PROJECT QUALITY PLAN

SBS BUS DEPOT - WEST WING BUILDING

For

M/S WATERBANK PROPERTIES PTE LTD

Copy No.	

Prepared By: Alan Lau

Authorised By: Tan L S

Date: 6 June 1997

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SECTION 1

QUALITY PLAN CONTROL AND DISTRIBUTION

1.1 List of Copy Holders

Copy No.	Copy Holder	Date of Issue
1	Alan Lau/Serene Teh	12 June 1997
2	Fok Y C/Gui C S	12 June 1997
3	Tan L S	12 June 1997
4	Andrew Loh	12 June 1997

1.2 Revision Record

Version	Date of Issue	Section Reference	Page(s)	Remarks

SECTION 2

PROJECT INFORMATION

2.1 Project Description

BP No:	
Type of Development	Office Development

Size of Development	
Site Area, m²	-
Nett Floor Area, m² *	-
Gross Floor Area, m²	8081
Covered Carpark, m²	-
Total Built-up Area m²	-
No. of Covered Carpark Lots	-
No. of Apartments/Houses	-
No. of Storeys	7
No. of Phases	01

*** Excludes Covered Carpark**

2.2 Cost Plans

M&E Services Cost Plan (S$ x 1M)								Non-M&E	
Services	EI	ACVI	LEI	FFAI	PSI	SPFI			
Estimate	2	2.1	0.6	0.5	0.4	-			
Awarded	-	-	-	-	-	-			

Total Project Construction Cost (S$ x1M)				
	Site Clearance	Piling	Sub-Structure *	Super-Structure *
Estimate	0.1	0.51	0.84	20.63
Awarded				

Site Clearance shall include earth work, soil improvement, service diversion and termination.
** Include provision for M&E Services*

2.3 Scope of Works

2.3.1 Scope of Consultancy Services

Conceptual/Schematic Design	✓
Detailed Design	✓
Tender Documentation	✓
Tender Evaluation	✓
Contract Supervision	✓
M&E Costing	✓
Submissions to Authority	✓

(✓ *where applicable*)

2.3.2 Scope of M&E Services

ELECTRICAL	✓	AIR CONDITIONING	✓	SPRINKLER	✓	SANITARY	✓	SWIMMING POOL	
LIFT	✓	MECHANICAL VENTILATION	✓	FIRE ALARM	✓	COLD WATER	✓	STEAM BOILER	
ESCALATOR		MECHANICAL SMOKE EXTRACT		HOSEREEL	✓	HOT WATER	✓	FUEL STORAGE	
PABX		COMPUTER A/C		WET RISER		TOWN GAS			
SECURITY	✓	BST CARPARK EXH		DRY RISER	✓	LPG GAS			
TELELIFT		HEATING							
DATA COMM.									
FLUSHFLOOR TRUNKING	✓								

(✓ *where applicable*)

