2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

The Project contains building work and equipment supply and installation work, which shall be executed in accordance with the framework of Japan's grant aid scheme.

The Project will be implemented after the Exchange of Notes (E/N) for this project were exchanged between the two Governments. This procedure will be followed by conclusion of the consultant agreement and preparation of detailed design documents. Upon completion of detail design documents, tendering for the selection of the construction contractor (hereinafter referred to as "the Contractor") and the equipment supply and installation contractor (hereinafter referred to as "the Supplier") will be held. The Contractor and the Supplier selected through the tenders shall then execute building work and equipment work respectively.

(1) Implementing Organization of the Samoan Government

The Project is to be implemented under the jurisdiction of the Ministry of Education, Sports and Culture (hereinafter referred to as "the Ministry") of Independent State of Samoa. The Samoa Polytechnic (SP) will be the party responsible for implementing the Project. The Ministry of Finance will be in charge of contracting procedures with the Contractor and will also take necessary measures for importing construction materials and equipment such as customs clearance as well as allocation of budget for customs duties.

SP will be in charge of providing all the necessary information and technical advices and execute Samoan side work.

(2) Execution System

1) Consultant

Immediately after signing of the Exchange of Notes between both governments, the Ministry will conclude a Consultancy Agreement for detail design and construction supervision with a selected Japanese Consultant and have the Agreement verified by the Government of Japan. The Consultant will carry out tenders as well as construction supervision and procurement supervision based on the tender documents and the contents of this Study report.

2) Contractors and Suppliers

The Contractor for construction work and the Supplier for equipment procurement and installation work is to be selected from among qualified Japanese companies through public tender.

The Ministry of Finance is to conclude construction and equipment supply and installation contracts with each successful tenderer and have the contracts verified by the Government of Japan. It is possible for Japanese contractor to utilize local subcontractors in recruiting labors, procurement of local materials, customs clearance etc.

2-2-4-2 Implementation Conditions

In implementing this Project, special attention should be paid to the following matters.

(1) Legal procedures for building construction

It is necessary for the Samoan side to obtain building permit from the Public Works Department, Fire Department and the Health Department for the construction of this Project. After completion of the construction work, the completed buildings have to be inspected by the officials of the above-mentioned Departments so that the completion certificate will be issued. As stated above, legal procedures must be cleared at relevant times till actual use of the facilities. Therefore, it is important for the Samoan side not to cause inconvenience, which may delay the implementation of the Project.

(2) Procurement of building materials

Basic building materials, such as aggregate, cement and reinforcing bars can be procured without any problems in Samoa but not items like steel frames, aluminum sashes, electrical equipment and mechanical equipment, which are to be procured and transported from the third countries (New Zealand, Australia etc.). It is, therefore, important to give due consideration to the marine transport schedule, thefts and damage during transportation, which may cause hindrance to the progress of the construction work.

(3) The rain season and measures against cyclones

In Samoa, rainy season lasts from November to March, during which period there will likely be much

rainfall. Also, during the rainy season, the Project site will likely be hit by cyclones. The execution plan should, therefore, include measures against rainfall and damage due to cyclones as well as necessary safety measures.

2-2-4-3 Scope of Works

The Project is to be implemented through close cooperation between the Government of Japan and the Government of Samoa within the framework of grant aid extended by the Government of Japan. It is reasonable for the Governments of the two countries to undertake scope of works as shown below.

(1) The Work to be done under Japan's grant aid

1. Facilities

- Construction of the buildings described in this study report
- Electrical, mechanical, plumbing and air conditioning works for above facilities
- Infrastructures such as electricity, drainage within the site
- Payment of electricity, water and telephone fees for the construction
- Overseas transportation of equipment and materials from Japan and third countries to port of Samoa and to the site
- Inland transportation of equipment and materials

2. Equipment

- Equipment procurement work
- Equipment installation work

3. Infrastructures

- Connection of water supply, electric cabling, drainage work within the premises

4. External works

- Drainage work around the facilities

5. Related procedures

- Procedures for transportation of equipment and materials

(2) The works to be done by the Government of Samoa/SP

1. Site and exterior works

- Securing the site for the Project
- Removing existing structures, trees and so on from the Project site
- Securing access road to the site
- Construction of outer fence
- Landscaping (Planting and gardening)

2. Infrastructures

- Supply of electricity up to the site
- Installation of telephone lines up to the main distribution frame
- Water supply up to the site

3. Preparatory works

- Provision of sites for temporary construction site office, workshop and material storage places
- Installation of temporary electricity supply and telephone lines

4. Fixtures and furniture

- Fixtures, curtains, furniture, etc. other than those supplied under the grant aid of the Government of Japan

5. Procedural work and its expenses borne by the Samoan side

- Banking arrangement expenses
- Tax exemption procedure expenses
- Prompt action related to customs clearance and inland transportation
- Necessary measures for exempting the Japanese nationals engaged in the implementation of the Project from customs duties, domestic taxes and other fiscal levies in accordance with the verified Agreement

- Arrangement to expedite acquisition of visas, customs clearance, any other formalities that may be necessary for the entry of Japanese nationals engaged in the implementation of the Project
- Maintenance and management expenses for ensuring that the facilities constructed and the equipment installed are operated properly and effectively
- Expenses for obtaining formal permit necessary for construction

2-2-4-4 Consultant Supervision

In accordance with Japan's grant aid system, the Japanese consultant firm will conclude a consultant agreement with the implementing organization of the Government of Samoa and SP. After concluding the agreement, the consultant will assist in the tender procedures and supervise the construction work in compliance with the provisions of the consultant agreement. Construction supervision is aimed at ensuring that the construction work will be carried out in accordance with the design documents, and at providing direction, technical advice and coordination throughout the term of services from a fair point of view for the proper implementation and quality control of the construction work. The construction supervision service includes the following.

(1) Assistance in tendering and contracting

The consultant shall prepare the documents necessary for tendering the construction work and the equipment procurement/installation work, and assist the client in carrying out tasks such as the public announcement of invitation to tender, acceptance of applications, pre-qualification, distribution of documents to the tenderers, acceptance of tender, evaluation of the tender results. And the consultant also advises the client on concluding the contract between the client and the successful tenderer.

