible for the handling of materials.

4) Storage of Materials at the Construction Sites

Care should be taken to synchronize deliveries of materials with the

construction programme, so that the materials will not be stored at construction sites for an unnecessarily long time.

3-1-4 Supervision and Monitoring Plan

The Japanese consultant will supervise the work for the procurement up to delivery at the depot centers of the materials.

Then, BPEP will supervise and monitor the storage and local transportation of the materials to the sites and the construction work. The Japanese consultant will also help BPEP with regard to this stage.

To obtain the basis for planning grant aid projects, which might be continued in the future, this Project shall be monitored so that utilization of materials and equipment can be identified separately from the entire construction project under BPEP. The same monitoring system as that applied to the first phase of the Project, which has been proved to be satisfactory, should be applied to this phase as well.

1) Japanese Consultant

While the head office in Japan will be responsible for controlling implementation of the entire Project, overseers/engineers posted in each of the project districts will handle routine work.

A chief engineer posted to the Kathmandu office will be responsible for controlling all local staff members and for coordinating with the contractor as well as with BPEP. The chief engineer of the Tokyo office or his representative will visit the site from time to time to attend site meetings and site inspections (approx. 10 % in number) as necessary.

2) Nepalese Side

While PPSMU will be responsible for controlling implementation of the entire Project, overseers posted in each of the project clusters will handle routine work, supported by DEO for clerical procedures and by Regional Engineers for technical matters, who will report to PPSMU.

3-1-5 Procurement Plan

All materials and equipment are to be procured locally in Nepal, and will be delivered either at Katmandu or at the depot centers. At the detailed design stage, however, the situations of the local markets are to be reviewed, and the possibility of procurement from Japan or third countries might be re-considered.

1) Items to be Delivered at the Depot Centers

- a) Bricks
- b) Wooden doors and windows
- c) Cement
- d) CGI sheets, GI plain sheets
- e) Steel bars
- f) Steel pipes trusses
- g) Sanitary wares and fittings
- h) Door and window fittings
- i) PVC pipes, HDPE pipes
- k) Fax machines
- l) Furniture

2) Items to be Delivered at Kathmandu

- a) Trucks
- b) Motorcycles

3-1-6 Implementation Schedule

This Project shall commence upon the Exchange of Notes (E/N) by the two countries, and will proceed as follows:

- 1) Conclusion of consultancy contract
- 2) Its verification by the government of Japan
- 3) Detail Design of the materials and equipment
- 4) Selection of the supplier
- 5) Conclusion of procurement contract for materials and equipment
- 6) Its verification by the government of Japan