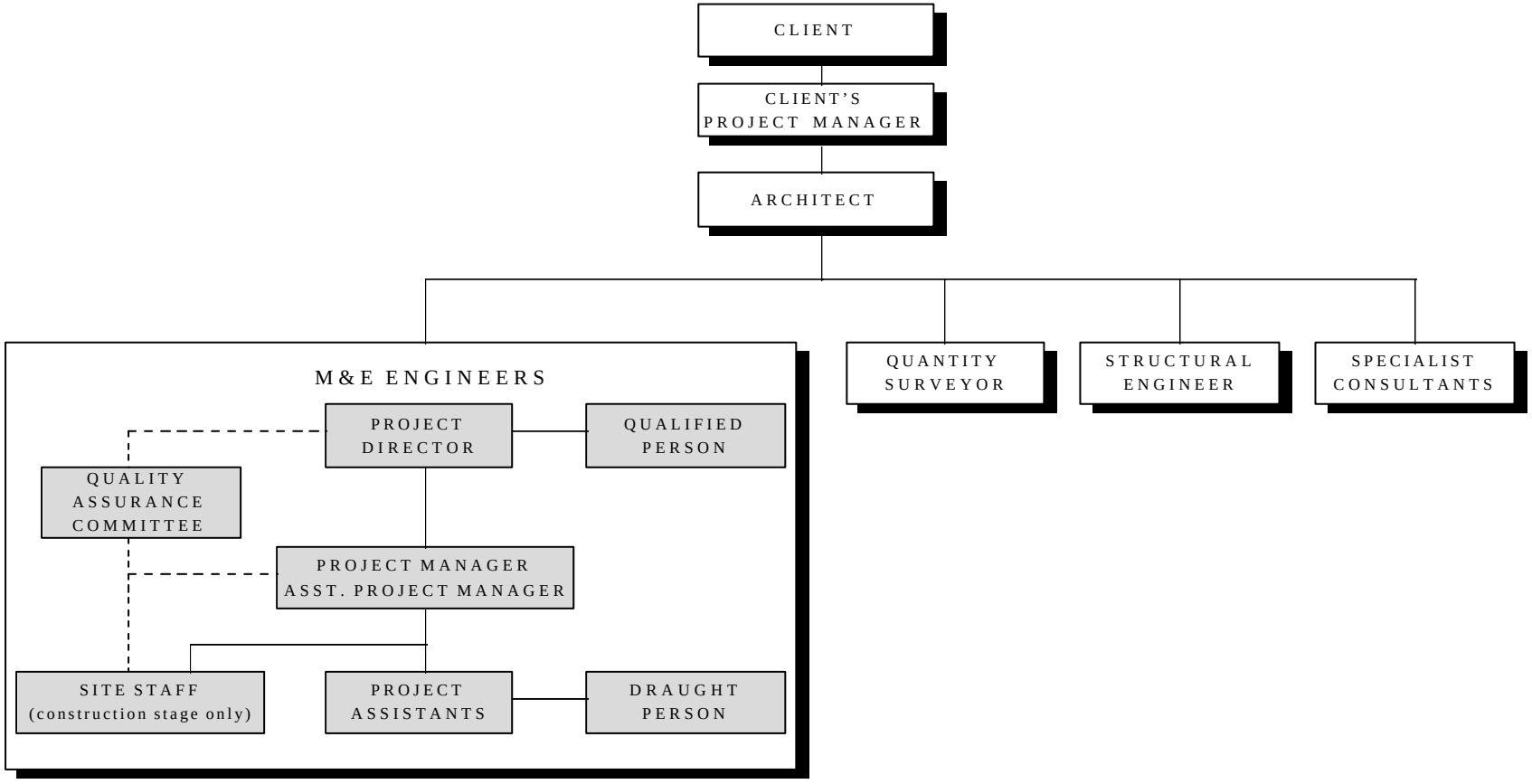
2.3.3 Submission to Relevant Authorities by Others

EJECTOR & DIVERTER		SUMP PUMP		FUEL OIL TANK		LIFT & ESCALATOR		PRESSURE VESSEL		HOISTS		FOAM	

SECTION 3

ORGANISATION

3.1 Organisational Chart



SECTION 3

ORGANISATION

3.2 Project Related Staff

TITLE		NAME
Project Director		Tan L S
Qualified Person	Mechanical	Andrew Loh
	Electrical	Tan L S
Project Manager		Alan Lau
Assistant Project Manager		Fok Y C
Project Assistant (Mech)		Serene Teh
Project Assistant (Elect)		Gui C S
Draughtsperson		-
Resident Engineer		-
Assistant Resident Engineer		-
Clerk-of-Work (M&E)		Thomas Lee

3.3 Client/Client's Representatives

Client:- Waterbank Properties (S) Pte Ltd

Address:- 205 Braddell Road
Singapore 579701

Tel:- 284 8866

Fax:- 285 7029

Client's Representative Related Staff:-

NAME	POSITION	DID/TEL NO.	REMARKS
Ng Ying Huat	Project Manager	Tel: 284 8866	
Raymond cai	Asst Project Manager	Tel: 383 7426	
Lim Hong Yin	IT Manager	Tel: 383 7129	

