(4) Building Facilities Plan

1) Basic general principle

The principle points for the utilities planning area;

a) Water supply system using rain water,

b) Power supply system using generators,

c) Waste water treatment system using a septic tank,

These systems shall be designed to meet the actual conditions of Tuvalu considering the following matters:

- Minimum maintenance of the system
- Minimum maintenance cost
- Selection and use of the obtainable fuels
- Adoption of a third country's products from which it is easy to obtain spare parts
- Safety to the environment.

2) Water supply system

Rain water will be used as the water source for the Motufoua Secondary School. The rain water will be effectively collected from the roof and rain gutters and stored in underground storage tanks. The water will then be fed from the underground water tanks to elevated water tank by the water lift pumps and distributed to various users in the buildings by gravity.

It was observed in the field survey that the existing underground pipe to the underground water tank was clogged by the fallen leaves. Auxiliary above ground water storage tanks, therefore, will be provided adjacent to each building to avoid the clogging of pipes, so the pipes can easily be maintained and to increase the water storage capacity.

Design Conditions for the water supply system are as follows:

a) Number of students: 300

b) Water demand: 30 liters per person per day

c) Storage capacity: 50 days

d) Average annual precipitation: 3,064 mm

The total storage capacity of the underground tank can be calculated as follows:
$300 \times 30 \times 50 = 450\ m^3$

The proposed two underground storage tanks have a capacity of 225 $m^3$ each and will be located near the boys' and girls' dormitories.

The two elevated water tanks will be located near the underground water tanks and will have a capacity of 4.5 $m^3$ each and being in 6 m height. These will hold one day's consumption.

An separate above ground water storage tank and an elevated water tank will be provided for each staff house.

Poly-vinyl chloride pipes will be used for the piping material to avoid corrosion by the saline air.

3) Sewage and Drainage System

The sewer from toilets will be perforated through the septic tanks and the soak pits, and waste water from the shower room, kitchen, lavatory, etc. will directly be perforated through the soak pits. A grease trap will be provided for the waste water from kitchen equipment to remove the grease before perforation.

The design of the septic tanks shall comply with the National Building Code of Tuvalu.

Poly-vinyl chloride pipes will be used for the sewage and drainage system.

4) Gas System

Liquid propane gas (L.P.G.) facilities will be provided for the chemical laboratory, the home economic room and the staff houses. 10 kg gas cylinders will be used for the easy replacement and will be located adjacent to the gas facilities either outside or inside the rooms.

5) Fire Extinguishers

There are no fire regulations in Tuvalu, but portable type fire extinguishers will be provided for the following rooms for safety.

| | | |
|---|---|---|
| Chemical laboratory | : | 1 no. |
| Home economics room | : | 1 no. |
| Kitchen | : | 1 no. |
| Administration bldg. | : | 1 no. |

6) Air conditioning and ventilating system

Generally no air conditioning equipment will be required for Motufoua Secondary School, but window type air conditioners will be provided for the computer room and the dark room in the administration building.

Mechanical ventilation equipment is also not required, but ceiling fans will be provided for the class rooms, special class rooms and the administration building.

7) Power generator and power supply system

The two generator sets with a capacity of 40 KVA/each have been furnished in the existing generator house. However the existing power generators do not have enough capacity for the expansion project, and an additional power generator will be furnished for the expansion of the educational facilities. It will be accommodated in the expanded space of the existing generator room.

The capacity of the new generator is 125 kVA calculated as follows:

| | | |
|---|---|---|
| Lighting | : | 60 kVA x 0.6 = 36 kVA |
| Socket outlet and facilities | : | 80 kVA x 0.1 = 8 kVA |
| Ceiling fan | : | 14 kVA x 0.6 = 8 kVA |

| | | |
|---|---|---|
| Kitchen equipment | : | 62 kVA x 0.9 = 55 kVA |
| Total | | 107 kVA |

The power shall be low voltage of 3 phase, 315/240V, 50 Hz with a 4 wire system, and outdoor pillar boxes shall be provided for supply of the electricity to each building.

8) Lighting and socket outlet system

a) Illumination Level and Lighting Fixtures

The average illumination level and type of lighting fixtures for each room are as follows:

| | | | |
|---|---|---|---|
| Class room | : | 150 lux, 40 w x 1 | fluorescent lamp |
| Preparation room | : | 150 lux, 40 w x 1 | fluorescent lamp |
| Dormitory | : | 100 lux, 40 w x 1 | fluorescent lamp |
| Dining room | : | 100 lux, 40 w x 1 | fluorescent lamp |
| Kitchen | : | 100 lux, 40 w x 1 | fluorescent lamp |
| Storage | : | 50 lux, 40 w x 1 | fluorescent lamp |
| Teachers' room | : | 150 lux, 40 w x 1 | fluorescent lamp |
| Admin. office | : | 150 lux, 40 w x 1 | fluorescent lamp |
| Principal's room | : | 150 lux, 40 w x 1 | fluorescent lamp |
| First-aid room | : | 150 lux, 40 w x 1 | fluorescent lamp |
| Entrance hall | : | 50 lux, 40 w x 1 | fluorescent lamp |
| Gymnasium | : | 50 lux, 400 w | mercury vapor lamp |

b) Socket outlets

The socket outlets provided for each room are as follows.

| | | |
|---|---|---|
| General Class room | : | 2 nos. wall mounted |
| Chemical laboratory | : | 6 nos. wall mounted |
| Biological laboratory | : | 6 nos. wall mounted |
| Industrial art (wood) | : | 6 nos. wall mounted |
| Industrial art (metal) | : | 6 nos. wall and 6 nos. floor mounted |
| Home economic (sewing) | : | 6 nos. wall and 6 nos. floor mounted |
| Home economic (cooking) | : | 6 nos. wall and 6 nos. floor mounted |
| Dormitories | : | 4 nos. wall mounted |
| Gymnasium | : | 4 nos. wall mounted |
| Dining hall | : | 4 nos. wall mounted |
| Kitchen : | : | 6 nos. wall mounted |
| Administration office | : | 6 nos. wall mounted |
| Computer room | : | 4 nos. wall mounted |
| Teacher's room | : | 4 nos. wall mounted |

9) Public Address System

An amplifier will be furnished in the computer room and a remote controlled micro-phone will be provided in the administration office of the administration building.

Wall mounted loudspeakers and attenuators will be provided in each room including the existing class rooms, administration building, dining hall, gymnasium and multi-purpose hall.

Trumpet speakers will also be provided on the sports field.

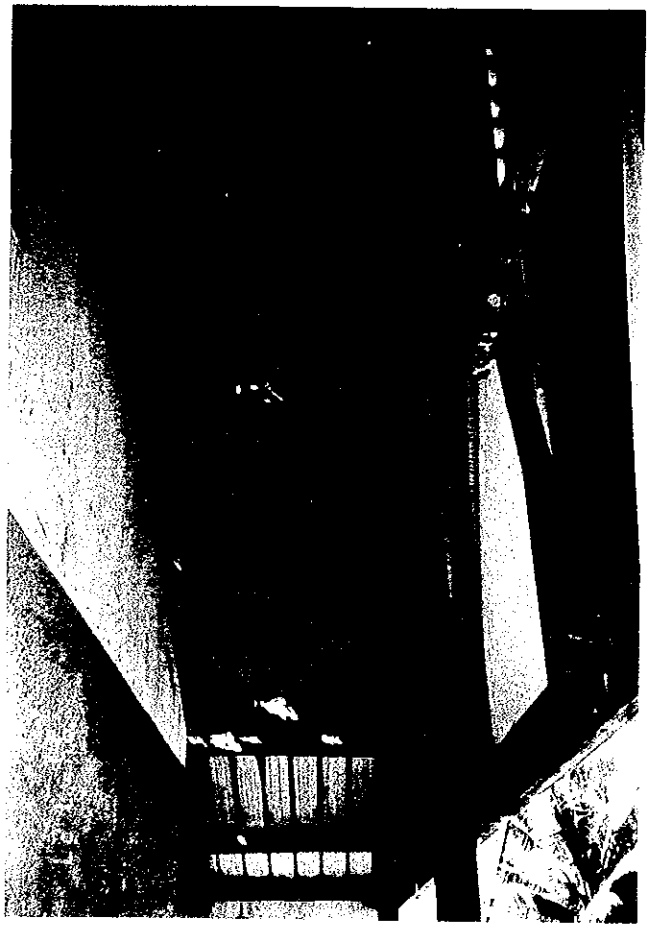
(5) Restoration Plan

The basic policy of the restoration plan is by re-utilizing the existing facility as much as possible so as to minimize the new facilities to be constructed. These facilities will be restored within a reasonable budget, and the work should be minor without large scale renovation work, such as the piping of utilities and frame-works of buildings. The facilities requiring restoration work are described as shown in Table 4-9.

Table 4-9 The Facilities Requiring Restoration Work

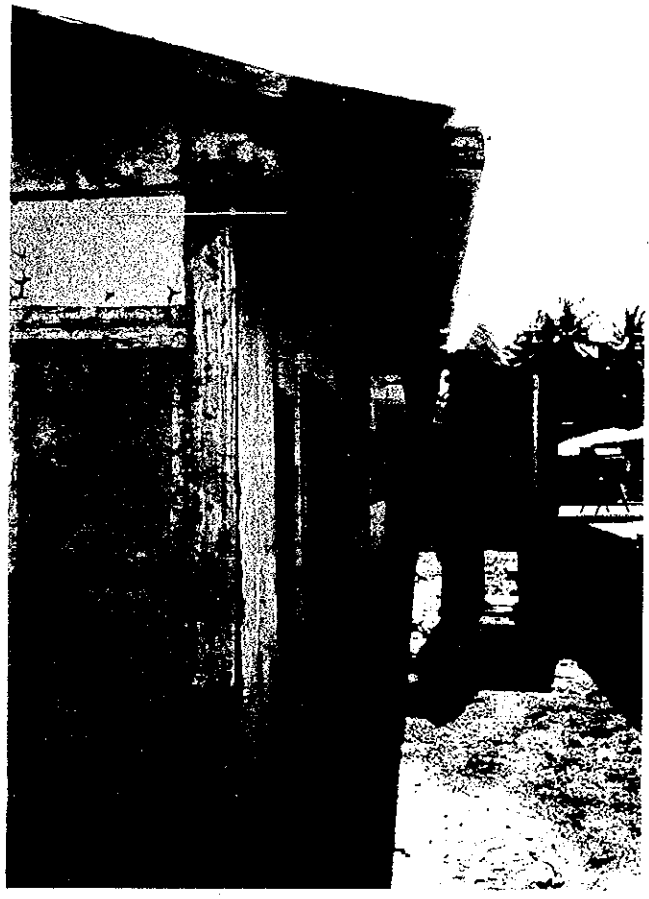
| Place of repair | Present specification, etc. | Method of repair | Quantity | Remarks |
|---|---|---|---|---|
| (1) Science laboratory (R1, R2)<br>1) East side (sea side), (Lots of small holes in the panels of eaves by salt damage) | 200 mm wide aluminum panel | Partial change | 35.0 $m^2$ (measurement) | |
| (2) General classroom (R4-R9)<br>1) Corridor's columns, (Loss of bearing capacity due to the deterioration of their legs, and reinforcing bars exposed) | 150 mm square reinforced concrete column wire in paint finish | Chipping, change of re-bars, re-concrete | Concrete 0.15 x 0.15 1m x 3 places - 0.07 m3 | Including beam timbering, clipping, re-bars and frame work |
| 2) Glass louvers, Jalousie windows (Loss of 50% of glass louvers and loss of 30% of metal fittings) | 8 louver W: 760 mm, M: 1,150 mm 137 points | Supplement and repair | As a set | |
| 3) Interior and exterior paint (Peeling and Cracking, etc.) | Interior and exterior wall, ceiling and plancier | All re-paint | Ceiling area 720 $m^2$ x 25 - 1,800 $m^2$ | Partial mortar repair |
| 4) Roof (Lost of many nails) | Corrugated galvanized metal | Partial repairing (patching) | As a set | |
| 5) Ceiling and plancier (Defect, hung down and some holes) | Semi Hard Board (9 mm thick, point finish) | All change to silicic acid calcium board | 9 m x 80 m = 720 $m^2$ | Consideration of material |
| 6) Lighting instruments (rust by salt damage) | 40 W fluorescence light: 18 nos.<br>20W: fluorescence light: 1 nos. | All change | 40W florescence light: 18 nos.<br>20W fluorescence light: 1 nos. | |

# Photos : Existing Facilities Required for Restration Work

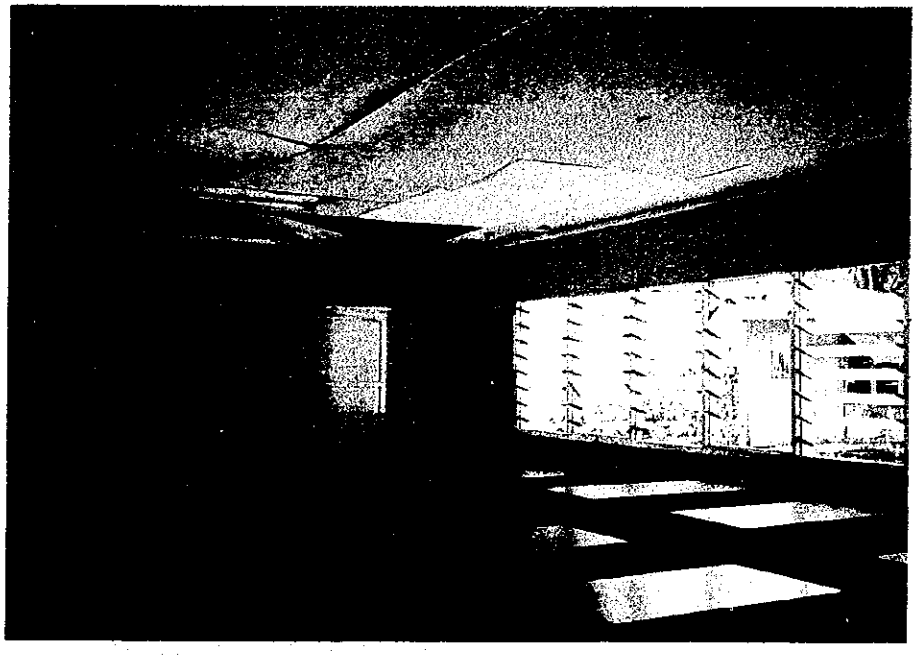


**Science Building - 1**
(Inside of Sea Side Roof)
- Lots of holes due to salty wind from the sea.

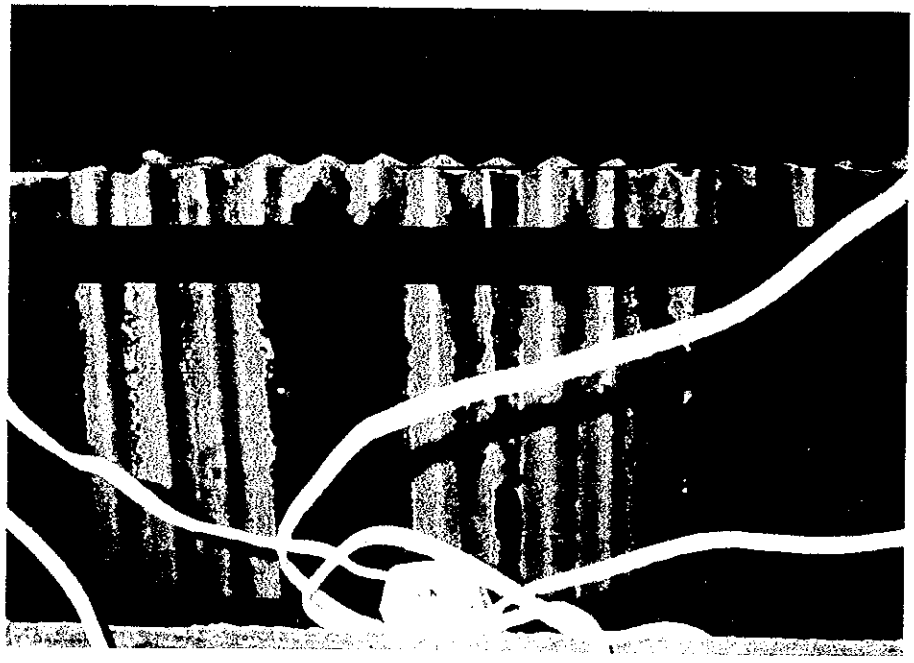
**Science Building - 2**
(South Elevation of R1)
-Sea side part of roof is deteriorated.
-Some external wall paint has peeled off.



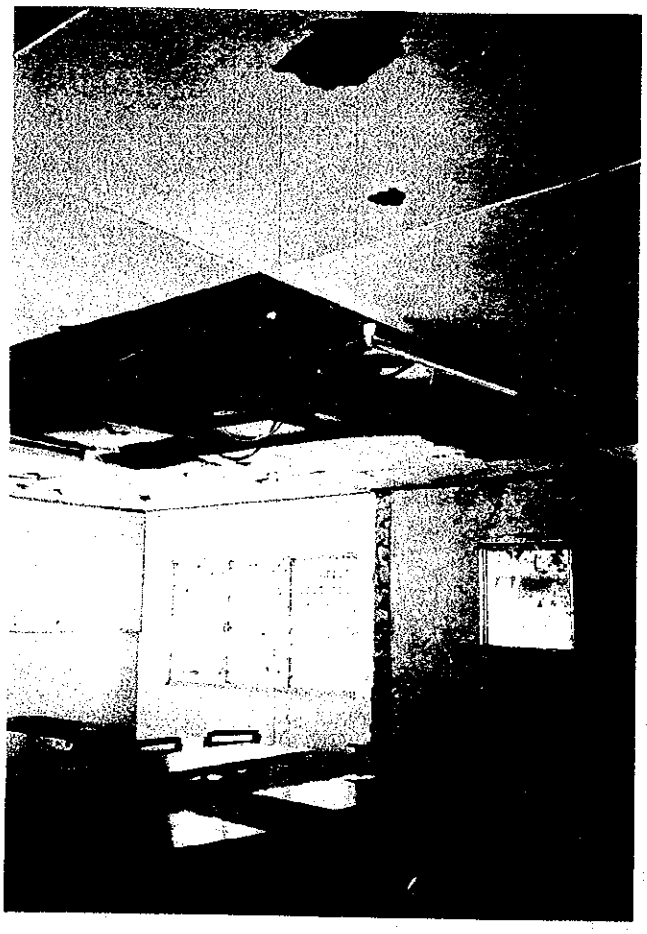
**General Classroom - 1**
(Gable wall and Plancier)
-Plancier board was broken.
-Some external paint from the gable wall has peeled off.



**General Classroom - 2**
(R8 : Interior)
-Ceiling boards are loose, and some of them are broken.
-Fluorescent lighting fixture is corroded.
-Jalousie window has lost some of glass louvers.



**General Classroom - 3**
(R9 : Ceiling Pelnum)
-Many holes by the loss of roof nails.



**General Classroom - 4**
(R9 : Interior)
-Furring strings for ceiling and wirings are exposed due to loss of Ceiling Boards.
-Fluorescent lighting fixture is missing .
-Internal wall paint has peeled off.

**General Classroom - 5**
(External Corridor :
View from R9)
-Many holes on the ceiling of Corridor.
-Lots of Glass louvers and metal fittings of jalousie window and metal fittings are lost.

**General Classroom - 6**
(External Corridor :
View from R4)
-Many holes on the ceiling of Corridor and some of boards are missed.
-Column is deteriorated and reinforcing steels are exposed.

(6) Building Material Plan

1) Basic policy

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

a) Structural materials

In principle, the usual materials shall be reinforced concrete, for the main frames, with concrete block walls, used generally for buildings of similar projects in Tuvalu. Because the local sand and aggregates contain some chlorides, any concrete work at the site should have some chemical mixture included.

b) Finishing materials

In principle, the finishing materials shall have a high durability and maintainability. The finishing materials of the external walls and roofs, etc., shall be selected in consideration with their costs and strength.

2) Main finishing materials

The main finishing materials for the buildings shall consider the local construction situations, construction period, as well as a reduction in construction and maintenance costs.

External finishing

| | |
|---|---|
| Roof: | Corrugated galvanized metal or aluminium sheets |
| External walls: | Concrete block with paint (epoxy) |
| Fittings: | Aluminium windows with glass louvers, plywood flush doors, wooden louvers, wooden fittings and aluminium fittings. |

Internal finishing

| | |
|---|---|
| Ceilings: | Hard board with paint |
| Internal walls: | Cement mortar with paint |
| Floors: | Cement mortar steel towel finish, plastic tiles |

4-3-3 Equipment Plan

(1) Basic policy

The equipment plan will be made from the following viewpoints based on the requested equipment list confirmed by the field survey.

1) Requested priority order should be respected.

The equipment with the priority ranking B (generally required) or C (convenient if available) is not urgently required or appropriately selected. For the equipment with a priority of B or C, a decision will be made after propriety and necessity has been examined sufficiently. The equipment with the priority ranking A (indispensable) will be provided in principle.

2) The equipment for experiments and practical training should be arranged in compliance with the syllabus and method of use.

a) It should be in accordance with the syllabus

b) There should be no problem in usage or operation. Teachers should have some experience of using the equipment.

c) Quantity of the equipment should be in compliance with the number of student groups.

3) Effective use of the existing operative equipment should be sufficiently examined.

The quantity of equipment required should be determined after the number of existing operative equipment has been carefully examined.

(2) Policy on scale

The quantity of equipment was determined based on the following basic policies:

1) Regarding the equipment used for individual practical training, basically 30 sets for one class are included in the plan. Regarding equipment which may be used by two ore more classes simultaneously, 60 sets for two classes are included. In case of more than two classes using the equipment class schedules should be adjusted. Equipment for individual use should be shared by two or three students when it is used for practical training or for experiments which take a very short time;

2) Regarding the equipment used for practical training or experiment conducted by groups, 6 groups in Home Economics and 10 groups in Technical training should be the basic units, with one equipment item added for the teacher's demonstrational use;

3) Basically, one set is included for demonstration, and two sets are included in case the equipment is supposed to be used by two classes at the same time.

(3) Planned equipment

As a result of a sufficient examination of the requested items based on the basic policy, the items to be planned were determined to be 274 in 16 fields as listed below.

Major planned equipment items and the result of the examination are described as follows:

1) Supporting equipment for Mathematics lessons: 9 items

- Large ruler, protractor and a compass used for the blackboard are the basic tools required for mathematics lessons,
- Models used for teaching various solid shapes and dice used for experimenting a concept of probability are both basic tools required for mathematics lessons, but are not currently owned by the school. Therefore, the request for these tools is considered to be appropriate. A calculator which has little significance in mathematics lessons was excepted.
- The overhead projector was excluded as it can be shared for common use, and so it will be included with the general equipment. However, the quantity of several items was reduced as it was excessive.

2) Supporting equipment for language lessons: 3 items

- As video teaching materials for studying English conversation are very useful, it is considered to be appropriate to include these items.
- Storage cabinets were included in the project but with a reduced quantity.
- Tape recorder, video recorder, video camera, etc. are excluded as they are included in the general equipment.

3) Social science study: 5 items

- A world globe and a wall map are necessary items for learning geography. Video software is very important material which serves as the only means to provide information on other countries in Tuvalu, where mass communications have not been developed. Therefore, the request is accepted.
- Reference books, which are restricted in Japan's Grant Aid, Japanese models and map storage cabinets which have a very limited use, have been excluded.
- A map drawing table was excluded as it has a priority B.
- Storage cabinets were included in the project but with a reduced quantity.
- Various projectors, VTR, computers, etc. were excluded as they are included in the general equipment.