(2) Instruction, advice and coordination to the contractor

The consultant shall examine the construction schedule, construction plan, the building materials procurement plan and the equipment procurement/ installation plan, and shall give instructions, advices and coordination to the contractors.

(3) Examination and approval of shop drawings and manufacturing drawings

The consultant shall examine and approve the shop drawings, manufacturing drawings and other relevant documents submitted by the contractor.

(4) Confirmation and approval of building materials and equipment

The consultant shall confirm the consistency with the contract documents of the building materials and equipment which the contractor proposes to procure, and shall approve their adoption.

(5) Inspection

The consultant shall inspect the building materials and equipment at the manufacturers' factories to ensure their quality and performance.

(6) Reporting on progress of the construction work

The consultant shall grasp the actual conditions of the construction site and progress, and report them to both Governments.

(7) Completion inspection and test operations

The consultant shall inspect the completed facilities and the installed equipment, and make a test run of each piece of equipment, in order to ascertain that all the works of facilities and equipment are completed in compliance with the provisions of the contract documents, and shall submit the Inspection Certificate to the Samoan side.

(8) Training in operation of the equipment

Some equipment installed under the Project will require considerable operating skills as well as good knowledge of their maintenance. For this reason, it will be necessary to have the engineers of the Samoan side receive on-site training in proper equipment operation and troubleshooting techniques during the installation/adjustment/test-run period. The consultant shall give instructions and advices concerning the training programme.

Judging from the scale of the Project, it is advisable that, in carrying out the aforementioned tasks, the consultant shall station one architect/ engineer to Samoa throughout the term of works. The consultant shall also dispatch necessary engineers to the site at relevant occasions for inspection, instruction and coordination, and at the same time assign necessary engineers in Japan to establish a communication and backup system. The consultant shall report the progress of the works, payment procedures, completion of the construction of the facilities and installation of the equipment, and any other relevant matters to the competent agencies of the Japanese Government.

2-2-4-5 Materials/Equipment Procurement Plan

(1) Guidelines for Procurement of Building Materials

Materials and equipment for use in this project are to be procured in accordance with the following guidelines.

1. Local procurement

   In principle, building materials for this project should be procured in Samoa so that they can be easily repaired, managed and maintained by the Samoan side after the completion of the facilities. Especially, heavy building materials such as cement, gravel and concrete blocks, which are to be used in large quantity, should be procured in the country from the standpoint of advantage in transportation. In case of equipment, which requires periodical maintenance services by the local distributors, imported one should be procured from local distributor.

2. Import

   Those materials and items of equipment which are not available in Samoa, which can be procured locally but are judged to be inferior quality or which are in short supply and/or expensive in Samoa, should be procured from Japan or other third countries (New Zealand, Australia, etc.).

(2) Materials/Equipment Procurement Plan

Materials and equipment to be used in the project are planned to be procured as listed in the following table.

1) Materials Procurement Plan

Table 2-32 Procurement Plan of Building Materials

Work	Material/Equipment	Countries			Remarks
		Samoa	Japan	Third country	
Building Work	Cement	○		○	Procurable locally
	Sand	○			Ditto
	Gravel	○			Ditto
	Re-bar	○		○	Reliable and less expensive in third country
	Form	○			Procurable locally
	Concrete block	○		○	Reliable and less expensive in third country
	Waterproofing			○	Reliable and less expensive
	Terrazzo tile			○	Ditto
	Ceramic tile			○	Ditto
	Glass			○	Ditto

Work	Material/Equipment	Countries			Remarks
		Samoa	Japan	Third country	
	Timber	○		○	Reliable and less expensive in third country
	Aluminium sash			○	Reliable and less expensive
	Hardware			○	Ditto
	Paint	○		○	Ditto , Procurable locally
Mechanical & Sanitary Work	Pump			○	Reliable and less expensive
	Fan		○	○	Ditto
	Sanitary fittings			○	Ditto
	PVC pipe		○	○	Ditto
	Galvanised steel pipe		○	○	Ditto
	Water tank	○	○	○	Procurable locally
	Fire extinguisher	○		○	Ditto
Electrical Work	Distribution panel		○		Reliable and less expensive
	Lighting fixture			○	Ditto
	Wiring conduit			○	Ditto

2) Equipment Procurement Plan

Table 2-33 Procurement Plan of Equipments

Equipment	Country			Remarks
	Samoa	Japan	Third country	
School of Commerce & General Studies				
Desk & Chair for Student			○	Less expensive
Electronic Typewriter	○			Ditto
Drawing Board W/Drafter		○		Reliable
Projector & Screen		○		Ditto
Video Deck (Multi System)		○		Ditto
TV Set (Multi System)		○		Ditto
DVD/ Video Player		○	○	Ditto
Display Cabinet for TV & Video		○	○	Ditto
Video Camera		○		Ditto
Cassette Tape Recorder		○		Ditto
Desktop Computer	○			Less expensive
Colour Printer		○		Reliable
Computer Desk			○	Less expensive
Photocopier Machine		○	○	Reliable
School of Technology				
Brake Speed Meter		○		Reliable
Training Vehicle's Component		○		Ditto
Hydraulic & Pneumatic Brake System		○		Ditto
Separate Type Engine Bed		○		Ditto
Body Frame Repair System		○		Ditto
MIG/MAG Welder		○		Ditto
Thicknesser		○		Ditto
Wood Lathe		○		Ditto
Electronic Block System		○		Ditto
Water Cool Condensing Unit		○		Ditto
Lathe Machine		○		Ditto
Universal Milling Machine		○		Ditto
Profile Cutting Machine		○		Ditto

2-2-4-6 Quality Control Plan

Construction supervision under this Project is to be conducted in compliance with the following criteria in order to achieve the designated quality of building work. These criteria are based on Samoa's/New Zealand's or Japan's relevant standards in principal.

