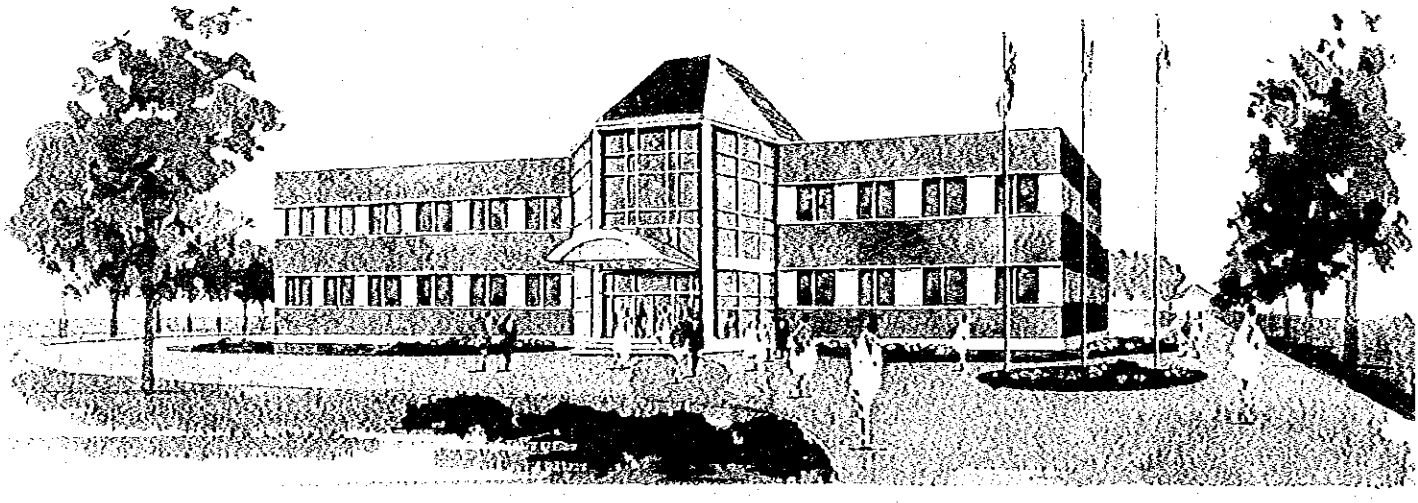
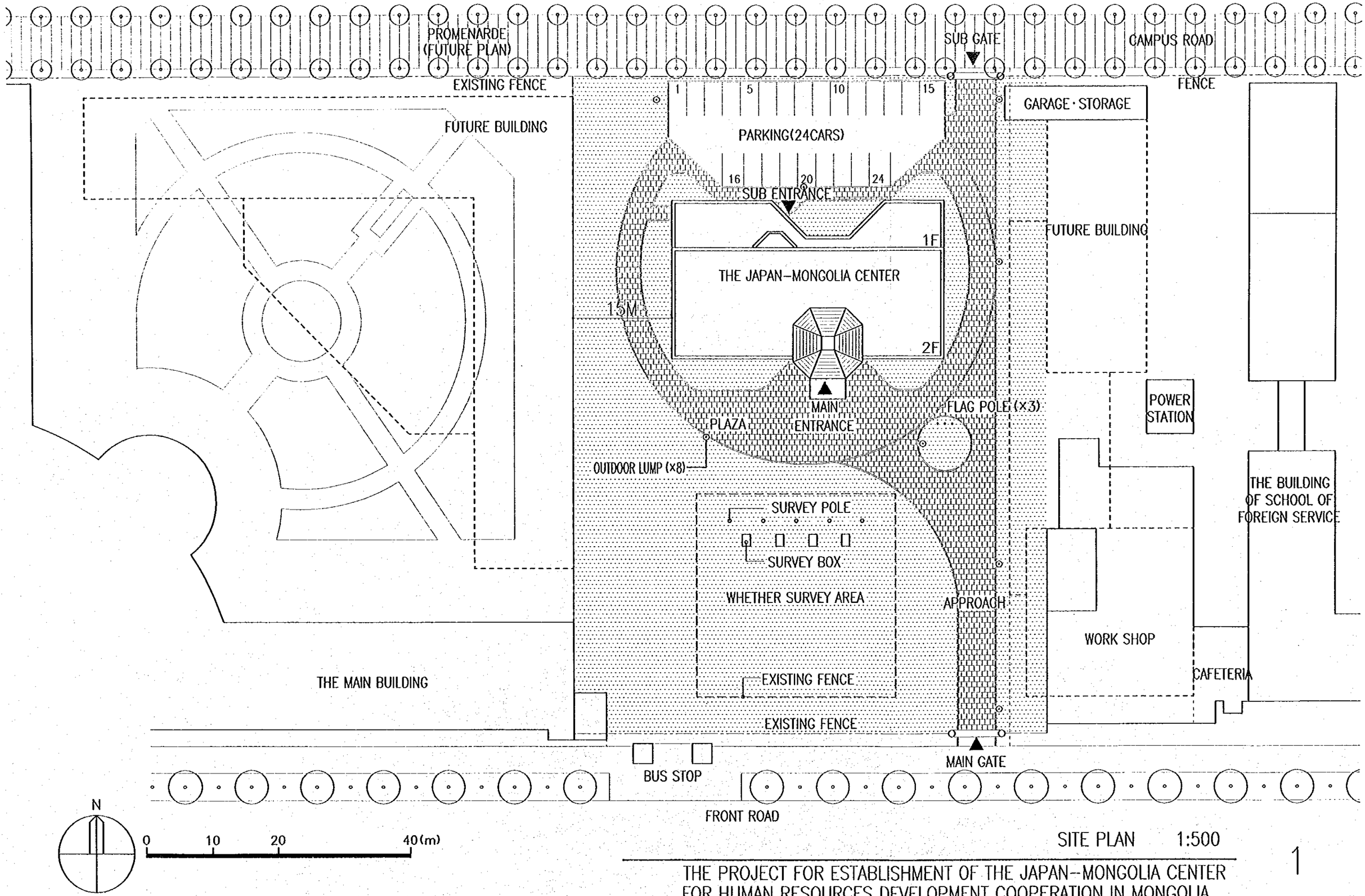
Basic Design Drawings (Drawing List)

Ⅰ. Facility

1 Site Plan
2-1 First Floor Plan
2-2 Second Floor Plan
3 Elevation
4 Section
5 Infrastructure Connection Plan

Ⅱ. Planned Equipment List





SITE PLAN 1:500

1

THE PROJECT FOR ESTABLISHMENT OF THE JAPAN-MONGOLIA CENTER
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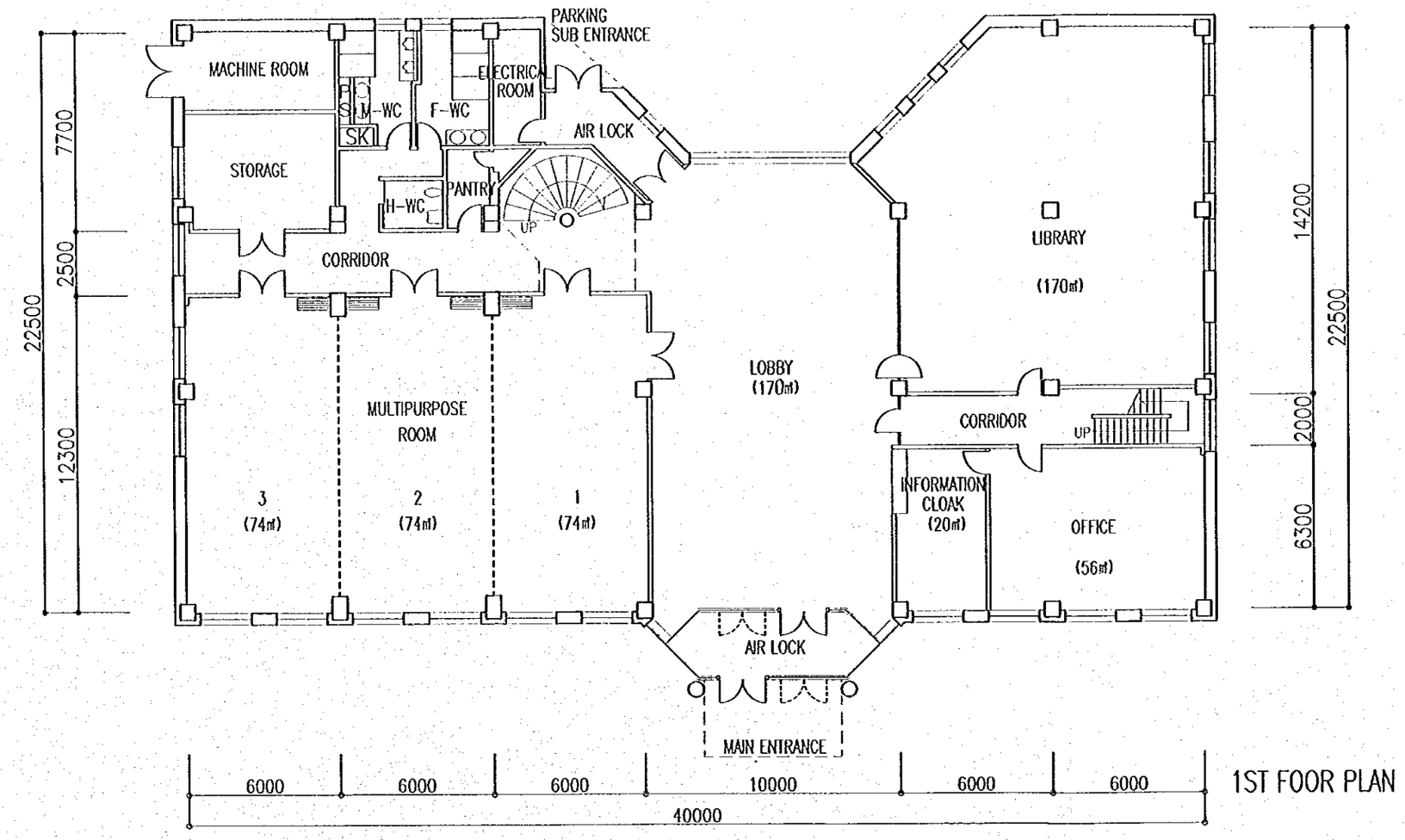
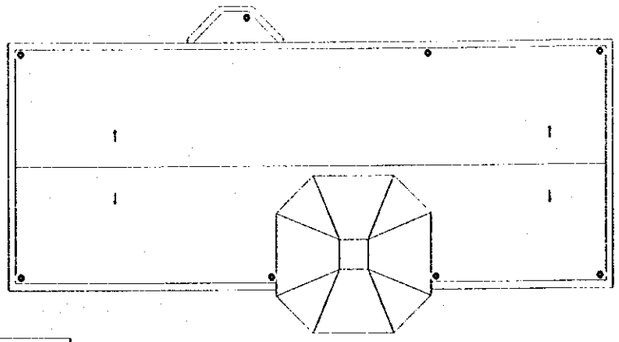
FOOR	FOOR AREA
1ST FOOR	870㎡
2ND FOOR	640㎡
TOTAL	1,510㎡
BUILDING AREA	890㎡