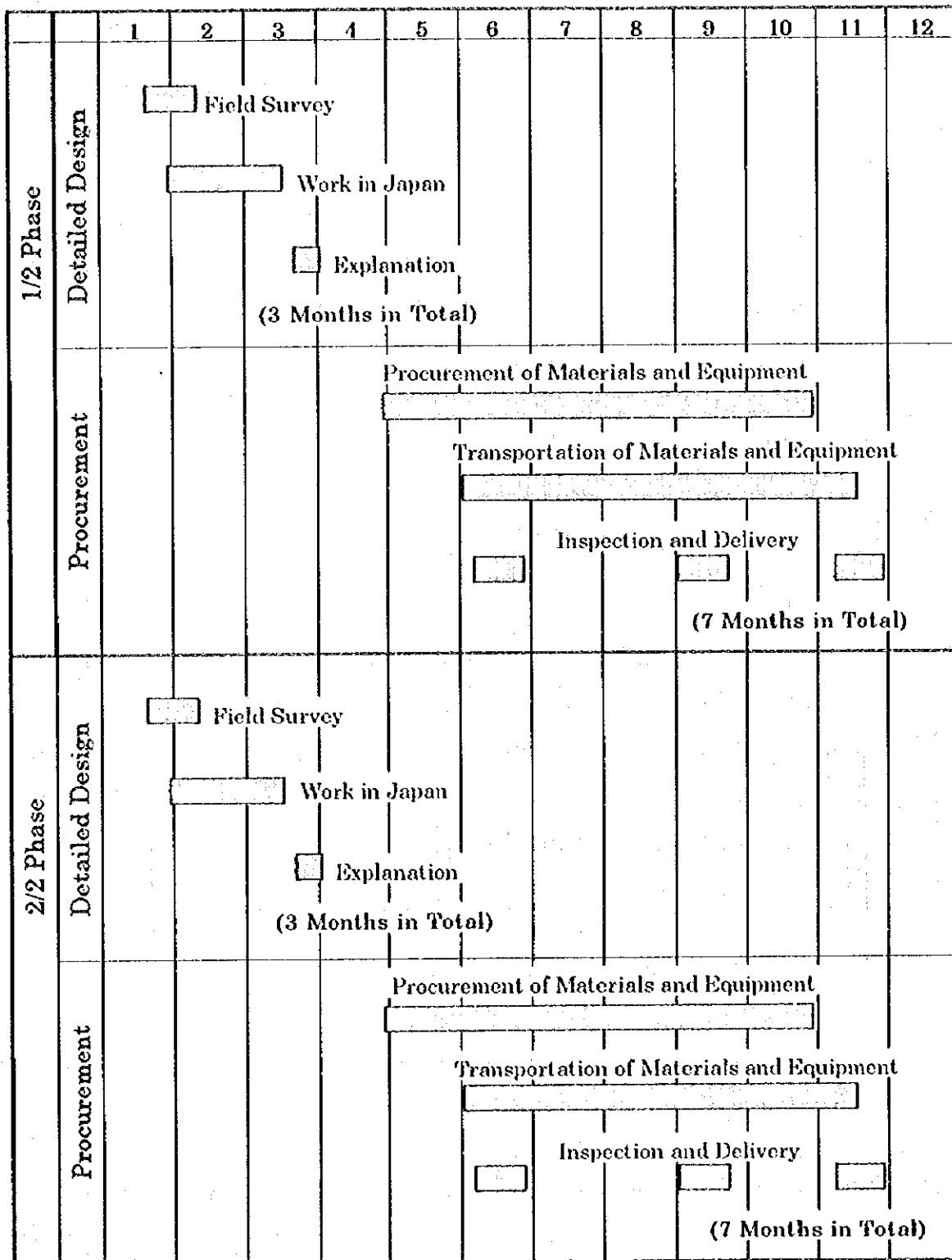
- 7) Procurement and delivery of materials and equipment to BPEP
- 8) Providing engineering services regarding the utilization of materials and equipment until their installation.

The schools to be covered by the Project are to be finalized through the physical survey of the proposed schools, discussions and conclusion of agreements with the local communities carried out under the Action Plan of BPEP for the fiscal year, which starts in the middle of July. It is advisable, therefore, that the Exchange of Notes between the two countries be done in June or before.

In Nepal, the four months from June to September are the rainy season, during which construction work and transportation of materials are hardly practical. Furthermore, in rural areas, bricks are normally manufactured after harvesting crops in the autumn. Accordingly, the materials should be delivered within six months starting from November, so that construction of the facilities may still be completed before the next rainy season. On the basis of the experience obtained from phase 1 of the Project, the construction period for each school is estimated to be about three to four months, and the entire work period for the construction of the schools including delivery and local transportation of materials from depot centers to construction sites will be six months. Thus, from a technical point of view, the Project could be executed in a single fiscal year. Considering the volume as well as the nature of the Project, however, it is advisable that the Basic Design of the Project be done at one time and that the execution of the Project be done in two consecutive fiscal years.