Table 2-34 Criteria for Quality Control

	Typical criteria for quality control			Remarks
	Items	Target value	Testing method	
Earth work	Inclination Accuracy of floor level Height of foundation Height of levelling concrete	Within accepted range +0～-5cm +0～-3cm ±1cm	Slant gauge, observation Levelling, observation As above As above	The consultant will instruct the Contractor to submit the Summary of construction techniques which include types of inspection, target value, contents of inspection, method of testing, curing, construction, and check prior to construction.
Reinforcing bar work	Minimum concrete covering thickness	Sides not in contact with the earth : 30m/m Sides in contact with the earth: Foundation 60m/m Others 40m/m	Observation, measurement	As above
	Processing precision	Tolerable size: Stirrup / hoop ±5m/m Others ±10m/m		
	Tensile strength	2 pieces taken from 1 lot at site (1lot= 20 tons for each diameter)	Tested at factory at the presence of consultant	
Concrete work (freshly mixed concrete)	Compressive strength	Planned strength over 210kg/cm^2	3 samples x 3 types for every batch as well as every 150 m^3 (tested at site at the presence of consultant)	As above
	Slump level	15cm±2.5cm	Once for every batch as well as every 150 m^3 (tested at site at the presence of consultant)	
	Chloride level	Under 0.3kg/m^3	As above	
Masonry work	Compressive strength Other materials (cement, re-bars)	40～70kg/cm^2	Tested at manufacture at the presence of consultant Observation	As above
Plaster work Paint work Roof waterproof-ing work Doors / windows	Material, storage construction, compound, finishing thickness, curing, precision			As above
Plumbing work	Water supply pipe Sewage pipe	Air pressure test Water filling test	Tested at the presence of consultant	As above
Electrical work	Electrical cabling	Insulation resistance test Performance test	As above	As above

2-2-4-7 Implementation Schedule

When the Exchange of Notes concerning the implementation of the Project is concluded between the Government of Japan and the Government of Samoa, the construction and equipment works will be implemented according to the following procedures.

(1) Detail Design

After conclusion of the consultant agreement with the Ministry of Education, Sports and Culture and SP, the consultant shall start to prepare a detail design, equipment specifications and tender documents in accordance with this Basic Design Study Report. In the meantime the consultant shall obtain approval for those documents from the Samoan side. The estimated period required for completing this procedure is approximately 4 month.

(2) Tendering

The contractors to take charge of the construction work and the equipment work will be selected by tender. The tender work includes tender announcement, pre-qualification, acceptance of tenders, evaluation of the tenders, designation of the contractor and conclusion of the contract. The estimated period required for completing this procedure is approximately 3 months.

(3) Construction work and equipment work

Judging from the contents and scale of the work and the actual situation of the local construction industry, it will take 24 months to complete the entire project, including the equipment work, provided the procurement of building materials and the customs clearance of imported articles proceed smoothly. The Project will be implemented in two phases, 12 months for phase-1 and another 12 months for phase-2.

(4) Soft component stage

This stage will take approximately 1.5 months including preparation in Japan.

The overall implementation schedule from the conclusion of the Exchange of Notes to the completion of the project which includes above-mentioned factors will be as shown below.

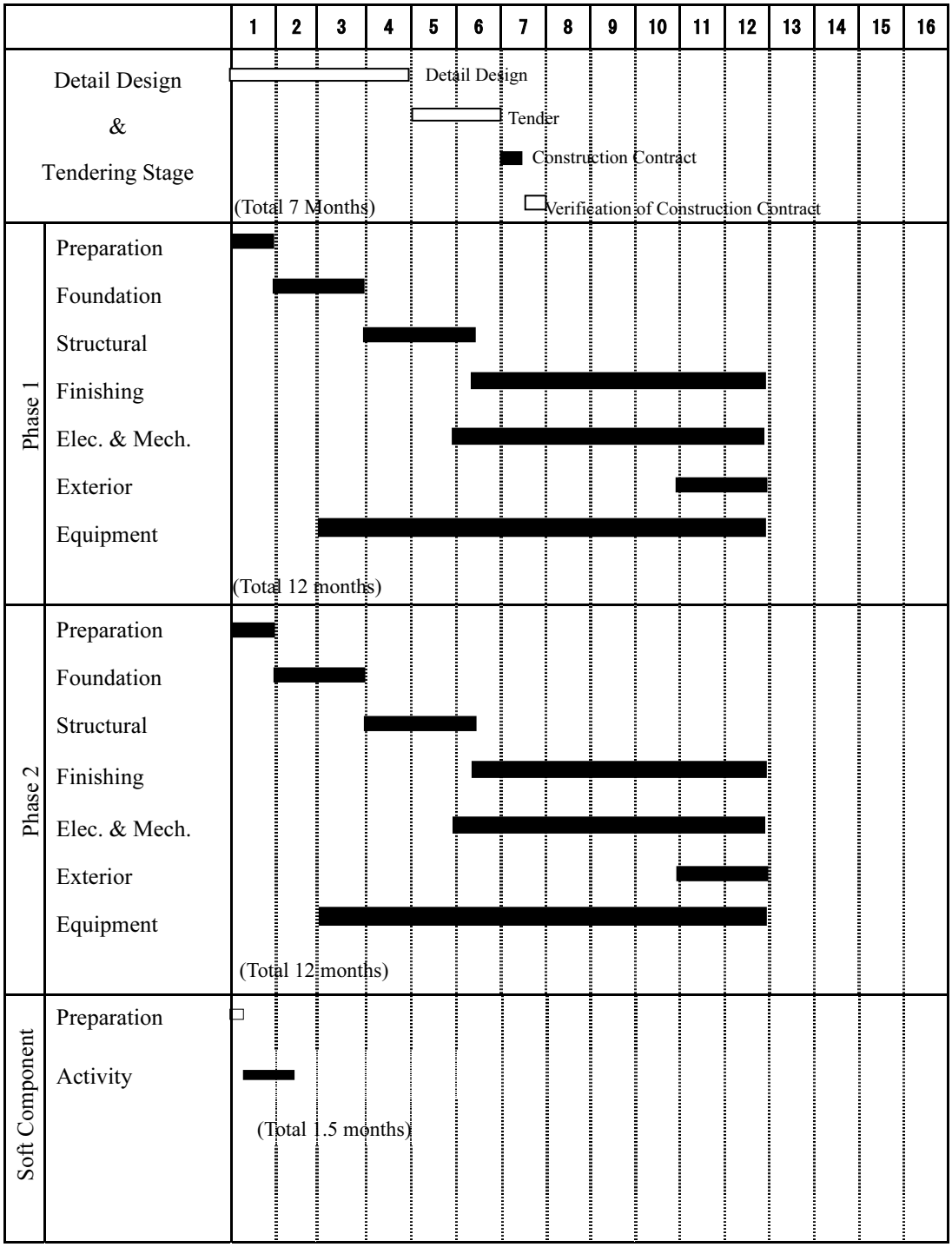


Fig. 2-4 Implementation Schedule

2-3 Obligations of Recipient Country

The following necessary measures shall be taken by the Government of Samoa on condition that the Grant Aid by the Government of Japan is extended to the Project.