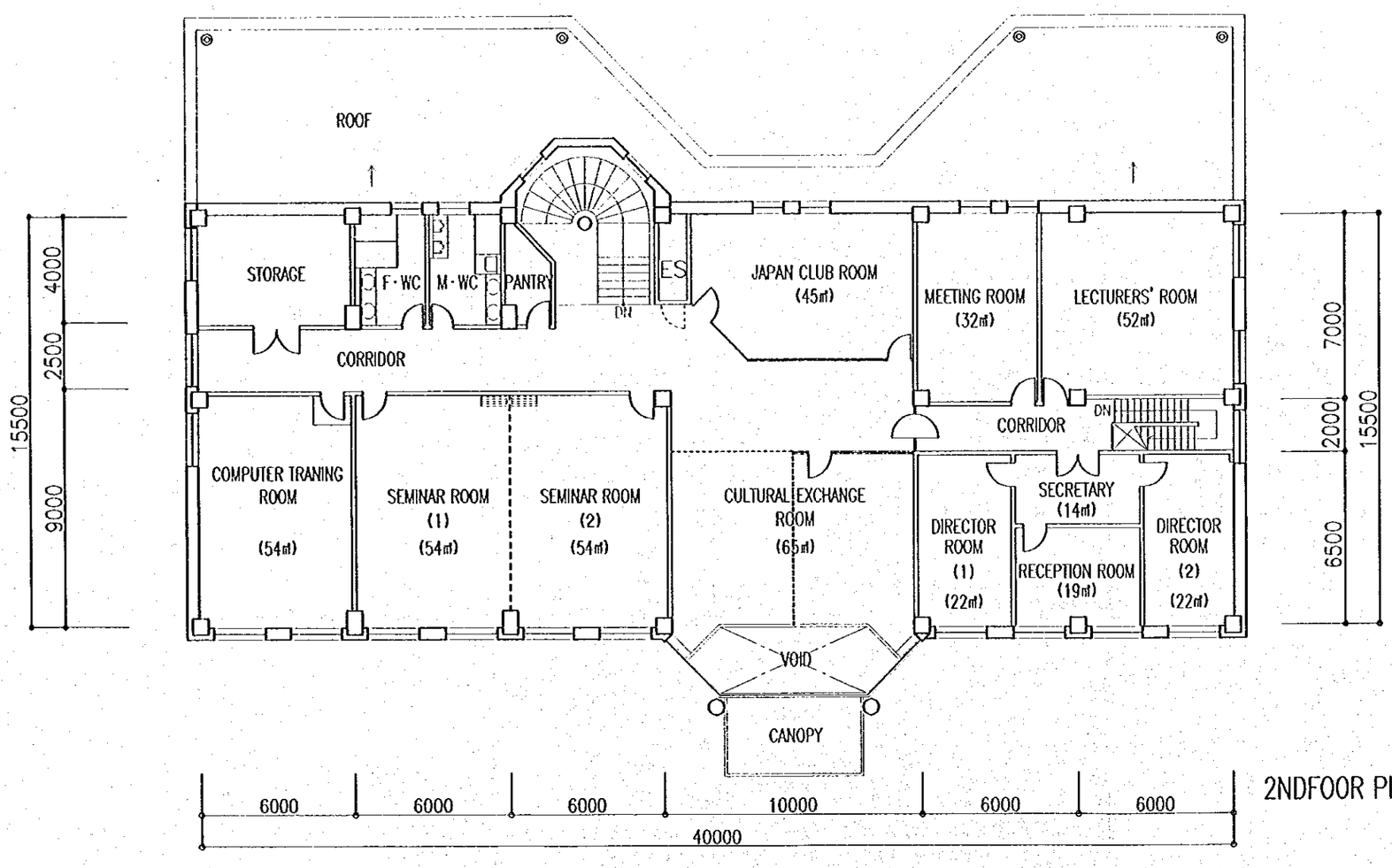


1ST FOOR PLAN

PLAN 1:200

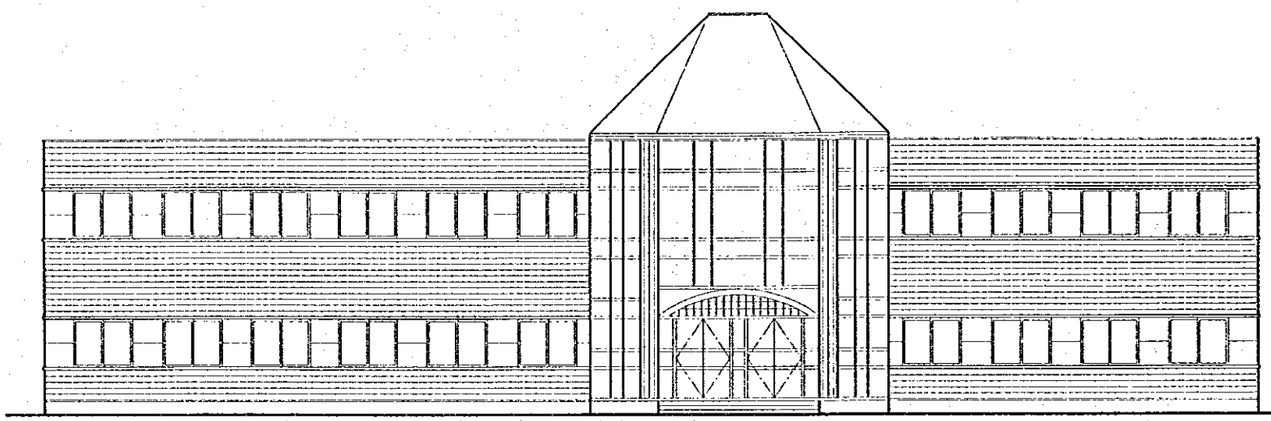


ROOF PLAN 1:400

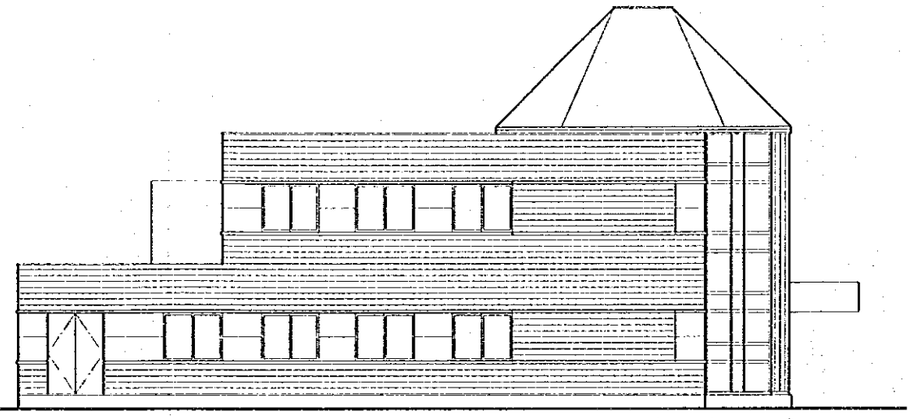


2NDFOOR PLAN

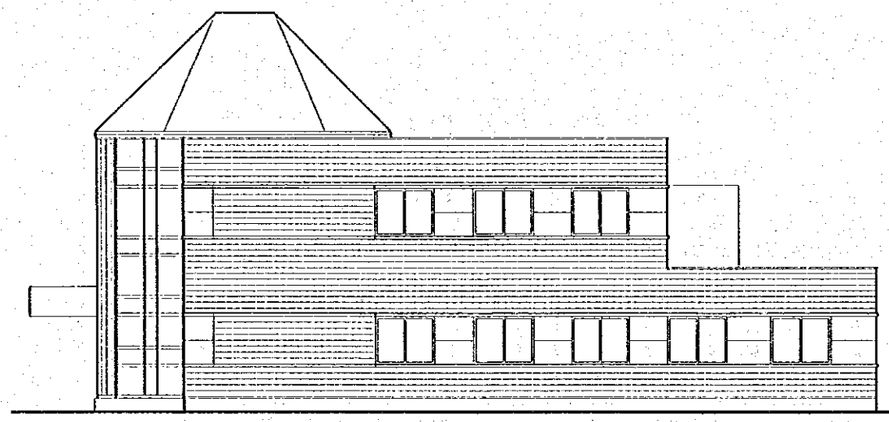
PLAN 1:200



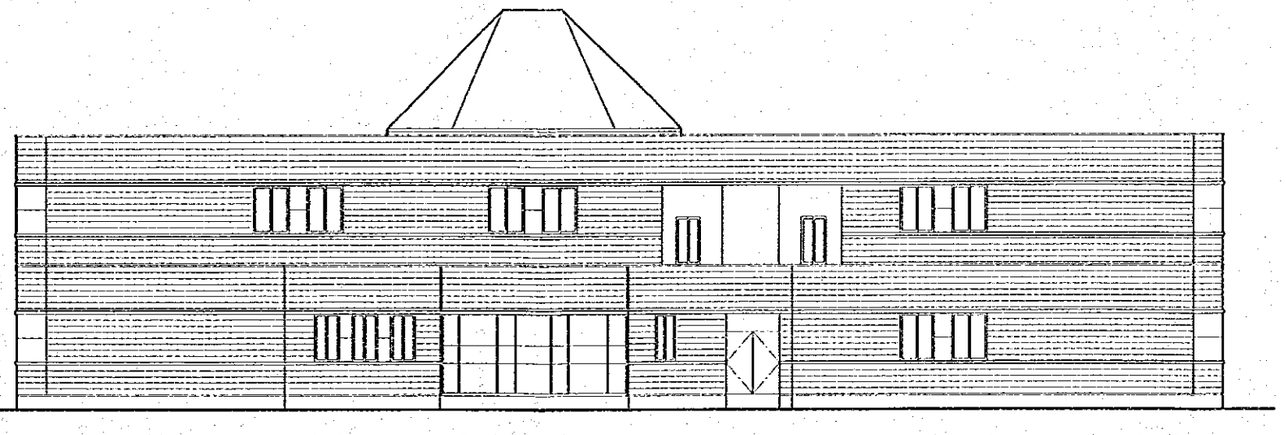
SOUTH SIDE ELEVATION



WEST SIDE ELEVATION



EAST SIDE ELEVATION



NORTH SIDE ELEVATION

ELEVATION 1:200

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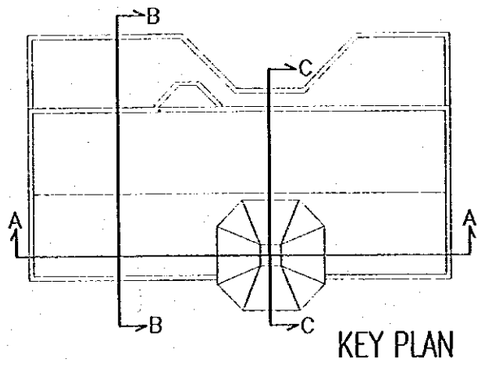
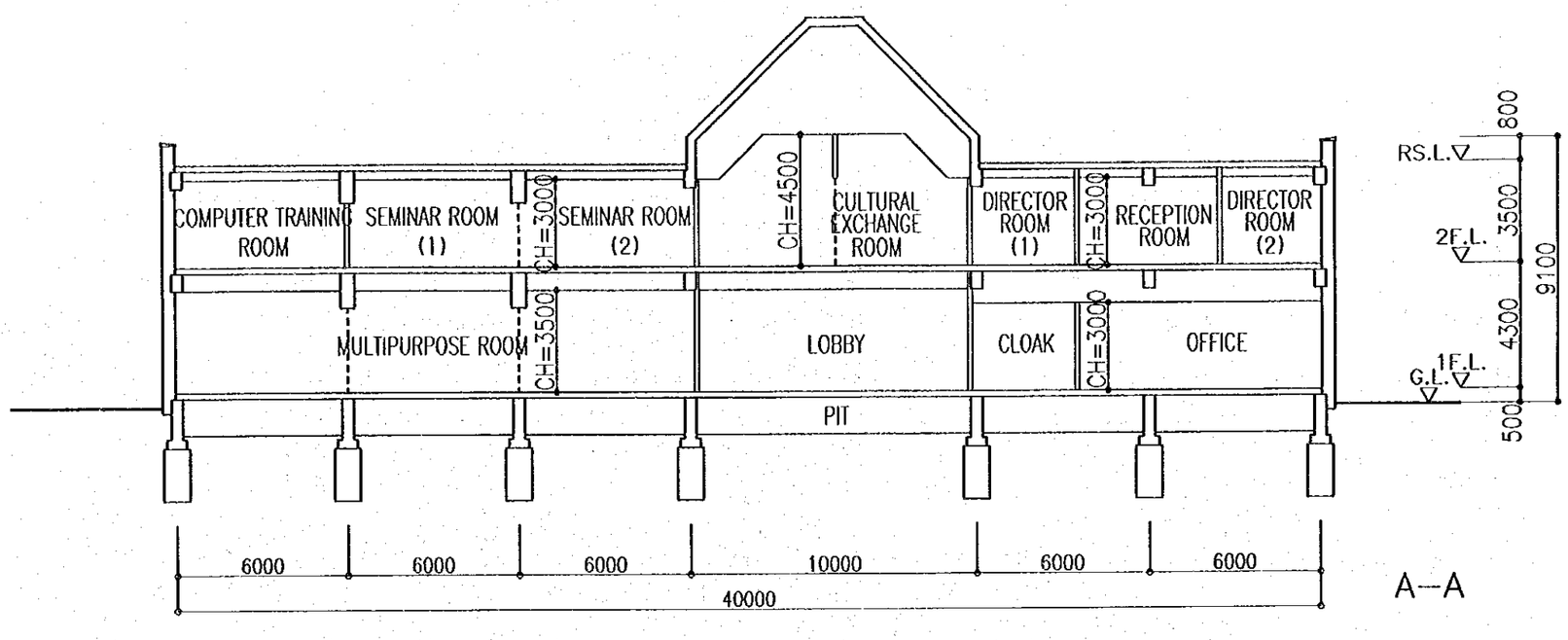
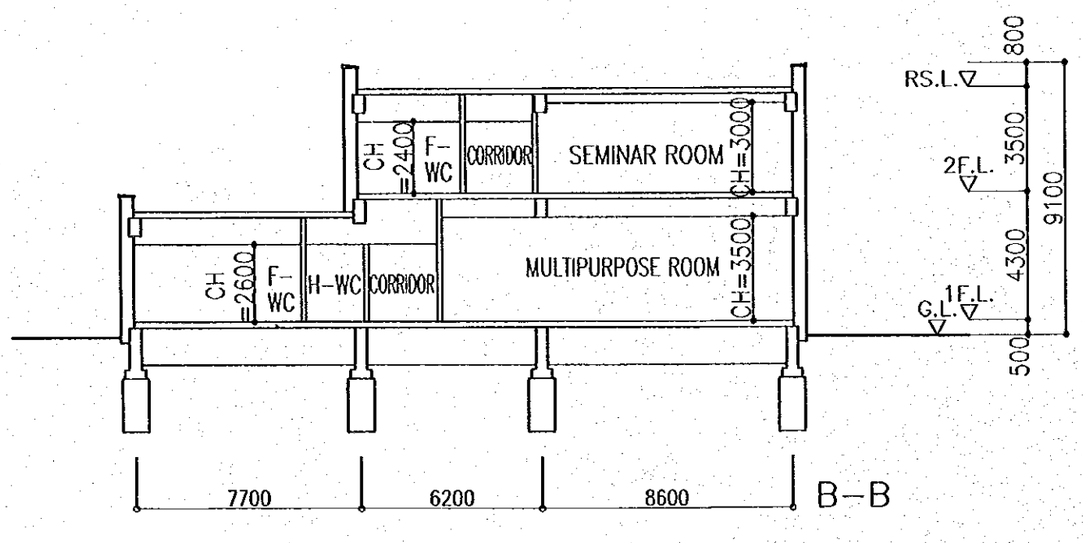
3