The overall schedule of the process is shown in Fig. 1

Fig.1 Implementation Schedule (Japanese Side)



3-1-7 Obligations of Recipient Country

The following measures are necessary to be taken by the Nepalese side on the condition that the Grant Aid by the Government of Japan is extended to the Project:

- 1) To ensure proper construction management including the appointment of engineers and overseers in order that equivalent or improved efficiency of management to the previous phase of the Project is realized;
- 2) to prepare standard designs of facilities of the Project, ensuring equivalent or better teaching environment than in the previous phase of the Project;
- 3) to bear the cost for skilled labour and local transportation of materials necessary for the construction of the primary schools under the Project;
- 4) to generate community participation including supplies of unskilled labour, local building materials and local transportation in order that materials and equipment procured are utilized properly;
- 5) to provide proper depots for the Project area;
- 6) to ensure prompt unloading and customs clearance of products purchased from outside Nepal under the Grant Aid, if any;
- 7) to bear commissions to the Japanese foreign exchange bank for banking services based upon the Banking Arrangement;
- 8) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies, which may be imposed in Nepal with respect to supplies of products and services under the verified contracts. In case value added tax (VAT) is introduced during the period of project implementation, the necessary measures for tax exemption shall also be taken;

- 9) to accord Japanese nationals whose services may be required in connection with supplies of the products and services under the verified contracts such as facilities as may be necessary for their entry into Nepal and stay therein for the performance of their work;
- 10) to provide necessary permissions, licenses and other authorizations for the implementation of the Project, if necessary;
- 11) to bear all expenses other than those to be borne by the Grant Aid within the scope of the Project; and ,
- 12) to ensure the facilities concerned are used properly for the planned purposes.

3-2 Operation and Maintenance Plan

The operation and maintenance of the facilities concerned of the Project are to be provided by the communities. However, PPSMU is supporting the communities through a maintenance programme by providing maintenance tools and training necessary for maintenance.

PPSMU is developing a pool of trained overseers who in turn will impart the school maintenance training to the School Management Committee, Head Master and /or Cluster School Maintenance Teachers (CSMT), who are to be appointed to take the following responsibilities:

- 1) Initiate in the process of introducing the concept of school building routine maintenance to the community.
- 2) Organize and execute routine maintenance of community school buildings, compounds, furniture and toilets.
- 3) With assistance from PPSMU, cluster overseer, conduct training of teachers

and community members in practical building maintenance.

- 4) Report to and coordinate with RC Headmaster on maintenance activities in the school.

In the fiscal year 1995/96, the maintenance programme is being executed in 12 districts with a total budget of Rs.29,221,440.

Chapter 4 · Project Evaluation and Recommendation

Chapter 4 Project Evaluation and Recommendation

4-1 Project Effect

It is appropriate to implement the Project under Japan's Grant Aid Assistance, because the Project will have the following effects:

1) Through the improvement of educational facilities and increased access to primary education, teachers, pupils and parents will be encouraged to contribute toward improving the quality of education.

2) The Project will benefit the broad population of primary school age in Nepal (6 to 10 years old), a total of 121,680 per year.

Primary schools: 60 / classroom x 2,000 = 120,000

Resource centers: 120 / RC x 14 = 1,680

3) Of the 19,000 classrooms initially planned to be constructed by 1999, 8,500 classrooms are the remaining target. The Project will contribute to achieving 24% of it, and to increase the opportunities of Nepalese nationals for access to basic and primary education.

4) The Project will contribute to improving the standard design of the facilities concerned, in terms of the classroom environment by increasing the sizes of the classrooms and adding finish materials, structural safety by adding buttresses, etc.

5) Through effective procurement of construction materials of high quality for the programme of construction works, the project will contribute to achieving good-quality works and high completion rate, thus relieving some of the burden of the local communities in construction management and creating incentives for them to participate in the school construction under BPEP.