3.4 Other Consultants (Local)

Function / Name of Firm	Contact Person	Telephone/ Fax/Pager Nos.
Architect Architects Team 3 Pte	Mr Kok Siew Hoong/Mr Lim Sian Ching/Mr Roger Ting	Tel: 466 8867 / 467 2233 Fax: 4667810 / 463 3945
Quantity Surveyor Professional Engineering Building Consultants	Mr Benjamin Chin	Tel: 223 3655 Fax: 324 3308
Structural Engineer Tan Ee Ping & Partners	Mr John McGowan Mr Pok Ming Wee	Tel: 339 7277 Fax: 338 8362
Interior Designer		
Lighting Consultant		
Acoustic Consultant		
Client's Project Manager		
Other Specialist		

3.5 Contractors/Sub-Contractors

Function / Name of Firm	* Type	Contact Person and Position	Telephone/Fax/Pager Nos.
1. Main Contractor			
2. Air Conditioning & Ventilation Installation Sub-Contractor			
3. Plumbing & Sanitary Installation Sub-Contractor			
4. Electrical Installation Sub-Contractor			
5. Lift & Escalator Installation Sub-Contractor			
6. Fire Fighting & Alarm Installation Sub-Contractor			
7. Swimming Pool Filtration Plant Installation Sub-Contractor			
8. Carpark System Installation Sub-Contractor			
.....			

** Type of Contract* - *NSC (Nominated Sub-Contract)*
- *DSC (Domesticated Sub-Contract)*
- *DC (Direct Contract)*
- *NS (Nominated Supplier)*

3.6 Authorities

Authorities/Department	Contact Person	Tel No:/Fax No:
PowerGrid/Power Supply:		
(a) Customer Supply		
(b) Sub-Station		
(c) Installation		
(d) Meter Section		
(e) Road Lighting		
(f) Diversion		
Telecom:		
(a) Planning/Line Plant		
(b) Installation		
(c) Diversion		
BCD:		
(a) Building Plan		
(b) Air-Cond & Vent Plan		
FSB:		
(a) Building Plan		
(b) M&E Section		
PUB (Water)		
(a) Water Conservation		
(b) Plumbing Plan		
(c) Diversion		
PowerGas:		
(a) Planning/Submission		
(b) Installation/Inspection		
(c) Diversion		
ENV (Sewerage):		
(a) Building Plan		
(b) M&E Section		
(c) Diversion		
ENV (Pollution Control)		
(a) Planning/Submission		
(b) Inspection		