4) Supporting equipment for science laboratories and study: 88 items

- All the requested items are basic equipment for experiments or demonstrations in such fields as general science, physics, chemistry and biology. As they are also in compliance with the syllabus, almost all the content is considered to be appropriate. Therefore, all the equipment is accepted except for the following items which are somewhat advanced

or duplicated in the request. Excluded equipment: Deflagrating spoon, Potential energy of pendulum, Primary and Secondary Coils, Copper Voltmeter and Trolley.

5) Drawing equipment: 5 items

- As drawing board and drawing tool sets are essential equipment in the field, the request is appropriate. However, the requested quantity of 100 sets should be reduced to 30 sets for one class. Though the request was made on the assumption that the equipment is used simultaneously during the examination period, the problem seems to be solved by adjusting class schedules. For the drawing boards, a very simple desktop type with a maximum size up to A3 should be selected. Drawing tool sets should also contain the minimum basic required items.

- Regarding a drafting machine, one item with priority A is included for demonstration use.

- Video cassette tapes are excluded as they are not highly required.

- Sharpeners were also excluded as they can be purchased by individuals and there is a low need.

- Storage cabinets were included in the project with a reduced quantity.

6) Supporting equipment for industrial arts: 45 items

- As the technical field has a practical significance in the country where vocational training facilities have not been established, the requested items are generally appropriate. Therefore, all the items are included except for the following items which are either somewhat advanced, have a low priority and for which existing equipment can be used.

- Excluded equipment: Thicknesser, Lathe (Wood), Radial Arm Saw, Router Plane, Chain Saw, Three types of Welding Machines, Electric Stove, Woodworking Bench.

- Several items which were considered to have an excessive quantity were reduced.

7) Supporting equipment for home economics: 35 items

- As all the requested items are basic and appropriate, all of them are included as requested except the items which are difficult to procure or duplicated and those with a low priority.

  Excluded equipment: Kerosene Stove, Water Heater, Refrigerator, Sink, Hand Sewing Machine, Sewing Utensils.

  However, the quantity of several items was reduced as it was excessive.

8) Physical Education Equipment: 11 items

- As all the requested equipment, which cover a rather wide range of items for the sports performed now, is considered to be appropriate in general, and therefore they are included as requested. The following items with low priority were excluded.

Excluded equipment: Net Ball, Discus, Shot-put, Baseball Set, Softball goods Set.

However, the equipment which was considered to be excessive in quantity was reduced.

9) Gardening Equipment: 14 items

- Although there is no gardening class in the school, it is very important as one of extra-curriculum activities, and most of the content is basic except the equipment with priority B. Therefore, all the requested items are included in the plan except the items with low priority.

  Excluded equipment: Hand Cart, chain Saw, Cultivator, Water Tank, Garden shed.

  However, the equipment which was considered to be excessive in quantity was reduced.

10) Musical instruments and equipment: 1 item

- Music is not included in the curriculum, and activities are conducted by music clubs. However, as most of the requested items are electrical instruments with a strong factor of individual tastes, it is considered that they are not appropriate as educational equipment to be included in the plan. Therefore, only the keyboard is included to replace the existing defective equipment.

11) Furniture: 4 items

- As all the items including desks, chairs and blackboards are essential educational equipment, they are included as requested.

12) Library Equipment: 2 items

- As required items are all basic library items, they are included as requested except Book Shelves which are sufficient in the existing quantity and reference books which are restricted in the Japanese Grant Aid System.

13) Administration & General Equipment: 22 items

- As the requested items are considered to be basic and appropriate in general, all the requests are accepted except for the following items with a low priority:

- Excluded equipment: Typewriters (Electric), Announcing Machine, Transceiver, Bicycles & Motorcycle, Tractor with Trailer, Lawn Mower, Weed Trimmers, Water Cooler.

- In addition, the quantity of the equipment which was considered to be excessive was adjusted taking the request from other fields into consideration.

14) First aid Equipment: 16 items

- One nurse is sent from a clinic on the island to this school to provide first aid care, but she cannot provide sufficient treatment due to a

shortage of equipment, As the requested items are all basic equipment, both content and quantity are considered to be appropriate.

15) Kitchen Equipment: 11 items

- The existing equipment is not sufficient but meets the minimum needs required by 300 students. But it is considered to be impossible to meet the needs of 600 students with the existing equipment when this Project is completed. As the requested items are all basic equipment with an appropriate content and quantity, the request is accepted except for the Electric slicer which is not considered to be used so frequently.

16) Dining Hall Equipment: 3 items

- The request for furniture and dish sets to be used in a remodeled dining hall is considered to be appropriate. Quantity is for 600 persons, and a specification will be provided based on cost effectiveness

### 4-3-4 Basic Design Drawing

| LEGEND | |
|---|---|
| | EXISTING BUILDINGS |
| | PROPOSED BUILDINGS |
| | EXISTING BUILDINGS TO BE DEMOLISHED |
| | EXISTING WATER TANKS |
| | PROPOSED WATER TANKS |

N

Power House
PWD Workshop
Department of Education
Toilet
Staff Quarter
Staff Quarter
Staff Quarter
Old Well
Staff Quarter
Staff Quarter
Kindergarten
Hut
Hut
Hut
Toilet
Water Tank
Canteen
Kitchen
Dining
Dormitory
Dormitory
Garden
Dormitory
Dormitory
Toilet
Water Tank
Classroom
Dormitory
Classroom
Dormitory
Staff Quarter
Staff Quarter
Staff Quarter
Staff Quarter
Staff Quarter
Staff Quarter
Staff Quarter
Temporary Workshop
Toilet
Dormitory
Dormitory
Well
Resource Center
Bell-house
Classroom
Classroom
Warehouse
Maneaba
Church
Principal's Housing
Ocean

0 5 10 20 50m

| | | |
|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | SITE PLAN (FACILITY LAYOUT PLAN) |
| | | Scale: / Date: 94. 10. 27. / Dwg. No. A-1 |

| LEGEND | |
|---|---|
| | EXISTING BUILDINGS |
| | PROPOSED BUILDINGS |
| | EXISTING BUILDINGS TO BE DEMOLISHED |
| | EXISTING WATER TANKS |
| | PROPOSED WATER TANKS |

N

Department of Education
Power House
PWD Workshop
Toilet
Boys Dormitory
Gymnasium
WC
Dormitory
Dining Hall and Kitchen
Kitchen
Garden
Toilet
Water Tank
Canteen
Admin. Bldg.
Dining
Staff Quarter
Old Well
Kindergarten
Hut
Water Tank
R12
R13
R15
Classroom
Girls Dormitory
R11
R10
Resource Center
Well
Bell-house
General Classroom
R4
R5
R6
R7
R8
R9
Warehouse
R2
R1
Special Classroom
Temporary Workshop
Chaplain
Maneaba
Church
Principal's Housing
0 5 10 20 50m
Ocean

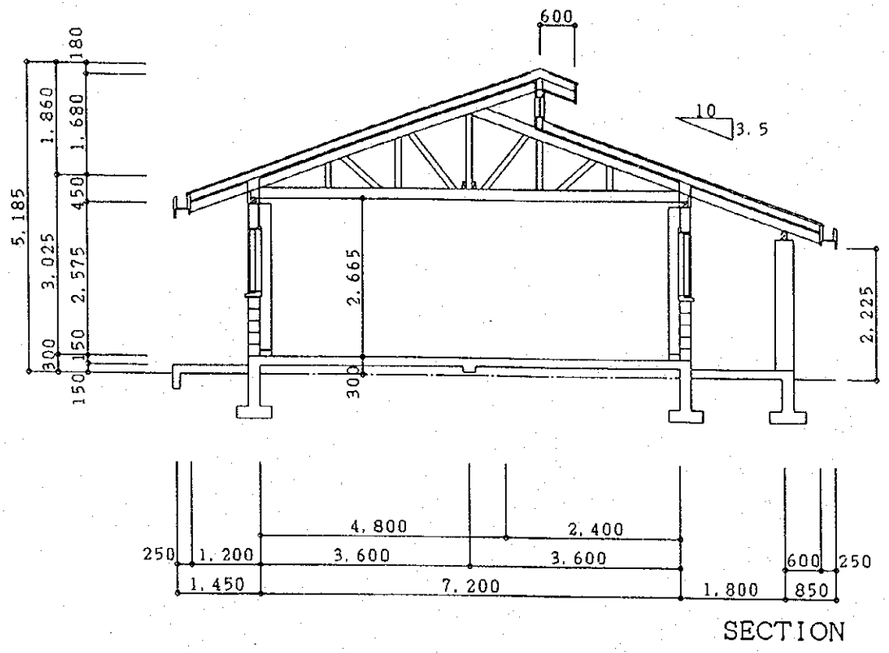
| | | |
|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | SITE PLAN (FACILITY LAYOUT PLAN) |
| | | Scale: / Date: 94. 10. 27. / Dwg. No. A-1 |

| LEGEND | |
|---|---|
| | EXISTING BUILDINGS |
| | PROPOSED BUILDINGS |
| | EXISTING BUILDINGS TO BE DEMOLISHED |
| | EXISTING WATER TANKS |
| | PROPOSED WATER TANKS |

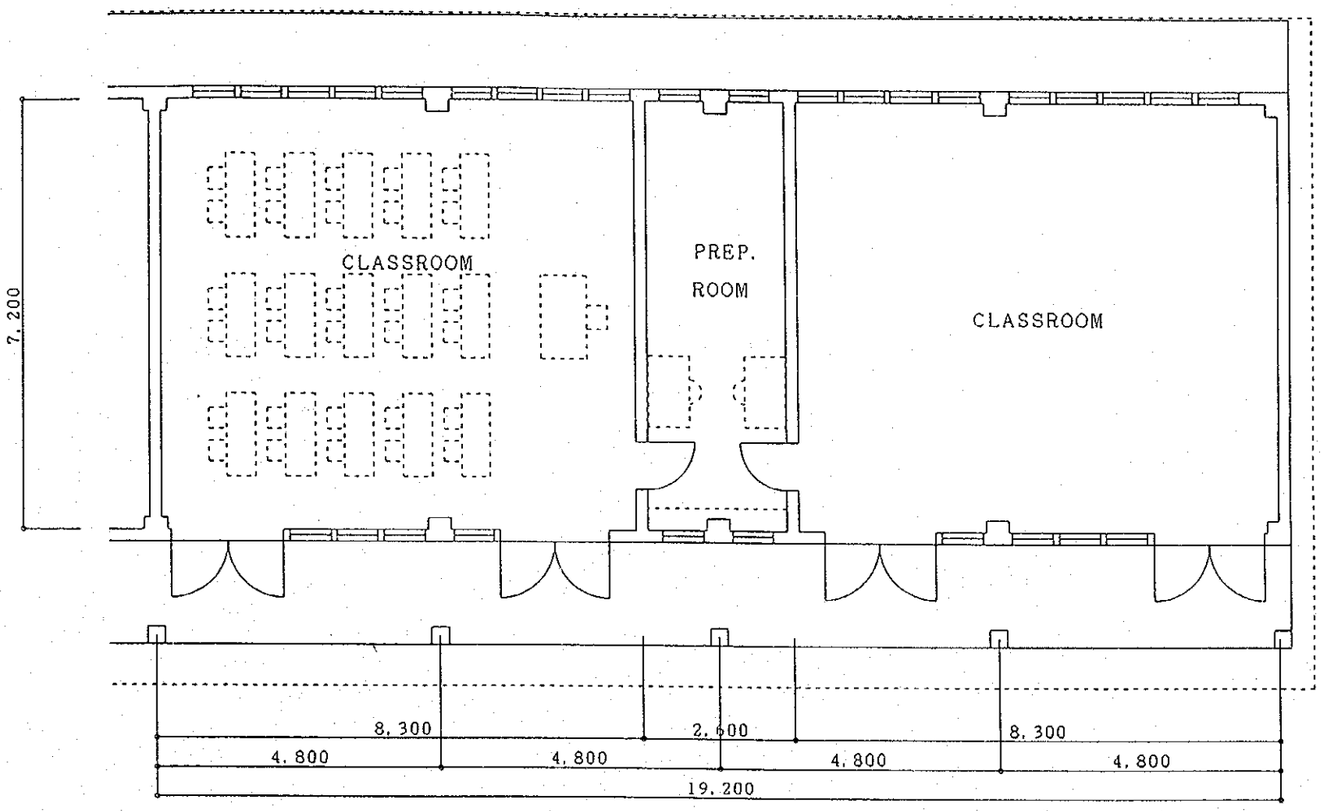
N

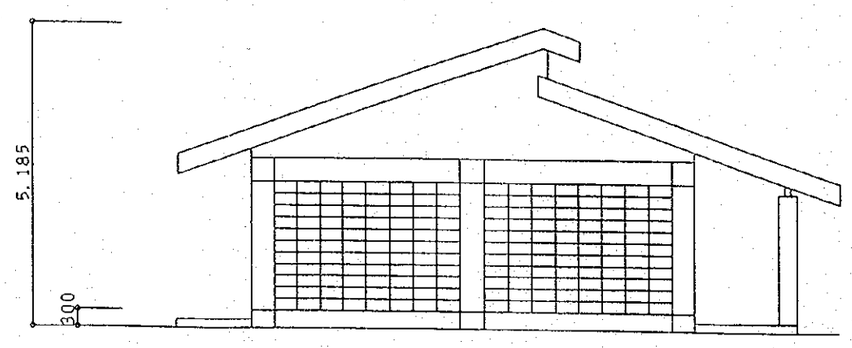
Department of Education
Power House
PWD Workshop
Toilet
Gymnasium
Boys' Dormitory
WC
Dormitory
Kitchen and Kitchen
Dormitory
Garden
Dormitory
Toilet
Kitchen
Dining
Water Tank
Water Tank
Staff Quarter
Staff Quarter
Old Well
Staff Quarter
Staff Quarter
Kindergarten
Hut
Hut
Toilet
Water Tank
Canteen
Hut
WC
Classroom
Dormitory
Staff Quarter
Girls Dormitory
WC
Classroom
Dormitory
Well
Resource Center
Bell-house
General Classroom
Classroom
Classroom
Warehouse
Special Classroom
Staff Quarter
Staff Quarter
Staff Quarter
Staff Quarter
Staff Quarter
Temporary Workshop
Toilet
Chaplain
Dormitory
Dormitory
Manoaba
Church
Principal's Housing
Ocean

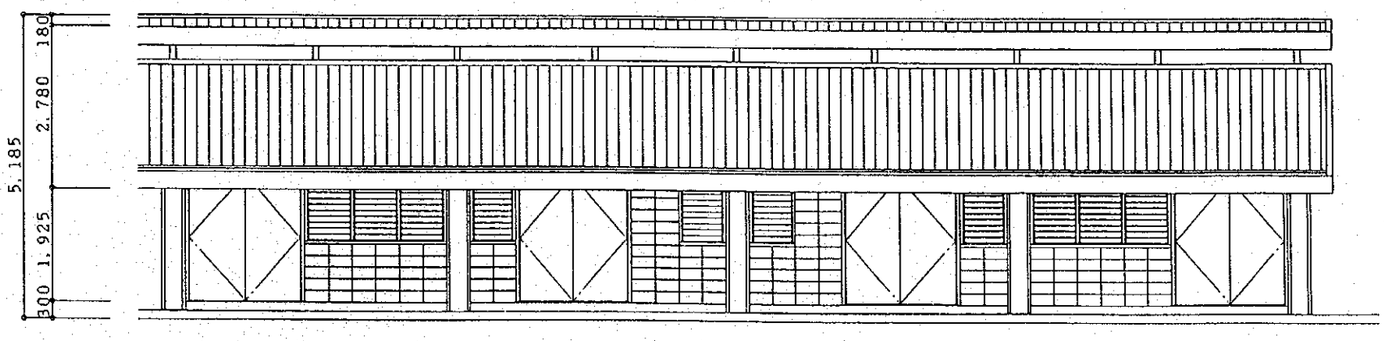
| | | |
|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | ROOF PLAN |
| | | Scale: / Date: 94. 10. 27 / Dwg. No. A-2 |

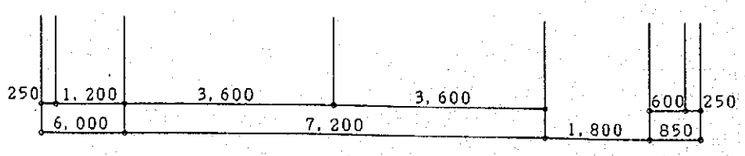



SECTION

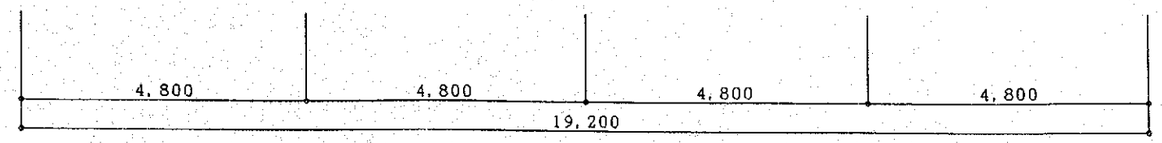


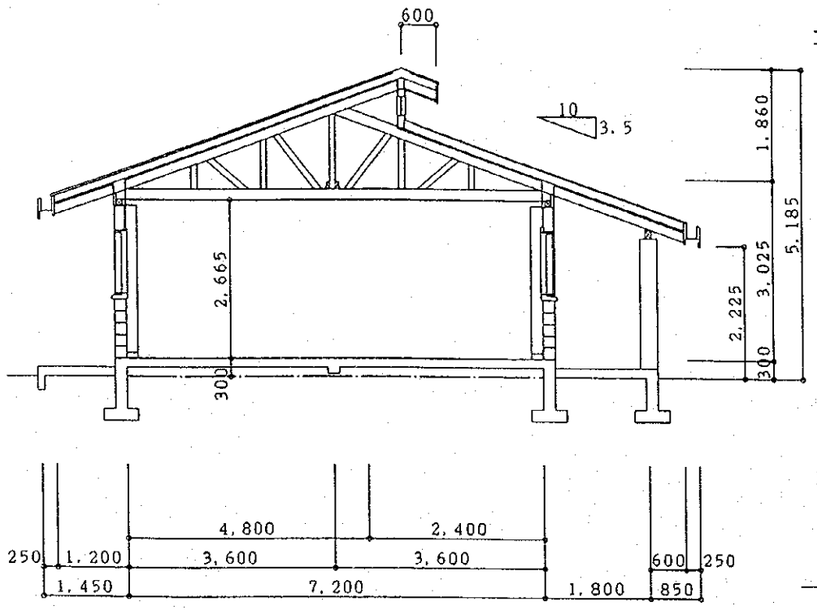

SIDE ELEVATION



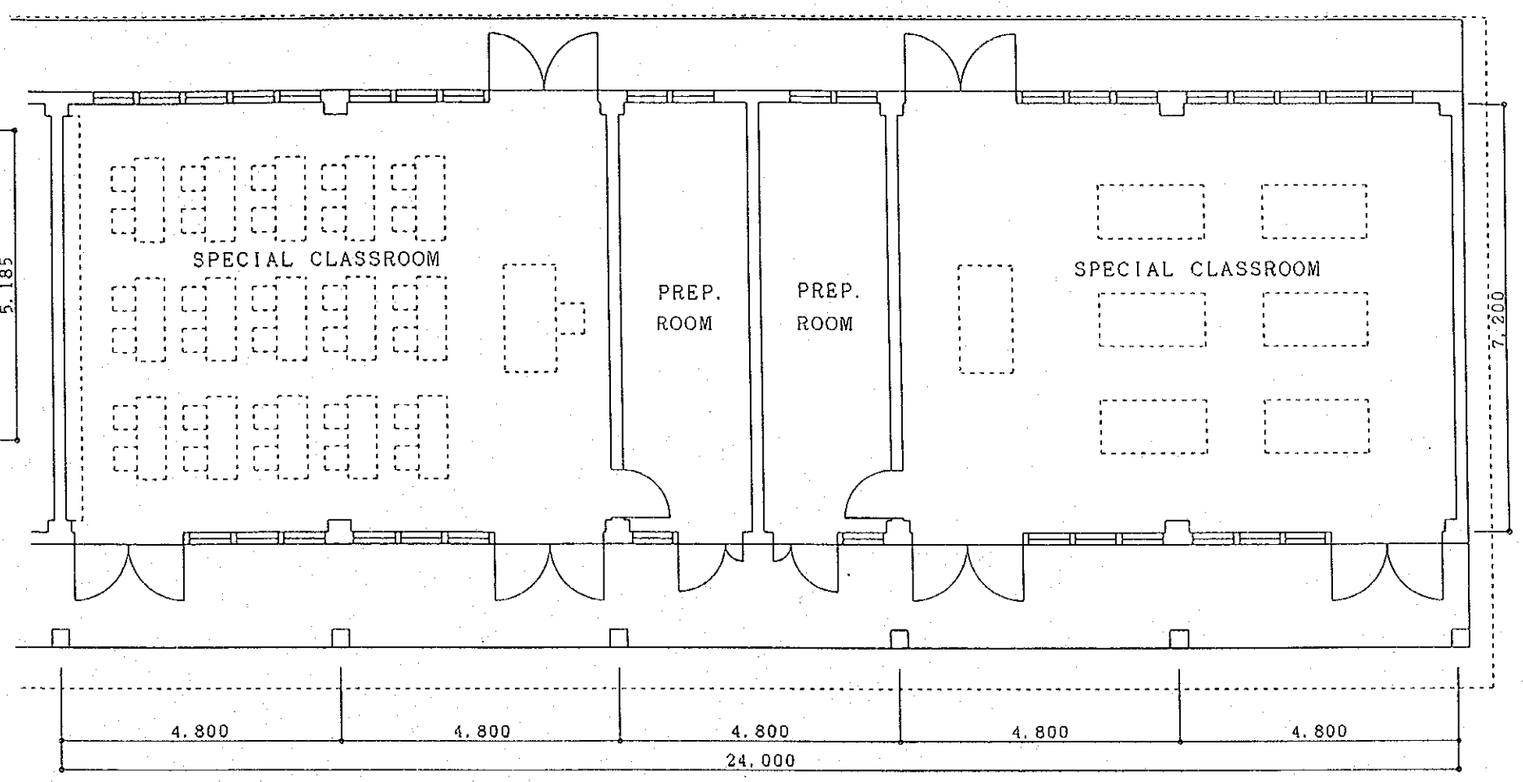

ELEVATION

| | | | |
|---|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: GENERAL CLASSROOM | |
| | | Scale: 1/100 | Date: 94. 9. 14 | Dwg. No. A-3 |