4-2 Recommendations

For the effective implementation of the project, it is recommended that HMG of Nepal take the following actions:

- 1) To realize the construction of schools with community participation while synchronizing timing to the procurement of construction materials under the Project, BPEP provides the necessary coordination with the communities concerned, carrying out the physical survey of the schools, discussing the design of the facilities and concluding construction contracts with the communities, etc..
- 2) To ensure that the management system for school construction is reinforced by nominating more engineering staff members after finalization of the distribution of schools to be covered by the Project,
- 3) To ensure monitoring of the utilization of materials after delivery to depots until completion of construction.
- 4) To ensure that the necessary equipment and furniture for the facilities concerned such as desks and benches are provided,
- 5) To take the necessary measures for the appropriate maintenance of the facilities concerned, providing guidance, training and other support to the local communities, and
- 6) To ensure the facilities concerned are used properly for the planned purposes, providing guidance to the SMC.

[Appendices]

[Appendices]

1. List of Members of Survey Team

2. Field Survey Schedule

3. List of Members of Party in Nepal

4. Minutes of Discussions

5. Drawings of the Facilities at the Pilot Stage

6. Cost Estimation of Works to be Covered by Nepalese Side

1. List of Members of Survey Team

Mr. Nobuhide SAWAMURA	Team Leader, Second Basic Design Study Division, Grant Aid Study & Design Department, Japan International Cooperation Agency
Mr. Shin INOUE	Grant Aid Programmer, Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs
Mr. Isao FUKUWATARI	Chief Consultant/Architect, Representative Director, Fukuwatari & Architectural Consultants Ltd.
Mr. Fumitomi FUJITA	Architect, Fukuwatari & Architectural Consultants Ltd.
Mr. Hideaki KITAJIMA	Architect/Engineer Fukuwatari & Architectural Consultants Ltd.
Mr. Tadashi OGAWA	Assistant Architect, Fukuwatari & Architectural Consultants Ltd.

2. Field Survey Schedule

Date	Place to visit	Survey Items
1 Feb. 20 (Tue.)	Tokyo - Bangkok	Depart Tokyo (JL717, 10:55) Arrive Bangkok (15:45)
2 Feb. 21 (Wed.)	Bangkok - Kathmandu Japanese Embassy	Depart Bangkok(TG311, 10:30) Arrive Kathmandu(12:45) Courtesy Call on Ambassador and Head of JICA
3 Feb. 22 (Thur.)	MOE BPEP	Courtesy Call on Mr. Regmi, Secretary Courtesy Call on Mr. Bista Discussion with BPEP and DANIDA Experts
4 Feb. 23 (Fri.)	World Bank UNICEF	Visit Mr. Brajesh Panta and Exchange of Views Visit Mr. Clifford Myers and Exchange of Views
5 Feb. 24 (Sat.)	Chitwan	Field Trip
6 Feb. 25 (Sun.)	Chitwan	Field Trip
7 Feb. 26 (Mon.)	Tanahun	Field Trip
8 Feb. 27 (Tue.)	BPEP	Discussion on findings at site survey, and draft Minuets Mr. INOUE leave (RA401, 9:15)
9 Feb. 28 (Wed.)	BPEP, Danish Embassy	Draft Minutes of Discussion Exchange of Views on Project
10 Feb. 29 (Thur.)	BPEP MOF Japanese Embassy	Signing Minutes of Discussion Discussion on Finance of the Project Brief Report on the Survey
11 Mar. 1 (Fri.)	JICA, BPEP	Discussion on Standard Design Mr. SAWAMURA leave (TG312, 13:50)
12 Mar. 2 (Sat.)	Kathmandu	Data Collection
13 Mar. 3 (Sun.)	BPEP	Discussion on Standard Design
14 Mar. 4 (Mon.)	Kathmandu	Inner meeting
15 Mar. 5 (Tue.)	BPEP Lanjung	Discussion on findings at site survey Field Trip(Team B)
16 Mar. 6 (Wed.)	BPEP Syanja	Discussion on Standard Design (Team A) Field Trip (Team B)