① To secure land necessary for the Project and to obtain approval of building plan;
The implementing organization of the Project shall notify the building plan to the authorities concerned and take procedure for obtaining the building permit.

② To clear and remove any existing structure, rubbish, trees and any other obstacles from the site to implement the building work;

③ To undertake incidental outdoor works, such as gardening, fencing, and other incidental facilities in and around the Project site, if necessary;

④ To provide facilities for distribution of electricity, water supply, telephone trunk line and drainage and other incidental facilities to the boundary of the site;

⑤ To provide sites for temporary office, workshop and warehouse for building work and to provide temporary connection line of electricity, telephone, water supply and drainage;

⑥ To ensure proper operation and maintenance of the facilities and the equipment of the Project;
To secure the necessary personnel to ensure that the facilities constructed and equipment procured under the Japan's Grant Aid be maintained and used properly and effectively for the Project and to secure budget for implementation of the Project other than those covered by the Japan’s Grand Aid.

⑦ To bear commissions, namely advising commissions of an Authorization to Pay (A/P) and payment commissions, to a Japanese bank for the banking services based upon the Banking Arrangement (B/A);

⑧ To ensure prompt unloading and customs clearance of the products purchased under the Japan's Grant Aid at ports of disembarkation in Samoa;

⑨ To exempt Japanese nationals from (or arrange payment thereof) customs duties, internal taxes and fiscal levies which may be imposed in Samoa with respect to the supply of the products and services under the verified contracts;

⑩ To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such facilities as may be necessary for their entry into Samoa and stay therein for the performance of their work;

⑪ To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary; and

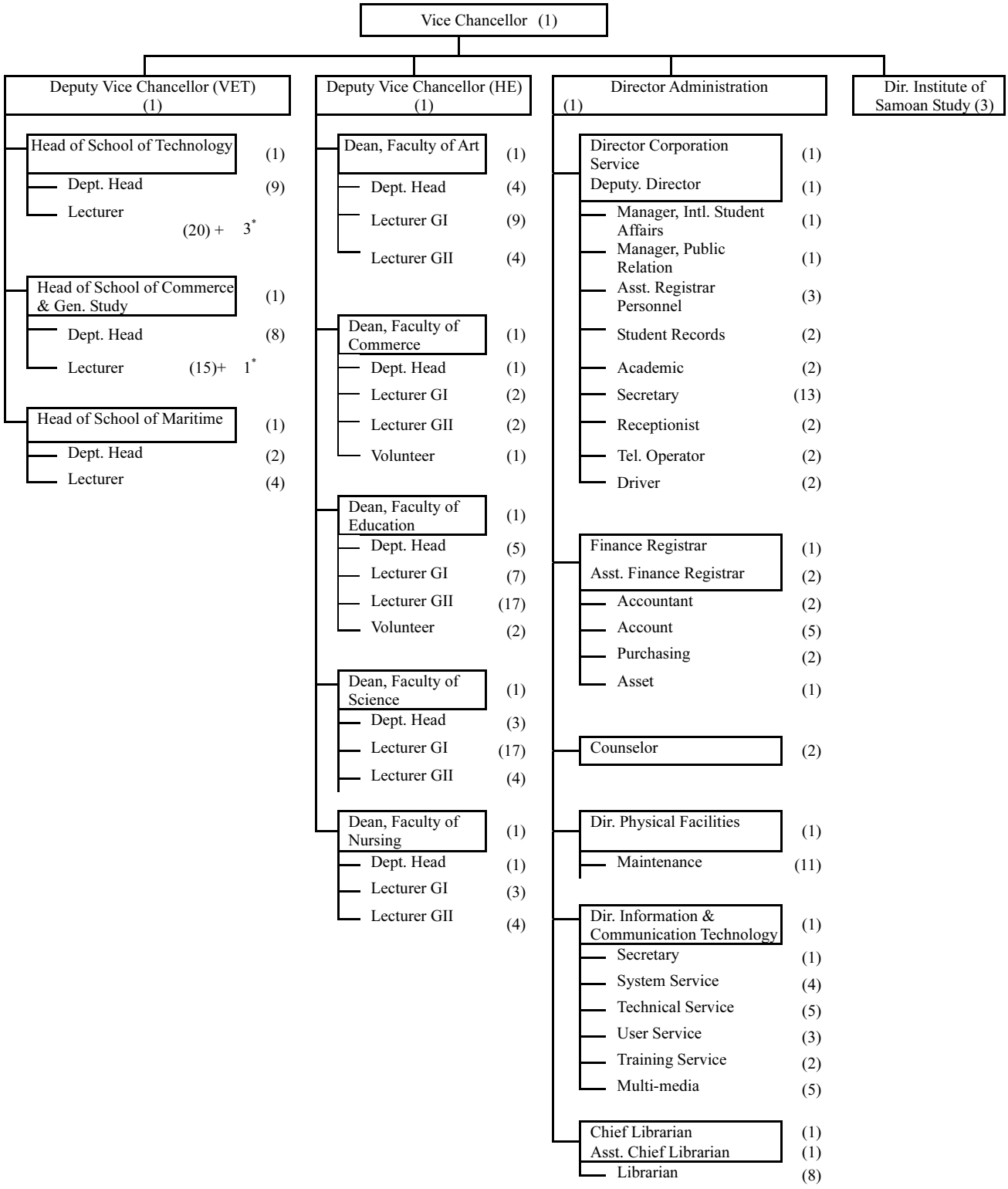
⑫ To bear all the expenses, other than those covered by the Japan's Grant Aid, necessary for the Project.

2-4 Project Operation and Maintenance Plan

2-4-1 Operation Plan

(1) Personnel Arrangement

Organization and personnel plan after the merge of SP and NUS are shown below.



* Indicates increase number of instructor after new Diploma course is attached

Fig 2-5 Organization Chart after the Merger of SP and NUS

The personnel plan of SP after the merge with NUS is shown below.

