Alpha
Consulting Engineers Pte Ltd

PROJECT QUALITY PLAN

WOODS SQUARE

For

WOODLANDS SQUARE PTE LTD

Copy No.	1

Prepared By : Chin Ching Yi

Authorised By : Tay Wen Chung

Date : 4 March 2021

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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	6204-PQP	4 March 2021

1.2 Revision Record

Revision	Date of Issue	Section Reference	Page(s)	Remarks
0	15 January 2015	1 to 11	30	+ 2 pgs (Section 4.1 – Overall programme) + 4 pgs (Section 9.1 – Sustainable Design Features /Criteria)
1	3 January 2017	1 to 11	32	+ 13 pgs (Section 4.1 – Overall Programme) + 4 pgs (Section 9.1 – Sustainable Design Features /Criteria)
2	20 November 2017	1 to 11	31	+ 6 pgs (Section 4.1 – Overall Programme) + 4 pgs (Section 9.1 – Sustainable Design Features /Criteria)
3	24 May 2019	1 to 11	31	+ 6 pgs (Section 4.1 – Overall Programme) + 4 pgs (Section 9.1 – Sustainable Design Features /Criteria)
4	31 October 2019	1 to 11	31	+ 6 pgs (Section 4.1 – Overall Programme) + 4 pgs (Section 9.1 – Sustainable Design Features /Criteria)
5	4 March 2021	1 to 11	32	

SECTION 2

PROJECT INFORMATION

2.1 Project Description

Type of Development	Commercial

Statistics of Development	
Site Area, m²	18,568.80
Nett Floor Area, m²	-
Gross Floor Area, m²	64,991.00
Covered Carpark, m²	-
No. of Covered Carpark Lots	348
No. of Apartments/Houses	-
No. of Beds (for Hospitals)	-
No. of Guestroom (for Hotels)	-
No. of Blocks / No. of Storeys	1 Block 11 storey, 1 Block of 16 storey & 2 Blocks of 4 storey
Green Mark Category	Gold Plus
No. of Phases	1

2.2 Project Cost

M&E Services Cost Plan (S$ x 1M)										
Services	EI	ACVI	LEI	FFAI	PSI	SPFI				
Estimate	19	20.2	6.8	4.5	5	0.2				
Awarded	13	21.96	5.165	4	5.85	0.09				

Total Project Construction Cost (S$ x1M)			
	Site Clearance	Piling Works	Main Contract
Estimate	-	-	-
Awarded	-	-	219

Site Clearance shall include earth work, soil improvement, service diversion and termination.

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				MEDICAL GAS			
DATA COMM.									
FLUSHFLOOR TRUNKING									

(✓*where applicable*)