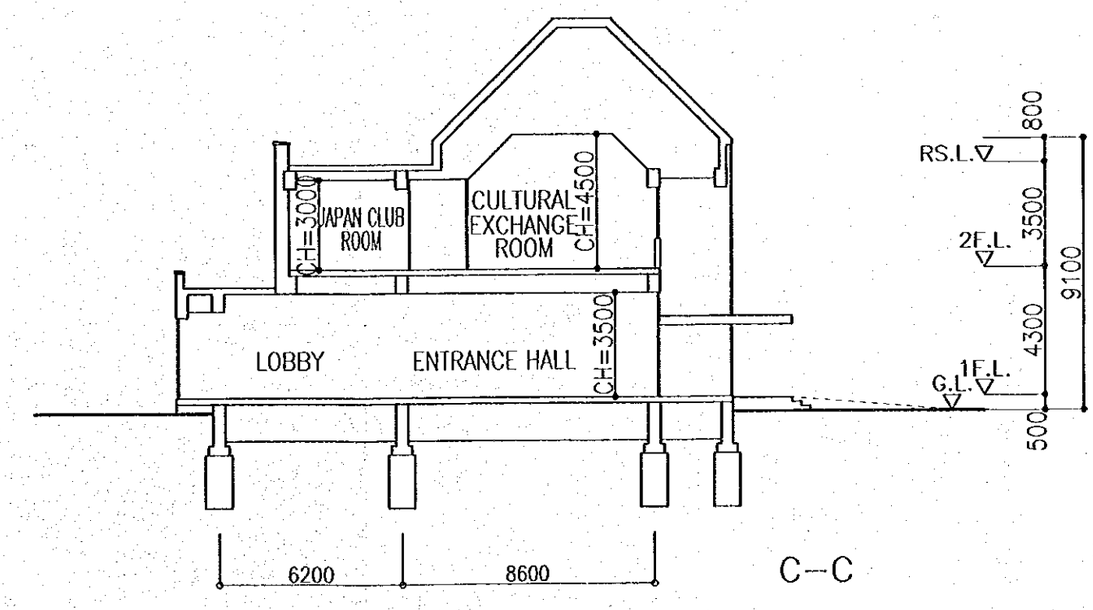
KEY PLAN



A–A

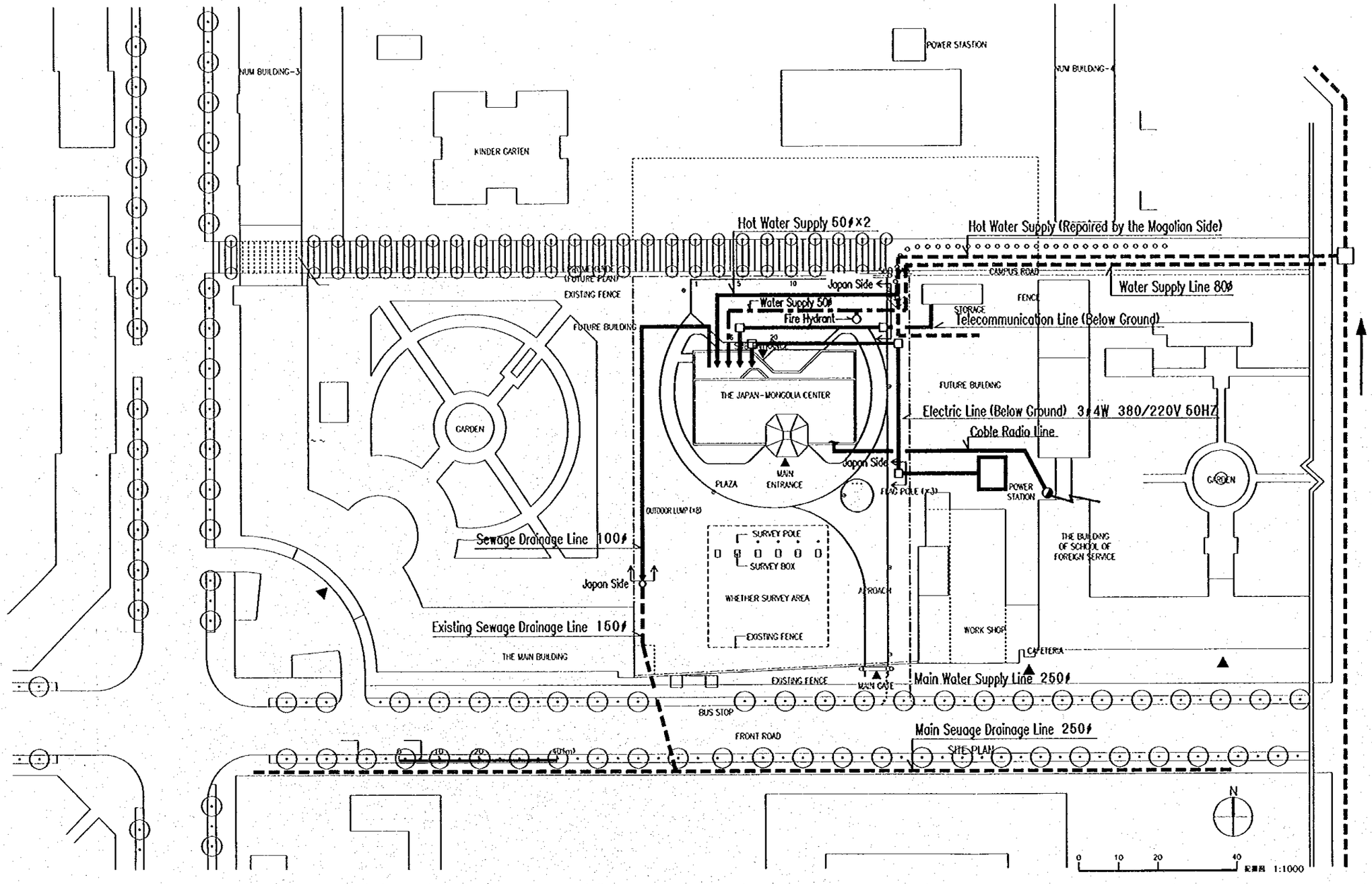


B–B



C–C

SECTION 1:200



G:¥MM¥1991155MRJ1-SYS2

INFRASTRUCTURE CONNECTION PLAN 1:1000

THE PROJECT FOR ESTABLISHMENT OF THE JAPAN-MONGOLIA CENTER FOR HUMAN RESOURCES DEVELOPMENT COOPERATION IN MONGOLIA

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PLANNED EQUIPMENT LIST

EQUIPMENT LIST			EQUIPMENT LIST			EQUIPMENT LIST		
No.	Name of Equipment	Q'tv	No.	Name of Equipment	Q'tv	No.	Name of Equipment	Q'tv
	1. COMPUTER		2-10-8	CD Player	(1)	4-7	Chair (Trainee)	159
1-1	Server	3	2-10-9	Editing Work Table	(1)	4-8	Chair (Trainee)	62
1-2	Personal Computer for Trainee	25	2-10-10	Cables	(1)	4-9	Desk for Computer	1
1-3	UPS	3	2-11	Video Camera	1	4-10	Desk for Computer	15
1-4	Printer	5	2-12	Audio Cassette Tape Editor	1	4-11	Desk	1
1-5	Network System for LAN, etc.	5	2-13	Sound System for Multi-Purpose Room	1	4-12	OA Table	1
1-6	Network System for Internet	1		Consisting of ;		4-13	Meeting Table	1
	2. AUDIO VISUAL EQUIPMENT		2-13-1	Multi-media Projector	(1)	4-14	Chair for Meeting Table	8
2-1	Screen (Ceiling Mount)	4	2-13-2	VTR	(1)	4-15-1	Meeting Table	1
2-2	Screen (Movable)	2	2-13-3	Audio Mixer	(1)	4-15-2	Chair for Meeting Room	16
2-3	Screen (Movable)	1	2-13-4	Audio Cassette Recorder	(1)	4-16	Work Table	3
2-4	AV System for the Lobby	1	2-13-5	CD Player	(1)	4-17	Reading Desk	2
	Consisting of ;		2-13-6	Wireless Tuner	(1)	4-18	Booth Partition	5
2-4-1	Large TV Display	(1)	2-13-7	Wireless Antenna	(2)	4-19	AV Booth	4
2-4-2	Stand for TV	(1)	2-13-8	Radio Tuner	(1)	4-20	Booth for Consulting	2
2-4-3	Video Recorder	(1)	2-13-9	Radio Antenna	(1)	4-21	Booth for Personal Computer	5
2-4-4	Power Amplifier	(1)	2-13-10	Video / Audio Selector	(1)	4-22	Chair (A)	49
2-4-5	Speaker	(2)	2-13-11	BS tuner	(1)	4-23	Chair (B)	31
2-4-6	Video and audio selector	(1)	2-13-12	Wireless Microphone	(1)	4-24	White Board (Movable)	9
2-4-7	BS tuner	(1)	2-13-13	Tie-Clip Type Wireless Microphone	(1)	4-25	Card Case for Library	5
2-4-8	Antenna Cables, etc.	(1)	2-13-14	Dynamic Microphone	(1)	4-26	Clip Board	3
2-4-9	Equipment Rack	(1)	2-13-15	Power Amplifier	(1)	4-27	Clip Board	4
2-5	Parabola Antenna	1	2-13-16	Room Speaker	(2)	4-28	Rack for Magazine and News Paper	3
2-6-1	Multi-media Projector	2	2-13-17	Table Top Microphone Stand	(1)	4-29	Display Panel	10
2-6-2	Stand for Multi-media Projector	2	2-13-18	Floor Microphone Stand	(1)	4-30	Partition (Movable)	4
2-6-3	Amplifier	2	2-13-19	Equipment Rack (Movable)	(1)	4-31	Cabinet	9
2-6-4	Room Speaker	2	2-13-20	Video / Audio Terminal Board	(1)	4-32	Storage Cabinet (for LL cassette recorder, booth	2
2-7-1	Video Camera Display Unit	2	2-13-21	Wiring Materials	(1)	4-33	Chair and Table Set (for Lobby)	1
2-7-2	Stand for Video Camera Display Unit	2	2-14	Portable PA Amp	1	4-34	Table	2
2-8-1	Slide Projector	2	2-15-1	Cassette Recorder	5	4-35	Planter Box	4
2-8-2	Stand for Slide Projector	2	2-15-2	Headphone	5	4-36	Book Shelf	30
2-9-1	Monitor TV	4	2-16-1	16mm Sound Projector	1	4-37	Counter (for Library)	1
2-9-2	Video Recorder	4	2-16-2	Stand for 16mm Sound Projector	1	4-38	Meeting Table Set (for Director Room)	2
2-10	Video Editing Equipment	1		3. OFFICE SUPPLY EQUIMENT		4-39	Meeting Table Set (for Reception Room)	1
	Consisting of ;		3-1	Copy Machine	4	4-40	Stage (Movable)	6
2-10-1	S-VHS Video Recorder	(2)	3-2	Fax Machine	1	4-41	Coat Hanger	12
2-10-2	Editing Controller	(1)		4. FURNITURE		4-42	Storage cabinet for chair	7
2-10-3	Video Monitor	(2)	4-1	Desk	2	4-43	Storage cabinet for desk	10
2-10-4	Audio Mixer	(1)	4-2	Chair	2	4-44	Dark Curtain (Manual Type)	1
2-10-5	Microphone	(1)	4-3	Office Desk	5	4-45	Tatami Set	1
2-10-6	Table Top Microphone Stand	(1)	4-4	Office Desk, Large Type	10			
2-10-7	Cassette Deck	(1)	4-5	Desk	8			
2-10-8	CD Player	(1)	4-6	Desk (Trainer)	113			

PLANNED EQUIPMENT LIST

EQUIPMENT LIST			Multi-Purpose Room	Seminar Room	Computer Training Room	Common Equipment	Cultural Exchange Room	Japan Club Room	Lobby	Library	Director Room	Secretary Room	Reception Room	Meeting Room	Office	Lecturer's Room	Others	MAIN SPEC / REMARKS
No.	Name of Equipment	Q'ty	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
	1. COMPUTER																	
1-1	Server	3			1					1					1			Using combinedly for the office work and managing work. Memory : RAM 64MB, monitor : 15" CRT
1-2	Personal Computer for Trainee	25			15					5	1				2	2		Simple function andselectrostatic dealing. Memory : RAM 64MB, monitor : 15" CRT
1-3	UPS	3			1					1					1			Use for the server. Capacity : Approx. 650VA Back-up time : Approx. 5 min.
1-4	Printer	5			1					1	1				1	1		Inkjet printer, network dealing, Black & white, A3 size
1-5	Network System for LAN, etc.	5			1					1	1				1	1		10 Base-T hub, 12 port switching hub, including cables.
1-6	Network System for Internet	1													1			Including modem and internet router etc.
	2. AUDIO VISUAL EQUIPMENT																	
2-1	Screen (Ceiling Mount)	4	1	2	1													Ceiling mount, manual type, 120 inch size
2-2	Screen (Movable)	2				2												Use for the multi-purpose room, tripod type, screen size : 2100 x 2100 mm
2-3	Screen (Movable)	1												1				Use for the meeting room, Tripod type, screen size : 1800 x 1800 mm
2-4	AV System for the Lobby	1							1									Install a 42 in plasma display in the lobby, and supply beneficial information to the visitor.
	Consisting of ;																	
2-4-1	Large TV Display	(1)							(1)									Use for the AV system in the lobby. 42 inch size, multi-color system
2-4-2	Stand for TV	(1)							(1)									Use for the AV system.
2-4-3	Video Recorder	(1)							(1)									Use for the AV system. Multi-color system
2-4-4	Power Amplifier	(1)							(1)									Use for the AV system. output : Approx. 60W stereo
2-4-5	Speaker	(2)							(2)									Use for the AV system. Output : Approx. 80W
2-4-6	Video and audio selector	(1)																Use for the AV system. Input : 2 video/audio, Output : 1 video/audio
2-4-7	BS tuner	(1)							(1)									Use for the AV system. Receiving channel : NHK, CNN etc.
2-4-8	Antenna Cables, etc.	(1)							(1)									Use for the AV system. Connecting cables, VDA, booster etc.
2-4-9	Equipment Rack	(1)							(1)									Use for the AV system. Storage equipment : VTR, BS tuners and audio amplifier, etc.
2-5	Parabola Antenna	1															1	Install in the rooftop, for NHK, CNN, etc. Dish type antenna Approx. 70 cm φ
2-6-1	Multi-media Projector	2				2												Use for the common equipment. LCD panel x 3, projection size : 30 to 300 inch
2-6-2	Stand for Multi-media Projector	2				2												Use for the common equipment. 500mm width, Steel made
2-6-3	Amplifier	2				2												Use for the common eqipment. output : Approx. 60W stereo
2-6-4	Room Speaker	2				2												Use for the common equipment. Output : Approx. 80W
2-7-1	Video Camera Display Unit	2				2												Use for the common equipment. For the shooting of teaching material. Projection lamp is 300W halogen
2-7-2	Stand for Video Camera Display Unit	2				2												Use for the common equipment. Size : Approx. W700 x H800mm, Steel made
2-8-1	Slide Projector	2				2												Use for the common equipment. 250W halogen lamp, 80 slides tray
2-8-2	Stand for Slide Projector	2				2												Size : Approx. W450 x H800mm, Steel made
2-9-1	Monitor TV	4								4								For AV booth in the library. 14 inch, PAL color system
2-9-2	Video Recorder	4								4								For AV booth in the library. Multi-color system
2-10	Video Editing Equipment	1														1		For video software making

PLANNED EQUIPMENT LIST

No.	EQUIPMENT LIST / Name of Equipment	Q'ty	A Multi-Purpose Room	B Seminar Room	C Computer Training Room	D Common Equipment	E Cultural Exchange Room	F Japan Club Room	G Lobby	H Library	I Director Room	J Secretary Room	K Reception Room	L Meeting Room	M Office	N Lecturer's Room	O Others	MAIN SPEC / REMARKS
	Consisting of ;																	
2-10-1	S-VHS Video Recorder	(2)														(2)		For playback and recording. PAL system, Audio : Hi-Fi stereo
2-10-2	Editing Controller	(1)														(1)		Controller for editing and VTR. VTR control : PB, REC, ST, SRC, etc.
2-10-3	Video Monitor	(2)														(2)		For Playback, recording and Editing. 9 inch, PAL Color system
2-10-4	Audio Mixer	(1)														(1)		Use for the BGM, narration and audio mix at the editing work.
2-10-5	Microphone	(1)														(1)		Use for narration insertion after video editing completion.
2-10-6	Table Top Microphone Stand	(1)														(1)		For above microphone. Height : Approx. 120 to 220 mm
2-10-7	Cassette Deck	(1)														(1)		Use for BGM and recording of after video editing completion. Double cassette type
2-10-8	CD Player	(1)														(1)		Use for BGM and recording of after video editing completion.
2-10-9	Editing Work Table	(1)														(1)		Material : Steel, Size : Approx. (W)1400 x (H)700 mm
2-10-10	Cables	(1)														(1)		Connecting cables and installation materials which are necessary for the video editing system.
2-11	Video Camera	1														1		For video shooting. Color system : PAL, 50 times digital zoom
2-12	Audio Cassette Tape Editor	1														1		Use for the audio editing. Portable type, with CD, double cassette
2-13	Sound System for Multi-Purpose Room	1	1															Use for the sound system in the multi-purpose room.
	Consisting of ;																	
2-13-1	Multi-media Projector	(1)	(1)															Use for the video projection. LCD panel x 3, Projection size : 30 to 300 inch
2-13-2	VTR	(1)	(1)															Use as the video sauce of the multi media projector.
2-13-3	Audio Mixer	(1)	(1)															Use for the selection of output audio and mixing of audio input.
2-13-4	Audio Cassette Recorder	(1)	(1)															Use for BGM and playback. Type : Double cassette
2-13-5	CD Player	(1)	(1)															Use for BGM and playback.
2-13-6	Wireless Tuner	(1)	(1)															Input channel : Dual channel, Tuner module : Diversity
2-13-7	Wireless Antenna	(2)	(2)															Type : Wall mounted, Power supply : Supplied from wireless tuner
2-13-8	Radio Tuner	(1)	(1)															Receiving CH : AM / FM, Tuning control : Auto / manual (selectable)
2-13-9	Radio Antenna	(1)	(1)															Outdoor use for AM / FM, Including antenna fixing materials
2-13-10	Video / Audio Selector	(1)	(1)															Use for the output selection of video and audio. Input : 3 (video), 2 (audio), Output : 1 (video, audio)
2-13-11	BS tuner	(1)	(1)															Use for sound system. Receiving channel : NHK, CNN etc.
2-13-12	Wireless Microphone	(1)	(1)															Use for sound system. Use for the lecture, etc., Type : Handheld type
2-13-13	Tie-Clip Type Wireless Microphone	(1)	(1)															Use for sound system. Use for the lecture, etc., Type : Tie clip type
2-13-14	Dynamic Microphone	(1)	(1)															Use for sound system. Use for the lecture, etc., Type : Dynamic
2-13-15	Power Amplifier	(1)	(1)															Use for the sound system. Output power : Approx. 100W + 100W
2-13-16	Room Speaker	(2)	(2)															Type : Box type, Output power : Approx. 150W
2-13-17	Table Top Microphone Stand	(1)	(1)															Height : Approx. 120 to 220 mm
2-13-18	Floor Microphone Stand	(1)	(1)															Height : Approx. 900 to 1500 mm
2-13-19	Equipment Rack (Movable)	(1)	(1)															Rack for sound system equipment. aluminum made, movable with caster
2-13-20	Video / Audio Terminal Board	(1)	(1)															Terminal board for audio input/output
2-13-21	Wiring Materials	(1)	(1)															Connection cables necessary for Sound System.
2-14	Portable PA Amp	1				1												Use for the common equipment. Portable wireless amp., output : 15W