Table 2-35 Personnel Plan of SP

Job Title		No. of Staff	Sub Total
C.E.O.		1	1
Dty. C.E.O./Academic Director		1	1
Executive Secretary		1	1
Corporate Service	Corporate Service Director	1	
	Accountant	1	
	Accounts Officers	5	
	Property Officer	1	30
	Property Staff	12	
	Administration Officer	1	
	Administration Staff	9	
School of Technology	Head of School	1	
	Radio & Electronic	3	
	Refrigeration & A/C	3	
	Carpentry & Joinery	3+(1)	
	Fitting & Machining	3	30+(3)
	Plumbing & Sheet metal	4	
	Horticulture	3	
	Welding & Fabrication	3	
	Electrical	3+(1)	
	Automotive	4+(1)	
School of Commerce & General Studies	Head of School	1	
	Business (Tourism)	3	
	Communication Studies (E)	3	
	Computer Studies	5	24+(1)
	Mathematics & Tech. Dwg.	3	
	Secretarial Studies	3	
	Hospitality & Tourism	4	
	Journalism (Media)	2+(1)	
School of Maritime	Head of School	1	
	Nautical	3	7
	Fisheries	1	
	Marin Engineering	2	
Librarian & others		5	5
Total			99+(4)

Notes: * Name of position are of present SP

** Number in ( ) shows increase number of instructor after new Diploma course is attached

There will be no management problems since the staffing of SP after merge will be the same as the staffing of the present two institutions.

① Budget of SP and NUS

SP already has history of operating the institution since its opening and therefore there will be no

problem of fund allocation for the institution after the merger. The total budget after the merger will be the total of SP and NUS. Therefore there will be no decrease or increase in terms of budget compared to today. The following is the budget history of SP and NUS for five years between 1999 and 2003.

Table 2-36 Annual Budget of SP and NUS

Item		1999	2000	2001	2002	2003
SP Budget	Govt. Fund	2,600,000	2,600,000	2,550,000	2,550,000	2,650,000
	Tuition, etc.	300,035	330,451	344,545	372,360	402,340
	Total	2,900,035	2,930,451	2,894,545	2,922,360	3,052,340
SP Expenditure		2,900,035	2,930,451	2,904,545	2,922,360	3,052,340
NUS Budget/Expenditure		6,058,977	6,150,328	5,800,462	5,999,878	6,271,041
SP＋NUS Expenditure		**8,959,012**	**9,080,779**	**8,705,007**	**8,922,238**	**9,323,381**

2-4-2 Maintenance Plan

There are no technical problems regarding the maintenance of facilities both in SP and NUS, since they have years of experience on the facility maintenance. The maintenance department of SP and NUS classifies objects requiring maintenance into several groups: those that need everyday cleaning, and those that need to be checked on a weekly, monthly, or annual basis.

The merger of SP and NUS is scheduled for the time of the completion of the facilities. And the mutual cooperation between NUS and SP will make it possible to draw up and implement a maintenance plan covering the facilities

Concerning the maintenance of equipment, since a majority of training equipment is highly specialized, it is desirable for individual departments and courses to be responsible for their own equipment. In this case, a logbook will be prepared for the maintenance. Each leaf of the logbook will be used for one piece of equipment, and its specifications, the names of manufacturer and sales provider, and their addresses and other information required for contact will be filled in on each leaf, so as to make it easy to obtain technical information and make arrangements to obtain spare parts. Where equipment requiring regular maintenance checks is concerned, it is desirable to formulate a list covering items to be checked, methods, times and other details for each piece of equipment, and to regularly conduct maintenance procedures.

These will be set up in the frame of soft component program in the project, which includes dispatch of advisor for maintenance system procedures.

2-4-3 Operation and Maintenance Cost

(1) Operation and Maintenance of Facilities and Equipment

The annual budget for operation and maintenance of new facilities are calculated as follows.

Table 2-37 Operation and Maintenance Budget

Item	Cost (Unit: T$)	Calculation Basis & Others
Electricity	230,400	Capacity : 500kw Lights & outlets : 8000m2×20w/㎡=160kw A/C : 8000 ㎡×0.2×180w/㎡÷2.7(COP)=107kw Others : 8000 ㎡×4w/㎡=32kw Equipment : 200kw Total : 499kw 500kw Consumption of Electricity: 384,000kwh/Year (Conditions: 20days/Month, 8Hrs./Day, Demand rate per day: 0.3 Electricity unit rate: 0.6ST$/kwh 500kw×8hrs./day×20day/m.×12m./year×0.4= 84,000kwh/year Cost of Electricity: Electricity Unit Rate: 0.6ST$/kwh 384,000kwh/year × 0.6ST$/kwh = 230,400ST$/year
Fuel Cost for Generator	17,160	Capacity: 150kVA, Fuel consumption rate: 50lit/h Assumption: Operation 1hr/day, Deasel price: 1lit=1.43ST$ 1hr/day × 20day/m.×12m./year × 50lit/h = 12,000lit/year 12,000lit/year × 1.43ST$/lit = 17,160ST$/year
Telephone Charges	54,000	Assuming the cost as 1.5 times of present condition 36,000ST$/year × 1.5 = 54,000ST$/year
Water Charges	39,000	Assuming the unit price as 1.5 times of present rate 26,000ST$/year × 1.5 = 39,000ST$/year
Cooking Gas Charges	45,000	Assuming the cost as 1.5 times of present condition 30,000ST$/year × 1.5 = 45,000ST$/year
Industrial Gas Charges	51,000	Assuming the cost as 1.5 times of present condition 34,000ST$/year×1.5=51,000ST$/year
Facilities Maintenance Charges	130,000	Assuming the same as annual maintenance cost of NUS 130,000ST$/year
Elevator Maintenance Charges	4,800	400ST$/month
Equipment Maintenance Cost	75,000	Appx. 1% of total equipment cost
Total	646,360	

The annual maintenance cost (approximately 650,000ST$) is expected to be twice as much as the maintenance cost for the existing SP facilities (approximately 320,000ST$). On the other hand, the maintenance cost in the previous year (July 2002 – June 2003) for NUS facilities was 790,000ST$ in all – approximately 660,000ST$ for heating and lighting expenses (electricity, water, telephone, gas, etc.), and approximately 130,000ST$ for maintenance of building, cleaning and facilities

Accordingly, the estimated total maintenance cost for the organization after the merger of SP and NUS will be approximately 1,440,000ST$. Of this, the additional expense for SP, approximately 330,000ST$ (650,000ST$ – 320,000ST$), accounts for around 3.5% of the total outlay in fiscal 2003

for SP and NUS (9,323,381ST$). One can conclude that this should be within the amount of money the organization can afford.