SECTION 4

PROGRAMME

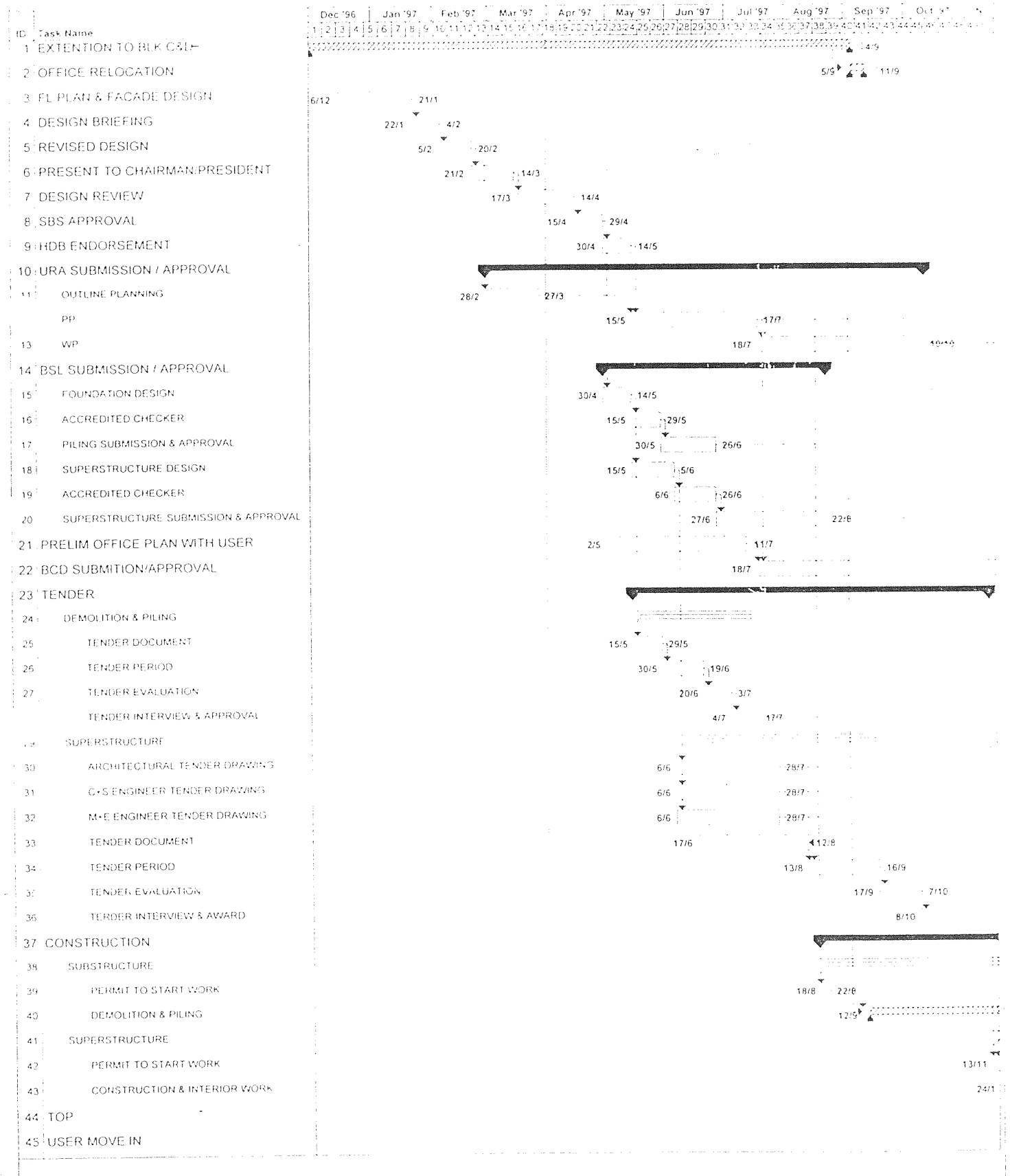
4.1 Overall Programme

See enclosed.