PLANNED EQUIPMENT LIST

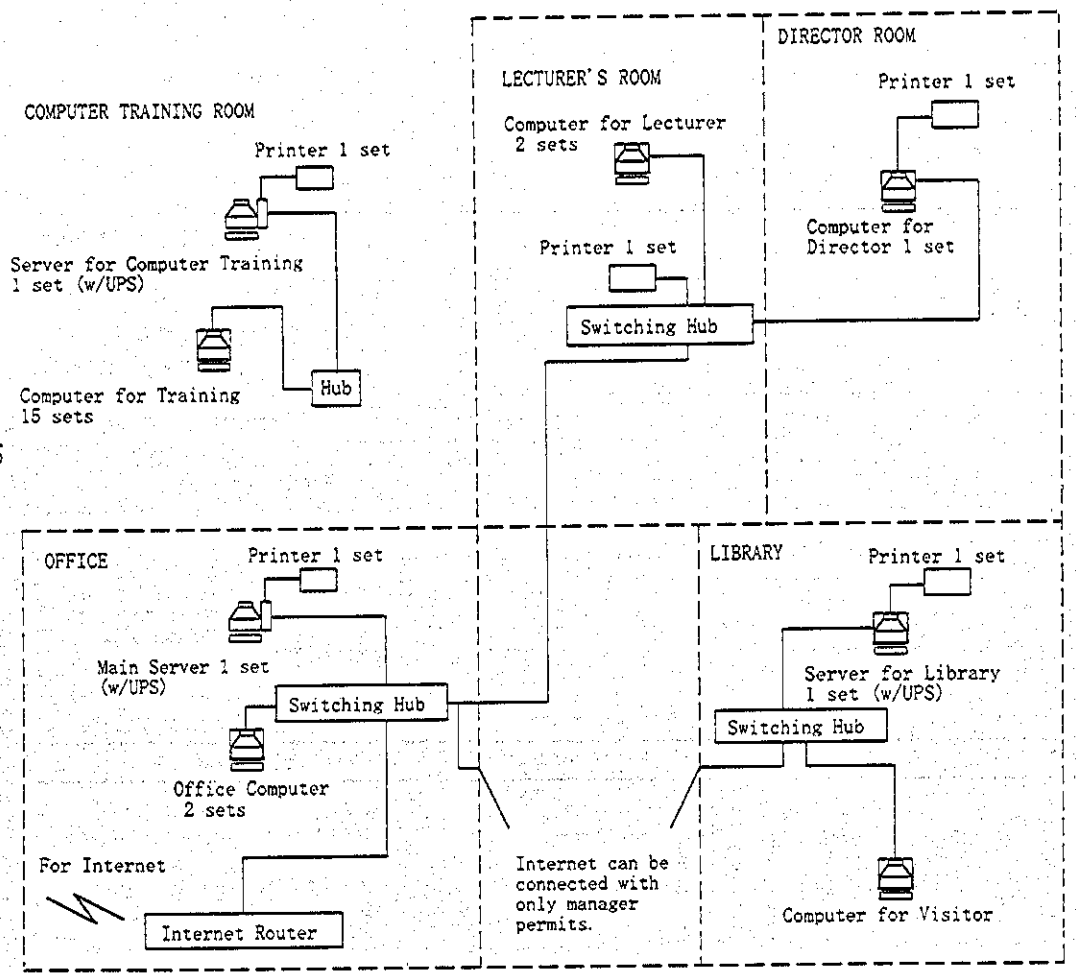
EQUIPMENT LIST			Multi-Purpose Room	Seminar Room	Computer Training Room	Common Equipment	Cultural Exchange Room	Japan Club Room	Lobby	Library	Director Room	Secretary Room	Reception Room	Meeting Room	Office	Lecturer's Room	Others	MAIN SPEC / REMARKS
No.	Name of Equipment	Q'ty	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
2-15-1	Cassette Recorder	5														5		For foreign language study self-teaching, with CD, cassette, speaker
2-15-2	Headphone	5														5		For foreign language study self-teaching,. Dynamic type
2-16-1	16mm Sound Projector	1				1												Use for the multi-purpose room and seminer room. 350W Xenon
2-16-2	Stand for 16mm Sound Projector	1				1												Size : Approx. W500 x H800mm, Material : Steel
	3. OFFICE SUPPLY EQUIMENT																	
3-1	Copy Machine	4								2					1	1		Type : Desk top, Copy size : A3 to B5
3-2	Fax Machine	1														1		Paper : PPC, Paper size : Max. A4
	4. FURNITURE																	
4-1	Desk	2									2							For for the director room. wood made, width approx. 1800mm
4-2	Chair	2									2							For for the director room. leather finish, width approx. 600 mm
4-3	Office Desk	5													5			For the office. Steel made, width approx. 1400 mm
4-4	Office Desk, Large Type	10													2	8		For the office and lecturer's room. steel made, width 1600 mm
4-5	Desk	8						8										For the Japan club room. Flat desk, width approx. 1500 mm
4-6	Desk (Trainer)	113	81	32														For the multi-purpose room, seminar room. For 2 students, folding type, Width approx. 1500 mm
4-7	Chair (Trainee)	159	159															For the multi-purpose room. folding type, seat/back rest : Vynile
4-8	Chair (Trainee)	62		62														For the seminar room. folding type, seat/back rest : Vynile leather
4-9	Desk for Computer	1			1													For the computer training room. for trainer. width approx. 1600 mm
4-10	Desk for Computer	15			15													For the computer training room. for trainee. width approx. 800 mm
4-11	Desk	1										1						For secretary room. (OA table), width approx. 1400 mm
4-12	OA Table	1													1			Use for the server, printer and Fax. Width approx. 1800 mm
4-13	Meeting Table	1													1			For the office, width approx. 1800 mm
4-14	Chair for Meeting Table	8													8			For the office. With arm rest and caster, Height adjustable
4-15-1	Meeting Table	1												1				For meeting room. For 16 persons. Corner table, straight table, Top board : Melamine resin
4-15-2	Chair for Meeting Room	16												16				For the meeting room. Vinyl Leather finish, height adjustable, with arm rest
4-16	Work Table	3								1						2		For the library and lecturer's room. Max. loading : 300kg, width approx. 1800 mm
4-17	Reading Desk	2								2								Use for the library, width approx. 1800mm, Wood made
4-18	Booth Partition	5														5		For self teaching. Folding type, movable
4-19	AV Booth	4								4								For library. Wooden made, Size : Approx. W900 x H1300 mm
4-20	Booth for Consulting	2								2								For consulting corner in the library. Wooden made, width approx. 800mm, with partition
4-21	Booth for Personal Computer	5								5								For library. Wooden made, width approx. 860 mm
4-22	Chair (A)	49			1		10	8		11		1			8	10		For office. Vinyl Leather finish, with arm rest and caster, height adjustable
4-23	Chair (B)	31			15					16								For computer training room and library. Vinyl Leather finish, with caster, height adjustable
4-24	White Board (Movable)	9	4	2	1									1	1			Both side rotating type, movable with caster, board size : W1200 x H900 mm
4-25	Card Case for Library	5								5								For book retrieval. Width approx. 300mm, 3 drawers, steel made
4-26	Clip Board	3								1					1	1		Type : Wall mounting type, Size : W1800 x H900mm
4-27	Clip Board	4							4									Use for the display of event's information in the lobby. Movable type, self standing, fablic surface, panel size : W900 x H1800 mm

PLANNED EQUIPMENT LIST

EQUIPMENT LIST			Multi-Purpose Room	Seminar Room	Computer Training Room	Common Equipment	Cultural Exchange Room	Japan Club Room	Lobby	Library	Director Room	Secretary Room	Reception Room	Meeting Room	Office	Lecturer's Room	Others	MAIN SPEC / REMARKS
No.	Name of Equipment	Q'ty	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
4-28	Rack for Magazine and News Paper	3								3								For library. No. of tray : 5, width approx. 740 mm
4-29	Display Panel	10							10									Use for the display of event's information in the lobby. Movable type, self standing, fablic surface, panel size : W900 x H1800 mm
4-30	Partition (Movable)	4														4		For lecturer's room. Self standing/movable. Size : W1200 x H1200 mm
4-31	Cabinet	9					1	1		1	2				3	1		For equipment storage. Steel made, size : W900 x H2000 mm, lockable
4-32	Storage Cabinet (for LL cassette recorder, booth panel)	2														2		Use for the storage of LL cassette recorder and booth panel Material : Steel, width approx. 900 mm, lockable type
4-33	Chair and Table Set (for Lobby)	1							1									Use for the rest area in the lobby. Sofa, chair, center table
4-34	Table	2					2											For the cultural exchange room. Width approx.2000mm, elliptic type
4-35	Planter Box	4							4									Use for the rest area in the lobby. Size : Approx. W1100 x H600 mm
4-36	Book Shelf	30								30								For the library. Storage capacity is 5,000 to 6,000 books. Wood made. Size : W1800 x H1800 mm
4-37	Counter (for Library)	1								1								For the library.Door, Corner counter, Straight counter, etc.
4-38	Meeting Table Set (for Director Room)	2									2							For the director room. arm chair, sofa, center table, etc.
4-39	Meeting Table Set (for Reception Room)	1											1					For the reception room. arm chair, sofa, center table, side board, etc.
4-40	Stage (Movable)	6	6															For multi-puopose room. Movable, wooden made. approx. 1500mm width
4-41	Coat Hanger	12													12			For kloak. Hook hanging type. Steel made, for 150 to 200 persons
4-42	Storage cabinet for chair	7	4	3														For chair storage of multi-purpose room and seminar room. Storage capacity : 40 chairs
4-43	Storage cabinet for desk	10	7	3														For desk storage of multi-purpose room and seminar room. Movable type with caster, Material : Steel
4-44	Dark Curtain (Manual Type)	1	1															For multi-purpose room. Size : approx(H). 2500 mm, acrylic finish. with Curtain rail
4-45	Tatami Set	1					1											For the cultural exchange room. Assemble and movable type. Tatami mat. Partition (Byobu). Chair (Zaisu). Table (Zataku). Lobby chair (Endai). etc.

2-10 VIDEO EDITING SYSTEM (LECTURER'S ROOM)

PERSONNEL COMPUTER SYSTEM DIAGRAM

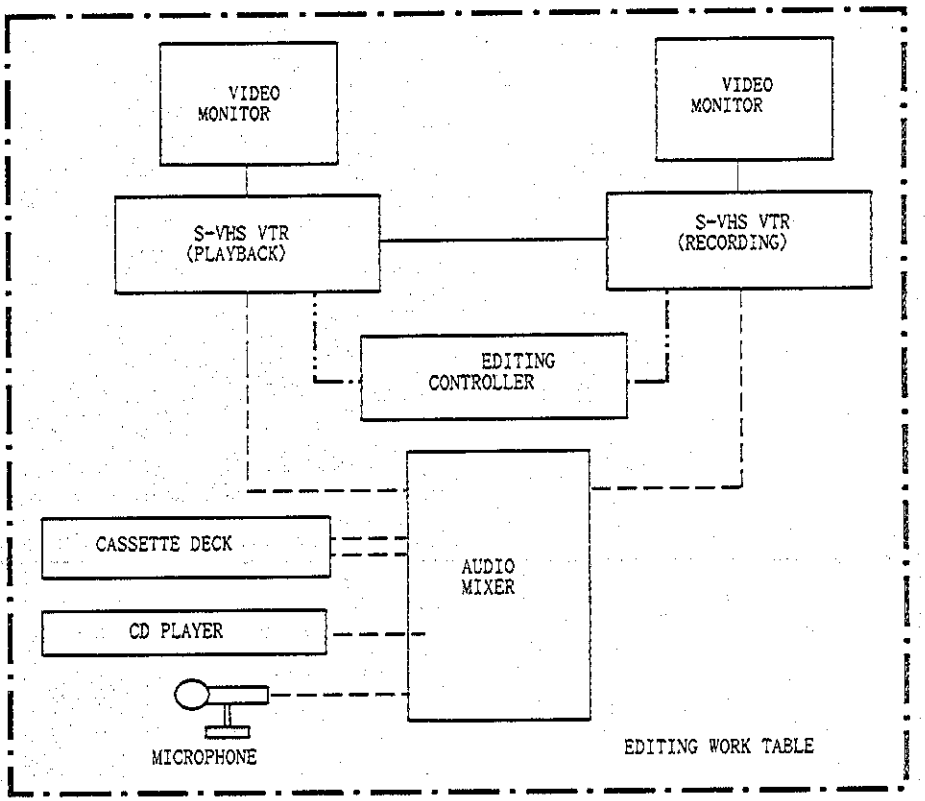


SYSTEM OUTLINE

Designed for most basic editing system (cut editing) based on S-VHS format . However, this system has the BGM and the after recording function as a necessary minimum function.

COMPOSITION OF EQUIPMENT :

1.	S-VHS VTR	2 pcs
2.	EDITING CONTROLLER	1 pc
3.	VIDEO MONITOR	2 pcs
4.	AUDIO MIXER	1 pc
5.	MICROPHONE	1 pc
6.	TABLE TOP MIC STAND	1 pc
7.	CASSETTE DECK	1 pc
8.	CD PLAYER	1 pc
9.	EDITING WORK TABLE	1 set
10.	CABLES	1 Lot

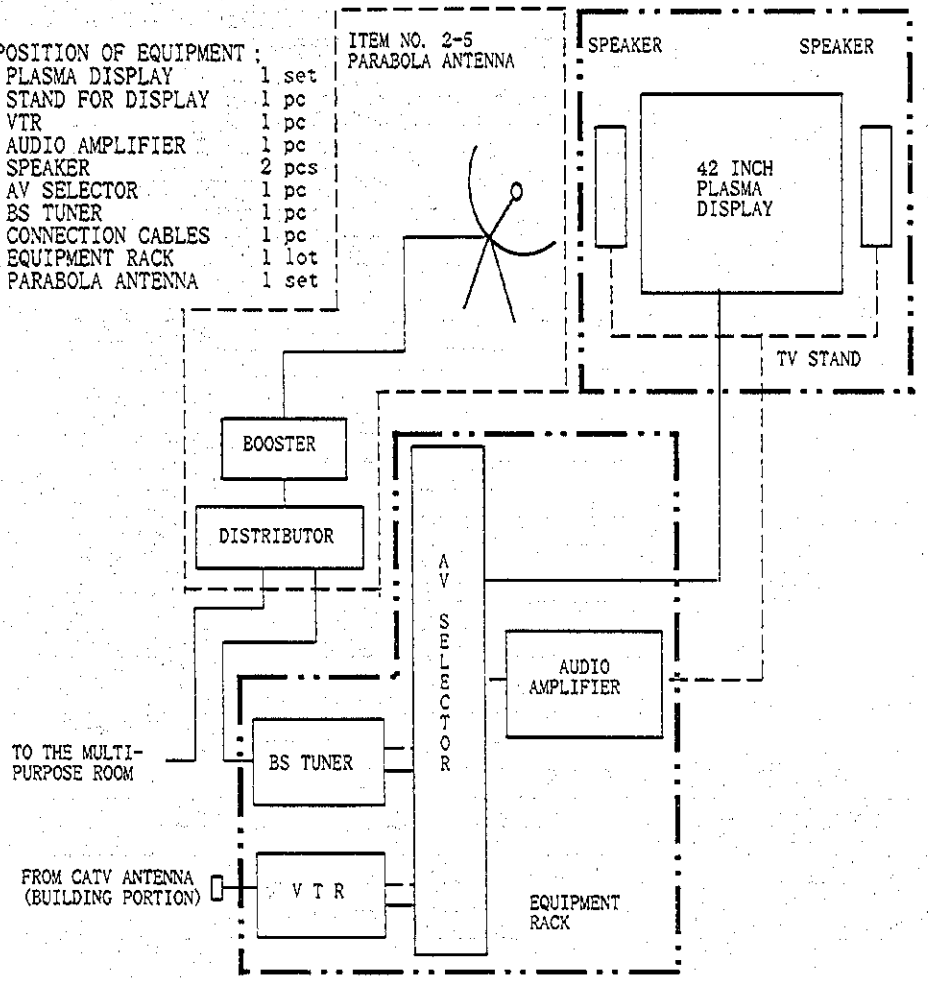


2-4 AV SYSTEM FOR THE LOBBY

Install a 42 inch plasma display in the lobby, and supply audio visual service and beneficial information to the visitors. Reception of BS broadcasting is possible.