It was confirmed at the time of the explanation of the Draft Report, that the Samoan side could manage the increase in the budget. This was duly noted in the Minutes of Discussions

(2) Renewal cost of equipment according to the period of life of each equipment

The following table shows schedule of expected costs for equipment renewal, which are categorized into three groups according to the period of service life of equipment based on the standard period of life in Japan, e.g. 5 years, 10 years and 20 years. It is necessary for the Samoan side to allocate sufficient budget for equipment renewal according to the schedule.

It should be noted that these figures are calculated according to Japanese standard. They may vary and could be prolonged, which could lead to a less renewal cost, depending of the way of handling, operation and maintenance of the equipment in the country.

Table 2-38 Renewal Cost of Equipment According to the Period of Life

Period of Life	Amount
5 years	222,000ST$
10 years	2,400,000ST$
20 years	1,900,000ST$

2-5 Estimated Project Cost

Estimated project cost required for realization of the Project under the conditions described in (3) Conditions of Estimation is Japanese Yen 1,641 Million (1,609 million yen to be borne by Japanese side; 32 million yen to be borne by Samoan side).

(1) Project Cost borne by Japan

Total Amount 1,609 (Million Yen)

(Total floor area including renovation of existing buildings: 7,600m^2)

Table 2-39 Project Cost Borne by Japan

Item		Cost Estimate (Million Yen)		
Facilities	Administration(A Bldg.)	157	1,211	1,437
	Workshops（B～E Bldg.）	467		
	Commerce & General Studies（F～H Bldg.）	220		
	Exterior Work	287		
	Renovation of Existing Buildings	80		
Equipment Procurement & Installation		226		
Detail Design, Construction Supervision & Soft Component		172		
Total		1,609		

Note: This cost estimate is provisional and would be further examined by the Government of Japan for the approval of the Grant

(2) Project Cost born by Samoa

1. Site preparation work (Incl. Tree cutting) 155,000ST$ (6.2 million yen)
2. Exterior Work, Landscaping (Appx.12,000m^2) 528,000ST$ (2.1 million yen)
3. Furniture & Other goods (Curtain, Furniture, etc.) 65,000ST$ (2.6 million yen)
4. Electricity & Telephone incoming line installation
   City water & Drainage connection 52,000ST$ (2.1 million yen)

（Incl. Costs for temporary work of each work）

Total Amount 800,000ST$ (32.0 million yen)

(3) Conditions of Estimation

1. Estimation date : December, 2003
2. Exchange rate : 1 ST$＝ ¥39.84 ＝ 0.3431US$
3. Construction period : The period of detail design, equipment procurement and construction work are as shown in Fig. 2-1
4. Others : This Project will be implemented in accordance with the rules and regulations of Japan's grant aid.

2-6 Soft Component Plan (Technical Assistance by Consultant)

（1） Necessity and Subjects of the Soft Component

The facility and the equipments of SP will be fulfilled by the project thus providing effective education and training, on the other hand it is inevitable to improve the ability to maintain such facility and equipment. The equipment plan under the project aims to improve the ownership and accountability of SP, and only provides minimum spares and consumables necessary, considering enough amounts to execute the curriculum. Therefore, it is difficult to maintain the quality of the curriculum if the procurement and the maintenance of the spares and consumables are not properly executed.

The current situation concerning the maintenance of equipment in SP seems not relatively good in controlling the inventory and procurement because of the unreliable inventory list which: is lacking constant updating, is impossible to track the procurement date, has discrepancy between the actual numbers in the workshop, has no remarks concerning maintenance.

Therefore, in order to achieve the goal of the project, a soft component plan for maintenance of educational and training equipments should be introduced to improve above situations and establish an organization that manages equipment maintenance.

Flow of maintenance management shall be shown below.

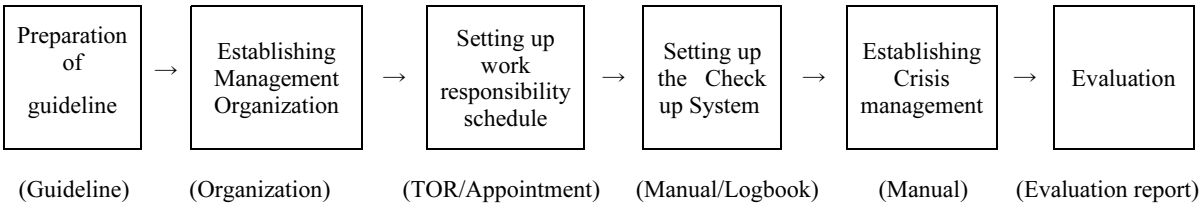


Fig. 2-6 Flow of Establishment of Maintenance Management

(2) Objectives

In order to reserve the sustainability of the result of the project and the ownership of SP, the soft component will be carried out by dispatching a specialist which will instruct maintenance management system of the project facility/equipments especially for the technology transfer concerning the equipment maintenance management.

It is necessary to improve the ways of thinking from the administration to the lecturers, in order to establish and maintain an organization to manage the equipment. Therefore the participation of the concerned personnel is vital from the beginning of subject analysis to the actual planning process.

This participation process is aimed for the management system to start functioning, made possible by organizing the human resource.

(3) Effects (Direct effects)

Following effects are expected from the result of this soft component plan

- Maintenance and management organization will be established
- Work responsibility schedule for maintenance will be clearly defined
- Maintenance manual will be developed
- Risk management system will be developed
- Troubleshooting method will be standardized and troubles will be found at early stage
- Maintenance log book will be kept

(4) Implementing Mode : Management Assistance

Assistance will be extended to set up the maintenance organization for facilities and equipment including preparation of management manual and implementation.

(5) Activity (Input)

1) Dispatch of experts:

Engineers with experience related equipment plan and implementation shall be dispatched for following period.