Alpha
Engineering Consultant

PROPOSED 7-STOREY WEST-WING OFFICE BUILDING

Master Programme



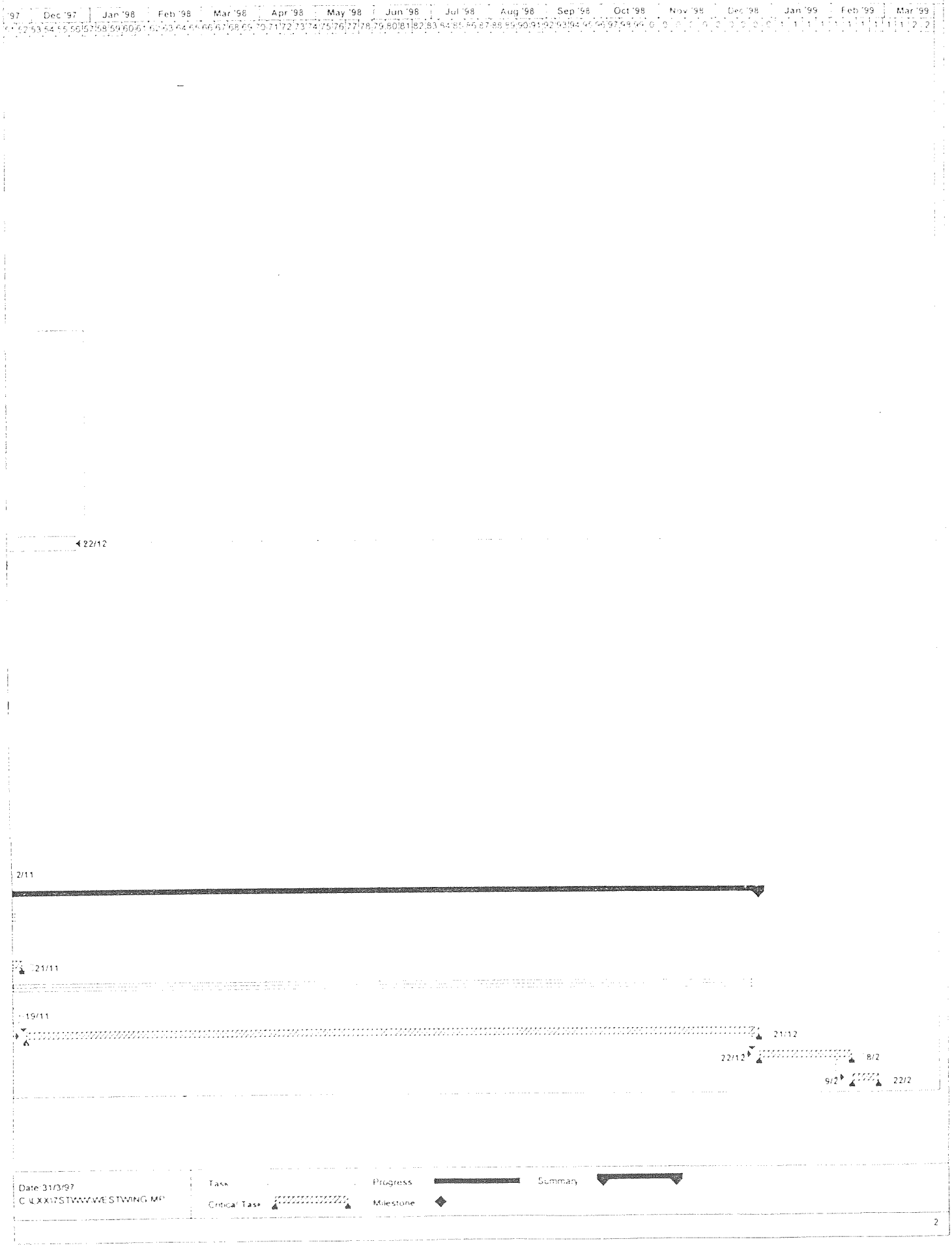
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Task
Progress
Summary
Critical Task
Milestone

Alpha
Engineering Consultant

PROPOSED 7-STOREY WEST-WING OFFICE BUILDING

Master Programme



SECTION 4 - PROGRAMME

4.2 Overall Internal Programme 1997

ID	TASK NAME	WEEKS	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
1.	First Project Meeting																									
2.	Project Quality Plan																									
3.	Conceptual Design																									
4.	Design Review																									
5.	M&E Design Brief																									
6.	Riser Duct/Core Layout																									
7.	Reflected Ceiling Plan																									
8.	Coordinated Services Plan																									
9.	Design Review Meeting																									
10.	Plumbing & Sanitary Installation																									
	Detail Design																									
	Design Review																									
	Draughting																									
	Specification																									
	Design Check																									
	Tender																									
11.	Air Conditioning & Ventilation Installation																									
	Detail Design																									
	Design Review																									
	Draughting																									
	Specification																									
	Design Check																									
	Tender																									
12.	Fire Fighting & Alarm Installation																									
	Detail Design																									
	Design Review																									
	Draughting																									
	Specification																									
	Design Check																									
	Tender																									
13.	Electrical Installation																									
	Detail Design																									
	Design Review																									
	Draughting																									
	Specification																									
	Design Check																									
	Tender																									
14	Lift Installation																									
	Detail Design																									
	Design Review																									
	Draughting																									
	Specification																									
	Design Check																									
	Tender																									