COMPOSITION OF EQUIPMENT :

1.	PLASMA DISPLAY	1 set
2.	STAND FOR DISPLAY	1 pc
3.	VTR	1 pc
4.	AUDIO AMPLIFIER	1 pc
5.	SPEAKER	2 pcs
6.	AV SELECTOR	1 pc
7.	BS TUNER	1 pc
8.	CONNECTION CABLES	1 pc
9.	EQUIPMENT RACK	1 lot
10.	PARABOLA ANTENNA	1 set



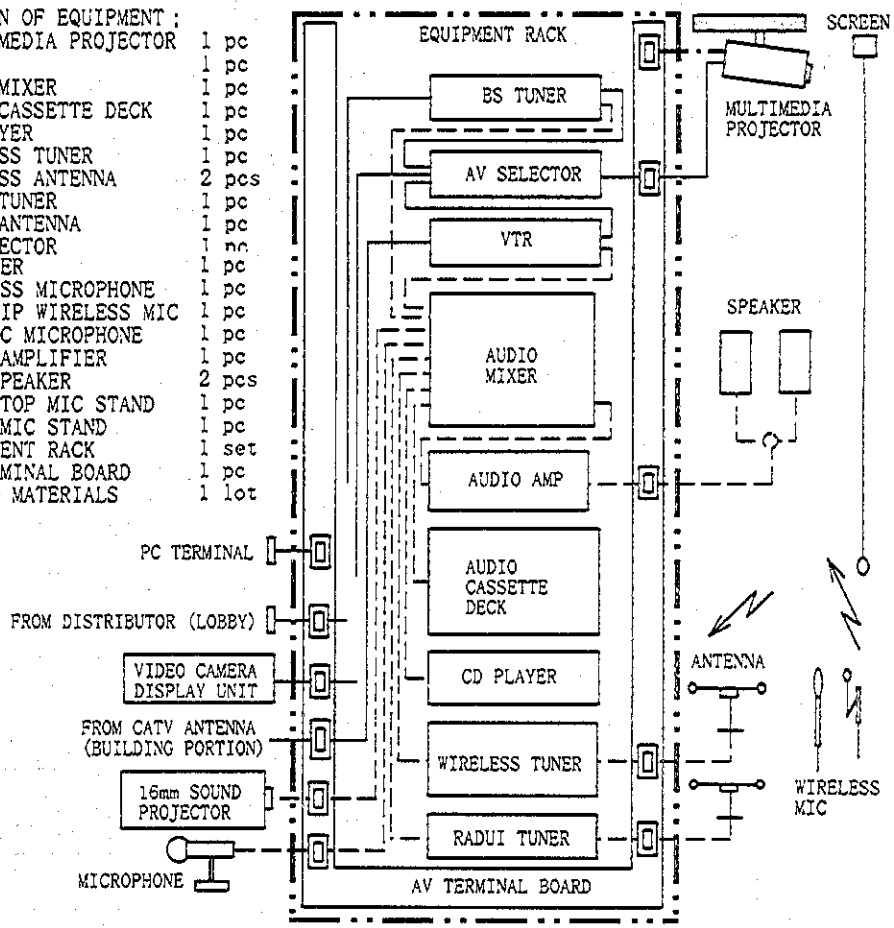
2-13 SOUND SYSTEM FOR THE MULTI-PURPOSE ROOM

SYSTEM OUTLINE

Mainly, install the projector, and included Audio Cassette Deck, DC Player, Wired Microphone and Wireless Microphone, and Designed the system of the cen ter which is suitable being active.

COMPOSITION OF EQUIPMENT :

1.	MULTI-MEDIA PROJECTOR	1 pc
2.	VTR	1 pc
3.	AUDIO MIXER	1 pc
4.	AUDIO CASSETTE DECK	1 pc
5.	CD PLAYER	1 pc
6.	WIRELESS TUNER	1 pc
7.	WIRELESS ANTENNA	2 pcs
8.	RADIO TUNER	1 pc
9.	RADIO ANTENNA	1 pc
10.	AV SELECTOR	1 pc
11.	BS TUNER	1 pc
12.	WIRELESS MICROPHONE	1 pc
13.	TIE CLIP WIRELESS MIC	1 pc
14.	DYNAMIC MICROPHONE	1 pc
15.	POWER AMPLIFIER	1 pc
16.	ROOM SPEAKER	2 pcs
17.	TABLE TOP MIC STAND	1 pc
18.	FLOOR MIC STAND	1 pc
19.	EQUIPMENT RACK	1 set
20.	AV TERMINAL BOARD	1 pc
21.	WIRING MATERIALS	1 lot



LIBRARY

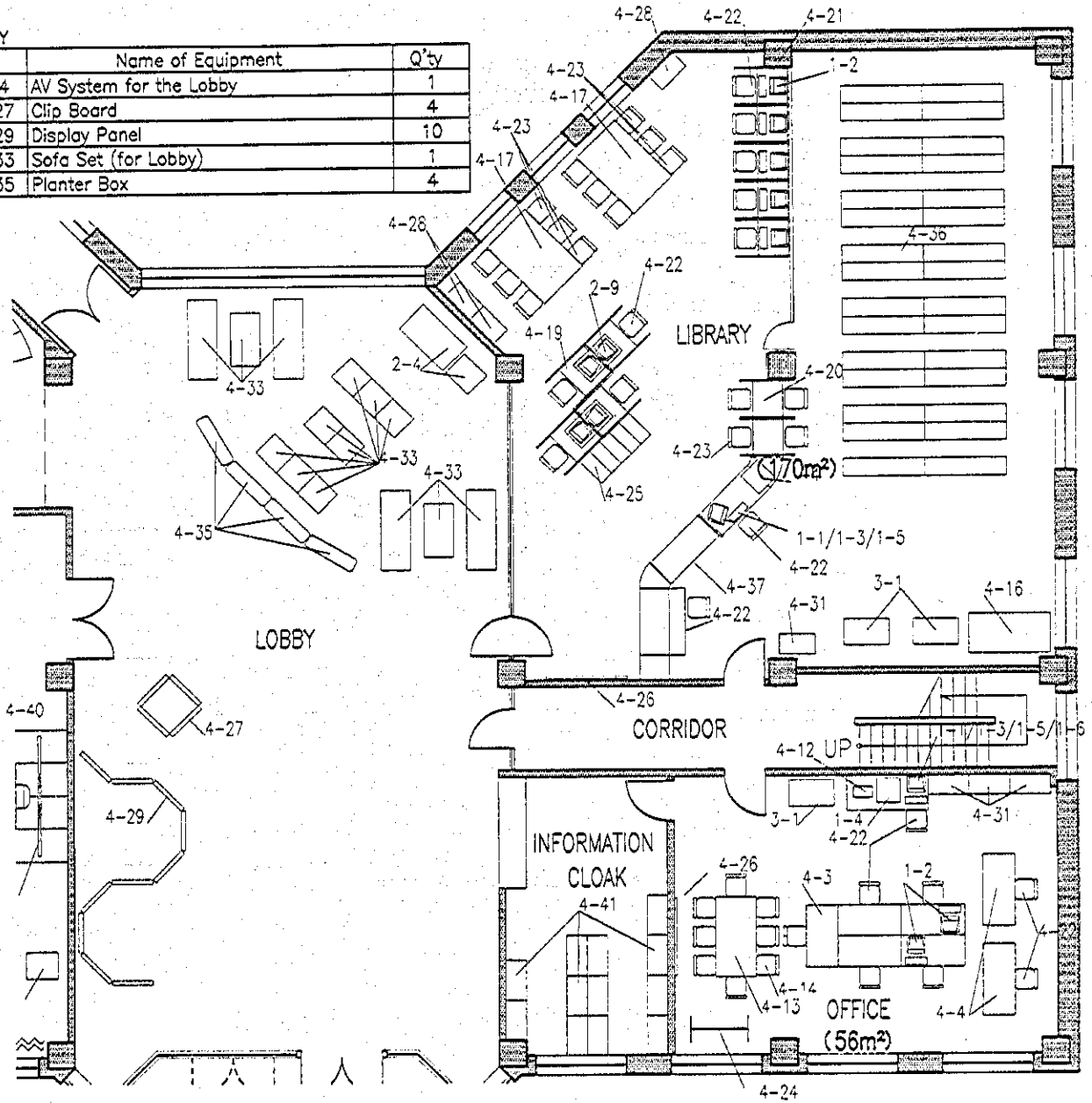
No.	Name of Equipment	Q'ty
1–1	Server	1
1–2	Personal Computer for Trainee	5
1–3	UPS	1
1–4	Printer	1
1–5	Network System for LAN, etc.	1
2–9–1	Monitor TV	4
2–9–2	Video Recorder	4
3–1	Copy Machine	2
4–16	Work Table	1
4–17	Reading Desk	2
4–19	AV Booth	4
4–20	Booth for Consulting	2
4–21	Booth for Personal Computer	5
4–22	Chair (A)	11
4–23	Chair (B)	16
4–25	Card Case for Library	5
4–26	Clip Board	1
4–28	Rack for Magazine and News Paper	3
4–31	Cabinet	1
4–36	Book Shelf	30
4–37	Counter (for library)	1

OFFICE

No.	Name of Equipment	Q'ty
1–1	Server	1
1–2	Personal Computer for Trainee	2
1–3	UPS	1
1–4	Printer	1
1–5	Network System for LAN, etc.	1
1–6	Network System for Internet	1
3–1	Copy Machine	1
4–3	Office Desk	5
4–4	Office Desk, Large Type	2
4–12	OA Table	1
4–13	Meeting Table	1
4–14	Chair for Meeting Table	8
4–22	Chair (A)	8
4–24	White Board (Movable)	1
4–26	Clip Board	1
4–31	Cabinet	3
4–41	Coat Hanger	12

LOBBY

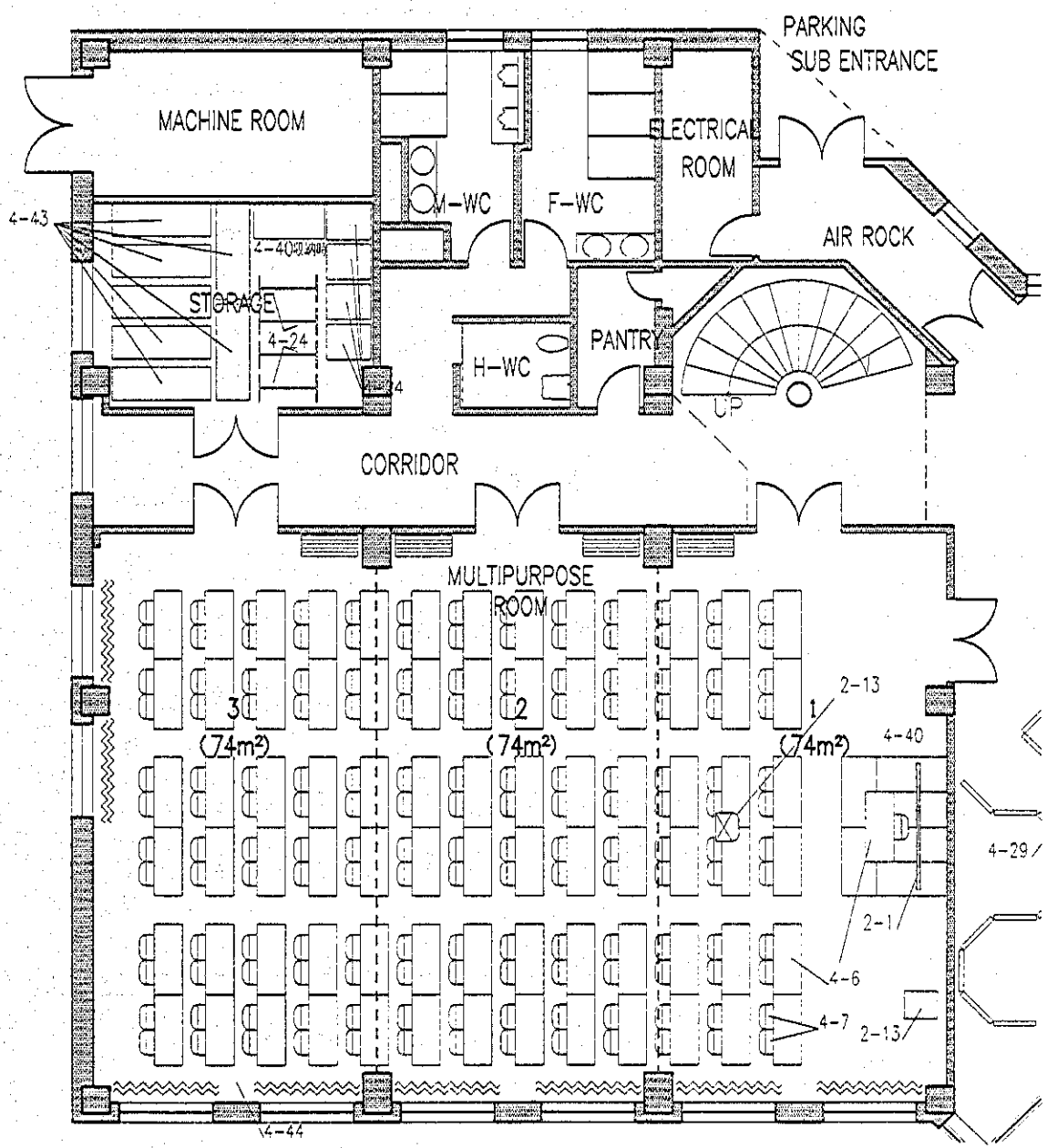
No.	Name of Equipment	Q'ty
2–4	AV System for the Lobby	1
4–27	Clip Board	4
4–29	Display Panel	10
4–33	Sofa Set (for Lobby)	1
4–35	Planter Box	4



EQUIPMENT LAYOUT PLAN–1

MULTIPURPOSE ROOM

No.	Name of Equipment	Q'ty
2-1	Screen (Ceiling Mount)	1
2-13	Sound System for Multi-Purpose Room	1
4-6	Desk (Trainer)(for 2 persons : L=1,500)	81
4-7	Chair (Trainee)	159
4-24	White Board (Movable)	4
4-40	Stage (Movable)	6
4-42	Storage cabinet for chair	4
4-43	Storage cabinet for desk	7
4-44	Dark Curtain (Manual Type)	1