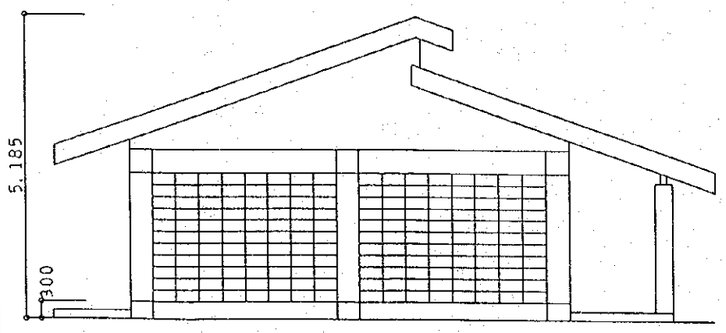
4-30-4



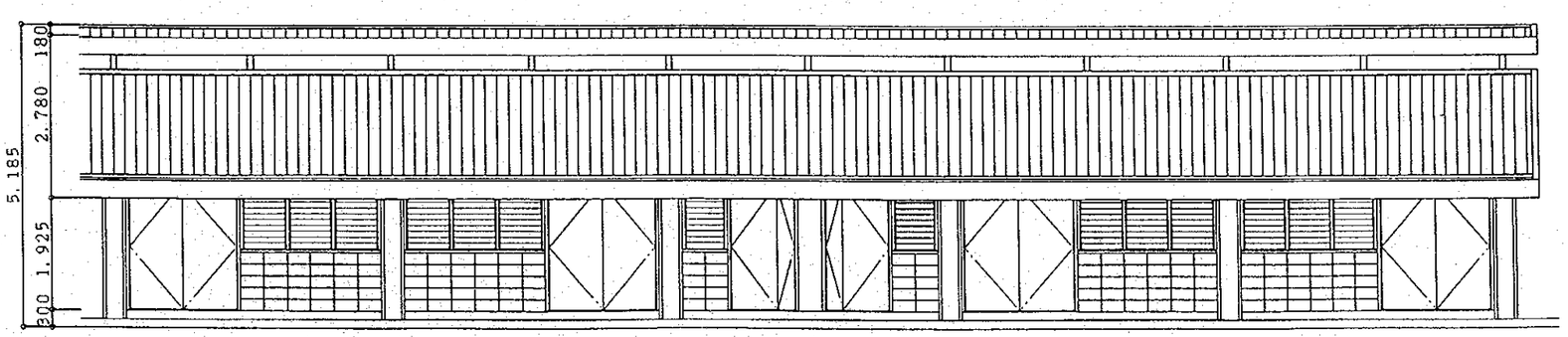

SECTION




PLAN

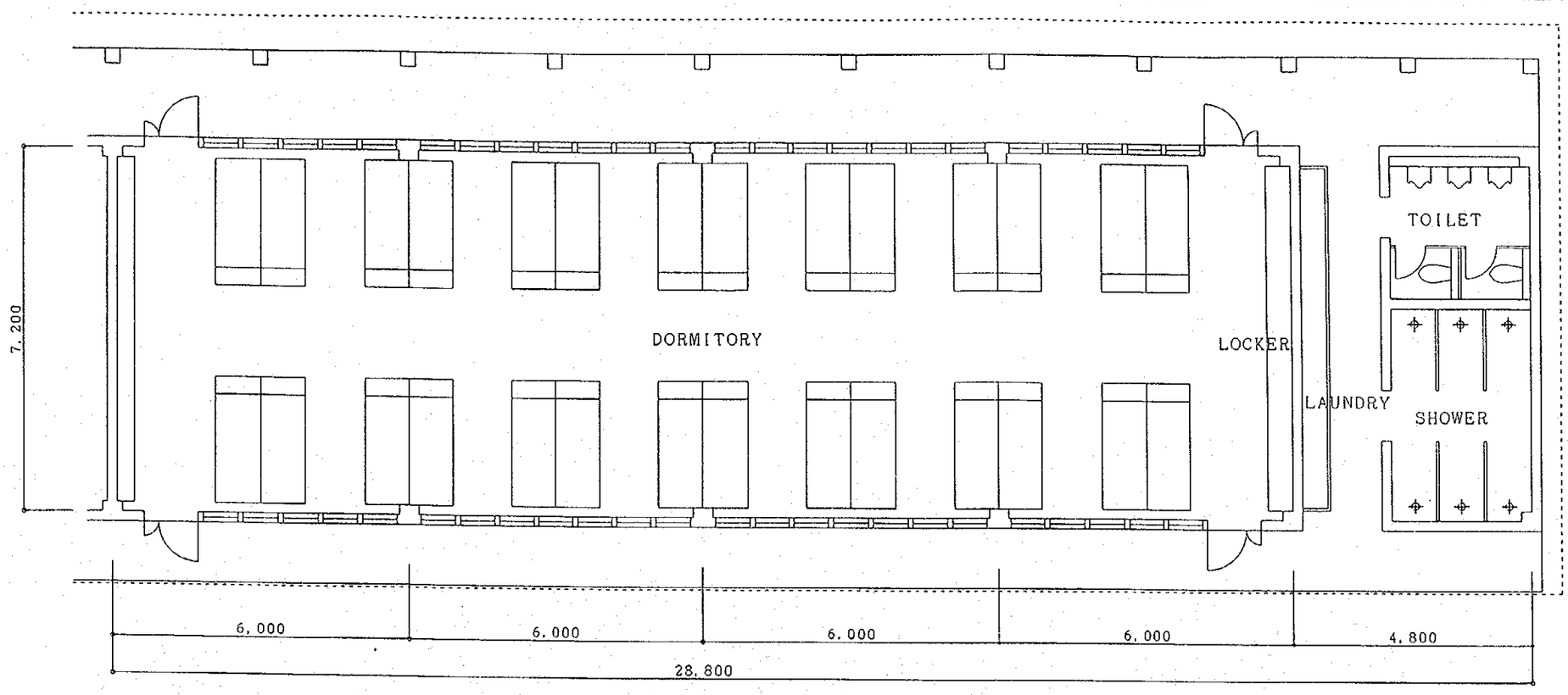



SIDE ELEVATION

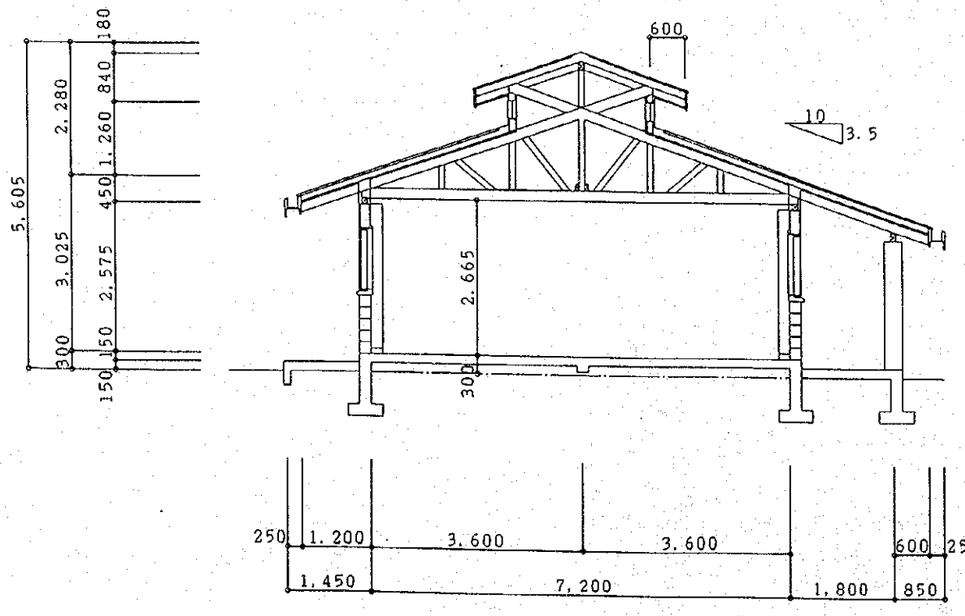



ELEVATION

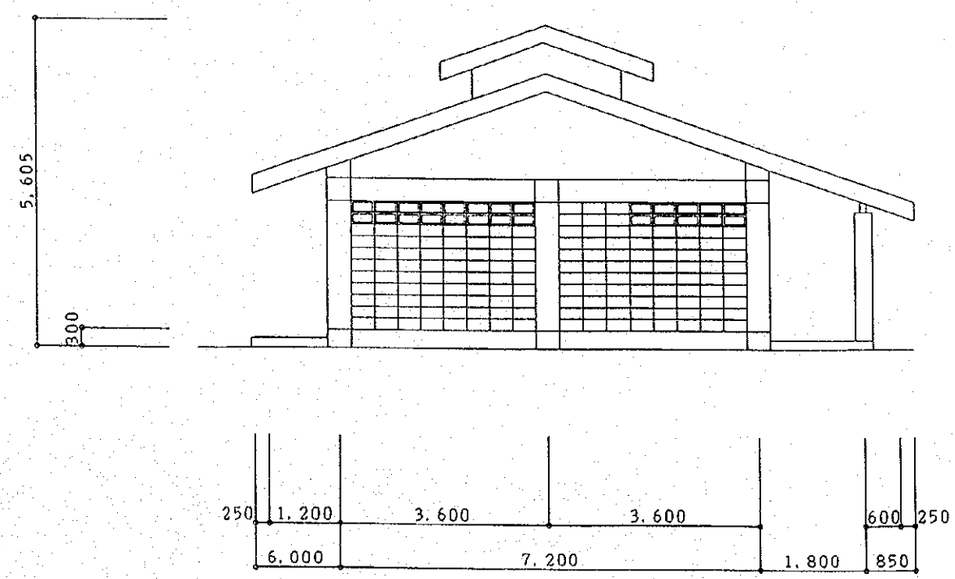
| | | | | |
|---|---|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | ② PACIFIC CONSULTANTS INTERNATIONAL | Title: SPECIAL CLASSROOM | | |
| | | Scale: 1/100 | Date: 94. 9. 14 | Dwg. No. A-4 |




PLAN

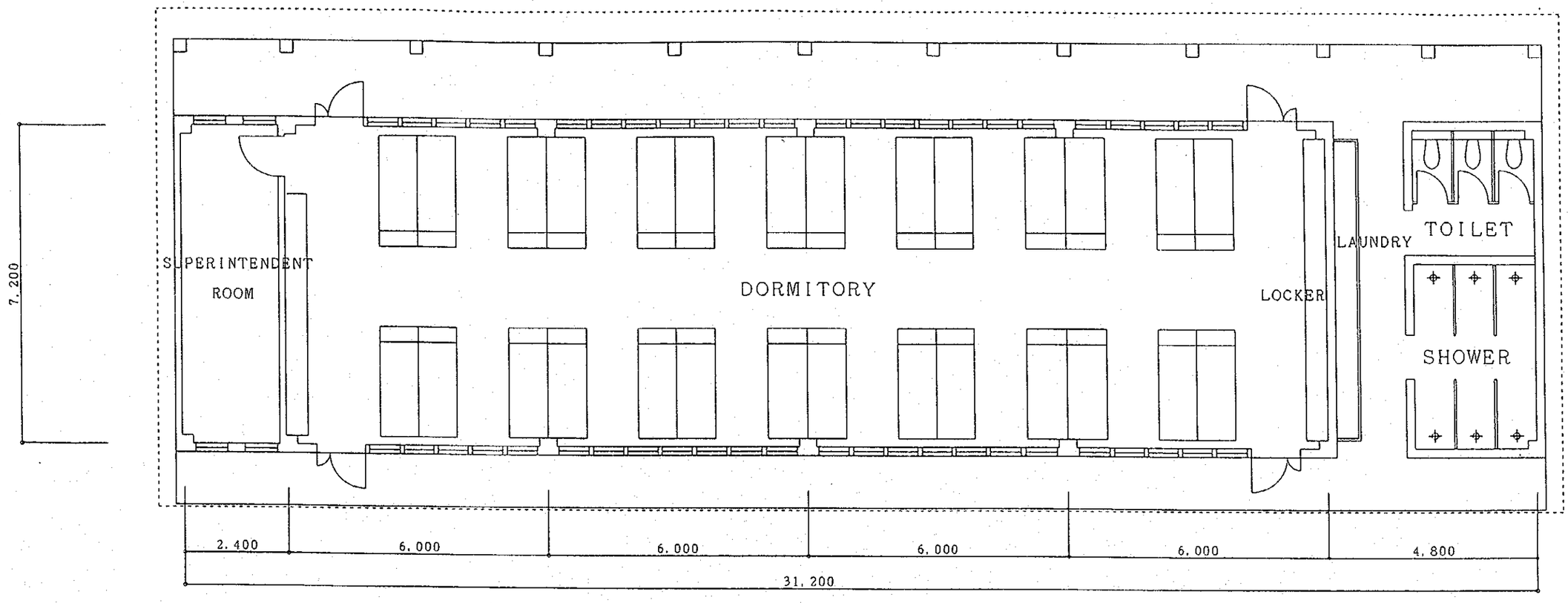



SECTION

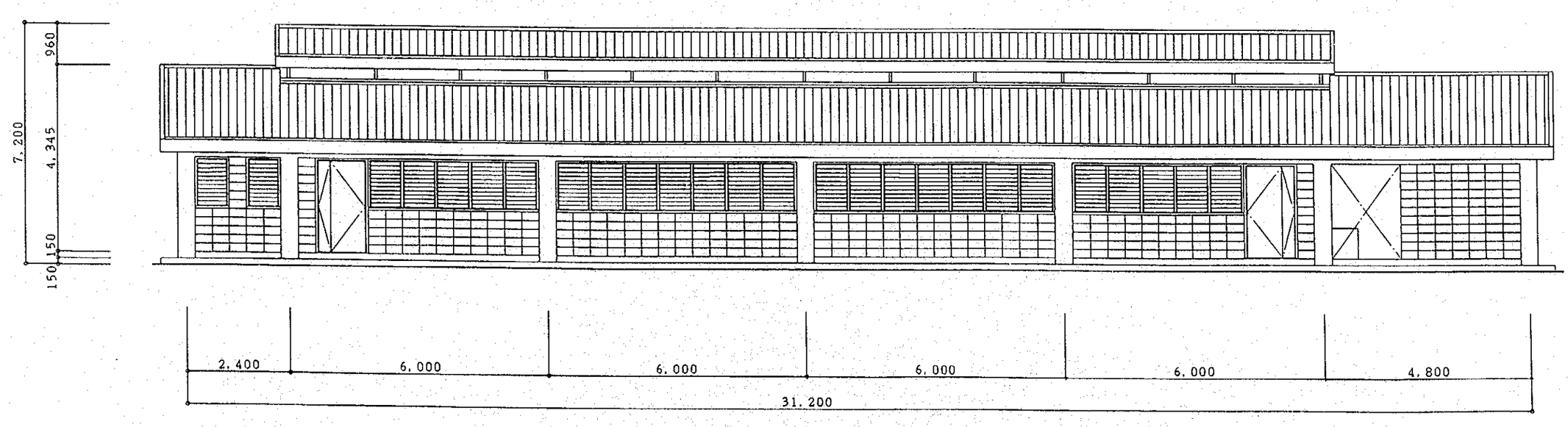



SIDE ELEVATION

| | | | |
|---|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: BOYS DORMITORY | |
| | | Scale: 1/100 | Date: 94. 9. 14 |
| | | | Dwg. No. A-5 |

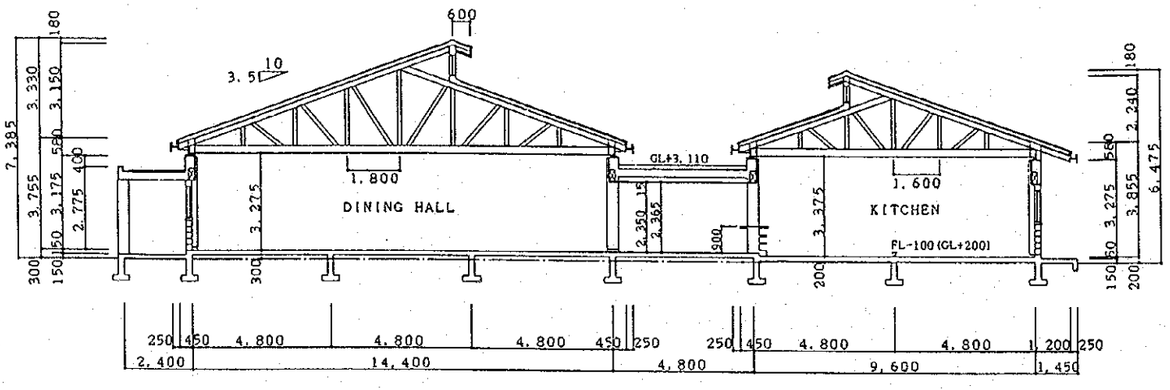



PLAN

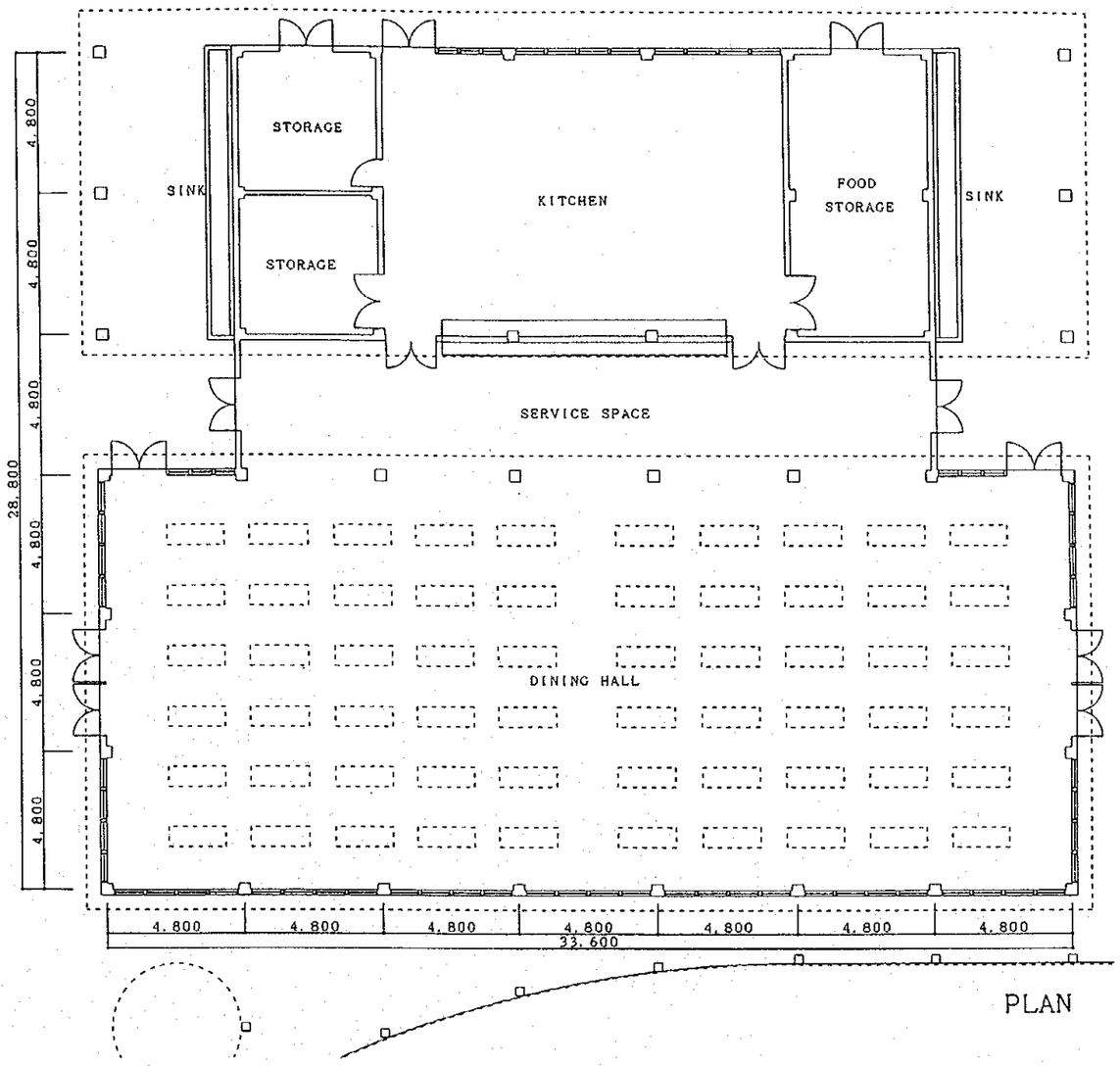



ELEVATION

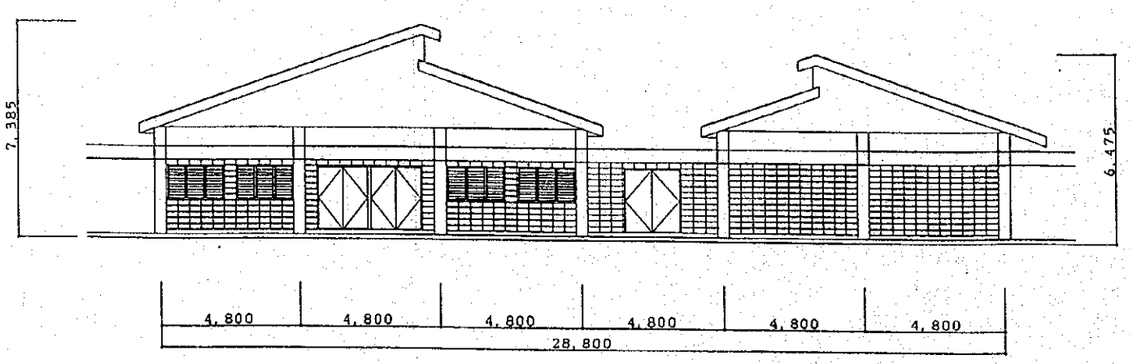
| | | | |
|---|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: GIRLS DORMITORY | |
| | | Scale: 1/100 | Date: 94. 9. 14 |
| | | Dwg. No. A-6 | |



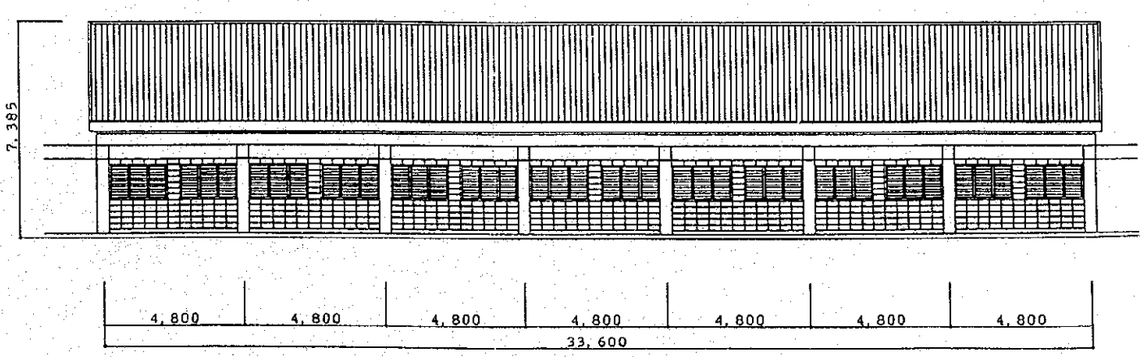

SECTION




PLAN

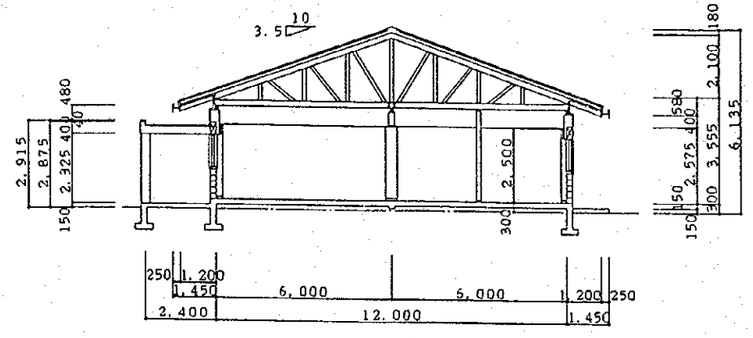



SIDE ELEVATION

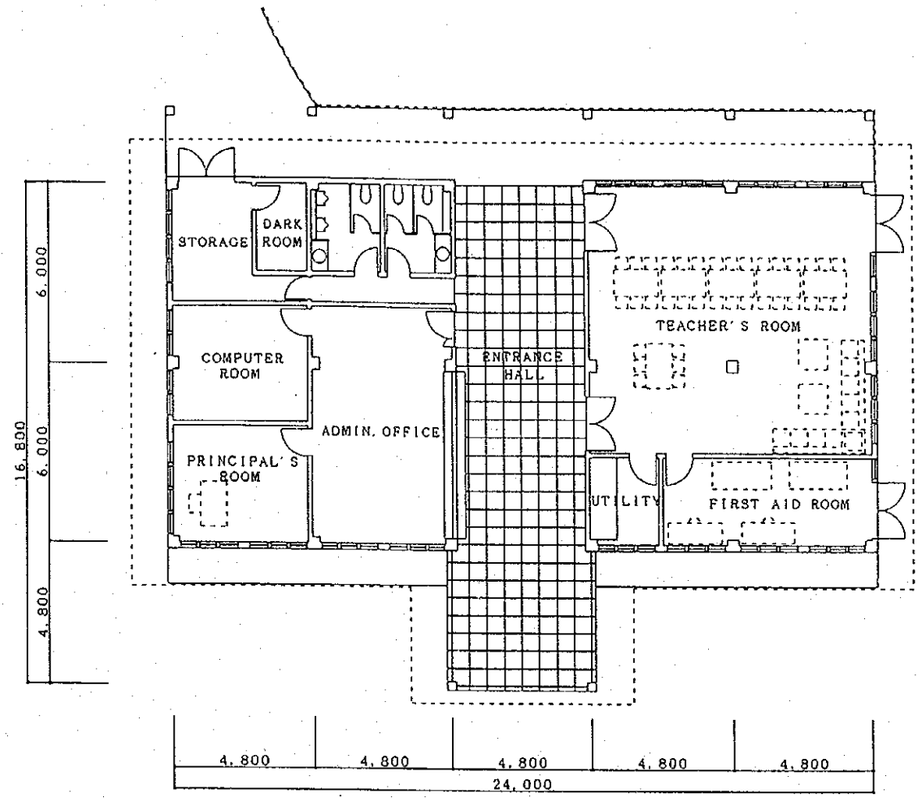



ELEVATION

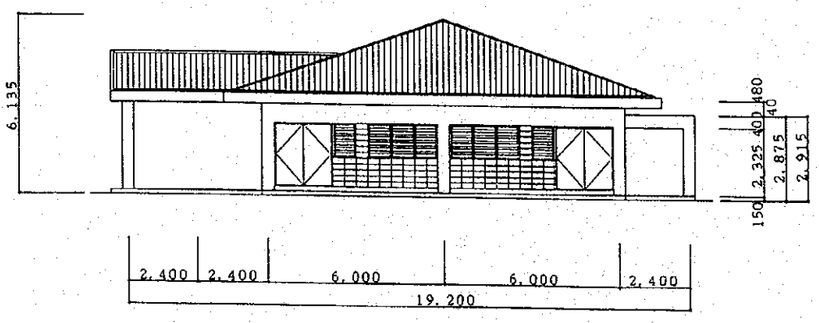
| | | |
|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: DINING HALL AND KITCHEN<br>Scale: 1/200 Date: 94. 9. 14 Dwg. No. A-7 |