17 Mar. 7 (Thir.)	Kathmandu Nawarparasi	Data Collection (Team A) Field Trip (Team B)
18 Mar. 8 (Fri.)	Kathmandu, MOWSW Chitwan,	Data Collection (Team A) Field Trip (Team B)
19 Mar. 9 (Sat.)	Kathmandu Dhanusha, Siraha	Collection of information (Team A) Field Trip (Team B)
20 Mar. 10 (Sun.)	BPEP Dhanusha, Sunsari	Discussion on Quantity Survey (Team A) Field Trip (Team B)
21 Mar. 11 (Mon.)	BPEP Morang	Discussion on findings at site survey, Quantity Survey, etc. Field Trip (Team B)
22 Mar. 12 (Tue.)	Kathmandu UNDP	Quantity Surveying Data Collection
23 Mar. 13 (Wed.)	Kathmandu	Quantity Surveying Data Collection
24 Mar. 14 (Thir.)	BPEP IDA	Discussion on Standard Design Data Collection
25 Mar. 15 (Fri.)	NPC, MOE UNICEF	Data Collection, Preparation of Survey Report
26 Mar. 16 (Sat.)	Kathmandu	Preparation of (draft) Survey Report
27 Mar. 17 (Sun.)	BPEP	Agreement on the contents of Basic Design
28 Mar. 18 (Mon.)	Japanese Embassy JICA Office	Brief Report on field survey
29 Mar. 19 (Tue.)	Kathmandu - Bangkok	Depart Kathmandu (RA401,09:15)
30 Mar. 20 (Wed.)	Bangkok - Tokyo	Depart Bangkok (TG640,11:10) Arrive Tokyo(19:00)

3. List of Members of Party in Nepal

MOF MOE	Joint Secretary Secretary Under Secretary for Planning & Programme, MOE Team Leader of MTR National Team Member of MTR Director of BPEP Chief of PPSMU, BPEP Chief Adviser of BPEP/DANIDA Adviser of BPEP/DANIDA Curriculum Textbook and Supervision Development Center (CTSDC), MOE, JICA Expert	M. B. Ghimire K. R. Regmi U.B. Amatya J. N. Uprety T. R. Khaniya A. B. Bista G. R. Devkota E. Winter-Schmidt M. Jacobsen Kennichi Tanaka
MOWSW	Asst. Secretary	L. Adhikari
NPC	Under Secretary for Manpower & Employment Section Section Officer, Manpower & Employment Section, NPC	V. Parajuli Kapil P. Sharma
IDA	Social Sector Specialist Population & Health Specialist	B. Panth Tirtha Rana
UNICEF	Project Officer Project Officer, Protection & Care Representative for Life Team	A. Huq Raghendra Upadhyay Naresh J. Gurug
Danish Embassy	Minister Counsellor	L. Christensen
ADB	Project Implementation Officer/ Economist	Krishna R. Panday
UNDP	Chief, Social & Human Development Unit, (Education, Health, Tourism, Labour & Employment, WID & NGOs).	Lalita C. Thapa Nabendra Raj Dahal
Japanese Embassy	Ambassador Second Secretary	S. Yoshida T. Ikenaka
JICA	Resident Representative Deputy Resident Representative Assistant Resident Representative Assistant Resident Representative	M. Watanabe T. Kato K. Yamada Y. Ohno

Members in Districts Concerned

DEO Office	Post	Name of Members
Lamjung (Bensisahar)	School Supervisor Section Officer Accountant/ BPEP Resource Person	Minendra Gyawali Dipendra Gurung Deshbandhu Adhikari Hari Pd. Adhikari
Tanafun (Damauri)	Program Coordinator	K. B. Kamar
Shanja (Shanja)	D.E.O. Program Coordinator	Jeevan Sharma Paudel Madhu Sudan Tripathi
Nawarparasi	D.E.O.	Bishuu Pd. Sharma
Chitwan (Baratpur)	D.E.O.	Shushil Kumar Pandeya
Mahotari (Jareswar)	Program Coordinator Overseer (BPEP) Sub-Overseer (BPEP) Regional Engineer	Ramesh Prasad Mainali Shiva Prasad Humagain Tuna Lal Karna Narayan P. Chaulagain
Dhanusha (Janakupur)	D.E.O. Program Coordinator Regional Engineer Engineer, FAC Sampo International Overseer (BPEP)	Mukli Nath Dahal Yam Khadka Narayan Chaulagain Jagdish Sano Bisnu Adhikari Suresh Kumar Wagle
Siraha	D.E.O. Program Coordinator Sub Overseer Clerk	Mukti Pd. Gyanwali Ram Narayan Chaudhari Ram Priteedas Ram Assis Yadav
Sunsari (Marwa)	D.E.O. Program Coordinator Sub Overseer School Supervisor	Krishna Pd. Khanal Gehendra Dahal Gopal Bhattarai Chunda Mami Punyal
Morang (Biratnagar)	D.E.O. Program Coordinator Regional Engineer	Bal Ram K. C. Keshab Dahal Shyam Karki Suresh Upadhyaya