EQUIPMENT LAYOUT PLAN-2

SEMINAR ROOM

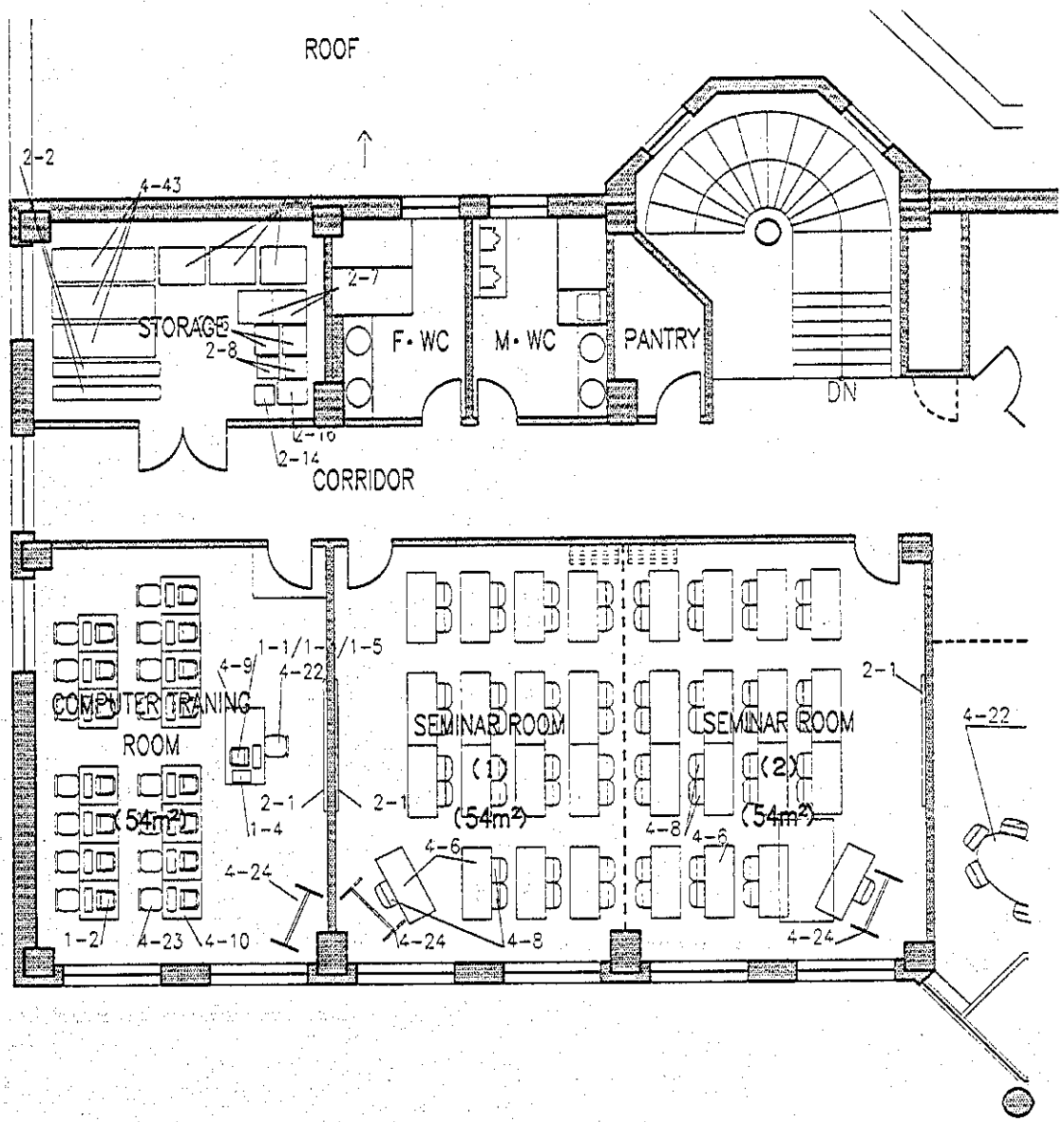
No.	Name of Equipment	Q'ty
2-1	Screen (Ceiling Mount)	2
4-6	Desk (Trainer)(for 2 persons : L=1,500)	32
4-8	Chair (Trainee)	62
4-24	White Board (Movable)	2
4-42	Storage cabinet for chair	3
4-43	Storage cabinet for desk	3

COMPUTER TRANING ROOM

No.	Name of Equipment	Q'ty
1-1	Server	1
1-2	Personal Computer for Trainee	15
1-3	UPS	1
1-4	Printer	1
1-5	Network System for LAN, etc.	1
2-1	Screen (Ceiling Mount)	1
4-9	Desk for Computer	1
4-10	Desk for Computer	15
4-22	Chair (A)	1
4-23	Chair (B)	15
4-24	White Board (Movable)	1

STORAGE

No.	Name of Equipment	Q'ty
2-2	Screen (Movable)	2
2-6-1	Multi-Projector	2
2-6-2	Stand for LCD Projector	2
2-6-3	Amplifier	2
2-6-4	Room Speaker	2
2-7-1	Visual Presenter	2
2-7-2	Visual Presenter	2
2-8-1	Slide Projector	2
2-8-2	Stand for Slide Projector	2
2-14	Portable PA Amp	1
2-16-1	16mm Sound Projector	1
2-16-2	Stand for 16mm Sound Projector	1



EQUIPMENT LAYOUT PLAN-3

DIRECTOR ROOM

No.	Name of Equipment	Q'ty
1–2	Personal Computer for Trainee	1
1–4	Printer	1
1–5	Network System for LAN, etc.	1
4–1	Desk	2
4–2	Chair	2
4–31	Cabinet	2
4–38	Sofa Set	2

SECRETARY

No.	Name of Equipment	Q'ty
4–11	Desk	1
4–22	Chair (A)	1

RECEPTION ROOM

No.	Name of Equipment	Q'ty
4–39	Sofa Set	1

MEETING ROOM

No.	Name of Equipment	Q'ty
2–3	Screen (Movable)	1
4–15–1	Meeting Table	1
4–15–2	Chair for Meeting Room	16
4–24	White Board (Movable)	1

LECTURERS' ROOM

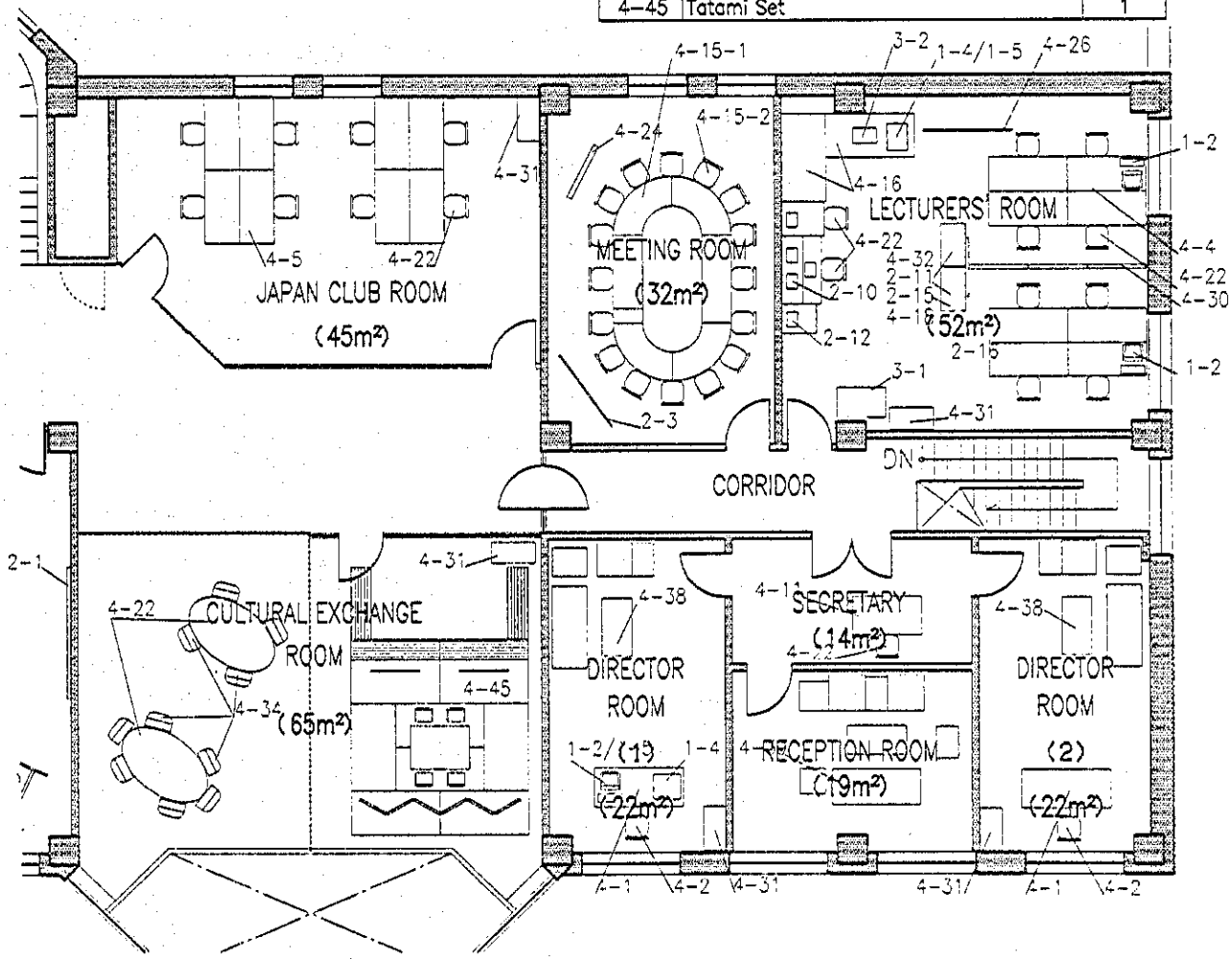
No.	Name of Equipment	Q'ty
1–2	Personal Computer for Trainee	2
1–4	Printer	1
1–5	Network System for LAN, etc.	1
2–10	Video Editing Equipment	1
2–11	Video Camera	1
2–12	Audio Cassette Tape Editor	1
3–1	Copy Machine	1
3–2	Fax Machine	1
4–4	Office Desk, Large Type	8
4–16	Work Table	2
4–18	Booth Partition	5
4–22	Chair (A)	10
4–26	Clip Board	1
4–30	Partition (Movable)	4
4–31	Cabinet	1
4–32	Storage Cabinet (for LL cassette recorder, booth panel)	2
2–15	Cassette Recorder	5

JAPAN CLUB

No.	Name of Equipment	Q'ty
4–5	Desk	8
4–22	Chair (A)	8
4–31	Cabinet	1

交流室

No.	Name of Equipment	Q'ty
4–22	Chair (A)	10
4–31	Cabinet	1
4–34	Table	2
4–45	Tatami Set	1



EQUIPMENT LAYOUT PLAN–4

CHAPTER 3 IMPLEMENTATION PLAN

CHAPTER 3 IMPLEMENTATION PLAN

3-1 Implementation Plan

3-1-1 Concept for Implementation

The Project will be implemented in accordance with the framework of the grant aid scheme of the Government of Japan after the conclusion of the Exchange of Notes (E/N) by both Governments of Japan and Mongolia following a cabinet approval on the implementation of the Project by the Government of Japan. The Government of Mongolia will then select a Japanese consultant firm as the Consultant for the Project to proceed with the detailed design work on the facilities and equipment. Following finalization of the detailed design documents, selected Japanese construction company, selected on a tender basis, will conduct the construction work and the equipment supply and installation. All of the consulting services and construction and equipment supply / installation contracts will become valid once they have been verified by the Government of Japan.

The work management system will be established by the Project Implementation Body, the Consultant and the Contractor under the control of the related organizations of the two governments involved. The basic issues and points to note for the implementation of the Project are described below.

(1) Project Implementation Body

The MOSTEC will be Mongolian side's responsible body overseeing the implementation of the Project and NUM will act as Mongolian side's signer on the official contracts. The NUM will act as the front office for project implementation and will be responsible for general coordination during the project implementation period. The construction site of the Project is located at Ulaanbaatar City, therefore the Infrastructure Supply Permit (to Ulaanbaatar City for power electricity, hot water, city water, drainage and telephone line supply) should be applied with Basic Design drawings.Also the Building Permit should be applied with detailed design drawings to the Ulaanbaatar City and Ministry of Infrastructure Development and necessary permit shall be obtained.

In view of the above division of work, the establishment of the Project Steering Committee is desirable to act as the project implementation body on Mongolian side to manage all processes from the detailed design to the handing-over of the various facilities and equipment. The members of this Committee should preferably include representatives of the MOSTEC, NUM, Ministry of External Relations, The Embassy of Japan and the JICA Mongolia Office.

(2) Consultant

Following the conclusion of the above-mentioned E/N, the Government of Mongolia will sign a consulting services agreement on the detailed design for the Project with a Japanese consultant firm and this agreement must be verified by the Government of Japan. For the smooth progress of the detailed design stage, the prompt sign of the consultant agreement after the conclusion of the E/N is crucial.

After verification of the agreement, the Consultant will prepare the detailed design documents based on the present basic design study report through consultations with the NUM and will have the documents approved by the Government of Mongolia.

At the tender and construction stages, the Consultant will conduct the tender and construction supervision based on the detailed design documents. The Consultant will also supervise the equipment work, ranging from based on the contract documents for equipment to supply and installation, test operation and final handing-over.

(3) Contractor

The Contractor will be selected through tender to open among Japanese construction companies which satisfy certain qualifications, will construct the planned facilities and supply and install equipment within the contracted period in accordance with the detailed design documents prepared by the Consultant and will hand them over to Mongolian side.

The main components of the construction work will comprise building construction, plumbing, heating & ventilation, electrical installation and external work, all of which will be conducted by the Contractor using subcontractors, engineers and workers from Mongolia and/or Japan.

The Contractor will also supply and install the equipment which will meet the specifications set forth by the Consultant and approved by the project implementation body within the contracted period. At the installation stage, the Contractor will dispatch engineers specializing in the procured equipment to Mongolia to supervise the work and to also explain how to operate the equipment to Mongolian side.

3-1-2 Implementation Conditions

(1) Local Construction Industry

The general conditions of the local construction industry in the Ulaanbaatar are described below. The following items should be taken to consideration when construction scheme is planned.

- The local construction industry is a small scale with building construction capacity of 20,000~30,000 ㎡ in a year.
- On the contrary, Construction companies are not specialized for each category, and there are many small companies who are in charge of building such size of houses, and the number of the integrated construction company is small. As a result the order itself also becomes small.
- After averaging the job efficiency, carpenters, plasters, craftsmen of reinforcing bar, and finishers, it requires 2.5 - 3 times of labor than in the case of Japan.

(2) Important Points for Project Implementation

- The temparature in Ulaanbaatar becomes below 0℃ between October and March, Therefore, concrete frame work, exterior finishing and external work should be planned between April and September.
- The ground water level in Ulaanbaatar becomes high in recent years, therefore, water discharge plan is important at the excavation work.
- The planned facility is two-story with reinforced concrete frame and brick wall and it is common method in Mongolia. Meanwhile, the quality and construction schedule is dominated by skills of local labors, the quality and the construction schedule must be carefully controlled.
- As the project site is within the compound of NUM's existing facilities, protection for vibration, noise and dust and safety measures to ensure the users of the existing facilities will be required for the planning of temporary facilities.
- At the stage of installation and trial operation of building services equipment and equipment for activities, it is necessary to conduct a sufficient operational instruction such as periodical inspection and way of replacement of spare parts.

(3) Work Staff

For the efficient construction and equipment work of the facilities meeting the specifications set forth in the detailed design documents within the planned construction period, the Japanese Contractor must be capable of smoothly conducting the joint work with local construction companies while providing appropriate technical guidance and implementing strict schedule control. It is, therefore, desirable that the Contractor appoints work staff conversant with the local

conditions to achieve high quality facilities based on a precise understanding of the nature of the planned facilities.
Given the contents and scale of the facilities planned under the Project, the following full-time work staff at the construction site will be required.

< Building Work >

- Field Representative : 1 person
  General management, total coordination, others.
- Architectural Engineer : 1 person
  Guidance on construction works, schedules control, guidance on working drawing preparation, etc.
- Services Engineer : (partial) 1 person
  Guidance on mechanical/electrical equipment installation and test operation, technical guidance, schedule control, others.
- Equipment supervisor : (partial)1 person
  Attendant on test operation of equipment, technical guidance, instructions on operation manuals and quantity check.
- Administrator : 1 person
  Administration, labor control, import procedure, others.

Major maintenance item list, which is occurred trouble often, should be prepared and deliver at handing over the work.

3-1-3 Scope of Works

The following scope of works between the two governments for implementation of the Project appears reasonable.

(1) Works to be undertaken by the Government of Japan

1) Facilities

a)	Cultural Exchange/Lobby Zone	: Lobby, Library
b)	Lecture/Training Zone	: Multipurpose room, Seminar room, Computer training room, Cultural exchange room, Japan club room, others
c)	Administration Zone	: Director room, Reception room, Office, Meeting room, Lecturers' room
d)	Other Rooms	: Corridor, WC, Machine room, others
e)	External Work	: Gate, Approach, Road, Parking, others

2) Equipment

a)	Computer	: Personal computer, printer, others
b)	Audio Visual Equipment	: Projector, Television, Slide projector, Video recorder, Public address, others
c)	Office Equipment	: Photocopier, Facsimile, others
d)	Furniture	: Lecture desk and chair, Office desk and chair, Book shelf, Lobby furniture, Display partition

(2) Works to be undertaken by the Government of Mongolia

1) To supply electric power, city water, hot water and drainage facilities, etc. to the construction site.
2) Procurement of common office furniture, fixtures and fittings not included in the scope of Japanese side.
3) To arrange exemption of VAT and import tax, and prompt arrange and pay for obtaining required permissions such as building permit.