In Japan …….2 persons for each 0.10 month (Total 0.2 man month)

In Samoa ……2 persons for each 1.33 month (Total 2.66 man month)

2) Methodology:

In Japan ……Preparation

In Samoa ….To establish management organization, to set up work responsibility schedule for maintenance, check up system and risk management and establish management manual

The following procedures will be taken at SP for technical instructions and documentation.

① Document format drafts for equipment maintenance will be prepared in Japan. Document format consists of equipment inventory list, in-and-out of items, request for repair, request for procurement and request for annual consumables procurement, etc.

② Request the SP side to assign a counterpart for each department and establish the equipment control and maintenance system through discussions with the counterpart.

③ Conduct training by using the established system.

④ Make necessary revisions discussing the problems with SP side to optimize the system to be executable.

The procedures required for the soft component are, preparation in Japan, introduction of participation

procedure, subject analysis, actual planning, making of organization and rules, making of format, input data of existing and new equipment, practical training, and evaluation, in total approximately 1.5 months is required for this stage.

It is recommended for the local procedure to start immediately after the handing over of the educational/training equipments following the completion of construction of phase-1.

The period required for each procedure is tabled below.

Table 2-40 Required Period of Each Procedure

Item	Period
1. Work in Japan	
Preparation	3days
2. Work in Samoa	
Introduction of participation procedures	2days
Subject analysis	3days
Actual planning	3days
Establishment of organization and rules	3days
Making format	3days
Input data of existing and new equipment	2days
Practical training	10days
Evaluation	1day
Total	30days

Chapter 3 Project Evaluation and Recommendation

CHAPTER 3. PROJECT EVALUATION AND RECOMMENDATION

3-1 Project Effects

The implementation of this project and the subsequent appropriate operation under the management of the Samoan side will have the following effects.

3-1-1 Direct Effects

- The decrepit training facilities and equipment of SP will be replaced by new ones, which improves the training environments.
- Training curriculums matching the needs from the industries will be able to be offered.
- The professionals and Engineers required in private sectors and governmental organizations will be trained.
- Approximately 400 persons with certificates or diplomas will be produced each year.
- The provision of barrier-free facilities will create environments whereby the disabled can participate in vocational training courses and use the facilities.

3-1-2 Indirect Effects

- The professionals and engineers trained in SP will contribute to the development of industries in the country.

3-2 Recommendations

The Samoan side may be required to take the following measures so that the training facilities and equipment to be provided under this project will be made continuous and effective use of, and maintained appropriately for a long term.

(1) Establishment of Maintenance Administration Regime

Both NUS and SP have solid records in maintenance of facilities, so that there is no problem in the technological perspective. Where the facilities requiring regular maintenance checks are concerned, it is desirable to formulate a list covering items to be checked, methods, times and other record and conduct maintenance procedures.

On the other hand, in terms of maintenance for equipments, there are no established systems for inventory control and procurement planning and this project includes the soft component to give technical instructions to establish equipment maintenance system, with a dispatch of a specialist from Japan.

However, it is necessary to improve the ways of thinking from the administration to the lecturers, in order to establish and maintain an organization to manage the equipments, and the participation of the concerned personnel is vital from the beginning of subject analysis to the actual planning process.

At the same time, it is necessary to secure the budgets for the renewal costs of each training equipment accrued in accordance with its life-span, as well as the annual maintenance costs.

(2) Technical Cooperation

In the fields where technological progress is remarkable, such as the Computer Department, the Radio & Electronics Department and the Automotive Engineering Department, it is effective to secure technical assistance consistently in the form of, for example, the acceptance of specialists or senior volunteers, for the purpose of the improvement in quality of teaching staff members which will lead to the improvement of the quality of training.

(Appendices)

1. Member List of Study Team
2. Study Schedule
3. List of Parties Concern
4. Minutes of Discussions
5. Site Survey Drawing
6. Site Soil Investigation Dat

1. Member List of Study Team

1. Member List of Study Team

(1) Basic Design Study

No.	Name	Job Tiltle	Organization
1	Takao Shibusawa	Leader	Deputy Director, Fourth Project Management Division, Grant Aid Management Department, JICA
2	Sachiko Yoshioka	Planning Management	Fourth Project Management Division, Grant Aid Management Department JICA
3	Minoru Tanaka	Chief Consultant/ Architectural Design	Yamashita Sekkei Inc.
4	Sugashi Nagai	Education & Training Planning	Yamashita Sekkei Inc.
5	Yoshiaki Yamada	Training Equipment Planning	Yamashita Sekkei Inc.
6	Masayoshi Masuzawa	Architectural Equipment Planning	Yamashita Sekkei Inc.
7	Ryotaro Kaburagi	Procurement/ Cost Estimation	Yamashita Sekkei Inc.

(2) Draft Report Explanation

No.	Name	Job Tiltle	Organization
1	Junji Ishizuka	Leader	Resident Representative JICA Samoa Office
2	Sachiko Yoshioka	Planning Management	Fourth Project Management Division, Grant Aid Management Department JICA
3	Minoru Tanaka	Chief Consultant/ Architectural Design	Yamashita Sekkei Inc.
4	Sugashi Nagai	Education & Training Planning	Yamashita Sekkei Inc.
5	Yoshiaki Yamada	Training Equipment Planning	Yamashita Sekkei Inc.
6	Masayoshi Masuzawa	Architectural Equipment Planning	Yamashita Sekkei Inc.