4. Minutes of Discussions

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
THE PROJECT FOR PROVIDING MATERIALS AND EQUIPMENT
FOR
THE CONSTRUCTION OF PRIMARY SCHOOLS
IN THE KINGDOM OF NEPAL
(Second Phase)

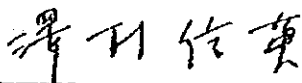
In response to a request from the Government of the Kingdom of Nepal, the Government of Japan has decided to conduct a Basic Design Study on the Project for Providing Materials and Equipment for the Construction of Primary Schools (Second Phase) in the Kingdom of Nepal (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Kingdom of Nepal a Basic Design Study Team headed by Mr. Nobuhide SAWAMURA, Second Basic Design Study Division, Grant Aid Study and Design Department, JICA, and is scheduled to stay in the country from 21 February to 19 March 1996 (hereinafter referred to as "the Study Team").

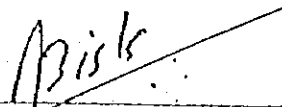
The Study Team held a series of discussions with the officials concerned of the Government of the Kingdom of Nepal and conducted a field survey at the study area.

As a result of the discussions and field survey, both parties confirmed the main items described on the attached sheets. The Study Team will proceed to further works and prepare the Basic Design Study report.

Kathmandu, 29 February 1996



Nobuhide SAWAMURA
Leader
Basic Design Study Team, JICA



Arjun Bahadur BISTA
Director
Basic and Primary Education
Project
Ministry of Education
The Kingdom of Nepal

ATTACHMENT

1. OBJECTIVE

The objective of the Project is to provide materials and equipment for the construction of primary schools and other related facilities in order to increase the access to primary schooling and to improve its quality under the Basic and Primary Education Project (BPEP).

2. PROJECT SITES

The Government of Nepal desires that the ten (10) districts listed below be included in the scope of the Project (Their Locations are shown in Annex-I):

- 1) Morang
- 2) Dhanusha
- 3) Chitwan
- 4) Nawalparasi
- 5) Syangja
- 6) Tanahu
- 7) Lamjung
- 8) Mahottari
- 9) Sunsari
- 10) Siraha

The Study Team will proceed to further field survey in the districts. This does not necessarily mean, however, that all of them should be included as Project Sites, which will be decided by the Study Team after further analysis in Japan.

3. EXECUTING AGENCY

The Ministry of Education is responsible for the Project and the Basic and Primary Education Project (BPEP) is an executing agency.

4. ITEMS TO BE INCLUDED IN THE SCOPE OF THE PROJECT

The major items to be included in the scope of the Project are listed in ANNEX II. Both sides have agreed, however, that the final components of the Project and their quantities will be decided by the Study Team after further analysis in Japan.

5. JAPAN'S GRANT AID SYSTEM

The Government of Nepal has understood the system of the Japan's Grant Aid Programme explained by the Study Team; mainly described in ANNEX III.

6. NECESSARY MEASURES TO BE TAKEN BY THE NEPALESE SIDE

The Government of Nepal will take the necessary measures, described in ANNEX IV for the smooth implementation of the Project on condition that the Grant Aid by the Government of Japan is extended to the Project.