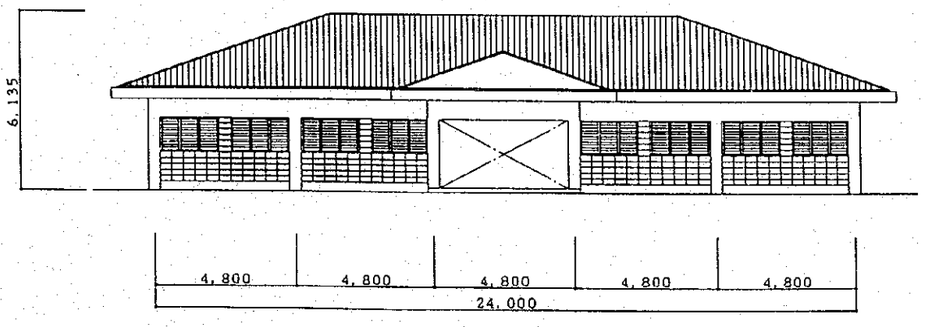

SECTION




PLAN

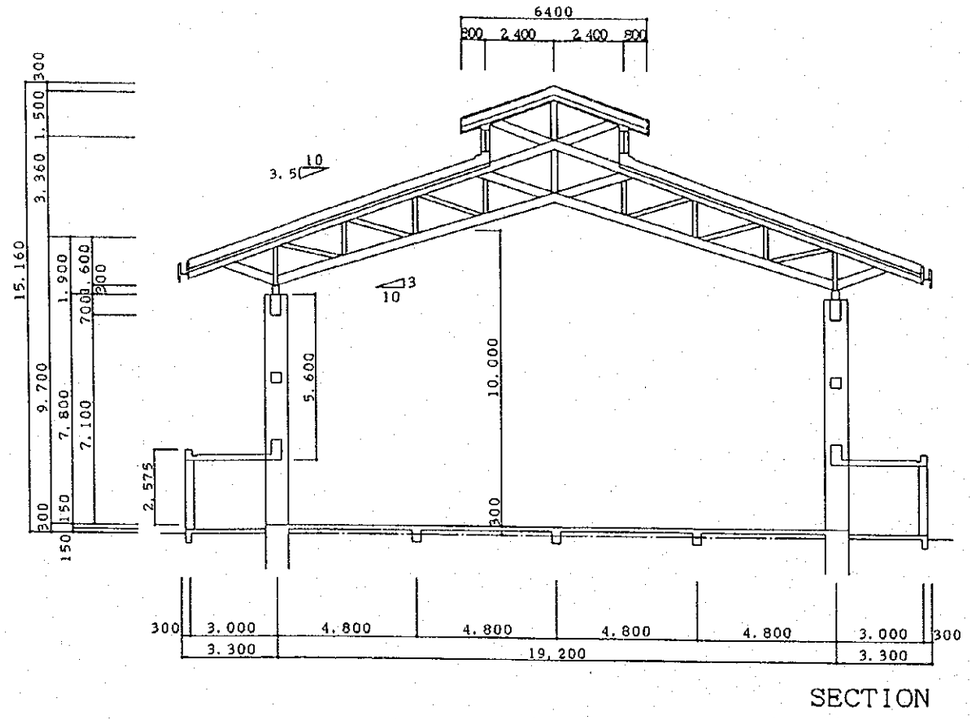



SIDE ELEVATION

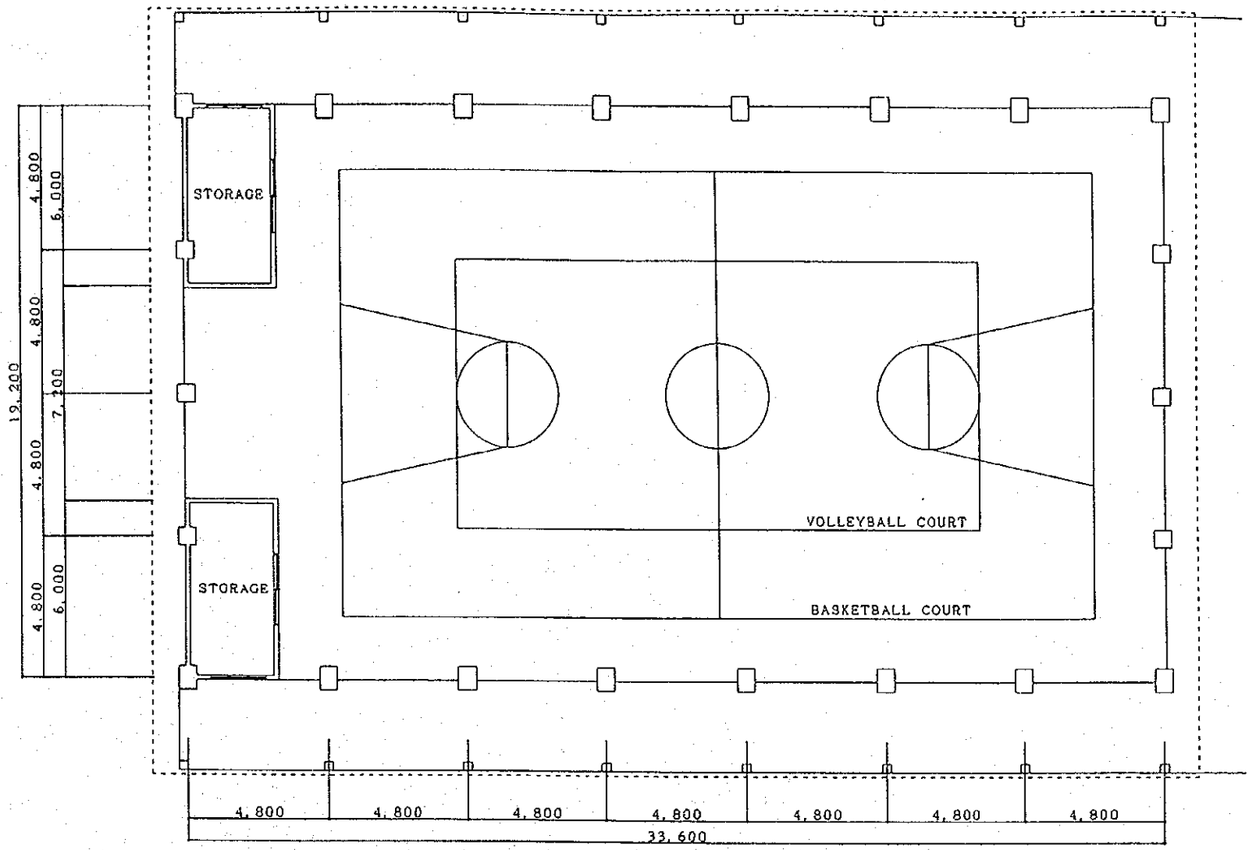



ELEVATION

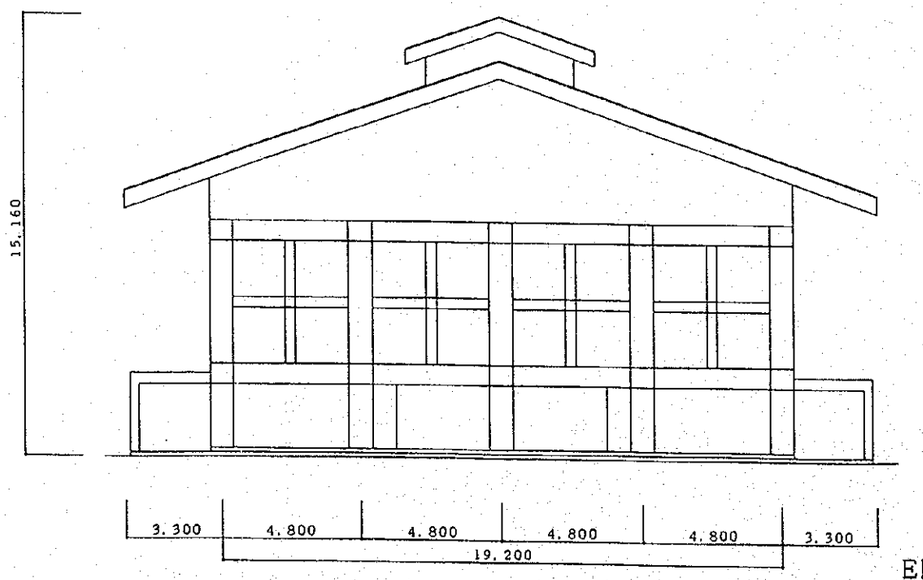
| | | | | |
|---|---|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: ADMINISTRATION BUILDING | | |
| | | Scale: 1/200 | Date: 94. 9. 16 | Dwg. No. A-8 |

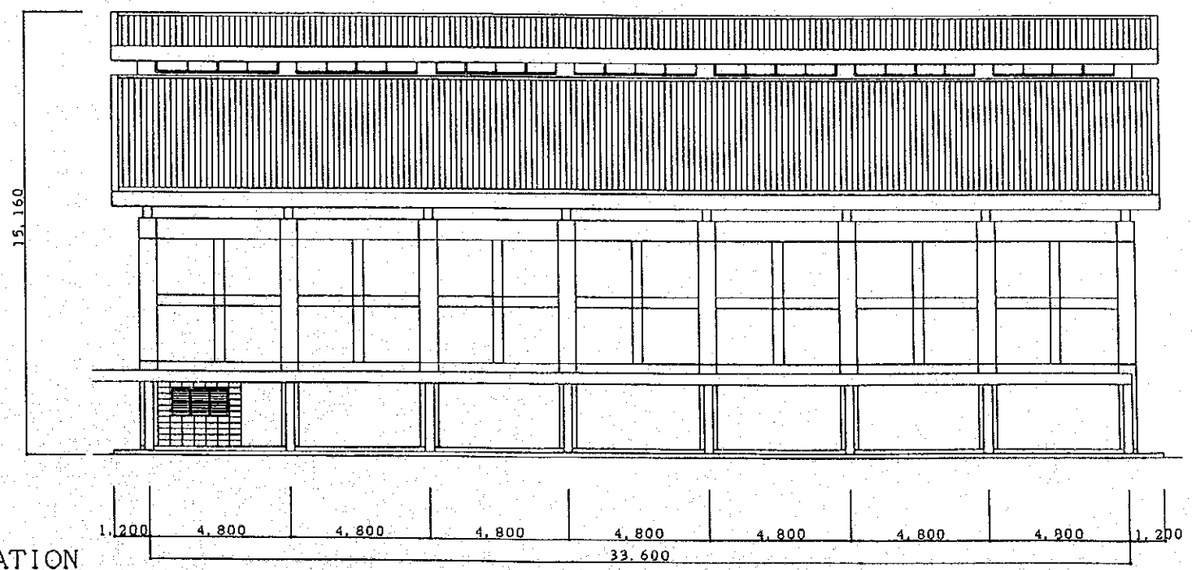



SECTION



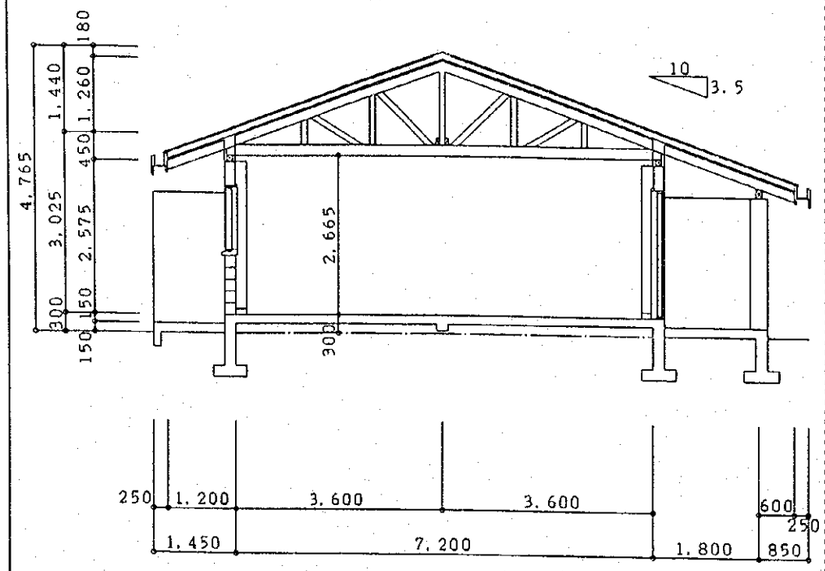

PLAN



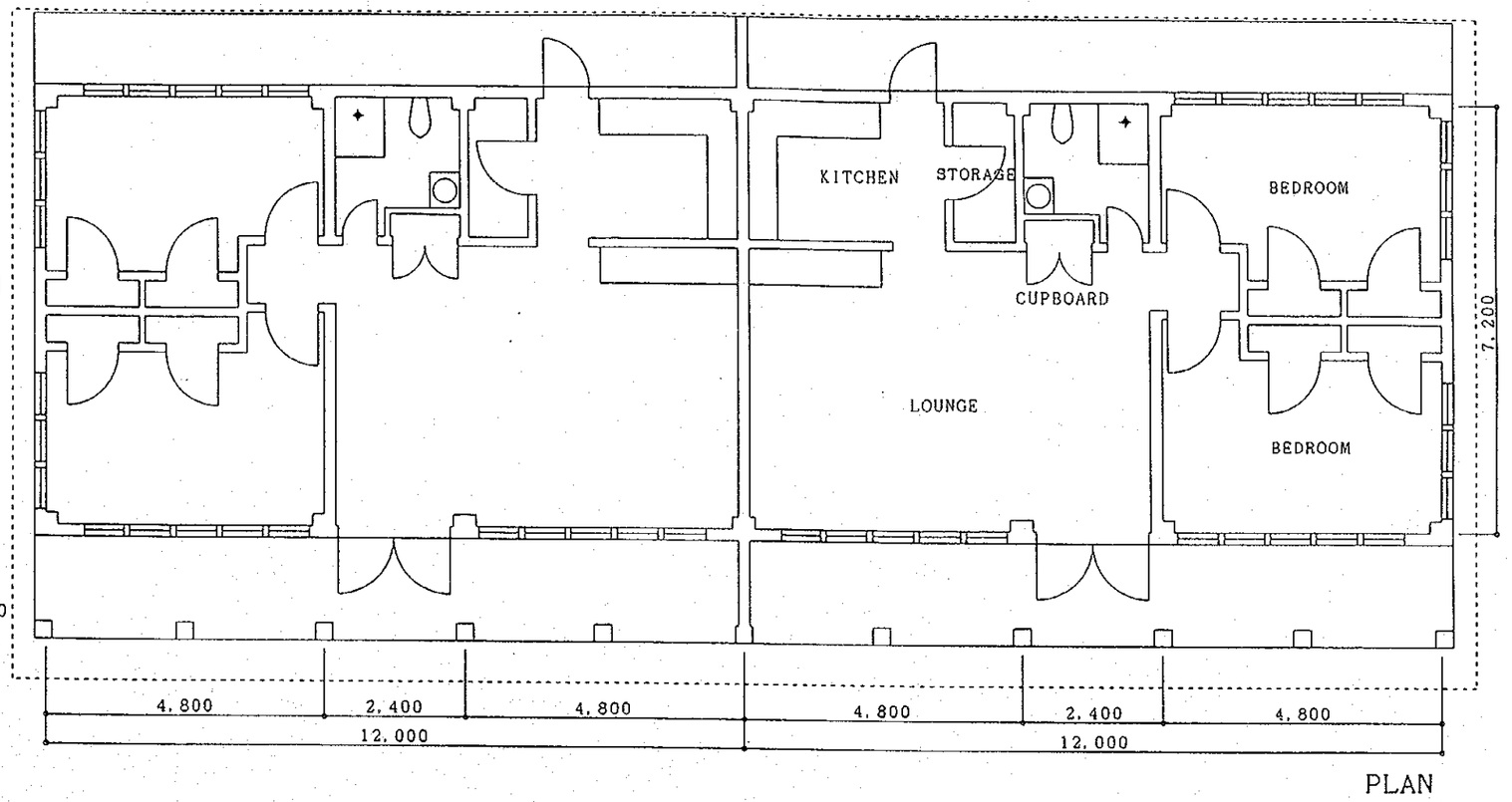




ELEVATION

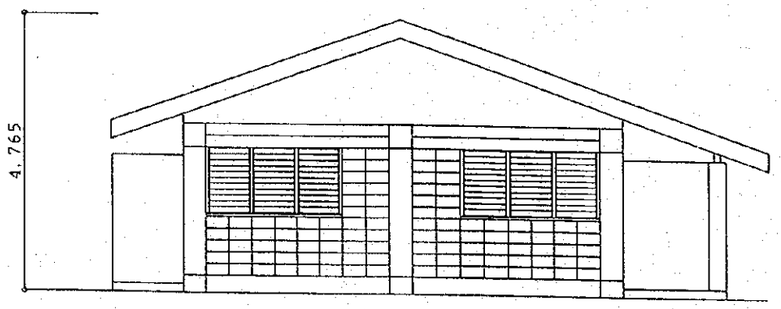
| | | |
|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: GYMNASIUM<br>Scale: 1/200 Date: 94. 9. 14 Dwg. No. A-9 |