3-1-4 Consultant Supervision

In accordance with the policy on Grant Aid laid down by the Government of Japan, an appointed Consultant will carry out detailed design and supervising services that are in line with the basic design policies. This will ensure appropriate coordination among concerned parties and the smooth construction and equipment work of the Project.
At the construction stage, the Consultant will dispatch a resident supervisor with ample technical capabilities to issue instructions to the Contractor and to communicate with them. Also, the Consultant will assign technical experts in each construction stage on a short-term basis in accordance with the progress of the work, in order to carry out inspection, attendance and guidance on execution.

(1) Basic Policies of Supervision

Punctual completion of the facilities based on the construction schedule will be aimed at through close communication with and reporting to the related organizations and those in charge in Japan and Mongolia.

- Prompt and appropriate guidance and advice will be provided for those involved in the work to ensure that the construction and equipment works meet the specifications set forth by the design documents.
- Sufficient instruction of operation and maintenance for building services equipment and equipment for activity.

- Appropriate guidance and advice will be provided in regard to post-handing-over maintenance and economical operation to facilitate and equipment, and the smooth operation of the facilities.

(2) Contents of Work Supervision

- Assistance to sign the contract:
  Selection of the Contractor through tender, determination of the contracting method, preparation of the draft contract, confirmation of the contents of the specifications and witnessing of the contract, etc.
- Examination and approval of shop drawings, etc.:
  Examination and approval of the shop drawings, samples and materials, etc. submitted by the Contractor and their checking if necessary.
- Work guidance:
  Examination of the construction schedule and work outline, etc., and provision of guidance for the Contractor and reporting of the work progress to the Client.
- Issue of payment certificate:
  Issue of payment certificate through examination of the work progress and payment schedule of the contract.
- Inspection and approval:
  According to necessity, to conduct inspections on each work in terms of quality and workmanship and provide guidance to the contractor during the construction period.
  The Consultant shall inspect the completion of the work in accordance with the conditions of the contract, attend the handing over of the completed work, and obtain acceptance from the Client. Also, it shall report to the Government of Japan any important matters related to the progress of the construction work, payment procedures and handing over of the completed work.

The work supervision system and related agencies described above are shown in the following diagram.

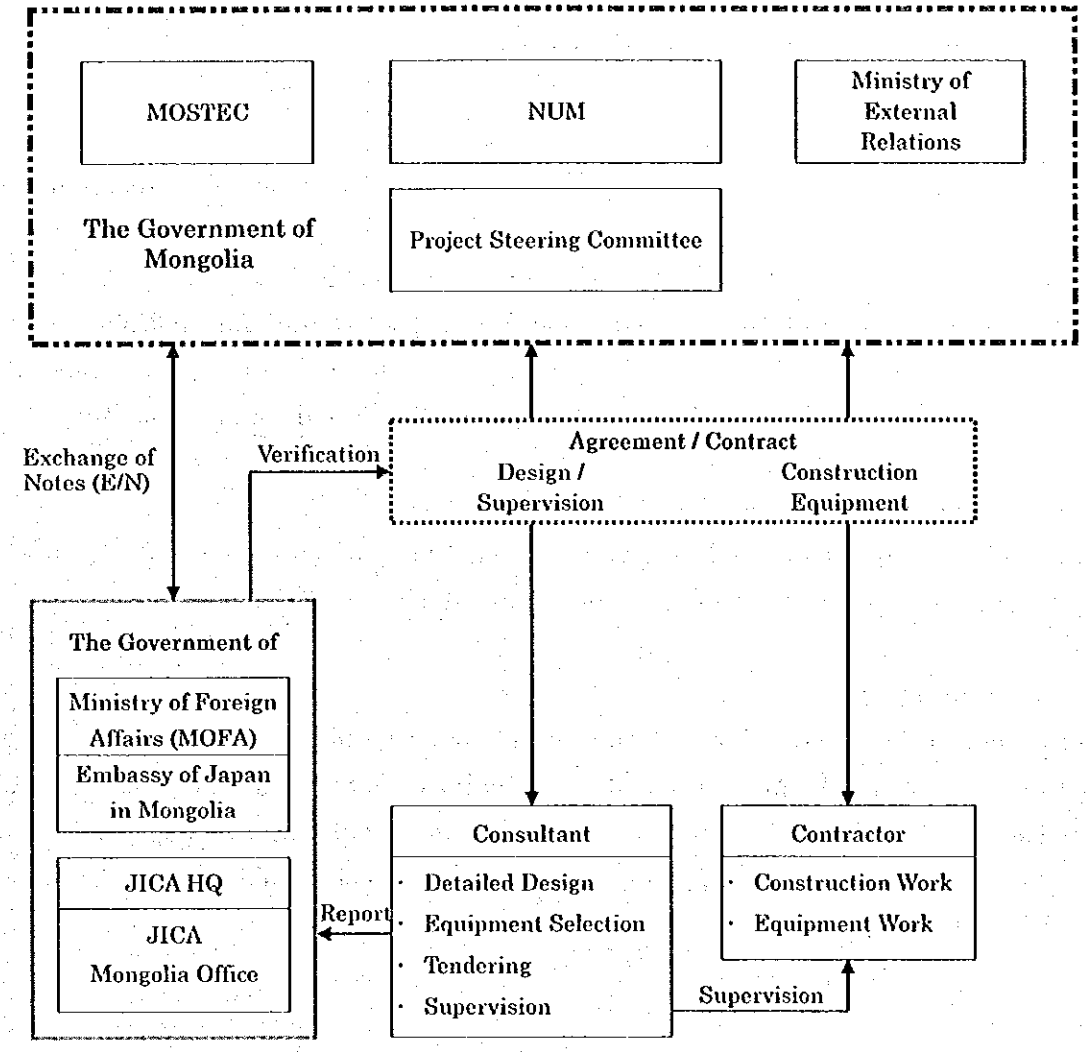


Figure 3-1-1 Construction supervision plan

3-1-5 Procurement Plan

The following items should be taken to consideration when procuring construction materials and equipment to be used of the Project.

(1) Procurement Policy

Most of the construction materials can be procured locally. Hence, the procurement policy is to procure materials in a reasonable manner by considering supply capabilities and quality vis-à-vis local manufacturers and supplies.

Materials to be procured from Japan should be kept to minimum, and should be restricted to items, which cannot be procured locally due to reasonable cost, special specifications, poor performance or simply an insufficient local supply capacity.

(2) Procurement in Japan

In the case of equipment and materials of which local procurement and the third country is difficult, their procurement in Japan will be considered.

(3) Local Procurement

Since some of the construction materials with standard quality imported from China or Russia can be locally procured easily, the facilities can be maintained without any particular difficulties and, even if equipment and materials suffer damage, they can be easily repaired. Therefore, practical use of these materials shall be considered as local procurement.

(4) Cost

Upon comparing materials cost that can be procured both locally and the third country or Japan, procurement country will be decided. Procurement from Japan or the third country requires additional packing, transportation and insurance expenses on top of the market prices, but import duties are exempt.

(5) Procurement Schedule

Based on the above-mentioned factors, materials and equipment to be used for the Project will be procured in the manner described below.

1) Construction of building frames

Almost all the materials required in the construction of building frames, namely sand, gravel, cement, reinforcing bars, structural steel, and brick are locally available. However, proper care should be taken with regard to the procurement of reinforcing bars and cement because such items can sometimes be difficult to obtain as a result of the boom in the construction sector and high cost.

2) Interior and exterior finishing and external work

Including imported materials almost all the materials required in the buildings, namely timber, aluminum fittings, tiles, metal roofing materials, paints, and glass are locally available in Mongolia.

3) Heating and plumbing work

Regarding the heating and plumbing work, high quality level of materials are locally available. Priority shall be given to local procurement as much as possible in view of maintenance. Hence, procurement of heat exchanger and pump will be decided upon comparing the cost between local, Japan and the third country.

4) Electrical work

Imported electrical work materials such as lighting fixture lamps, power transformers, electric wires and cables, and PVC pipes are available at the local market. These materials shall be locally procured in view of maintenance. Procurement country of power distribution boards, low-voltage electrical apparatus, etc., for which order-made items are suitable, are to be decided, after first comparing costs including the third country procurement.

5) Equipment work

Most of the equipment to be installed in the Project facilities is procured in local, the third country (China) or Japan item by item.

6) Transportation plan

- From Japan : maritime and rail way transportation
  Japan→China→Mongolia (usually takes 20 days)
- From China : rail way or maritime transportation
  (usually takes 15～20 days)

The Contractor shall submit NUM import material master list to accelerate customs clearance at the work commencement, and also the Contractor shall submit shipping document immediately after shipping. Meanwhile NUM and MOSTEC should provide the necessary measures to ensure the prompt customs clearance of the materials and equipment imported to Mongolia.

Estimating 10 days for ex-factory to loading in Japan, there should need at least one month time by maritime and inland transportation to the site.

According to procurement policy mentioned above, the result of study of major materials and procurement plan is shown in table 3-1-1.

Table 3-1-1 Study of Major Materials and Equipment and Procurement Plan

(1) Building materials

Works	Materials	Place of procurement			Remarks
		Local	Japan	Others	
Concrete work	Portland Cement	○			
	Sand	○			
	Crushed Stone	○			
	Reinforcement bars	○			
	Wooden forms	○			
Steel work	Structural Steel			○	Time is required for manufacture.
	Sheet Metal			○	Ditto
Masonry work	Brick	○			60mm×150mm×250mm are used commonly.
Water-proof Work	Membrane W/Proofing	○			Imported material is available in local market.
	Caulking	○			
Tile work	Ceramic tile	○			Imported material is available in local market.
	Semi-Porcelain tile	○			
Wooden work	Wood	○			Imported finishing plywood is available in local market.
	Plywood	○			
Roofing work	Color metal sheet	○			Commonly used.
	Special metal sheet			○	Highly weather proofed.
Metal work	Light steel ceiling frame	○			Delivery time is unstable.
	Aluminum Louvers			○	Imported material is available.
Plaster work	Terrazzo in situ	○			Many kinds are widely used.
	Stone	○			Local stone is available.
Metal Sash Work	Alum window	○			Imported material is available.
	Steel door	○			Commonly used.
Wooden Sash Work	Wooden door	○			Imported material is commonly used. Local material is slightly low quality.
	Wooden door frame	○			
Ironmongery	Door handle, lock	○			Imported material is available.
	Door closer	○			Ditto
Grass work	Plane glass	○			Imported material is commonly used. Ditto
	Pane glass			○	
Paint work	Interior paint	○			Imported material is available.
	Exterior paint	○			Ditto.
Interior work	Rockwool Acc. Board			○	Imported material is commonly used. Local material is slightly low quality. Local styrene form board is available.
	CSA Board	○			
	Form Polystyrene	○			
Furniture work	Kitchen sink			○	Imported material is commonly used. Local and imported material used.
	Table/Chairs(wooden)				
	Table/Chairs(steel)				
External work	Pavement block	○			Local material is available.

(2) Mechanical work

Works	Materials/Equipment	Place of procurement			Remarks
		Local	Japan	Others	
Heating work	Heater			○	
	Exhaust Fan			○	Imported material is available.
	Insulation Material	○			Ditto
Sanitary work	Pump			○	Imported material is available.
	Sanitary Fixture			○	Ditto
	Pipe (PVC)			○	Ditto
	Pipe (Steel)			○	Ditto

(3) Electric work

Works	Materials/Equipment	Place of procurement			Remarks
		Local	Japan	Others	
Lighting & Cabling work	Lighting Fixtures			○	Imported material is available.
	Panel			○	Ditto
	Wire/Cables	○			Ditto
Communication Equipment	Telephone set			○	Depend on quantities and kinds. Maintenance by local agent is important.
	Fire alarm			○	

(4) Equipment work

Equipment Name	Place of procurement			Remarks
	Local	Japan	Others	
Personal Computer	○			
Audio Visual Equipment		○		
Office Equipment		○		
Furniture	○			

3-1-6 Implementation Schedule

When this project is implemented under the Japan's Grant Aid Scheme, the following procedures are to be taken:

a) Conclusion of an Exchange of Notes (E/N) between the two governments,
b) Recommendation of a Japanese consulting firm for detailed design and supervision by the Government of Japan,
c) Signing of a consulting services agreement between the Government of Mongolia and the recommended consulting firm,
d) Three preparatory steps including preparation of detail design documents, tendering, and signing of a contracts with the successful tenderer,
e) Commencement of the construction and equipment work.

After the E/N is concluded, MOSTEC will act as the implementation agency of the Government of Mongolia.

1) Detailed design stage

Tender documents will be prepared based on the basic design, and these will consist of detailed design drawings, specifications and budget statements, etc. Close discussion are held with related agencies of the Government of Mongolia in the initial and final stages of the detailed design preparation stage. After the final results are approved by the agencies concerned, tendering procedures will be undertaken.

2) Tendering stage

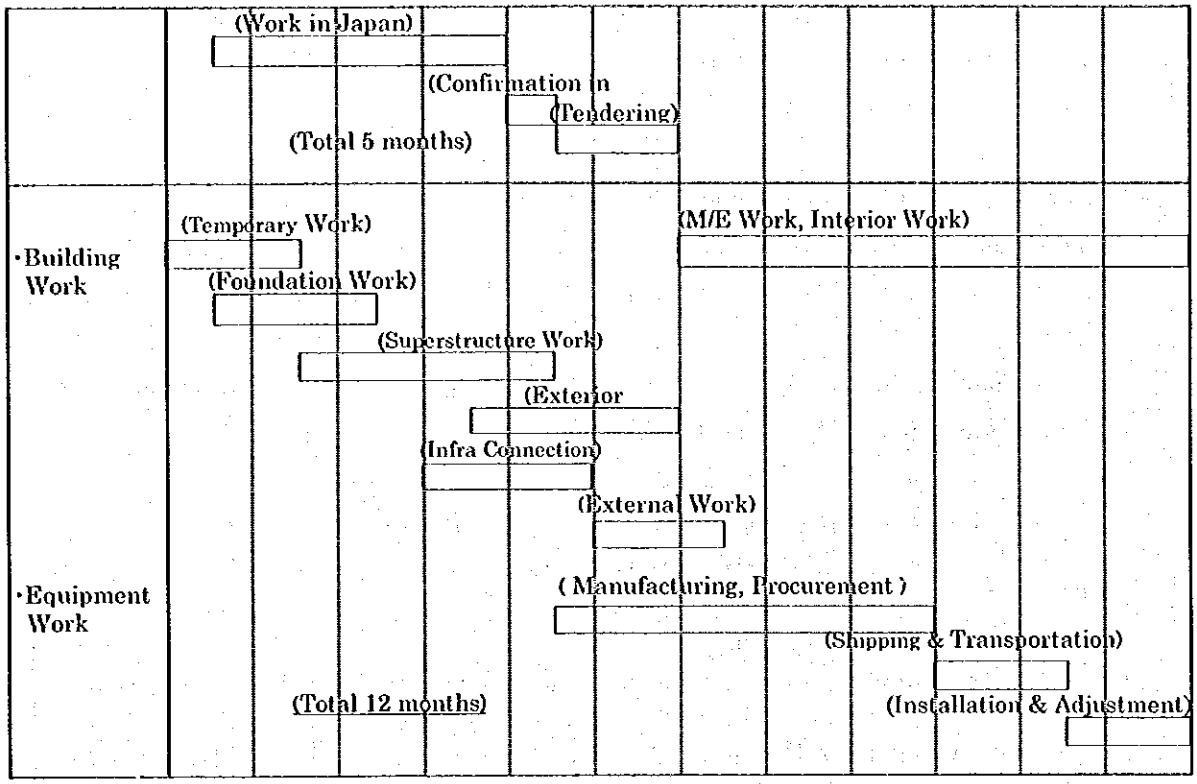
Tendering for the work will be held. After the detailed design work is completed, prequalification (PQ: preliminary review for qualification of applying contractors) is announced and carried out in Japan. In accordance with the review, the MOSTEC, as the implementing agency, will invite tenderers for the Project, and the tendering will be done in Japan under the supervision of the concerned parties. The tenderer which offer the lowest price will become the successful one if the contents of its tender are judged to be appropriate, and it will sign a contract with the MOSTEC.