7. FURTHER SCHEDULE OF THE STUDY

- 1) The Study Team will proceed to further studies in Nepal until 19 March 1996.
- 2) JICA will complete the basic design study report and send it to the Government of Nepal by the end of July, 1996.

ANNEX II: ITEMS TO BE INCLUDED IN THE SCOPE OF THE PROJECT

(1) Materials for the construction of the following facilities:

- 1-1) New Classrooms to be given the top priority
- 1-2) Some limited number of Resource Centers
- 1-3) Some limited number of Water Supply Facilities
- 1-4) Some limited number of Toilet Blocks

The kinds of the materials will be the same as those provided under the previous phases of the Project, which include, but not limited to, the following items:

- a. Roofing materials (CGI sheets, CPVC sheets and others including fitting materials for fixing)
- b. Roof Truss
- c. Cement
- d. Bricks
- e. Door and Window Frames
- f. Wood
- g. Hardware
- h. Reinforcing Steel Bars
- i. Sanitary Ware
- j. HDPE Pipes
- k. PVC Pipes and Steel Pipes
- l. Hand Pumps

The materials should be of the same quality as those provided under the previous phases of the Project or better.

(2) Equipment for Logistics

- 2-1) Trucks
- 2-2) Tractors
- 2-3) Motor Bikes
- 2-4) Facsimile Machines

Other than the items listed above, the Government of Nepal strongly requested for the provision of 4WD Vehicles and Transceivers.

(3) Some limited number of Black Boards

(4) Some limited sets of Classroom Furniture

ANNEX III: JAPAN'S GRANT AID SCHEME

1. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through the following procedures.

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

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

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

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

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Government of Japan and the recipient country.

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

2. Basic Design Study

1) Contents of the Study


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

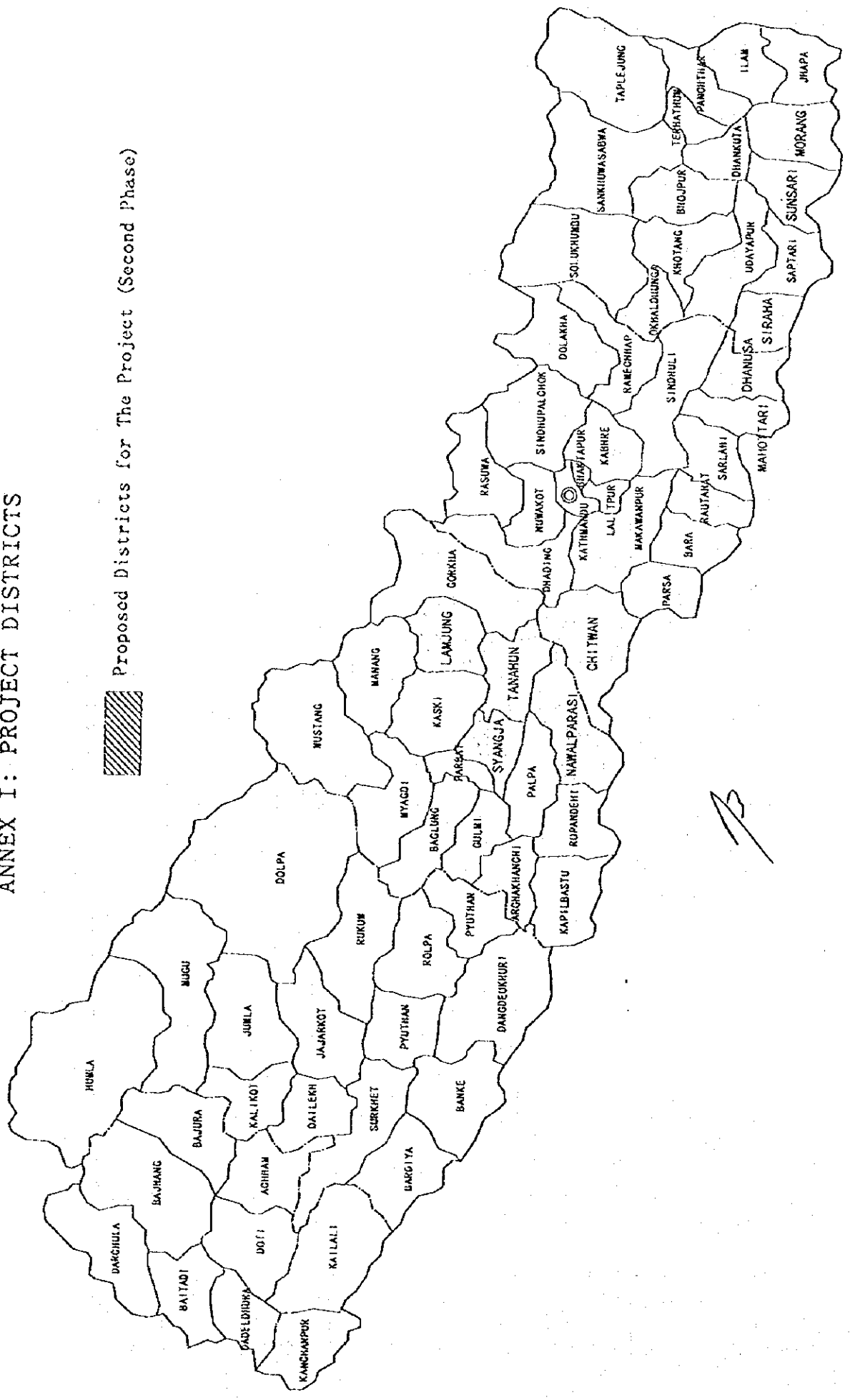
- a) confirmation of the background, objectives and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the project's implementation;
- b) evaluation of the appropriateness of the project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
- c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
- d) preparation of a basic design of the Project; and
- e) estimation of costs of the Project.