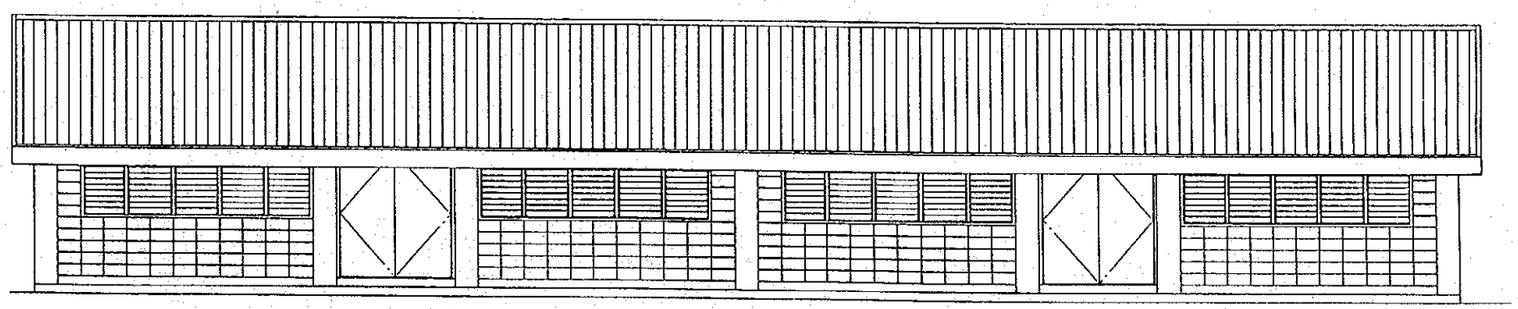


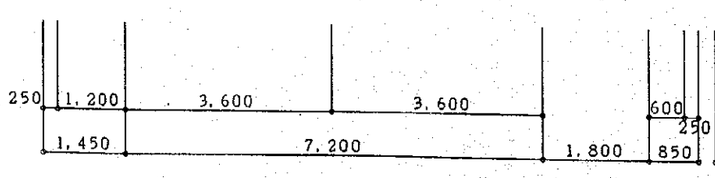

SECTION



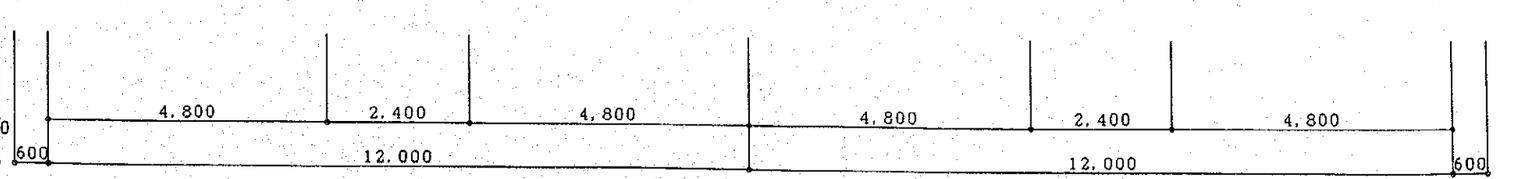

PLAN



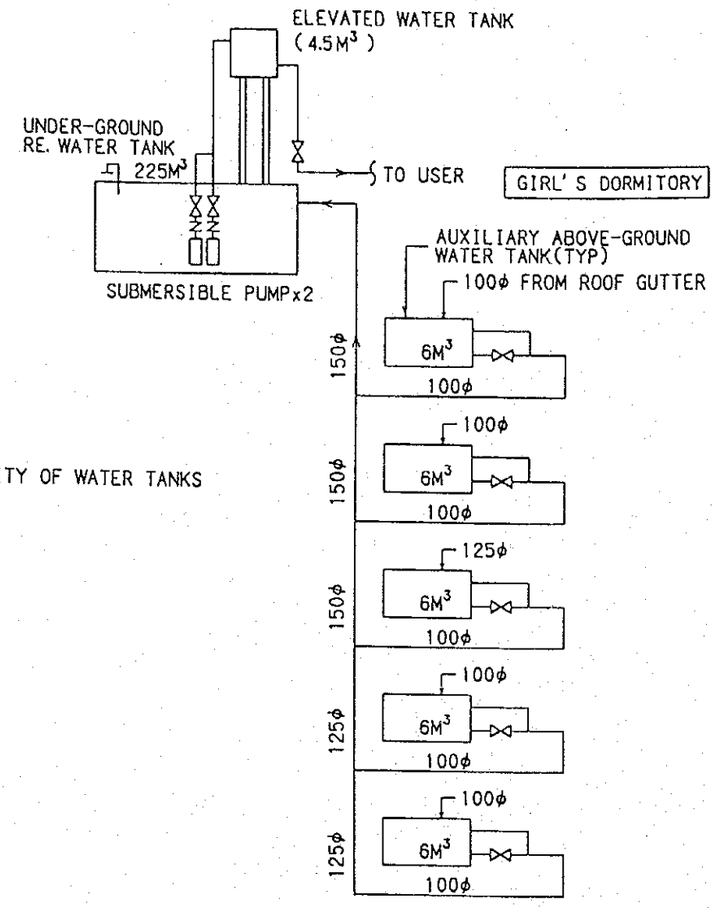



SIDE ELEVATION



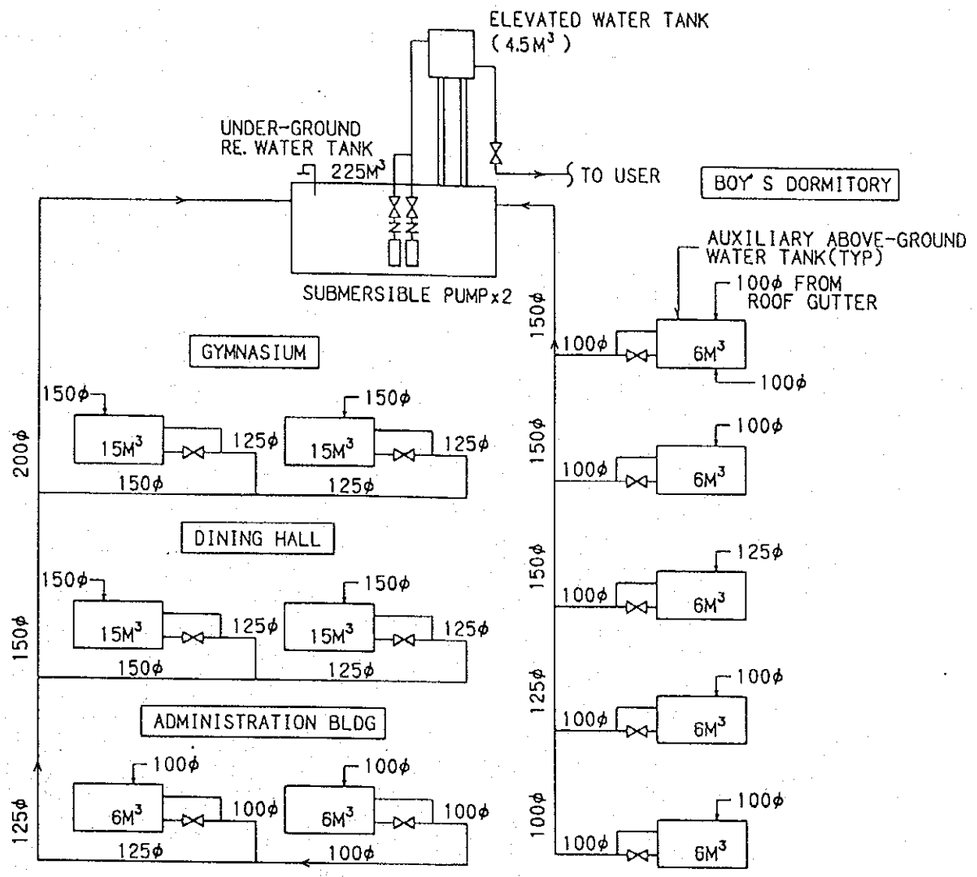

ELEVATION

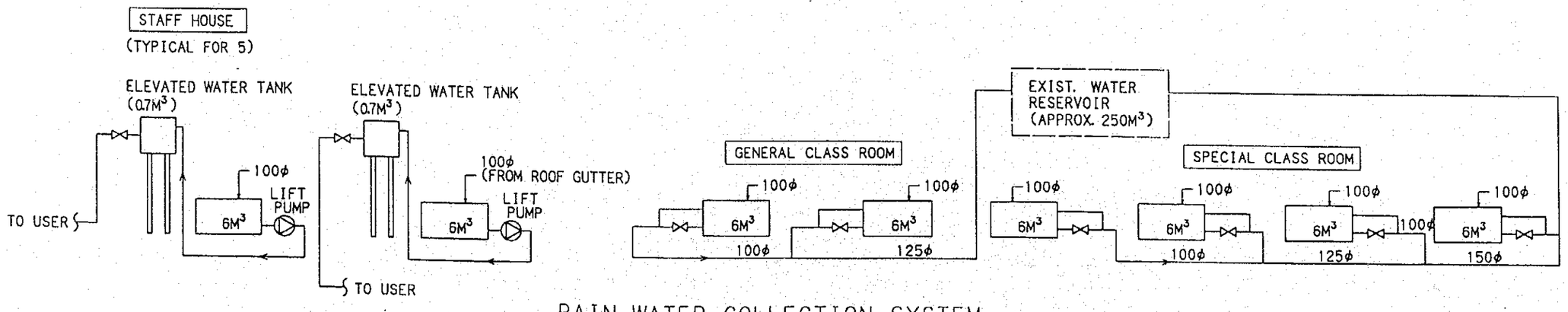
| | | | | |
|---|---|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: STAFF QUARTER | | |
| | | Scale: 1/100 | Date: 94. 9. 16 | Dwg. No. A-10 |




NOTE :

PIPING SIZE AND CAPACITY OF WATER TANKS
ARE REFERENCE ONLY



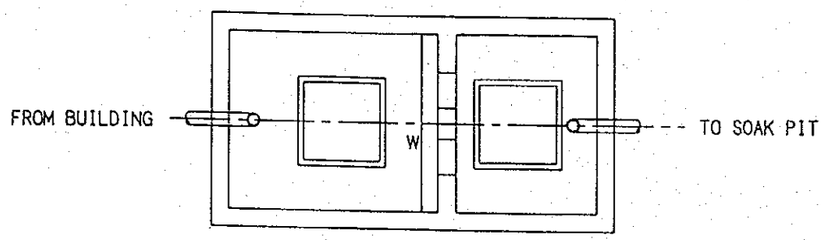

## RAIN WATER COLLECTION SYSTEM

| | | | | |
|---|---|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: RAIN WATER COLLECTION SYSTEM | | |
| | | Scale: NONE | Date: '94.9.16 | Dwg. No. P-1 |

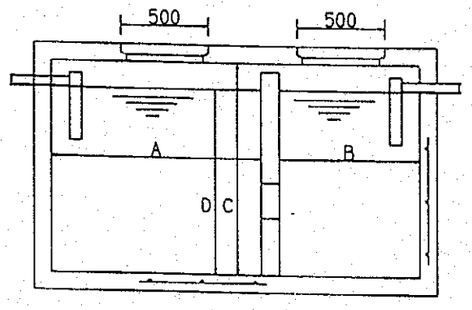
SEPTIC TANK DIMENSIONS

| No. of Persons | ONLY SOIL WASTE | | | | | | | QUANTITY | TREATMENT BUILDING |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | W | V(m³) | F(m³) | | |
| 10 | 1000 | 600 | 1000 | 850 | 800 | 1.22 | 0.02 | 5 | STAFF' S HOUSING |
| 25 | 1200 | 800 | 1200 | 1050 | 1000 | 2.10 | 0.05 | 1 | ADMINISTRATION BLDG |
| 50 | 1600 | 800 | 1400 | 1250 | 1000 | 3.00 | 0.06 | 6 | BOY' S & GIRLS DORMITORY |

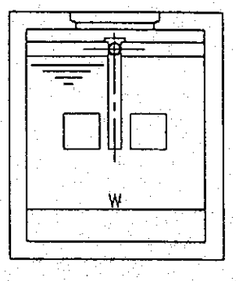
DETAILS OF REINFORCED CONCRETE SEPTIC TANK




PLAN




LONGITUDINAL SECTION

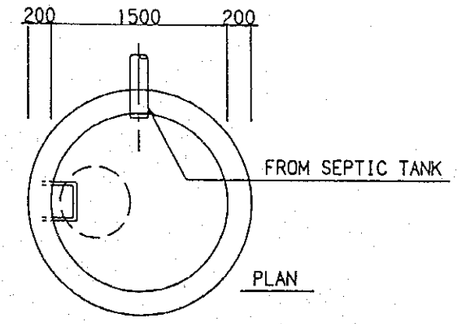



CROSS SECTION

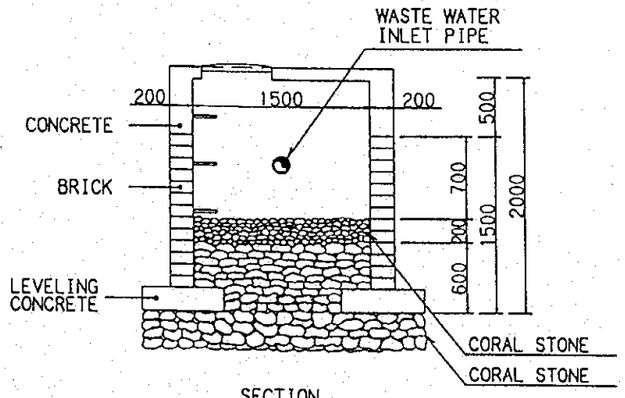
Notes:

1. All dimensions in mm
2. concrete to be 20 MPa grade
3. Reinforcement - 665 mesh or D10 at 250 crs both ways all around

DETAILS OF SOAK PIT




PLAN



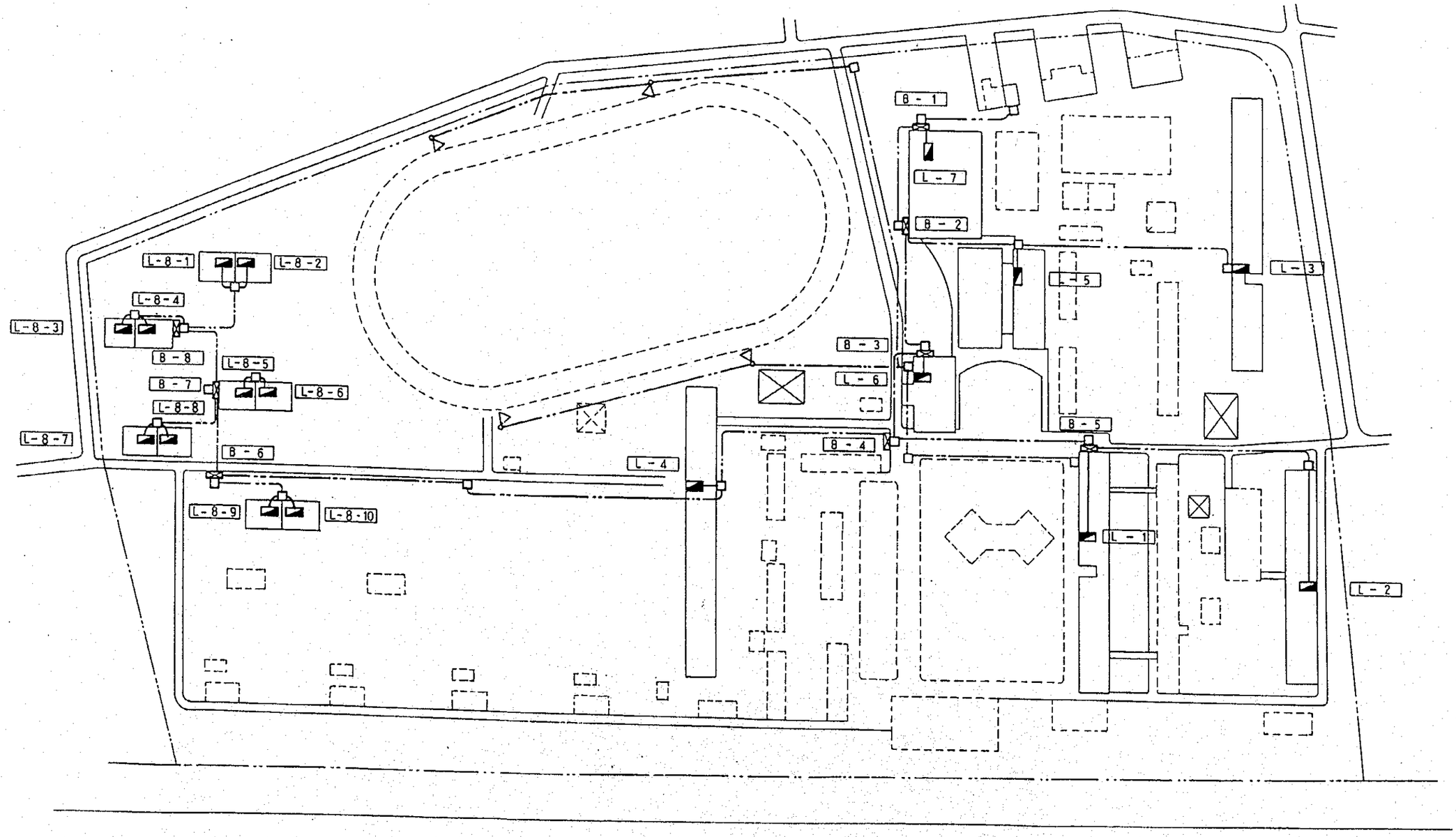

SECTION

QUANTITY

| | |
|---|---|
| ·Adminstration bldg. | 1 |
| ·Boy's Dormitory | 3 |
| ·Girl's Dormitory | 3 |
| ·Special Class Rm | 2 |
| ·Canteen | 1 |
| ·Staff's Housing | 5 |
| TOTAL | 15PCS |

| | | | |
|---|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: SEPTIC TANK AND SOAK PIT | |
| | | Scale: NONE | Date: '94.9.16 / Dwg. No. P-2 |

| SYMBOLS | DESCRIPTION |
|---|---|
| ——·—— | UNDER GROUND WIRING PIPING (GL-600) |
| ⊠ | POWER DISTRIBUTION BOARD OUTDOOR ANTISALT AND WATER PROOF TYPE |
| ▰ | DISTRIBUTION BOARD |

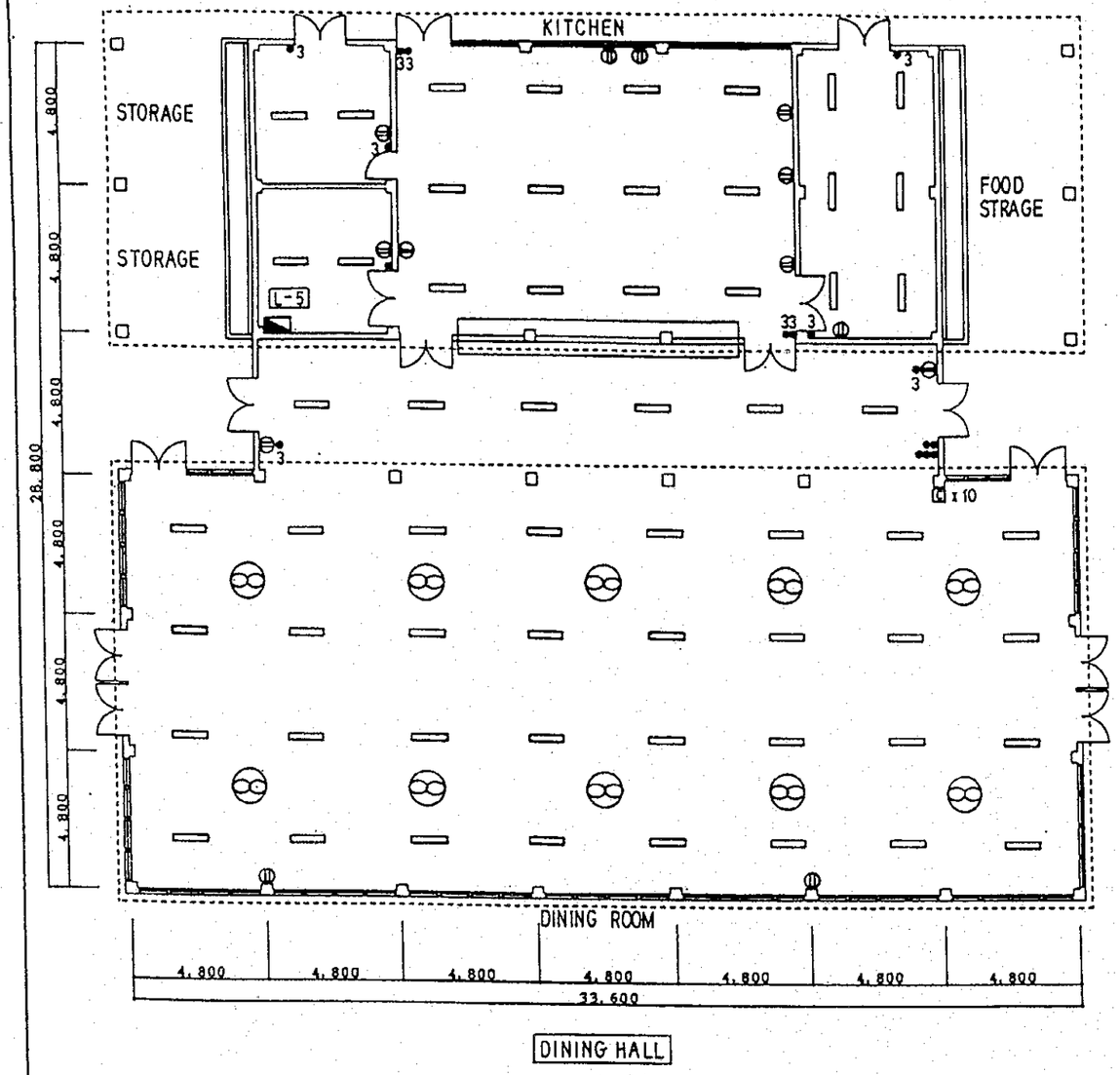


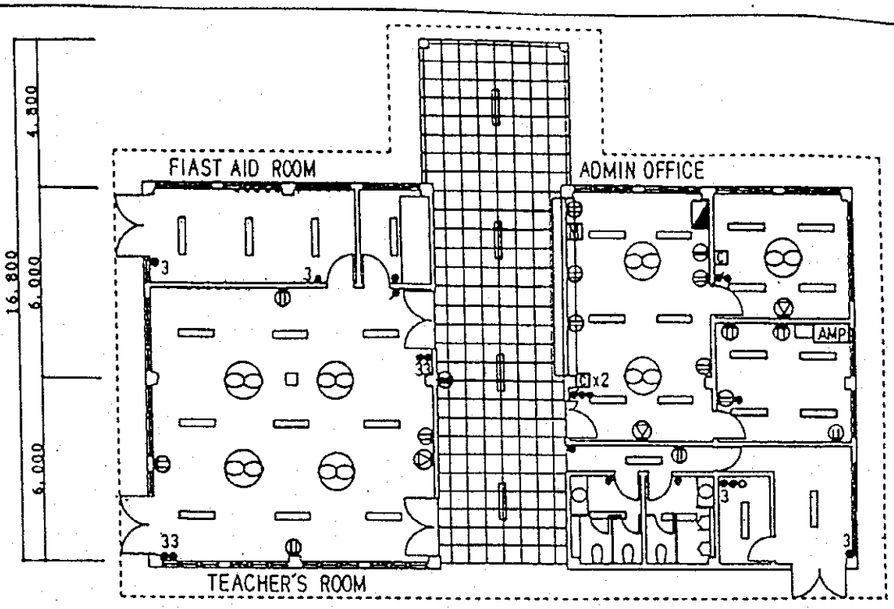

UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL

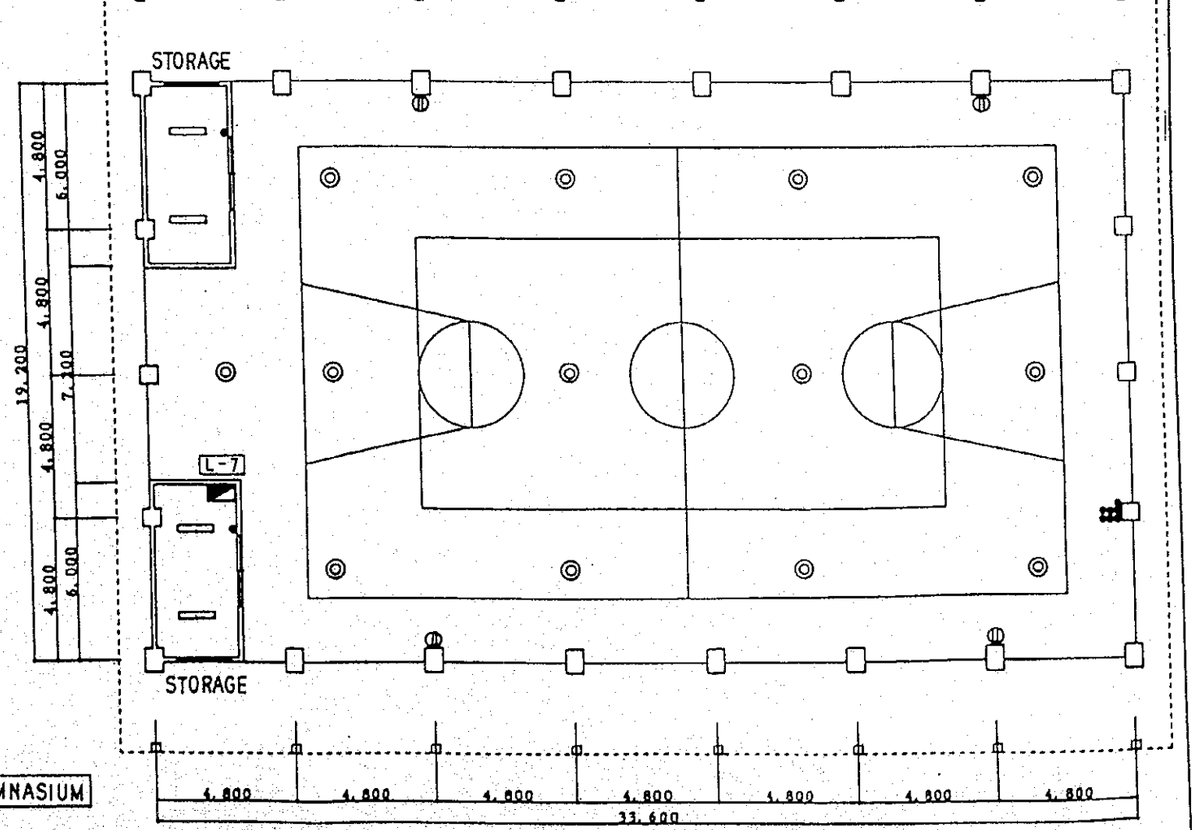
PACIFIC CONSULTANTS INTERNATIONAL

Title: SITE PLAN OF ELECTRICAL

Scale: 1/2000 | Date: 94. 9. 9 | Dwg No. E-1




NOTES

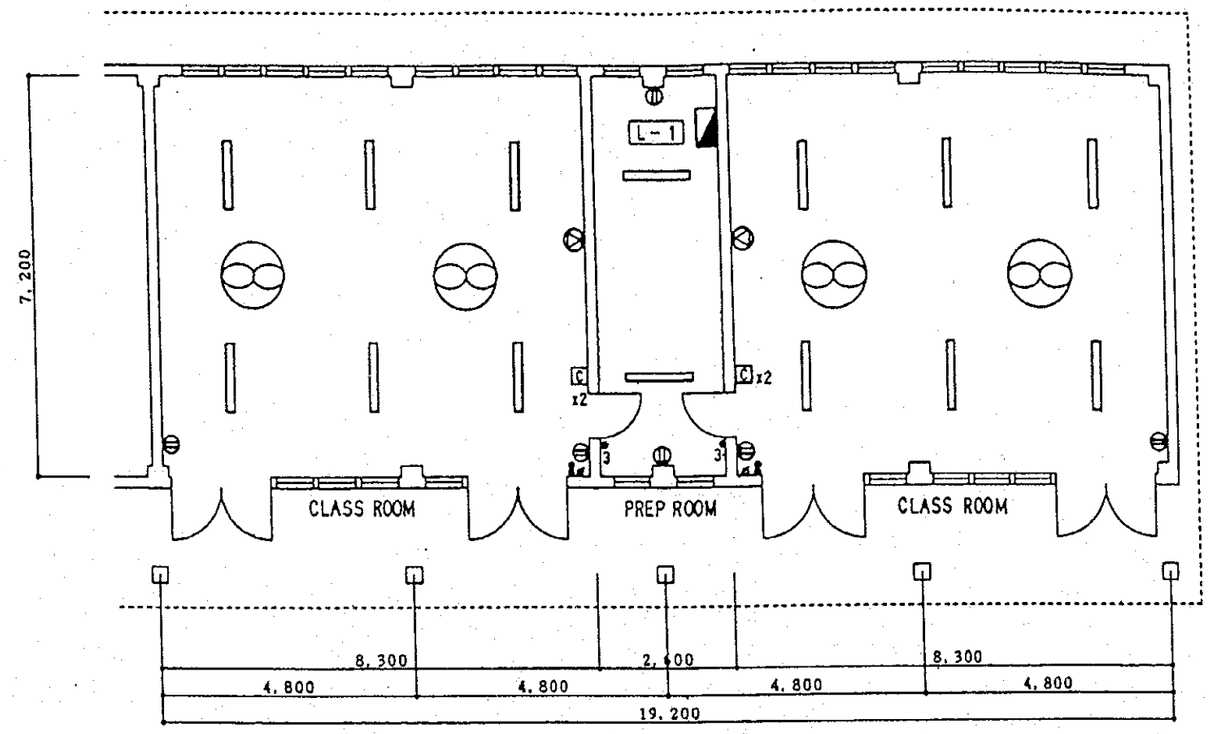
- LIGHTING FIXTURES
- SWITCH
- SOCKET OUTLET (WALL TYPE)
- – DITTO – (FLOOR TYPE)
- CEILING FAN
- SPEAKER (WALL TYPE)

UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUPOUA SECONDARY SCHOOL

PACIFIC CONSULTANTS INTERNATIONAL

Title: LIGHTING & SOCKETOUTLET PLAN

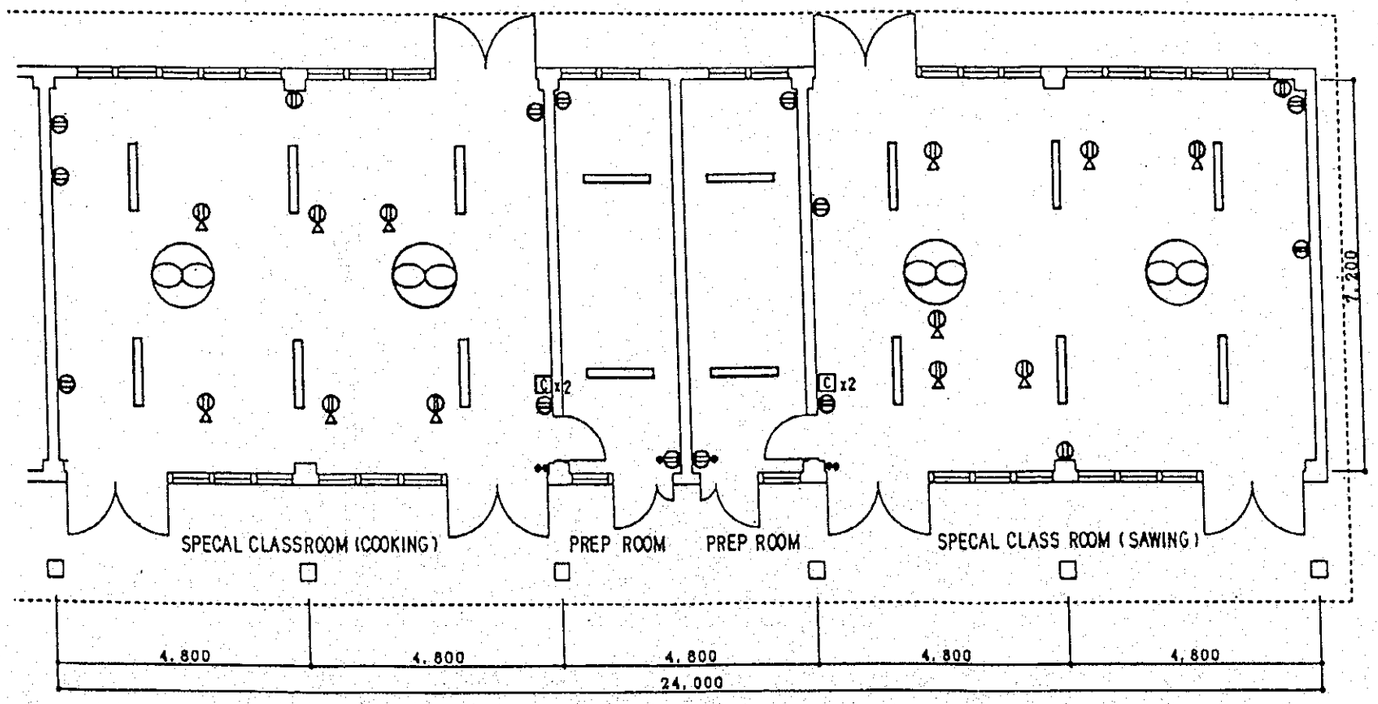
Scale: 1/200 | Date: 94.9.5 | Dwg No. E-2




GENERAL CLASSROOM

NOTES

- LIGHTING FIXTURES
- SWITCH
- SOCKET OUTLET (WALL TYPE)
- — DITTO — (FLOOR TYPE)
- CEILING FAN
- SPEAKER (WALL TYPE)




SPECAL CLASSROOM

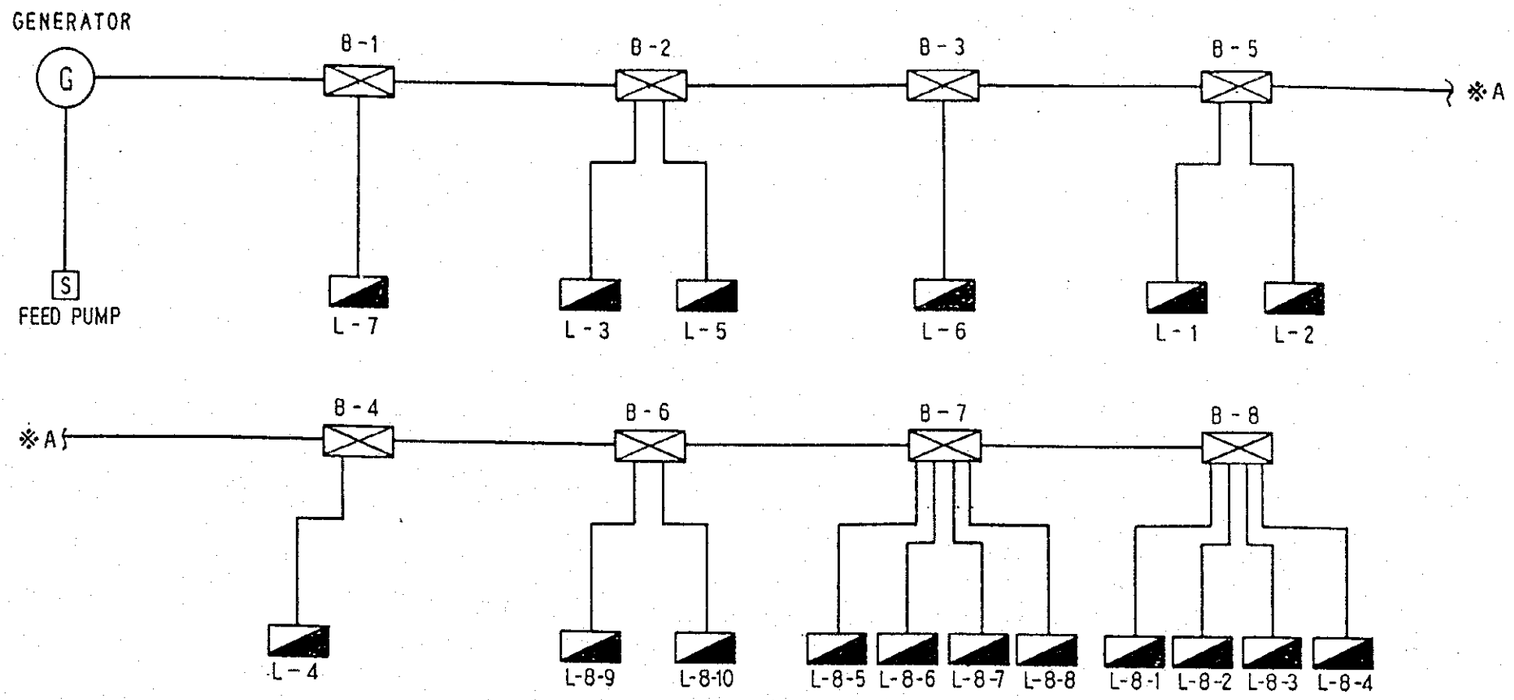
PLAN

UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL

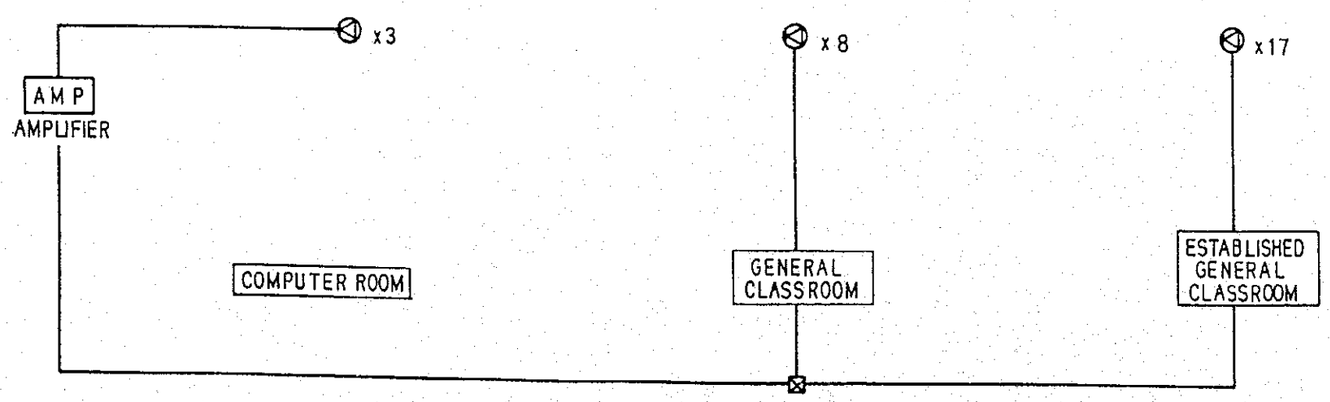
PACIFIC CONSULTANTS INTERNATIONAL

Title: LIGHTING & SOCKETOUTLET PLAN

Scale: 1/100 | Date: 94. 9. 9 | Drg. No. E-3




WIRING SCHME OF POWER CIRCUIT




WIRING SCHEME OF AMPLIFIER

| | | |
|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | PACIFIC CONSULTANTS INTERNATIONAL | Title: WIRING SCHEME<br>Scale: —— Date: 94. 9. 9 Dwg. No. E-4 |

## 4-4 Implementation Plan

### 4-4-1 Construction Condition in Tuvalu and Points to be Considered

Construction works for government-related buildings are mainly undertaken by the Government of Tuvalu in principle; the Ministry of Labour, Works and Communications and the Public Works Department (PWD) are in charge of building and repair works for these buildings. The contract between the PWD and the contractor carried out in accordance with public open tendering except for the case of a special project.

At present, there are only four local contractors in Tuvalu. However, due to the lack of construction works available throughout Tuvalu, these contractors carry out construction works by gathering labourers for each project. A local contractor mainly undertakes the construction work for government-related buildings, such as hospitals, schools and civil works such as road construction.

Most of the public buildings are made by wood, or concrete blocks with well-ventilated structures by considering sun shades and wind direction. The majority of local houses are constructed by local construction methods of either a single- storied wood construction, or single-storied concrete block housing, and the roofs of these houses are thatched by coconut leaves.

At present, the PWD consists of 12 carpenters, 5 joiners, 4 painters, 3 electricians, 1 technician, 4 plumbers, 4 mechanics and 4 welders, and with civil engineers, architects, electrical engineers, mechanical engineers and supervisors carry out the building and repair works for the public buildings.

The employment of skilled labourers is possible in Funafuti, but it is difficult for employment of the skilled labourers on the project island

The available construction equipment from the PWD is a tractor, a fork lift, a roller, a compressor, hose and a welding machine, and these can be rented at a price fixed by PWD. However, there is only one tractor available in Vaitupu island, and therefore construction equipment should be imported from outside of the island by barge.

Based on the above considerations, the following special precautions shall be made prior to the construction:

(1) The construction work of this project will be carried out by a Japanese Construction company. However, as a local construction company in Vaitupu island is not available, it is appropriate to gather labourers in Vaitupu which has already mentioned above, and give instructions directly to them for the carrying out of the construction work of the Project. Therefore, consideration shall be given to the skill of local labourers and the provision of a suitable work force and work allocation. A working plan shall be made in accordance with the construction period.

(2) The design of the buildings should consider the use of the required construction equipment, so as to execute the construction work without special and large construction equipment. However, even the minimum requirement may be diffecult to obtain when considering the transportation problem;

(3) Tuvalu does not have fully prepared legal regulations or standards for building construction works, and so Australian, New Zealand or Fijian standards will be adopted for the project. Therefore, the building design for the project should be

carried out in reference with these standards mentioned-above and taking into onsideration the local situations;

(4) Because local construction materials are unavailable except for sand and corallite, most of the materials must be imported. However, as the materials are transported by the sea, they are easily affected by the weather conditions. Therefore, the availability of materials, quality, quantity and delivery period must be investigated beforehand.

4-4-2 Implementation Method

(1) Basic Items

1) The exchange of Notes (E/N) shall be concluded between the Japanese Government and the Government of Tuvalu after the completion of the basic design study at the end of October 1994.

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

3) After the above-mentioned conclusion, a Consultant contract shall be concluded between a Consultant of Japanese nationality and the Government of Tuvalu and detailed design work shall be started immediately.

(2) Detailed Design Stage

1) For the Detailed Design, full details of facilities and equipment in the Basic Design should be carefully confirmed and discussed with the implementation agency.

2) The Consultant shall discuss the technical problems through meetings with the relevant authorities in Japan and Tuvalu during the Detailed Design stage.

3) The detail drawings will probably require about 4 months after the agreement of the E/N.

(3) Tender

1) The tender shall be conducted in accordance with JICA guideline.

2) The Contract shall be conducted either as one package with a Contractor or classified in two packages with Contractor to carry out the construction work and a supplier for the procurement of the educational equipment.

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

(4) Contractor and Supplier

1) Due to the lack of a local Contractor in Vaitupu island, a Japanese contractor will undertake the construction work and local labourers will be employed by the contractor and get their instructions directly. Therefore, the Japanese Contractor shall be required to effectively manage the labor

and site for the execution of the construction works and minimize loss of work.

2) The Construction should be liaised closely with the procurement of the educational equipment so that the implementation schedule and technical management can be controlled smoothly.

3) It is considered that the transportation plan and schedules for construction equipment and materials are the major factors in formulating an implementation schedule.

(5) Implementation Organization

The organizations involved in this project are as shown below.

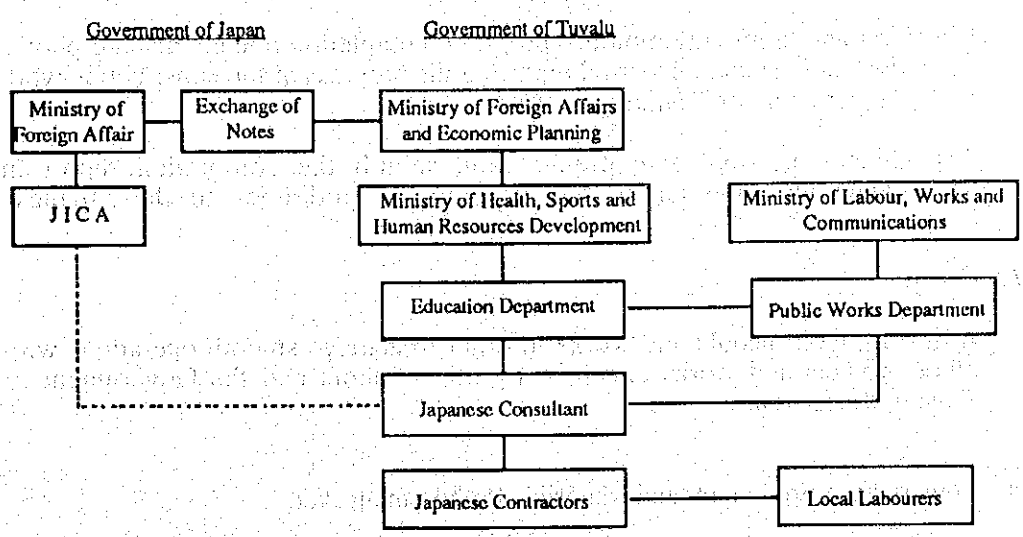
1) The Ministry of Foreign Affairs and Economic Planning of the Government of Tuvalu is the decision-making body dealing with the Grant Aid Programme;

2) The Education Department of the Government of Tuvalu is the implementation agency which will implement the project with the Japanese consultant, and Japanese contractor;

3) The Public Works Department of the Government of Tuvalu has responsibility for inspecting the technical aspects of this project and issuing the necessary approval during the construction period. The Education Department of the Government of Tuvalu has responsibility for the implementation of the educational equipment.

The following diagram shows the relationship between the Government of Tuvalu, the Japanese Consultant, the Contractor and the equipment suppliers.

Figure 4-9 Implementation Organization



4-4-3 Construction and Supervisory Plan

The scope of supervision works during the construction are as follows:

(1) Check and approval of construction plans and drawings

Checking and approving of construction plans, construction schedules, working drawings, materials, samples, equipment list, etc. submitted by the Contractor.

(2) Management of construction schedule

Giving instructions to the contractor and reviewing the progress report submitted by the Contractor in order to complete the construction work smoothly. In the case of the construction work being carried out by the Government of Tuvalu is found to be delayed the Consultant may urge a faster schedule for the construction work.

(3) Quality Control

Checking and giving approval for the quality of materials and construction works in accordance with the specification. However, the materials which are imported from Japan will be checked by engineers in the head office of the Consultant.

(4) Checking of the finished product

Checking the inished products and confirming the quantity.

(5) Assistance of payment and issue of certificates

Assisting of the procedures of checking bills, etc., relating to the payment of construction expenditure and issuing of certificates such as the certificate of practical completion, the completion certificate, etc., if necessary.

(6) Check and submission of monthly progress reports

Checking and approving monthly progress, completion documents and photos of works from the contractor and reporting the progress of the construction work to the Government of Tuvalu and JICA.

The Consultant shall also prepare and submit the completion report in accordance with the Grant Aid Programme guidelines to the Japanese Government.

(7) Others

Adjusting the schedule and works in order to achieve smooth operations with other projects and works executed by other donors and the Government of Tuvalu, if necessary.

4-4-4 Construction Equipment and Materials Procurement Plan

The procurement plan is prepared by considering the fact that the Tuvalu relies on imports for most of the materials except for coral sand and aggregates: When procuring the materials for the project, it is necessary to select those which facilitate easy maintenance and management of the facilities. Beside this,

the procurement period and routes of the transporation must be carefully investigated.

Procurement blocks of materials used in this project are defined as shown in Table 4-10.

Table 4-10 Procurement Situation of Construction Materials

| Name of material | Locally Produced | From Japan | From Third Country | Remarks |
|---|---|---|---|---|
| Sand/Gravel | O | | | |
| Cement | | | O | |
| Timber | | | O | |
| Re-bar | | O | O | |
| Concrete Blocks | O | | O | |
| Tiles | | | O | |
| Wood Fittings | | | O | |
| Metal Fittings | | | O | |
| Glass | | | O | |
| Water proof Agent | | | O | |
| Sheeting Plywood | | | O | |
| Roof Sheet Metal | | O | O | |
| Plastic Tiles | | | O | |
| Ceiling board | | O | O | |
| Paint | | O | O | |
| Miscellaneous Hardware | | O | O | |
| Distribution Panel Board | | O | O | |
| Lighting Appliances | | O | O | |
| Electric Cable/Conduit | | O | O | |
| Wiring Equipment | | O | O | |
| Generator | | O | O | |
| Transformer | | O | O | |
| Communication Appliance | | O | O | |
| PVC pipes | | | O | |
| Sanitary Fixtures | | | O | |
| Elevated Reservoir Tank | | O | O | |
| Pumps | | O | O | |

Table 4-11 Procurement Situation of Construction Equipment

| Name of material | Locally Available | From Japan | From Third Country | Remarks |
|---|---|---|---|---|
| Back hoe (0.6 $m^3$) | | O | O | with breaker |
| Shovel loader | | O | O | |
| Pump truck (4t) | | O | O | |
| Track (4t) | | O | O | with boom |
| Vibrating roller | | O | O | |
| Rammer | | O | O | |
| Compactor | | O | O | |
| Concrete mixer (0.3 $m^3$) | | O | O | |
| Re-bar cutter | | O | O | |
| Re-bar bender | | O | O | |
| Mortar mixer (0.3 $m^3$) | | O | O | |
| Concrete Block making machine | | O | O | |
| Water pump | | O | O | |
| Generator (35 KVA) | | O | O | |
| Generator (2.2 KVA) | | O | O | |
| Engine welding machine | | O | O | |
| Crusher | | O | O | |
| Tank rolley | | O | O | |
| Temporary scaffolding | | O | O | |
| Concrete Dumper | | O | O | |

## 4-4-5 Transportation Schedule

### (1) Transportation route

Because the wharf of Vaitupu has been damaged by a cyclone, the transportation of equipment and materials should be well planned in detail beforehand.

There are three services per month between Kiribasu, Funafuti and Suva by boat, but only one service per month between Funafuti and Suva. Therefore, imports from Australia are usually brought to Funafuti via Kirivasu, and goods from New Zealand and Fiji are brought to Funafuti via Suva.

If containers is small enough, it is possible to bring them directly to Funafuti from Japan. Therefore, there are three ways for the transportation of equipment and materials available at this time, via Kiribasu, Suva and directly to Funafuti.