3) Construction and equipment procurement stage

After the contract is signed, the work will be commenced to follow verification by the Government of Japan. Judging from the scale and contents of the Project facilities, the work period is expected to be roughly 12 months. This, however, is condition on the following:

- materials and equipment are smoothly procured,
- smooth progress is seen in Mongolia administrative procedures and reviews,
- and execute preliminary work of the scope of Mongolian side.

Table 3-1-2 Implementation schedule



3-1-7 Obligations of Recipient Country

(1) Items to be done by Mongolian side

1) To supply Hot water, electric power, water, and drainage facilities, etc. to the constructed new building.
2) Procurement of fixtures and fittings such as curtain, etc.
3) Supply of consumable and spare parts required for facility and equipment maintenance.
4) Banking arrangement and payment of bank commission for Authorization to Pay.
5) Applications for physical planning and building permit and payment of various fees, if necessary.
6) Swift arrangement of landing, tax exemption facilities and customs clearance of the equipment and materials to be procured within the scope of the grant aid.
7) Exemption of Japanese companies and Japanese nationals involved in the Project from customs duty, domestic taxes including VAT and any other levies imposed in Mongolia.
8) Provision of all conveniences for the Japanese nationals referred to in 9) above in relation to their entry to and stay in Mongolia to perform their assignments under the Project.

9) Appropriate and effective use and maintenance of the facilities constructed and equipment procured under the Project.

10) Payment of all expenses required for the implementation of the Project which are not covered by the grant aid.

(2) Cost estimates of Works to be done by Mongolian side

In addition to the items to be addressed by the Government of Mongolia in relation to the construction work under the Project, the related items during the construction works are refer to the following table (Table 3-1-3). While these items directly affect the commencement of the construction of the Project, timely arrangements are essential and effective for project implementation.

Table 3-1-3 Cost Estimation Borne by the Recipient Country Related to the Construction

	Items	Estimated Cost (Tg)
1	City water connection charge	4,400,000
2	Existing public hot water pipe expansion charge	20,000,000
3	Hot water connection charge	1,400,000
4	Power Connection Charge	31,000,000
5	Telephone line connection charge	15,000,000
6	External Work (Planting) charge	30,000,000
7	Application fee for Building Permit	1,000,000
8	Curtain, Fixtures and etc.	3,000,000
	Total	78,800,000

3-2 Operation and Maintenance Plan

3-2-1 Facility Operation and Maintenance Plan

(1) Buildings

For a maintenance and control plan of buildings, the following 3 points are main subjects:

① Daily cleaning

② Repair against wearing down, damages, and aging

③ Guards, which aim at security and prevention of crimes

Daily cleaning will be a good influence on facility customers and it is assumeded that they will thus treat facilities and equipment more carefully. Also, it can detect damages and disorders in an early stage so that repairs can be done as early as possible. These actions will elongate the life of apparatus and equipment.

As for repair, mending and repairing the interior and the exterior materials which protect the structure are main subjects. The details of the periodical check and repair, which decide the life of buildings, are submitted at the time of turning over buildings by the contractor as "Maintenance Manual". And at this time, the method of checking and periodical cleaning will be described. The outline of them is as follows:

Table 3-2-1 Outline of regular building inspections

Exterior	
- Repair or repainting of exterior finishes	every 5 years
- Inspection or repair of metal roof	inspection: every year
- Periodical cleaning of downspouts and drains, etc.	every month
- Inspection and repair of sealing of doors/windows	every 5 year
- Periodical inspection and cleaning of drainage	every year
Interior	
- Changes in interior finishes	as required
- Repair and repainting of interior walls	as required
- Repairing of ceiling	as required
- Retightening or changing of fittings	every year

Note: Guards must check the entering and exiting of facility customers.

(2) Building Service Equipment

As for building service equipment such as mechanical and electrical equipment, daily "preventive maintenance " is neccessary before repairing disorders and changing parts. Mechanical equipment life can definitely be elongated by adequate operation, daily check, supplying oil, adjustment, cleaning and repairing, as well as operating time. These daily checks can prevent disorder and accident and expansion of

accidents.

With the periodical check, exchange of consumable is executed according to the maintenance manual.

In this plan, there are no mechanical equipment which have complicated systems, but it is important to organize maintenance and control systems by the office of service of university (NUM).

Operating and control manuals are submitted at the time of handing over, and the general definition of life for the main mechanical equipment is as follows:

Table 3-2-2 Lives of major building service equipment

Electrical equipment	
Panel boards	20 to 30 years
Fluorescent lamps	5,000 to 10,000 hours
Incandescent lamps	1,000 to 1,500 hours
Plumbing equipment	
Pumps, Pipes and valves	15 to 20 years
Sanitary fixtures	20 years
Air-conditioning and ventilation	
Pipes	10 to 15 years
Fans	10 to 15 years
Radiator	10 to 15 years

(3) Office Equipment

Maintenance and control for audio equipment is important for the activities of the planned facilities to be well functioned.

Generally, maintenance and control of equipment contains two items. One is daily check done by the operator, and the other is both detection and repair done by experts through 1-2 periodical checks per year.

These planned equipment contain some audio apparatuses which require high and special repair knowledge. It is necessary for service staff of university and a local agent to work together for the periodical check and repairing.

Table 3-2-3 shows the outline of maintenance and control for each of the equipment.

Table 3-2-3 Outline of required equipment maintenance

	Self check	Service agent (recommended)
AV equipment	Once / Month	Once / Year
Personal Computer	Once / Month	Once / Year
Other equipment	Daily	Once / Year

3-2-2 Estimation of Operation and Maintenance Cost

(1) Building operation expenses

The operating expenses used electricity, city water, hot water and etc. is calculated in accordance with unit charge of infrastructure for public facility.

1) Electric charge:

Power load base

① Lighting and receptacle : 40kVA

② Pump : 10kVA

Calculation of each load

① 40kVA×0.6×25days×10h×41Tg/kWH×12months = 2,952,000 Tg/year

② 10kVA×0.4×25days×10h×41Tg/kWH×12months = 492,000 Tg/year

Total of Electric charge : 3,444,000 Tg/year

2) Water charge:

① Trainee:230person × 25liter/person·day= 5,750litter/day

② Staff:10person ×100liter/person·day= 1,000litter/day

③ Trainer:7person ×100liter/person·day= 700litter/day

Total: 7,450litter/day → 7.5 m^3/day

7.5 m^3/day×25days×12month×0.6 = 1,350m^3

Total of water charge :

1,350m^3×200Tg/m^3= 270,000Tg/year 270,000 Tg/year

3) Sewerage charge:

1,350m^3×115Tg/m^3= 155,000Tg/year 155,000 Tg/year

4) Hot water:

0.13Gcal/H×(1,800H/year×11,736Tg/Gcal+500H/year×7,335Tg/Gcal)

= 3,300,000 Tg/year 3,300,000 Tg/year

5) Total:

1)+2)+3)+4) 7,169,000Tg/year → 7,200,000 Tg/year

(10Tg≒1 Japanese Yen)

(2) Facilities and equipment maintenance cost

Based on the maintenance plan, the maintenance expenses presumed to be necessary over the long term have been calculated 3,160,000Tg on an annual average basis. Since these figures are annual averages, they are cumulative and will arise from year 2002, when the facilities commence to serve. The calculated base is as follows.

1) Building

The level of the building maintenance cost considerably changes with the passage of time, and the major renovation is necessary once in 30 years. In accordance with the past similar experiences, average annual repair cost is estimated as 0.07% of the direct construction cost with 140 Tg/㎡/year.

1,500 ㎡×140 Tg/㎡ 210,000 Tg/year

2) Building service equipment

The repair cost for building service equipment remains low for the first five years or so of use. Thereafter, parts replacement and equipment renewal due to aging are gradually required. The average annual repair cost for a 10 year span is estimated equal to 0.2 % of mechanical and electrical work of the construction cost.

500,000,000 Tg×0.2% 1,000,000 Tg/year

3) Equipment maintenance cost

① Equipment

While this cost varies depending on the frequency of equipment use, according to the past similar experiences it is estimated equal to 0.2 % of the total equipment cost.

650,000,000×0.2% 1,300,000 Tg/year

② Consumable

While this cost also considerably varies depending on the frequency of use, according to the past similar experiences it is estimated equal to 0.1 % of the total equipment cost.

650,000,000×0.1% 650,000 Tg/year

The total calculated cost in one year is 3,160,000 Tg.

(3) Personal expense (extract from personal expence of NUM staff)

Director (Assistant Professor rank)	3,000,000×1person =	3,000,000 Tg/year
Staff (Assistant rank)	2,000,000×6persons =	12,000,000 Tg/year
Total		15,000,000 Tg/year

(4) General operation cost (Transportation, Stationary, Training etc.:extract from NUM's record)

700,000×6persons (staff only) = 4,200,000 Tg/year

(5) Other expenses (extract of NUM's record)
600,000×6persons (staff only) = 360,000 Tg/year

The total calculated cost of maintenance and operation in one year from (1)～(5) is 29,920,000 Tg/year (about 3 million Japanese yen/year).

CHAPTER 4 PROJECT EVALUATION AND RECOMMENDATION

CHAPTER 4 PROJECT EVALUATION AND RECOMMENDATIONS

4.1 Project Effects

The key to the success of Mongolia's efforts to shift to a market economy is said to be the development of human resources to carry through the process of transition. The Project aims at the establishment of the Japan Center to provide business courses and Japanese language courses to develop such human resources and also to conduct Japan-Mongolia cultural exchange activities and the supply of information in order to further enhance the friendship between the two countries. The Project is, therefore, expected to have direct and indirect effects vis-a-vis the development of human resources to make Mongolia's transition to a market economy a reality.

At the proposed Japan Center, practical business courses to facilitate the transition to a market economy will be provided by Japanese lecturers with rich business experience, making the Center a leading place for Mongolian business people to learn about the mechanism of a market economy and to prepare for its arrival. These courses will include lectures on concrete themes relating to a market economy which have so far been lacking in the advanced courses for businessmen provided by the NUM and other business courses.

While the advanced course provided by the NUM for businessmen is taught by business owners belonging to the Management Association of Mongolia or Mongolian Business Development Agency, it tends to focus on theories due to the insufficient practical experience of the lecturers. Business owners in the private sector strongly point out the necessity to learn practical management skills and are often dissatisfied with the insufficient practical education provided by many of the existing business courses.

The establishment of the Japan Center will enable the provision of practical education which is immediately useful for actual business situations for business owners and businessmen by Japanese lecturers with rich business experience. It is hoped that these new courses will have a multiplication effect with the advanced course of the NUM.

The provision of an intermediate Japanese language course by the Japan Center will improve the level of learning of the Japanese language in Mongolia. In addition, another course aimed at Mongolian teachers of the Japanese language will upgrade the command of Japanese as well as the teaching skills of these teachers. This will help to solve the shortage of Japanese language textbooks and information on teaching methods, etc., both of which were indicated by the results of the questionnaire survey conducted by the

Society of Japanese Language Teachers in Mongolia on domestic educational bodies providing Japanese language courses.
Twelve universities, eight primary or secondary schools and five other educational bodies provide Japanese language courses (as of August, 1998) for which some 3,000 students are enrolled. The Society of Japanese Language Teachers in Mongolia is a body of leading teachers (60 members). The upgrading of Japanese language teachers by the Center should, therefore, be highly contributed for the further progress of Japanese language teaching in Mongolia.

In addition to providing business courses and Japanese language courses, the Japan Center will have facilities for Japan-Mongolia cultural exchange activities with the required books and information on Japan where it will be possible for visitors to retrieve information on Japan. The centralisation of information on Japan will facilitate further understanding of Japan among Mongolian people.

In addition to the above effects, the improved quality of manpower education in line with the shift to a market economy at the NUM, which has strong influence in higher education circles in Mongolia, will produce a pool of people capable of carrying the economy of Mongolia forward. Moreover, the mutual understanding between Japan and Mongolia will be promoted through the Japanese language education and cultural exchanges based on the Center, strengthening the friendship between Japan and Mongolia.

4.2 Recommendations

The Project will have a direct positive impact on the development of the human resources required to facilitate the transition to a market economy, which is a priority issue in Mongolia, and will also indirectly improve the standard of living of Mongolian people. The benefits of the Project are, therefore, judged to be considerable. As the Mongolian side can meet the minimum requirements relating to the manpower and finance to operate and maintain the facilities and equipment provided under the Project, there are no foreseeable problems in this regard.

Although the Center is planned to become self-reliant in the future, it will take some time for the Center to achieve such status. The budgetary support of the NUM will, therefore, be required for the first few years of the Center's operation. The courses provided by the Center are required to be of a higher level than existing courses of a similar nature. The preparation of a medium to long-term activity plan and operation and management skills, together with the necessary skills to prepare high level teaching materials for the Center, will be required to achieve such goals and Japanese technical cooperation in these areas is highly desirable.

In addition to the above, if the following improvements are made, the Project will be implemented more smoothly and effectively,

(1) Relationship with Faculty of Economics and Japanese Study Course of Faculty of International Relations of NUM

As the proposed Japan Center will be directly run by the President of the NUM from the viewpoint of its organizational status within the NUM, no problems are anticipated in regard to staffing and financing the operation and maintenance of the Japan Center. However, it will be a key to success of operation of the Center to keep the number of student by obtaining the high level teachers and holding the high quality courses. To realize this, close exchanges of information and personnel between the Japan Center and the Faculty of Economics as well as the Japanese Study Course of the Faculty of International Relations should be conducted for the smooth and effective operation and management of the business courses and the Japanese language courses. Accordingly, the establishment of direct channels for cultural exchanges with these faculties is highly desirable.

(2) Maintenance of Facilities and Equipment

The Facilities Maintenance Section of the NUM is expected to be responsible for the maintenance of the Japan Center's facilities and equipment. While this section has

sufficient manpower and technical expertise to conduct the required maintenance work, the maintenance staff lack sufficient skills to maintain the latest audio-visual equipment simply because such equipment has not yet reached the NUM. It will, therefore, be necessary for the NUM to recruit and assign an experienced audio-visual engineer to the Facilities Maintenance Section prior to the opening of the Japan Center so that this engineer can familiarize himself with the operation of the latest equipment.

(3) Locations and Public Relations

Careful consideration should be given to the locations and sizes of information boards, etc. to appeal the presence of the Japan Center to the public, making the best use of good site conditions. To be utilized widely the Center should positively try to hold publicity activities by himself also it is necessary to collaborate with other similar facilities, educational organizations and business field.

(4) Important Notice

1) Exemption of Value Added Tax (VAT)

It is specified in the E/N that all the materials and services to be purchased for Grant Aid or loan project are exempted from all the taxes to be imposed in the recipient country. Also it has been decided that the Value Added Tax (VAT:13%) to be imposed to this project will be exempted in accordance with the revision of educational low of Mongolia. However the detail of implementation procedure has not yet been determined because there were no examples that VAT was exempted in the past.

Therefore, it is necessary to be discussed immediately a way of procedures of VAT exemption among the Japanese Embassy in Mongolia, JICA Mongolia Office and Mongolian Ministry of Finance by coordinating each other.

2) Implementation of Works under the responsibility of Mongolian Government

Ulaan Baatar City and NUM will need to complete intake piping work of electricity and water as well as connection work of heating piping and sewage piping without delay in line with the project schedule. Especially heating piping is needed to be extended, and prompt action is required for the extension of heating piping before starting the construction work.

NUM, MOSTEC, Ministry of Finance and UBC shall apply for and obtain various permits and approvals, and shall process tax exemption on materials, products and services to be purchased relevant to the project.

Upon signing of the E/N, the designated bank in Mongolia shall conclude banking arrangements (B/A) with a designated Japanese bank, or shall issue the authorization to pay (A/P) after the approvals of consultant agreement and construction contract.