2. Study Schedule

2. Study Schedule

(1) Basic Design Study (November 23-December 22, 2003)

№	Date		Schedule	
			Leader/ Planning Management	Consultant
1	Nov.23	Sun		Lv. Tokyo (NZ090)→Arr.Apia
2	Nov.24	Mon		Meeting at JICA Samoa Office Courtesy call on the Min. of Foreign Affairs & Trade, Min. of Finance, Min. of Education Sports & Culture Courtesy call on SP(Explanation of Inception report)
3	Nov.25	Tue		Discussion w/ SP, facility and site study
4	Nov.26	Wed		Discussion w/ SP, facility and site study
5	Nov.27	Thr		Discussion w/ SP, facility and site study of School of Maritime Site survey and soil investigation consign
6	Nov28.	Fri		Discussion w/ SP, Survey on Architecture and Equipment market
7	Nov.29	Sat		Survey on construction and equipment market, Meeting within the Team
8	Nov.30	Sun	Lv. Tokyo	Meeting within the Team、Collected data study
9	Dec.1	Mon	Arr. Apia Meeting at JICA Samoa Office Courtesy call on SP、discussion and site study Courtesy call on Min. of Education Sports & Culture	Discussion w/ SP, Discussion w/ EPC Attend site survey
10	Dec.2	Tue	Discussion w/ SP Courtesy call on NUS	Discussion w/ SP　Discussion w/ SamoaTel
11	Dec.3	Wed	Courtesy Call on Ministry of Finance Discussion w/ SP　Visit SPREP M/D draft preparation	Discussion w/ SP、Site study Attend soil investigation
12	Dec.4	Thr	Discussion w/ SP on M/D Visit Don Bosco Technical Centre M/D draft preparation	Discussion w/ SP、Site study
13	Dec.5	Fri	Signing of M/D Report JICA Samoa office	Signing of M/D　Discussion w/ Water Authority Report JICA Samoa office
14	Dec.6	Sat	Lv. Apia(PH735)→	Survey on construction and equipment market、Meeting within the Team
15	Dec.7	Sun	Arr. Auckland Lv. Auckland(NZ463)→Wellington	Collected data study
16	Dec.8	Mon	Report to EOJ New Zealand Lv. Wellington(NZ450)→Arr. Auckland	Discussion w/ SP、Site study Collection of questionnaire (Q&A)
17	Dec.9	Tue	Lv. Auckland(JL5199)→Arr. Tokyo	Discuss w/ SP, Site study, Collect (Q&A)
18	Dec.10	Wed		Discuss w/ SP, Site study, Collect (Q&A)
19	Dec.11	Thr		Discuss w/ SP, Site study, Collect (Q&A) and consigned task
20	Dec.12	Fri		Discuss w/ SP, Site study, Collect (Q&A)
21	Dec.13	Sat		Construction market survey, meeting within the team
22	Dec.14	Sun		Collected data study
23	Dec.15	Mon		Discuss w/ SP
24	Dec.16	Tue		Report to JICA Samoa office
25	Dec.17	Wed		Lv. Apia（NZ057）→
26	Dec.18	Thr		Arr. Auckland
27	Dec.19	Fri		Market survey on Construction and Equipment
28	Dec.20	Sat		Market survey on Construction and Equipment
29	Dec.21	Sun		Market survey on Construction and Equipment
30	Dec.22	Mon		Lv. Auckland (NZ099)→Arr. Tokyo

(2) Basic Design Draft Explanation (March 29-April 9, 2004)

№	Date		Schedule	
			Leader/ Planning Management	**Consultant**
1	Mar 29	Mon	Lv. Tokyo (JL5190, NZ090)→Arr. Apia	
2	Mar.30	Tue	Report on JICA Report on Ministry of Education, Sports and Culture Discussion w/ SP	
3	Mar. 31	Wed	Discussion w/ SP (each department) Meeting at JICA	
4	Apr. 1	Thr	Site study、Discussion w/ SP (each department) Meeting at JICA	
5	Apr. 2	Fri	Discussion w/ SP Discussion on M/D draft、Site study	
6	Apr. 3	Sat	Meeting within the Team、Collected data study	
7	Apr. 4	Sun	Meeting within the Team、Collected data study	
8	Apr. 5	Mon	Discussion w/ SP、Site study Discussion on M/D draft	
9	Apr. 6	Tue	Signing of M/D (at Ministry of Education, Sports and Culture) Report on JICA Samoa office	
10	Apr. 7	Wed	Lv. Apia (NZ057)→	Site study, Construction market survey
11	Apr. 8	Thr	→Arr. Auckland Lv. Auckland (NZ421)→Arr. Wellington Report on EOJ New Zealand Lv. Wellington (NZ474)→Arr. Auckland	Lv. Apia(NZ061)→
12	Apr. 9	Fri	Lv. Auckland(JL5199→Arr. Tokyo	→Arr. Auckland Lv. Auckland(NZ099)→Arr. Tokyo

3. List of Parties Concerned

3. List of Parties Concerned in the Independent State of Samoa

Ministry of Foreign Affairs and Trade	
Tuilaepa Sailele Malielegaoi	Minister
Ministry of Finance	
Misa Telefoni Retzlaff	Minister
Noumea Simi	Assistant CEO
Sefuiva Reupena Mugaututia	Government Statistician (Statistics Department)
Ministry of Revenue	
Fuimano Poufa Te'o	Department Head
Ministry of Education Sports and Culture	
Fiame Naomi Mataafa	Minster
Samoa Polytechninc	
Perive Tanuvasa Lene	CEO
Emma Kruse Vaai	Academic Director/ Deputy CEO
Lemalu Lemi Taefu	Corporate Services Director
Sala Maresi Isala	Administration & Properties Officer
Mose Asani	Accountant
Teritia Ryan	Head of School(Commerce & General Studies)
Nonumalo Akerei Salesa	Head of School(Technology)
Fatu T Lafoai	Head of School(Maritime)
Tusani Valovalo	Executive Officer of SP/NUS merger
National University of Samoa	
Magele Mauiliu	Vice Chancellor/ President
Mitsuhiko Toho	Advisor to Vice Chancellor for ICT policy
Ministry of Transportation and Infrastructure	
Alvin Tuala	Acting CEO
Laulu Laulu	Vice Chairman/ Waterways & Drainage Committee
Labor Department	
Lemalu Tate Simi	Department Head
National Bank of Samoa	
Myrtle Rankin	Manager (International)
Ministry of Agriculture, Forests, Fisheries and Meteorology	
Ausetalia Titimaea	Assistant CEO (Meteorology Division)
Electric Power Corporation	
Folasaitu Crawley	Manager (Distribution & Utilization)
Water Authority	
Moefaauo Taputoa Titimaea	Department Head
Samoa Fire Service	
Uelese Lolo	Fire Safety Officer
Samoa Tel	
Al Williams	General Manager, Customer Operations
Tuiloma Bismark Tamati	Account Executive
JICA Samoa Office	
Junji Ishizuka	Resident Representative
Ichiro Mimura	Assistant Resident Representative