A. Australia → Kiribasu (2 trips/month) → Funafuti (Transshipment) sea → Vaitupu (Barge) road → Site

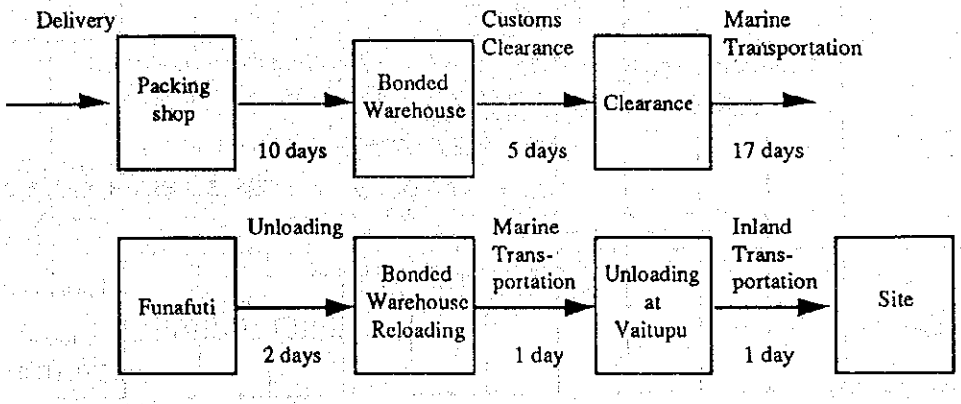
B. New Zealand → Suva (Transshipment) sea → Funafuti (1 trip/month) (Transshipment) sea → Vaitupu road → Site

C. Japan → Funafuti (Transshipment) sea → Vaitupu road → Site

The available ships for the transportation of materials from Funafuti island to Vaitupu island are currently only two boats, named Nivaga and Te Tautai. For lifting down heavy materials as Nivaga does not have a crane, Te Tautai which is furnished with 2 cranes should be used. The 2 cranes together on the Te Tautai can lift a maximum weight of 7 tons.

The required number of days from the carrying of the material into packing shops in Japan to arrival at the site is estimated as follows:

Figure 4-10 Time Required for the whole Transportation Process




Besides the above, another two days will be required for unloading at Vaitupu, and therefore it will require approximately 38 days in total for the transportation from Japan to the site. However, this schedule will be altered by the weather and ship conditions (approximately 90 days might be required for transportation at a maximum).

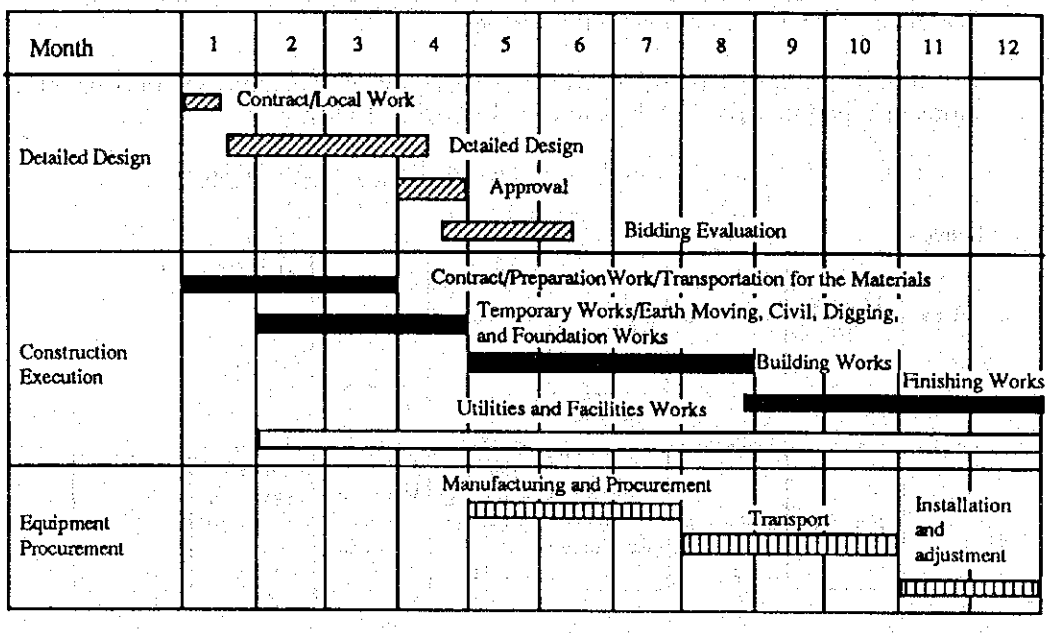
(2) Type of packing

In principle, the construction materials for the project will be transported in containers in order to secure their quantity and quality.

## 4-4-6 Implementation Schedule

The tentative implementation schedule for the Project is expected as shown in Table 4-12

Table 4-12 General Project Schedule




## 4-4-7 Scope of Works

The portions to be dealt with by the Japanese side and by the Government of Tuvalu for the implementation of this Japan's Grant Aid Programme are shown in Table 4-13.

Table 4-13 Extent of Works

| Portion by Japanese Side | Portion by Tuvalu Side |
|---|---|
| (1) Architectural Works<br>Structure, architectural finishing | (1) Ground Preparation<br>Demolishing and removal of existing structures and ground preparation |
| (2) Electrical Works<br>Generator, power, trunk facilities, lighting, power outlets, broadcast facilities | (2) External Works<br>Gardening, planting, fencing, internal roads, external lighting |
| (3) Water and Sewers/Air-conditioning and Ventilation<br>Water supply, sewerage system, sanitary facilities, air-conditioning, ventilation, kitchen facilities | (3) Restoration and Upgrading Works for the Maneaba and tennis, volleyball and basketbal courts. |
| (4) Educational Furniture and Equipment<br>General classroom materials, furniture and equipment, special classroom materials, installation work | (4) Others<br>Government applications and approvals, Duty-free import procedures and customs, clearance procedures |
| (5) Restoration works for the existing facilities | (5) Necessary expenses for maintenance, management and operation of the facilities |

# CHAPTER 5 EFFECTS OF THE PROJECT AND CONCLUSION

## 5-1 Effects of the Implementation of the Project

By the implementation of this project, the accommodating capacity of facilities at the Motufoua Secondary School will be improved from 330 students to 600. The Project will also provide the opportunity of Secondary education for all the students who have finished their primary education in Tuvalu. Thus, the project will be able to accomplish the Government's objective in the education sector which is formulated to improve Secondary education as the first priority rating within the EFL Programme.

The improvement of Secondary education will enhance the provision of appropriate education and training systems as well as an improvement of human resources for the further development of Tuvalu, and as a result it will contribute to the nation's social and economic progress.

For Tuvalu, comprising of 6 atolls and 3 small reef islands with approximately 9,000 inhabitants, the Motufoua Secondary School is the most important education facility in the country. It can be said that the students who graduate from Motufoua Secondary School, on the island of Vaitupu, will be entrusted of the future development of the country. The major issues which coincide with the implementation of the Project, are to maintain an adequate number and level of teachers, a sufficient supply of water, power, gas and fuel, and to establish well organized operation and maintenance systems. The Government of Tuvalu is making a great effort to overcome these issues, and the Project will be more effective in achieving it's goal if improvements to these issues mentioned above have been solved.

## 5-2 Conclusion

In accordance with the result of the study on the necessity, validity, propriety and effectiveness of the Project, it is anticipated that the implementation of this project under Japan's Grant Aid will have a positive effect.

# APPENDICES

Appendix-1 MEMBER LIST OF SURVEY TEAM

**(1) Basic Design Survey (July 18 - August 13, 1994)**

| | (Role) | (Name) | (Organization) |
|---|---|---|---|
| 1) | Team Leader | Mr. Ichirou Mukai | Grand Aid Dept., JICA |
| 2) | Grant Aid Programme | Mr. Makoto Yamashita | Embassy of Japan in Fiji |
| 3) | Project Manager (Architectural Planner) | Mr. Tetsuji Hatano | Pacific Consultants International (P.C.I.) |
| 4) | Facilities Planner | Mr. Hiroshi Ijima | P.C.I. |
| 5) | Equipment Planner | Mr. Yasumichi Doi | P.C.I. |
| 6) | Sanitary Planner (Boring Surveyor) | Mr. Kenichi Hayashida | P.C.I. |

**(2) Basic Design Survey, Draft Report Explanation (September 18 - October 13, 1994)**

| | (Role) | (Name) | (Organization) |
|---|---|---|---|
| 1) | Team Leader | Mr. Toshiyuki Nishimoto | Grand Aid Division, Economic Cooperaton Bureau, Ministry of Foreign Affairs |
| 2) | Project Cordination | Mr. Hiroshi Nishiki | Training Affairs Division, Okinawa International Centre, JICA |
| 3) | Project Manager (Architectural Planner) | Mr. Tetsuji Hatano | P.C.I. |
| 4) | Equipment Planner | Mr. Yasumichi Doi | P.C.I. |

Appendix-2 SURVEY SCHEDULE

## (1) Basic Design Survey (July 18 - August 13, 1994)

| No. | Date | Place | Activity |
|---|---|---|---|
| 1. | Jul. 18 (Mon) | Narita (20:00) - Nandi (7:30) | |
| 2. | Jul. 19 (Tue) | Nandi (8:30) - Suva (11:40) | |
| | | 12:00 Japanese Embassy | Courtesy call (Mr. Mukai) |
| | | PM JICA Fiji Office | |
| | | AIDAB Office | Courtesy call and meeting with Mr. Chirs Wheeler, First Secretary |
| | | UNDP Office | Courtesy call and meeting with Mr. Parviz C. Fartash, Assistant Resident Representative |
| | | Night Reception at JICA Fiji Office | Meeting on the survey schedule |
| 3. | Jul. 20 (Wed) | Suva (10:00) - Funafuti (13:10) | |
| | | PM Education Dept. | Courtesy call to Mr. Hon Faimalagi Laka, Minister of Education Dept. |
| | | | Meeting with Mr. Hauma Penehuro and Mr. Pita Afelee |
| | | | Inspection around the islands. (Fetuvalu Secondary School, etc.) |
| 4. | Jul. 21 (Thu) | AM Viaku Lagi Hotel conference room | Meeting with GOT:<br>- Explanation of Japan's Grant Aid Programme<br>- Explanation of Inception Report and Questionnaire |
| | | Funafuti Primary School (11:00 - 12:30) | Investigation with Mr. Natano, Principal |
| | | PM Education Dept. (13:30-15:30) | Meeting with three staffs of Education Dept. |
| 5. | Jul .22 (Fri) | AM USP Extension Centre | Inspection with Mr. Pafin Nouata, chief. |
| | | Education Dept. | Meeting with three staffs of Education Dept. |
| | | PM Fetuvalu Secondary School | Inspection on similar facilities |
| | | Amatuc Maritime School | Inspection |
| | | Amature (17:00) - Vaitupu (1:00) | |
| 6. | Jul. 23 (Sat) | Vaitupu (7:00) | |
| | | AM Motufoua Secondary School | Meeting with Motufoua Secondary School and Education Dept.:<br>- Explanation of Inception Report and Questionnaire |
| | | PM | Site survey at Motufoua Secondary School |

| No. | Date | Place | Activity |
|---|---|---|---|
| 7. | Jul. 24 (Sun) | AM<br><br>PM Motufoua Secondary School | Team meeting (M/s Mukai, Yamashita and Hatano)<br><br>Well condition survey (M/s Ijima, Doi and, Hayashida)<br>Campus Survey<br>- Teacher's quarters<br>- Discussion with school side staffs |
| 8. | Jul. 25 (Mon) | AM Marine Products Centre<br><br>Vaitupu Islands Council<br><br>Vaitupu (9:50) - Funafuti<br><br>Night | Inspection (M/s Mukai, Yamashita and Hatano)<br>Courtesy Call (M/s Mukai, Yamashita and Hatano)<br>(M/s Mukai, Yamashita and Hatano return to Funafuti)<br>(M/s Ijima, Doi, Hayashida are left and continue survey in Vaitupu (~Jul 30))<br>Visit to Mr. Ito, JICA Expert in Tuvalu. |
| 9. | Jul. 26 (Tue)<br>Funafuti | AM Viaku Lagi Hotel Conference Room<br><br>PM Viaku Lagi Hotel Conference Room | Discussion on the Minutes' draft with Mr. Penefulo, Mr. David and so on<br>(M/s Mukai, Yamashita and Hatano)<br><br>Discussion on the Minutes' draft |
| 10. | Jul. 27 (Wed) | AM Viaku Lagi Hotel Conference Room<br><br>PM Funafuti (13:45) - Nandi (16:55)<br>Nandi (18:00) - Suva (18:35) | Signing of Minutes (Minister of MHSHRD and Mr. Mukai)<br>Meeting with Education Dept.<br><br>(Mr. Mukai and Mr. Yamashita) |
| 11. | Jul. 28 (Thu) | AM Education Dept.<br><br>PM Meteorological Observatory<br><br>Education Dept.<br><br>JICA Office (Fiji)<br>AIDAB Office (Fiji)<br><br>Suva - Nandi (by land) | Meeting<br><br>Investigation (hearing and collecting data, etc.)<br>Discussion with Mr. Penehulo and visit to Mr. David's Residence<br>Report of field survey (Mr. Mukai)<br>Meeting (Mr. Mukai)<br><br>(M/s Mukai, Yamashita and Watanabe) |
| 12. | Jul. 29 (Fri) | AM Marine Division<br><br>Ministry of Finance<br><br>PM Marine Products Centre<br><br>Education Dept.<br>Nandi - Auckland | Discussion on marine transportation route with Mr. Sio<br>Discussion on Budget with Mr. Mosei, Secretary of Finance<br><br>Investigation at Centre with Mr. Teramae<br>Meeting about general information in Tuvalu with Mr. Ito, JICA Expert in Tuvalu.<br>Discussion with Mr. Penehulo<br>(M/s Mukai, Yamashita and Watanabe) |
| 13. | Jul. 30 (Sat) | AM<br>Vaitupu (10:00) - >Funafuti (18:00)<br><br>Auckland (9:35)- Narita (17:15) | (M/s Ijima, Doi and Hayashida)<br>Review of information (Mr. Hatano)<br>(Mr. Mukai and Mr. Watanabe) |

| No. | Date | Place | Activity |
|---|---|---|---|
| 14. | Jul. 31 (sun) | AM | Review of information and team meeting<br>(Field survey in Vaitupu) |
| 15. | Aug. 1 (Mon) | | National Holiday |
| 16. | Aug. 2 (Tue) | AM Education Dept.<br>PWD<br><br><br><br>PM PK construction<br><br>Education Dept. | Discussion about schedule with Mr. Penehulo<br>Survey on the general conditions of construction in Tuvalu with Mr. Tapaeko.<br>- Collection of Architectural Standard, Estimation sheet, Drawings, etc.<br>Investigation at PWD<br>Hearing on the general condition of local contractors in Tuvalu with Mr. Polani Papua<br>Meeting, review and take copies of data about condition of construction with Mr. David |
| 17. | Aug. 3 (Wed) | AM PWD<br><br>Meteorological Observatory<br><br><br>PM Education Dept. | Hearing on the general condition of construction from Mr. Tapaeko<br>Meeting on the answer to the Questionnaire<br>Survey on the unit price of building materials<br><br>Discussion on the answer to the Questionnaire, administration and management expense, and master plan with Mr. Penefulo |
| 18. | Aug. 4 (Thu) | AM<br>Fishery Dept.<br><br>Statistics Dept.<br>Customs Office | Review of data, preparation of draft report<br>Discussion with Mr. Sautia Maluofenua, Director<br>Collection of information<br>Discussion with Mr. Kausea Natano, Director of Customs & Taxation |
| 19. | Aug. 5 (Fri) | AM Education Dept.<br><br>Church | Discussion on the list of equipment facilities with Mr. Penehulo and Mr. David.<br>Discussion on the facility layout plan<br>Inspection on the construction site of the church |
| 20. | Aug. 6 (Sat) | Education Dept./PWD | Meeting with Mr. Penefulo and Mr. Tapaeko |
| 21. | Aug. 7 (Sun) | | Review of information and team meeting<br>- Confirmation of what had been investigated.<br>- Check of what had not been investigated yet.<br>Survey on the building condition of government office in the central area |
| 22. | Aug. 8 (Mon) | AM PWD<br><br>PM Education Dept. | Survey on unit price of building materials and inspection on buildings<br>Review of information<br>Discussion<br>Team meeting<br>Meeting with T+T (Topographical survey and soil investigation) |

| No. | Date | Place | Activity |
|---|---|---|---|
| 23. | Aug. 9 (Tue) | AM Education Dept.<br><br>Ministry of Foreign Affairs<br><br>Funafuti (13:15) - Suva (16:30) | Courtesy greetings to the Minister of Education Dept. and survey report<br>Courtesy greetings to the Acting Minister and survey report |
| 24. | Aug. 10 (Wed) | Japanese Embassy, JICA<br><br><br>UNDP, AIDAB<br>USP Centre<br>SOPAC | Survey Report<br>Survey on the unit price of building materials<br>Survey report<br>Inspection<br>Collection of information |
| 25. | Aug. 11 (Thu) | Suva - Nandi (by land) | |
| 26. | Aug. 12 (Fri) | Nandi (8:50) - Auckland (11:55) | Contract field survey with T+T in NZ. |
| 27. | Aug. 14 (Sat) | Auckland (9:35) - Narita (7:15) | M/s Hatano, Ijima, Doi, Hayashida leave for Japan. |

## Survey Schedule on Vaitupu Island
## (Jul. 25 - 30, 1994: during Mr. Ijima, Mr. Doi and Mr. Hayashida stay)

| No. | Date | | Activity |
|---|---|---|---|
| 8. | Jul. 25 (Mon) | AM | M/s Yamashita, Mukai, Hatano, Penehuro leave for Funafuti<br>Survey on existing building: general classroom bldg., science bldg., Principal's quarter and south property line. |
| | | PM | Same as above: kitchen/dining hall and boy's dormitory) |
| 9. | Jul. 26 (Tue) | AM | Same as above: home economics bldg., social science bldg. and girls dormitory |
| | | PM | Same as above: D-class teacher's quarter and north property line.<br>Request the answers to the Questionnaire to the Principal.<br>Request to make a building list. |
| 10. | Jul. 27 (Wed) | AM | Preparation of field notes for building survey<br>Lunch with students |
| | | PM | Preparation of field notes for building survey |
| 11. | Jul. 28 (Thu) | AM | Survey on Existing bldg.: general classroom bldg. and science bldg. |
| | | PM | Same as above: power house and Maneaba<br>Dinner Party |
| 12. | Jul. 29 (Fri) | AM | Survey on an open space near the Resource centre<br>Receipt of building list |
| | | PM | Request the answer to the Questionnaire again<br>Survey on the situation of water tanks and the west property |
| 13 | Jul. 30 (Sat) | AM | Departure to Funafuti . |

## (2) Basic Design Study, Draft Report Explanation (September 22 - October 6, 1994)

| No. | Date | Place | Activity |
|---|---|---|---|
| 1. | Sep. 22(Thu) | Narita (20:00) - Nandi (7:30) | |
| 2. | Sep. 23 (Fri) | Nandi (9:45) - Suva (10:20) | |
| | | Japanese Embassy | Courtesy call and meeting |
| | | JICA Fiji Office | Courtesy call and meeting |
| | | Suva (17:00) - Nandi (17:35) | |
| 3. | Sep. 24 (Sat) | Nandi (8:00) - Funafuti (11:00) | |
| | | Education Dept. | Meeting with staffs of Education Dept., MHSHRD. |
| 4. | Sep. 25 (Sun) | Similar facilities in Funafuti | Inspection on similar facilities<br>Team meeting |
| 5. | Sep. 26 (Mon) | AM Prime Minister office | Courtesy call |
| | | Education Dept. | Courtesy call |
| | | PM | General meeting with staffs of Tuvalu |
| 6. | Sep. 27 (Tue) | AM | Meeting with TEC<br>(Tuvalu Electrical Coorperation)<br>(Mr.Tomasi Tafia / TEC, Mr.Penehuro and Mr.David / Education Dept.)<br><br>Discussion on finance<br>(Mr.Tine Leuelu / Acting Secretary of Finance, Mr.Aunese Simati / Acting Director of Planning, Mr.Penehuro, Mr.David) |
| | | PM | Meeting with PWD<br>(Mr.Tapaeko Apisai / Acting Director of Works, Mr.Filipo Taulima / Acting Deputy Director of Works, Mr.Penehuro,Mr.David |
| 7. | Sep. 28 (Wed) | AM | Signing of Minutes of Discussion<br>(Prime Minister:Hon Kamuta Latasi, Mr.Nishimoto) |
| | | PM | Discussion on educational equipment planning<br>(M/s.Penehuro, David / Education Dept.<br>M/s Hatano, Doi / Japanese consultants) |
| | | Funafuti (13:45) - Nandi (16:55)<br>Nandi (18:30) - Suva (19:05) | (M/s Nishimoto, Nishiki) |

| No. | Date | Place | Activity |
|---|---|---|---|
| 8. | Sep. 29 (Thu) | AM Education Dept. | Discussion and approval on equipment list (M/s.Penehuro, David / Education Dept. M/s Hatano, Doi / Japanese consultants) |
| | | Cabinet | Presentation of B/D for Cabinet (Prime Minister, Ministry of Finance, Director of Fishery Dept.) |
| | | PM USP Centre | Inspection survey (educational funitures) |
| | | TEC | Hand in the answer and explanation to the question about Generator |
| | | Japanese Embassy, | (M/s Nishimoto, Nishiki) Courtesy call |
| | | JICA Fiji office | (M/s Nishimoto, Nishiki) Courtesy call |
| | | UNDP | (M/s Nishimoto, Nishiki) Explanation and discussion |
| 9. | Sep. 30 (Fri) | AM Education Dept. | Final meeting<br>Receiption of the information about building condition from PWD |
| | | PM Funafuti (12:15) - Nandi (15:25)<br>Suva (15:25) - Auckland (16:25) | (M/s Nishimoto, Nishiki) |
| 10. | Oct. 1 (Sat) | | Review of information |
| | | Auckland (9:35) - Narita (17:15) | (M/s Nishimoto, Nishiki) Leave for Japan |
| 11. | Oct. 2 (Sun) | Nandi (9:45) - Suva (10:20) | (M/s Hatano, Doi) |
| | | | Review of information |
| 12. | Oct. 3 (Mon) | AM Japanese Embassy, | (M/s Hatano, Doi) Courtesy greetings and survey report |
| | | JICA Fiji office | (M/s Hatano, Doi) Courtesy greetings and survey report |
| | | | Supplemental survey (confirmation of the cost of construction materials and furniture planned to be procured in Fiji) |
| 13. | Oct. 4 (Tue) | | Supplemental survey |
| | | Suva (17:30) - Nandi (18:05) | (M/s Hatano, Doi) |
| 14. | Oct. 5 (Wed) | Nandi (7:20) - Auckland (11:15) | (M/s Hatano, Doi) |
| | | | Meeting with T+T (confirmation of topographical survey and soil investigation) |
| 15. | Oct. 6 (Thu) | Auckland (12:20) - Narita (19:15) | (M/s Hatano, Doi) Leave for Janpan |

Appendix-3 MEMBER LIST OF CONCERNING PARTY WITH RECIPIENT COUNTRY

(1) Basic Design Study (July 18 - August 13, 1994)

<Tuvalu Side>

1) Ministry of health, Sports and Human Resources Development

| | |
|---|---|
| Faimalaga Luka | Minister |
| Afelee Piita | Secretary |
| Misalaima Nelesone | Assistant Secretary |
| Penehuro Hauma | Director of Education |
| David Manuella | Curriculum Officer |
| Vinaka Ielemia | Acting Education Officer |

2) Ministry of Works, Transport and Communications

| | |
|---|---|
| Pokia Tihala | Assistant Secretary |
| Tapaeko Apisai | Acting Director of Works |
| Sio Patiale | Director of Maine & Port Services |
| Lopati Tefoto | General Manager, Telecom |
| Ken Taylor | Engineering Manager, Telecom |
| Santia Maluofena | Director of Fishery Department |