SECTION 4

PROGRAMME

4.3 Authority Submission Status for M&E Services (Main Building)

Service	Authority	Original Submission		Comments/Resubmission						Approval/ Clearance
		Scheduled	Actual	Comment	Resubmit	Comment	Resubmit	Comment	Resubmit	
Application for Electricity Supply	Power Supply Pte Ltd	150797								
Power Supply Substation	PowerGrid Pte Ltd	300797								
Main Single Line Diagram	Power Supply Pte Ltd	150897								
Consumer Switchroom Layout	PowerGrid Pte Ltd	150897								
Metering Layout	PowerGrid Pte Ltd	150997								
Sanitary Installation	ENV (Sewerage)	150897								
Domestic Water Supply	PUB (Water)	150997								
Gas Supply Installation	PowerGas Pte Ltd	-								
Air Conditioning & Ventilation Inst.	Building Control Division	-								
	Fire Safety Bureau	150997								
Fire Fighting & Alarm Installation	Fire Safety Bureau	300997								
	Telecom (Broadband)	300997								
Telephone Installation	Telecom (TDCS)	-								
	Telecom (Domestic Operation)	-								
Fuel Storage	Fire Safety Bureau	-								
	Pollution Control Department	-								
Sump Pump (by Poh Lian)	ENV (Sewerage)									

N.R. denotes NOT REQUIRED

SECTION 4

PROGRAMME

4.4 Authority Submission Status for M&E Services (Amendments)

Service	Authority	Original Submission		Comments/Resubmission						Approval/ Clearance
		Scheduled	Actual	Comment	Resubmit	Comment	Resubmit	Comment	Resubmit	
Application for Electricity Supply	Power Supply Pte Ltd									
Power Supply Substation	PowerGrid Pte Ltd									
Main Single Line Diagram	Power Supply Pte Ltd									
Consumer Switchroom Layout	PowerGrid Pte Ltd									
Metering Layout	PowerGrid Pte Ltd									
Sanitary Installation	ENV (Sewerage)									
Domestic Water Supply	PUB (Water)									
Gas Supply Installation	PowerGas Pte Ltd									
Air Conditioning & Ventilation Inst.	Building Control Division									
	Fire Safety Bureau									
Fire Fighting & Alarm Installation	Fire Safety Bureau									
	Telecom (Broadband)									
Telephone Installation	Telecom (TDCS)									
	Telecom (Domestic Operation)									
Fuel Storage	Fire Safety Bureau									
	Pollution Control Department									

SECTION 4

PROGRAMME

4.5 Work Progress - Design and Tender Stage - NOT USED

SECTION 5

PROJECT RECORDS

5.1 List of Internal Files

Standard Files

File Ref:		File Ref:	
-CM	✓	-QSP	✓
-PC	✓	-BD	✓
-PUB/TAS	✓	-CC	✓
-BCD/FSB	✓	-GC	✓
- ENV	✓	-CF	✓
-PQP	✓		

Project Files to be initiated by PM as and when required

File Ref:		File Ref:		File Ref:	
-SM	✓	-SR		-ET	
-SC	✓	-QM		-MT	
-AI	✓	-EC/MC	✓	-DF	
-SQ		- PP	✓	-EOT	
-CO					

Service Files to be initiated by PM as and when required

	Service										
File Ref:	ACVI	FFAI	PSI	EI	LI						
-G	✓	✓	✓	✓	✓						
-Q											
-VO											
-P											
-AI											
-AD											
-CF											

SECTION 5

PROJECT RECORDS

5.2 Filing of Drawings

The following team members shall take charge of filing of drawings, stamping "SUPERSEDED" drawings, etc.

Description	Team Member
Incoming Architectural Floor Plans	Alan Lau
Incoming Architectural Sketches/Details	Alan Lau
Incoming Structural Drawings	Alan Lau
M&E Drawings	
- Electrical Installation	Gui C S
- Lift & Escalator Installation	Gui C S
- Air Conditioning & Ventilation Installation	Alan Lau
- Fire Fighting & Alarm Installation	Alan Lau
- Plumbing & Sanitary Installation	Alan Lau
Other Drawings	

SECTION 6

INTERFACING

6.1 Method of Interface

Description	Method of Interface
Interface with Client:	- Client Consultants Meeting every alternate Monday (1.30 pm)
Interface With External Design Teams	- Client Consultants Meeting every alternate Monday (1.30 pm)
Interface Between Internal Design Teams	- Ad-hoc Meeting as required by Project Staff