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

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

ANNEX I: PROJECT DISTRICTS

 Proposed Districts for The Project (Second Phase)



implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

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

2) Exchange of Notes (E/N)

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

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

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

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

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

However, the prime contractors, namely consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

5) Necessity of "Verification"

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

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6) Undertakings required to the Government of the recipient country

- a) to secure a lot of land necessary for the construction of the Project and to clear the site;
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
- c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid.
- d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts.
- e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.
- f) to ensure that the facilities constructed and products purchased under the Grant be maintained and used properly and effectively for the Project, and
- g) to bear all the expenses other than those covered by the Grant, necessary for the Project.

7) "Proper Use"

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

8) "Re-export"

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

9) Banking Arrangement (B/A)

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

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ANNEX IV: NECESSARY MEASURES TO BE TAKEN BY THE NEPALESE SIDE

The following measures are necessary to be taken by the Nepalese side on condition that the Grant Aid by the Government of Japan is extended to the Project:

1. To ensure proper construction management including the appointment of engineers and overseers in order that the equal or improved efficiency of the management as in the previous phase of the Project be realized;
2. to prepare standard designs of facilities concerned of the Project ensuring the equal or better teaching environment than in the previous phase of the Project;
3. to bear the cost for the skilled labour and local transportation of materials necessary for the construction of the primary schools under the Project;
4. to generate community participation including the supply of unskilled labour, local building materials and local transportation in order that materials and equipment procured are utilized properly;
5. to provide proper depots for the Project area;
6. to ensure prompt unloading and customs clearance of the products purchased from outside of Nepal under the Grant Aid, if any;
7. to bear commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement (A/P);
8. to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in Nepal with respect to the supply of the products and services under the verified contracts;
9. to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into Nepal and stay therein for the performance of their work;
10. to provide necessary permissions, licenses and other authorization for the implementation of the Project, if necessary;
11. to bear all the expenses other than those to be born by the Grant Aid within the scope of the Project; and ,
12. to ensure the facilities concerned be used properly for the planned purposes.