2.3.3 Submission to Relevant Authorities by Others

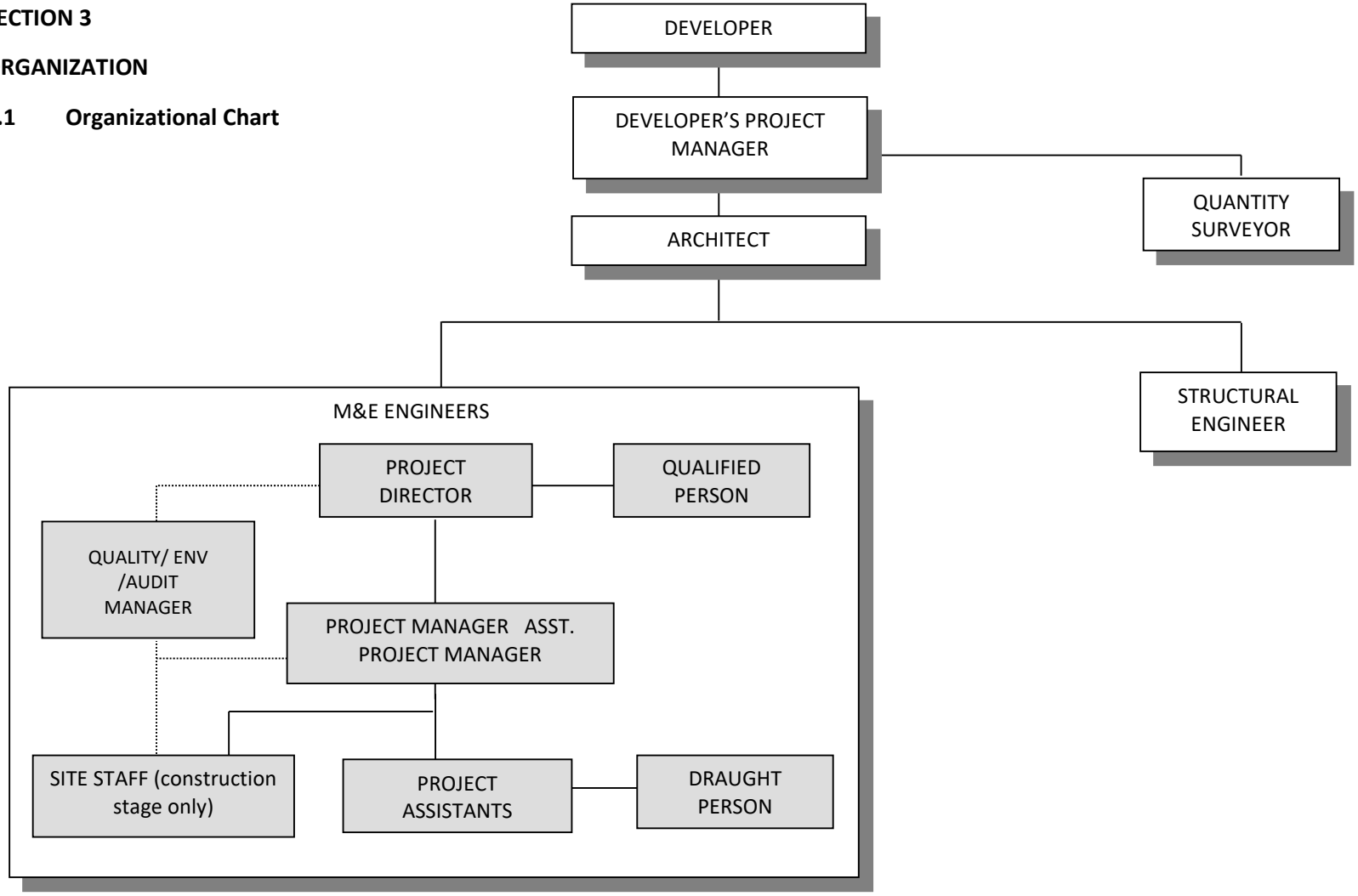
EJECTOR & DIVERTER	✓	SUMP PUMP	✓	FUEL OIL TANK		LIFT & ESCALATOR	✓	PRESSURE VESSEL		HOISTS		FOAM	
Smoke Control Jet Fan	✓												

(✓*where applicable*)

SECTION 3

ORGANIZATION

3.1 Organizational Chart



SECTION 3

ORGANISATION

3.2 ACEPL's Project Team Member

TITLE		NAME
Project Director		Loh Fook Yuen (LFY)
Qualified Person	Mechanical	Tay Wen Chung (TWC)
	Electrical	Loh Fook Yuen (LFY)
Project Manager		Lim Chai Hoon (LCY)
Assistant Project Manager		-
Project Assistant (Mech)		Chin Ching Yi (CCY)
Project Assistant (Elect)		-
Draughtsperson		Common Pool
Resident Engineer (M&E)		-
Assistant Resident Engineer (M&E)		-
Clerk-of-Work (M&E)		-

3.3 Client/Client's Representatives

Client (Developer):- Woodlands Square Pte Ltd

Address: - 14 Scotts Road,
#06-00 Far East Plaza
Singapore 228213

Tel: - 6235 2411

Fax: - 6235 3316

Client's Representatives:-

Name of Company	Contact Person	Contact
Woodlands Square Pte Ltd	Name: Mr Lee Min Position: Project Manager	Tel: 6830 6089 Fax: - Handphone: - Email: leemin@fareast.com.sg
	Name: Mr John Son Wong Position: Project Manager	Tel: 6830 6365 Fax: - Handphone: - Email: wongjohnson@fareast.com.sg
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:

Client (Main Contractor): Woh Hup (Private) Ltd

Address: 217 Upper Bukit Timah Road
Woh Hup Building
Singapore 588185

Tel: 6385 8585

Name of Company	Contact Person	Contact
Woh Hup (Private) Limited	Name: Mr Yong Jian Rong Position: Construction Manager	Tel: 6558 6236/237 Fax: 6272 3322 Handphone: - Email: yong_jianrong@wohhup.com
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:

3.4 **Other Consultants** (Local)

Function / Name of Company	Contact Person	Contact
Architect DP Architects Pte Ltd	Name: Mr Suneeth Changaoth Position: Director Name: Mr Paul S Appasamy Position: Associate Director Name: Ms Michelle Lim Position: Senior Associate	Tel: 6828 7776 Fax: 6337 9989 Handphone: – Email: SuneethCN@dpa.com.sg Tel: 6828 7871 Fax: 6337 9989 Handphone: 9180 8147 Email: PaulAppasamy@dpa.com.sg Tel: 6829 3589 Fax: 6387 9989 Handphone: – Email: michellelim@dpa.com.sg
Quantity Surveyor Davis Langdon KPK	Name: Ms Wendy Peh Bee Kew Position: Quantity Surveyor	Tel: 6536 3303 Fax: – Handphone: - Email: Wendy.Peh@davislangdon.com
Structural Engineer KTP Consultants Pte Ltd	Name: Mr Allan Teo Position: Managing Director	Tel: 6273 5622 Fax: 6273 8454 Handphone: – Email: allan.teo@ktpworld.com
Interior Designer	Name: Position:	Tel: Fax: Handphone: Email:

3.4 Other Consultants (Local) – Cont'd

Function / Name of Company	Contact Person	Contact
Lighting Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Acoustic Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Landscape Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Greenmark Consultant Genergy Pte Ltd	Name: Veron Ng Position: General Manager (Business & Operations)	Tel: – Fax: – Handphone: 9797 9986 Email: veron.ng@genergy.com

3.4 Other Consultants (Overseas) **- NOT APPLICABLE**

Function / Name of Company	Contact Person	Contact
Architect	Name: Position:	Tel: Fax: Handphone: Email:
M&E Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Quantity Surveyor	Name: Position:	Tel: Fax: Handphone: Email:
Structural Engineer	Name: Position:	Tel: Fax: Handphone: Email:
Interior Designer	Name: Position:	Tel: Fax: Handphone: Email:
Lighting Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Acoustic Consultant	Name: Position:	Tel: Fax: Handphone: Email:
_____	Name: Position:	Tel: Fax: Handphone: Email:

3.5 Contractors/Sub-Contractors

Function / Name of Company	Contract *	Contact Person	Contact
Main Contractor Woh Hup Pte Ltd		Name: Mr Tan Beng Chwee Position: Director (M&E) Name: Mr Yong Jian Rong Position: Construction Manager	Tel: 6385 8585 Fax: – Handphone: – Email: tan_bengchwee@wohhup.com Tel: 6385 8585 Fax: – Handphone: – Email: yong_jianrong@wohhup.com
Air Conditioning & Ventilation Installation Sub-Contractor Guthrie Engineering (S) Pte Ltd		Name: Mr Azmi Bin Yusorh Position: Project Manager	Tel: 6845 2543 Fax: 6746 2300 Handphone: 9369 7077 Email: azmi@guthrie.com.sg
Plumbing & Sanitary Installation Sub-Contractor Millennium Plumbing & Sanitary Pte Ltd		Name: Mr Lester Lim Position: Project Manager	Tel: 6741 2661 Fax: 6741 9838 Handphone: – Email: lim_lester@yahoo.com.sg
Electrical Installation Sub-Contractor BNL Engineering Pte Ltd		Name: Mr Kenneth Loh Position: Project Director	Tel: 6684 8428 Fax: 6684 8598 Handphone: 9430 3888 Email: kenneth.bnl.engrg@gmail.com
Lift & Escalator Installation Sub-Contractor Schindler Lift (Singapore) Pte Ltd		Name: Mr Joseph Yeo Position: Senior Manager, Project	Tel: 6854 7888 Fax: 6846 2212 Handphone: 9168 1175 Email: joseph.yeo@sg.schindler.com
Fire Fighting & Alarm Installation Sub-Contractor Sprinkler Engineering Pte Ltd		Name: Mr Tan Ting Hin Position: General Manager	Tel: 6453 1488 Fax: 6453 7656 Handphone: - Email: sprinkler@singnet.com.sg
Swimming Pool Filtration Plant Installation Sub-Contractor Hydrotechs Mechanical and Electrically Service Pte Ltd		Name: Mr Kelvin Ang Position: –	Tel: 6748 4779 Fax: 6748 8016 Handphone: 8138 4474 Email: –
Automatic Irrigation System NetaTech Engineering Pte Ltd		Name: Mr Jason Wong Position: Director	Tel: 6243 0218 Fax: – Handphone: 9451 1033 Email: Jason_wong@netatech.com.sg