SECTION 6

INTERFACING

6.2 Internal Design Interface - To be filled separately

Item No.	Description*	Required From	Required By	Date Required	Remarks

** Information required by INTERNAL DESIGN TEAM MEMBERS*

SECTION 6

INTERFACING

6.3 Circulation of Documents to External Parties

	Code: A - Approval Required C - For Comments I - For Information Only	Client/ Client Rep.	Architect	Structural Engineer	Quantity Surveyor	
1.	**Letters/Fax:**					
a.	Project Design	C	C	C	C	
b.	Project Administration	C	C	C	C	
c.	Project Cost Estimate/Contract Cost)	A	I	I	I	
2.	**Drawings**					
a.	Outline Design Drgs.		C	C		
b.	Sketch Design Drgs.	I	C	C		
c.	Final Design Drgs.	I	I	I		
d.	Shop Drawings	I	A	A		
e.	As Built Drgs.	C	C			
3.	**Other Document**					
a.	Specification	C	C		C	
b.	Tender Document	C	C		C	
c.	Tender Evaluation Report	C	C			
d.	Design Report	A	A			
e.	Progress Report	I	I		I	
f.	Financial Report	C	I		I	
g.	Minutes of Meeting	I	I			
h.	Inspection Report	I	I			
i.	Testing & Comm. Report	I	I			
j.	O & M Manual	I				

SECTION 7

WORK AUTHORISATION

Activity \ Authorised Signatories	PD	QP	PM	SS
Checklists			✓	
Client Correspondence/Fax			✓	
Other Consultants Correspondence/Fax			✓	
Contractor's Drawing. Review			✓	✓
Contractor's Technical Submittals			✓	✓
Contract Correspondence	✓		✓	
Contract Payment Certificates			✓	
Final Account Certificates			✓	
Site Instruction/Direction			✓	
Architect Instruction/Direction			✓	
Site Progress Reports			✓	
Design Drawing. Approval		✓	✓	
Design Drawing. Checking		✓	✓	
Local Authority Correspondence/Submission		✓		

* *Tick where authorised.*

Key to abbreviations:-

PD : Project Director

QP : Qualified Person

PM : Project Manager/Assistant Project Manager

SS : (Designated) Site Staff

SECTION 8

DESIGN INPUT & METHODOLOGY

8.1 List of Client's Standards, Reference Documents or Brief - NA

ITEM	KEPT BY

8.2 List of Applicable Code of Practice and Regulations

Electrical Wiring	BS	SS	~~IEE~~	~~NFPA~~	
Lightning Protection System	~~BS~~	SS			
Emergency Voice Communication System	~~BS~~	SS	~~NFPA~~		
Air Conditioning & Ventilation Installation	BS	~~AS~~	~~NFPA~~	SS	~~MS~~
Lift & Escalator Installation	BS	SS			
Automatic Fire Alarm System	BS	SS	~~NFPA~~	~~AS~~	~~MS~~
Sanitary System	BS	SS	~~NFPA~~	~~AS~~	~~MS~~
Plumbing System	BS	SS	~~NFPA~~	~~AS~~	~~MS~~

SECTION 8

DESIGN INPUT & METHODOLOGY

8.3 List of Design Guide or Handbook Used

8.4 List of Applicable Quality System Procedures

Alpha Engineering Consultant's Quality System Procedures

SECTION 9

CLIENT'S REQUIREMENTS

9.1 Specific Documents/Reports Required by Client:-

Item	Date Complete	* Remarks
M&E Design Report		
Preliminary Tender Documents		
Tender Report		
Progress Report		
Payment Valuation for QS		
O&M Manuals		
As-Built Drawings		

** Remarks*

A: for approval *C: for comment* *I: for Information* *Re: for record*

Other purposes and for action: please specify.

9.2 Specific Procedures Required By Client *(If applicable)*

SECTION 10

LIST OF SUB-JOB

10.1 List of Sub-Job Numbers - NA

Sub Job No	Description	Allocation Details