3) Ministry of Natural Resources

| | |
|---|---|
| Simeti Lopati | Secretary |
| Vavao Saumanaia | Local Government Officer |
| Faatasi Malologa | Lands Officer |

4) Office of the Prime Minister

| | |
|---|---|
| Lina Petaia | Assistant Secretary for Foreign Affairs |

5) Ministry of Finance and Economic Planning

| | |
|---|---|
| Lutelu Faavae | Acting Secretary |
| Aunese Simati | Director of Planning |
| Kausea Natano | Director of Customs and Taxation Control |
| Mose Saitala | Secretary of Finance |

6) Public Works Department

| | |
|---|---|
| Tapaeko Apisai | Acting Director |

7) Tuvalu Telecommunications Corporation

| | |
|---|---|
| Ken Taylor | Manager Engineering |

8) Funafuti Primary School

| | |
|---|---|
| Natano | Principal |

9) Motufoua Secondary School

| | |
|---|---|
| Galiga Muluofenua | Acting Principal |

10) Amatuku Maritime School

| | |
|---|---|
| Wolfgang Schnader | Captain |

11) Fetuvalu Secondary School

| | |
|---|---|
| | Principal |

12) UNDP

| | |
|---|---|
| Parviz C. Fartash | Assistant Resident Representative |
| Linda Petersen | |

13) AIDAB

| | |
|---|---|
| Chris Wheeler | First Secretary |
| Dereck Rooken-Smith | Counsellor |

14) USP Extension Centre

| | |
|---|---|
| Pafni Nouarta | Centre Director |

15) SOPAC (South Pacific Applied Geoscience Commission)

| | |
|---|---|
| Jackson Lum | Marine Geologist |

<Japan Side>

1) Japanese Embassy

| | |
|---|---|
| Yasunori Kikuchi | Embassador |
| Hiroyuki Ohnishi | Secretary |
| Makoto Yamashita | Secretary |
| Yasuhiko Kamata | Secretary |

2) Japan International Cooperation Agency

| | |
|---|---|
| Hajime Watanabe | Assistant Resident Representative |

3) JICA Expert

| | |
|---|---|
| Kyuya Ito | Fisheries Expert |

4) Overseas Fishery Cooperation Foundation (OFCF)

| | |
|---|---|
| Koei Teramae | Fisheries Expert |
| Katsuji Fujita | Fisheries Expert |

(2) Basic Design Study, Draft Report Explanation (September 22 - October 6, 1994)

<Tuvalu Side>

1) Office of the Prime Minister

| | |
|---|---|
| Tauaasaa Taafaki | Secretary to Government |
| Saufatu Sopoaga | Deputy Secretary to Government |

2) Ministry of Health, Sports and Human Resources Development

| | |
|---|---|
| Penehuro Hauma | Director of Education |
| David Manuella | Senior Education Officer／Curriculum Officer |
| Misalaima Nelesone | Acting Secretary |

3) Ministry of Works, Labour and Communications

| | |
|---|---|
| Afelee Piita | Secretary |
| Tapaeko Apisai | Acting Director of Works |
| Filipo Taulima | Acting Deputy Director of Works |

4) Ministry of Foreign Affairs and Economic Planning

| | |
|---|---|
| Eseta Lauti | Acting Secretary |
| Aunese Simati | Acting Director of Planning |
| Elena Levi | Acting Director of Budget |

5) Ministry of Finance, Commerce and Public Corporation

| | |
|---|---|
| Tine Leuelu | Acting Secretary for Finance |
| Solofa Uota | Acting Assistant Secretary for Finance |

6) Ministry of Commerce, Trade and Industry

| | |
|---|---|
| Lutelu Favae | Acting Secretary for Commerce and Trade |

7) Tuvalu Telecommunications Corporation

| | |
|---|---|
| Lopati Tefoto | General Manager |

8) Tuvalu Electricity Corporation

| | |
|---|---|
| Tomasi Tafia | General Manager |

9) Tuvalu Development Bank

| | |
|---|---|
| Simeona Iosia | General Manager |

Appendix-4 MINUTES OF DISCUSSION (BASIC DESIGN SURVEY)

Minutes of Discussions
on the Basic Design Study
on the Project for Upgrading and Expansion of
Educational Facilities at Motufoua Secondary School in Tuvalu

In response to a request from the Government of Tuvalu, the Government of Japan decided to conduct a Basic Design Study on the Project for Upgrading and Expansion of Educational Facilities at Motufoua Secondary School in Tuvalu ( hereinafter referred to as "the Project" ), and entrusted the study to Japan International Cooperation Agency (JICA).

JICA sent to Tuvalu a Basic Design Study Team headed by Mr. MUKAI, Ichirou, Second Basic Design Study Division, Grant Aid Study and Design Department, JICA, and is scheduled to stay in Tuvalu from the 20th of July to the 9th of August, 1994.

The team held a series of discussions with the officials concerned of the Government of Tuvalu, and conducted field survey at the study area.

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

Funafuti, the 27th of July, 1994

MUKAI, ICHIROU
Leader,
Basic Design Study Team, JICA

FAIMALAGA LUKA
Minister,
Ministry of Health, Sports, and
Human Resources Development,
TUVALU

1. OBJECTIVES OF THE PROJECT

The objectives of the Project are to contribute to human resource development of Tuvalu, and to foster further self-reliance of Tuvalu citizens by up-grading and expanding the educational facilities and equipment of Motufoua Secondary School, the only public institute for secondary education in Tuvalu.

2. PROJECT IMPLEMENTING AGENCY

The Education Department is to be the implementing agency of the Project.

3. PROJECT SITE

The Project site is located on the Vaitupu island of Tuvalu, which is shown in Annex 1.

4. OWNERSHIP OF THE FACILITIES AND EQUIPMENT PROVIDED UNDER JAPAN'S GRANT AID

The facilities and equipment provided under Japan's Grant Aid ( hereinafter referred to as "the Grant") shall be a property of the Government of Tuvalu.

5. CONTENTS OF THE REQUEST BY THE TUVALU SIDE FOR THE GRANT

1) After a series of discussions, the Tuvalu side finally requested the contents shown in Annex 2 for the Grant. However, the contents of the Project, which are to be recommended in the Basic Design Study Report, will be finalized after futher study by the Team.
2) Regarding the "seawall" which was originally requested, the Tuvalu side finally agreed to exclude it from the content of the Project, as there found no substancial damage caused by tidal surge in these twenty years.
3) The Tuvalu side strongly requested the Team to include "staff-quarter" in the said content, even though it fully understood the system of the Japan's Grant Aid.

6. CHARACTERISTICS OF THE JAPAN'S GRANT AID PROGRAMME, AND NECESSARY MEASURES TO BE TAKEN BY THE TUVALU SIDE

The Tuvalu side understood the system and characteristics of the Grant

explained by the Team including the following matters.

1) The Grant is extended in the form of financial assistance which makes available the funds for procuring services and products necessary for implementing the Project defined in the "Exchange of Notes" (E/N). Therefore the usage of the fund provided under the Grant is stricly limited by the stipulation of E/N.
2) A Project assisted by the Grant must be implemented under "Japanese single - year budget system". This means that all the project cycle, from signing on E/N to the final payment, must be, as a rule, completed within the same Japanese Fiscal Year.
3) For smooth implementation of the Project, a consulting firm that was selected by JICA for the Basic Design Study will be employed, in principle, as the Project Consultant by the Tuvalu side.
4) The Tuvalu side shall conclude the contract(s) with Japanese company(-ies) for implementing the Project. Furthermore, all such contract(s) to be concluded shall be verified by the Ministry of Foreign Affairs of Japan through JICA.
5) Procuring services and products for implementing the Project shall be executed in accordance with the "GUIDELINES FOR PROCUREMENT UNDER THE JAPANESE GRANT, 1991, JICA".
6) As the Grant is a "Co-operation" programme, the Tuvalu side should take necessary measures which are not covered by the Grant for the realizaiton and smooth implementation of the Project. Such necessary measures to be taken by the Tuvalu side are described in Annex 3.

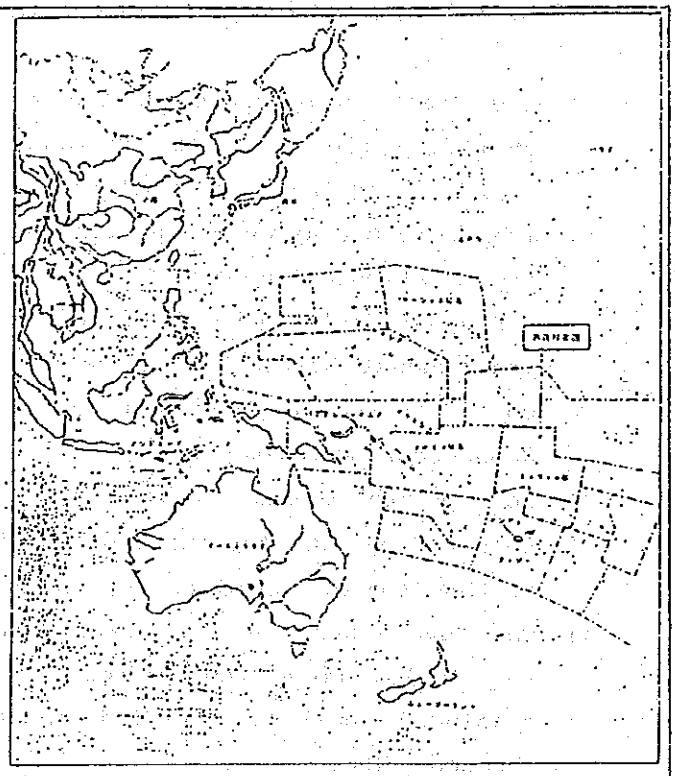
## 7. FURTHER SCHEDULE OF THE STUDY

1) The consultants will proceed to further studies in Tuvalu until the 9th of August, 1994.
2) JICA will prepare a Draft Study Report and dispatch a Draft Report Explanation Team, at the earliest, in September, 1994 in order to explain and to confirm the contents of the Study Report with the Tuvalu side.
3) In case that the Draft Study Report is accepted by the Tuvalu side, JICA will complete the Study Report and send it to the Tuvalu side by February, 1995.

## 8. THE ATTENDANCE OF THE MEETING

The list of the attendance of the meeting is attached as Annex 4.

# ANNEX 1 PROJECT SITE



Nanumea

Niutao

Nanumaga

Nui

調査対象地域

(プロジェクトサイト
モトフォウア校)

Vaitupu

Motufoua Secondary School

Nukufetau

調査対象地域

(行政機関所在地)

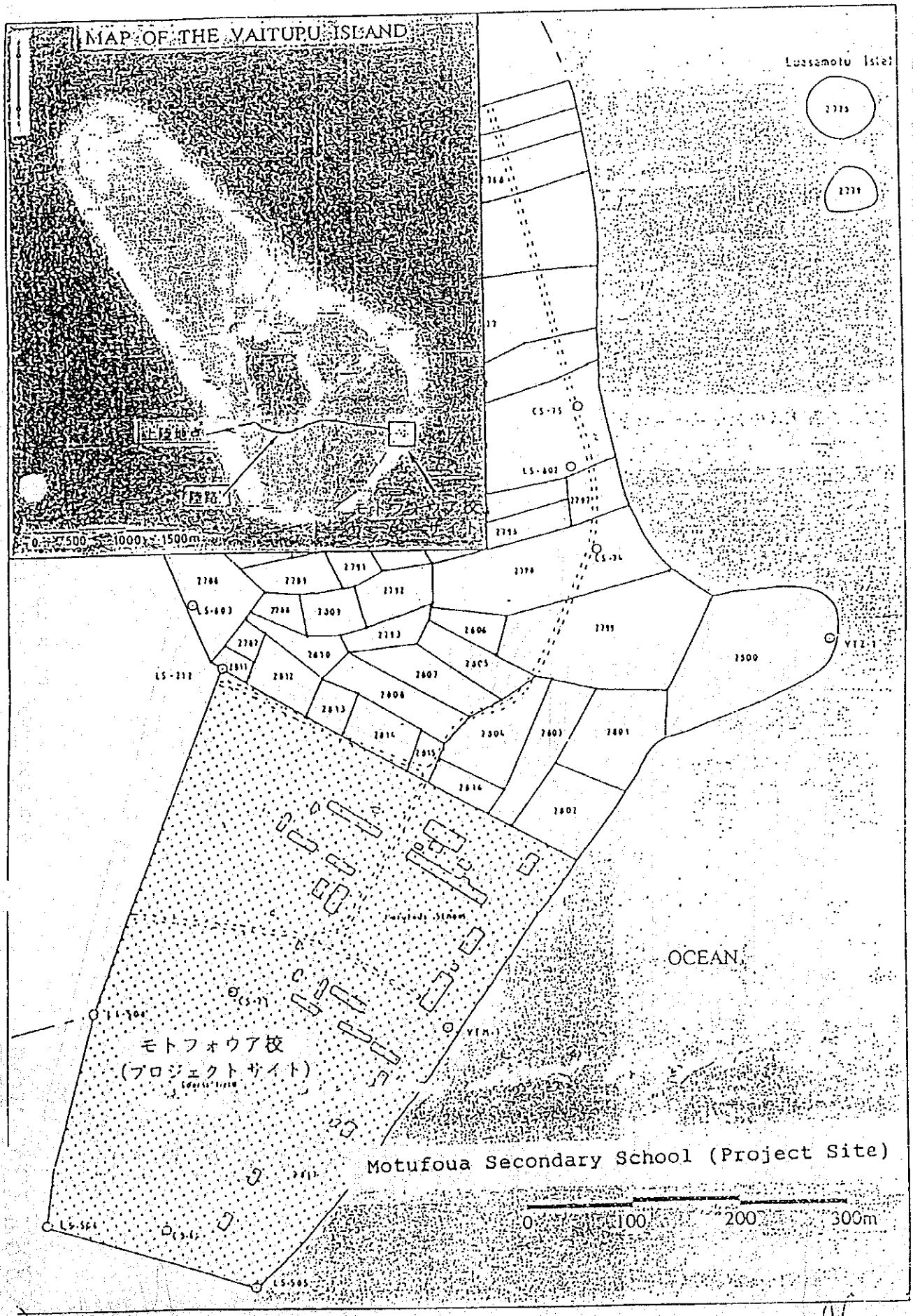
Funafuti

Nukulaelae

Niulakita

0 50 100 200km

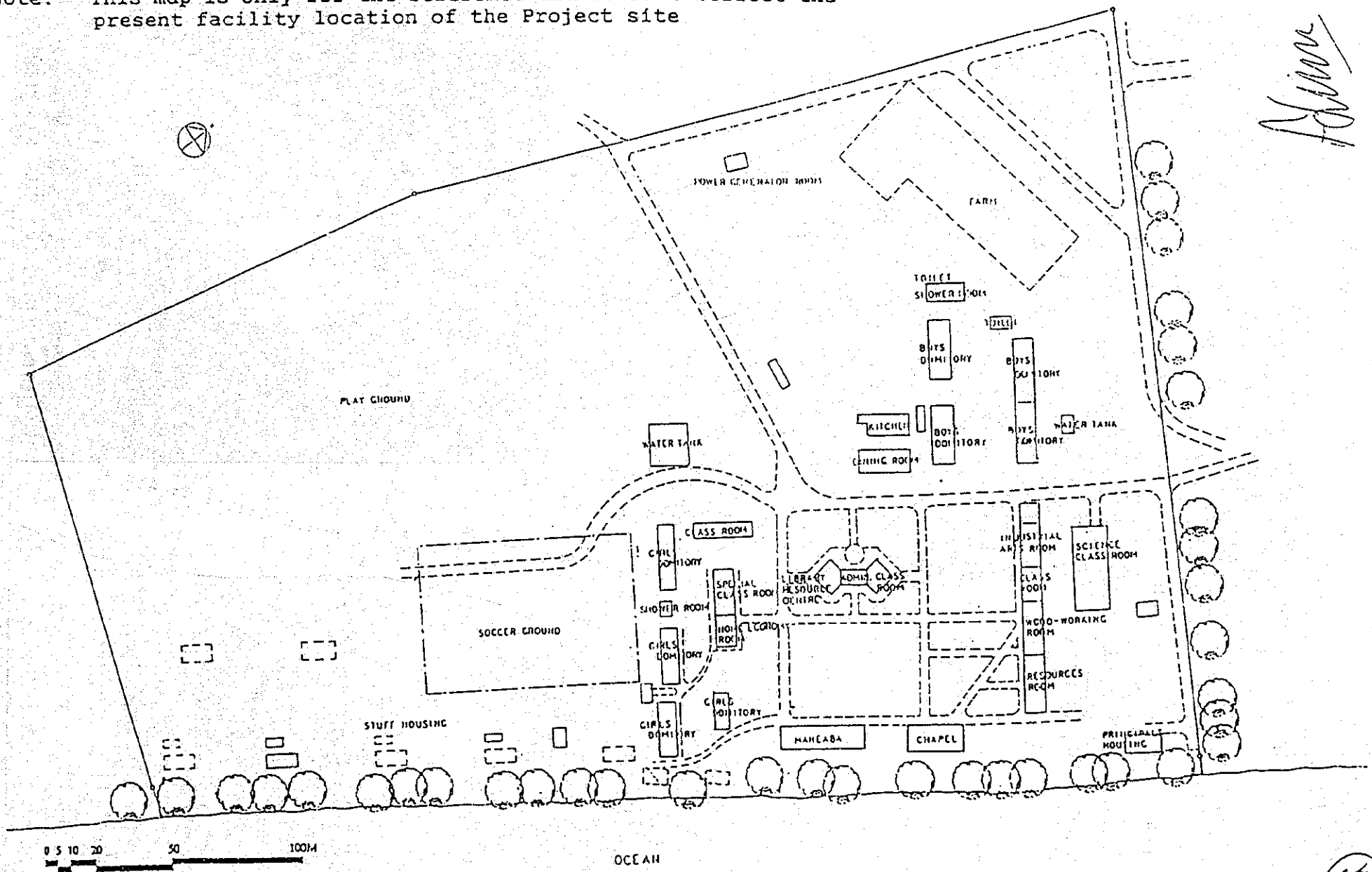
調査対象地域図 (日本とトゥヴァル国の位置関係)




現地調査対象地域　（プロジェクトサイト）

FOR REFERENCE

Note: This map is only for the reference and doesn't reflect the present facility location of the Project site




| | | |
|---|---|---|
| UPGRADING AND EXPANSION OF EDUCATIONAL FACILITIES AT MOTUFOUA SECONDARY SCHOOL | JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL | Title: SITE PLAN |

ANNEX 2 CONTENTS OF THE REQUEST FOR JAPAN'S GRANT AID

The contents of the request finally submitted by the Tuvalu side are as follows in the order of priority.

1. Classroom (general/special)
2. Students dormitory
3. Dining hall and kitchen
4. Administration office
5. Medical/first aid room/sick bay
6. Gymnasium
7. Staff-quarter
8. Multi-purpose hall (Maneapa)
9. Tennis court/volleyball court/basketball court

Note:

1. Both sides confirmed that each item mentioned above includes the necessary utility such as electricity, water cisterns as well as equipment. The detail of such utility and equipment will be discussed between the consultants and the Tuvalu side.

2. The Tuvalu side understood that the construction and/or installation of road, street lighting and fencing, within the school campus, would be borne by the Tuvalu side in principle. However, the Tuvalu side further requested the Team to apply such principle flexibly, taking the budget condition of the Tuvalu Government into consideration.

ANNEX 3 NECESSARY MEASURES TO BE TAKEN BY THE TUVALU SIDE

Following necessary measures shall be taken by the Government of Tuvalu on condition that the grant is extended to the Project.

1. To provide data and information necessary for the project;

2. To secure, clear, level and reclaim the site for the Project prior to the Project implementation;

3. To provide proper access road to the Project;

4. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting, and other incidental facilities in and around the Project site, if necessary;

5. To bear two kinds of commissions to the Japanese Foreign Exchange Bank for its banking services based upon the Banking Arrangement namely,
   - the advising commission of the "Authorisation to Pay" and
   - the payment commission;

6. To ensure prompt unloading, tax exemption, and customs clearance at the port of disembarkation in Tuvalu and prompt internal transportation therein of the materials and equipment for the Project purchased under the Grant;

7. To exempt Japanese juridical and physical nationals engaged in the Project from customs duties, internal taxes and fiscal levies which may be imposed in with respect to the supply of the products and services under the verified contract;

8. To accord Japanese nationals whose services may be required in connection with the supply of products and services under the verified contract such facilities as may be necessary for their entry into Tuvalu and stay therein for the performance of their work;

9. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary.

10. To assign appropriate budget and teaching and administrative staff for proper and effective operation and maintenance of facilities and equipment provided under the Grant; and

11. To bear all the expenses other than those to be borne by the Grant within the scope of the Project.

ANNEX-4

LIST OF THE PARTICIPANTS IN THE ROUND TABLE MEETING
BETWEEN THE JAPANESE BASIC STUDY TEAM AND THE
GOVERNMENT OF TUVALU SELECTED DEPARTMENTS/MINISTRY (IES).

PARTICIPANTS:

A] JAPANESE BASIC STUDY TEAM:

| | | |
|---|---|---|
| 1. | MUKAI Ichiro | LEADER, JICA STUDY TEAM |
| 2. | YAMASHITA Makoto | SECRETARY, EMBASSY OF JAPAN, SUVA. |
| 3. | HATANO Tetsuji | MEMBER, JICA STUDY TEAM |
| 4. | IJIMA Hiroshi | " |
| 5. | DOI Yasumichi | " |
| 6. | HAYASHIDA Kenichi | " |

B. MINISTRY OF HEALTH, SPORTS AND HUMAN RESOURCES DEVELOPMENT.

| | | |
|---|---|---|
| 1. | Faimalaga LUKA | MINISTER |
| 2. | Afelee PIITA | SECRETARY |
| 3. | Misalaima NELESONE | ASSISTANT SECRETARY |
| 4. | Penehuro HAUMA | DIRECTOR OF EDUCATION |
| 5. | David MANUELLA | CURRICULUM OFFICER |
| 6. | Vinaka IELEMIA | ACTING EDUCATION OFFICER |

C. MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS

| | | |
|---|---|---|
| 1. | Pokia TIHALA | ASSISTANT SECRETARY |
| 2. | Tapaeko APISAI | ACTING DIRECTOR OF WORKS |
| 3. | Sio PATIALE | DIRECTOR OF MARINE & PORT SERVICES |
| 4. | Lopati TEFOTO | GENERAL MANAGER, TELECOM |
| 5. | Ken TAYLOR | ENGINEERING MANAGER, TELECOM |

D. MINISTRY OF NATURAL RESOURCES

| | | |
|---|---|---|
| 1. | Simeti LOPATI | SECRETARY |
| 2. | Vavao SAUMANAIA | LOCAL GOVERNMENT OFFICER |
| 3. | Faatasi MALOLOGA | LANDS OFFICER |

E. OFFICE OF THE PRIME MINISTER

| | | |
|---|---|---|
| 1. | Lina PETAIA | ASSISTANT SECRETARY FOR FOREIGN AFFAIRS |

F. MINISTRY OF FINANCE AND ECONOMIC PLANNING

| | | |
|---|---|---|
| 1. | Lutelu FAAVAE | ACTING SECRETARY |
| 2. | Aunese SIMATI | DIRECTOR OF PLANNING |
| 3. | Kausea NATANO | DIRECTOR OF CUSTOMS AND TAXATION CONTROL |

G. MOTUFOUA SECONDARY SCHOOL

| | | |
|---|---|---|
| 1. | Galiga MALUOFENUA | ACTING PRINCIPAL |