** 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/Fax Nos./E-mail
SP Group:		
(a) Sub-Station	Mr Abbas Mohd Supian	6378 8557/ABBASMOHDSUPIAH@spgroup.com.sg
(b) Diversion	Mr Abd Fazil Bin Hussain	6314 6192/6765 3745/ abdfazilhussain@spgroup.com.sg
(c) Diversion (LV Cables)	Mr Peter Lin, Ye Nay	6314 6182/6765 3745/NAYLIN@spgroup.com.sg
(d) Diversion (Gas Pipes)	Mr Joseph Tan Yew Kiat	69165950/JOSEPHTAN@spgroup.com.sg
SP Group:		
(a) Customer Supply	Mr Zheng Liren	6671 7194/contracts@spgroup.com.sg
(b) Installation	Mr Abbas Mohd Supian	6378 8557/ABBASMOHDSUPIAH@spgroup.com.sg
(c) Meter Section		
(d) Road Lighting		
LTA:		
(a) Street Lighting/OG Box	Mr Leo Meng Hwee Ms Siti Aisah	6585 3286/LEO_Meng_Hwee@lta.gov.sg 6332 8123/Aisah_ABDUL_MAJID@lta.gov.sg
(b) Traffic Light/OG Box	Mr Leo Meng Hwee Ms Siti Aisah	6585 3286/LEO_Meng_Hwee@lta.gov.sg 6332 8123/Aisah_ABDUL_MAJID@lta.gov.sg
(c) Metering	Mr Ong Peng Sze	6585 3207/ONG_Peng_Sze@lta.gov.sg
(d) Traffic CCTV cameras	Mr Benjamin Ng	6553 5580/Benjamin_NG@lta.gov.sg
TFCC:		
(a) SCV	Mr Jasper Tan	6825 5442/corenet@starhub.com
(b) SingTel (Diversion)	Mr Wei Keat Mr Jamaluddin Bin Aziz Mr Kelvin Lim	weikeat@singtel.com 9653 1398/jamal@singtel.com 9646 2699/limsesg@singtel.com
(c) Starhub (Diversion)	Mr Wong Wei Biao	wbwong@starhub.com
(e) IDA		
(e) NetLinkTrust	Mr Daniel Hung	8588 0183/danielhung@netlinknbn.com
BCA:		
(a) Building Plan		
(b) Green Mark		
FSSD:	Mr Tan Chiew Sia	TAN_chiew_sia@scdf.gov.sg
(a) Building Plan		
(b) M&E Plan		
PUB (Water Supply) Network Dept:		
(a) Water Conservation		
(b) Plumbing Plan	Ms Neshitra Nair	neshitra_nair@pub.gov.sg

Authorities/Department	Contact Person	Tel/Fax Nos./E-mail
(c) Diversion	Mr Chin Wei Khin	9093 4249/ CHIN_Wei_Khin@pub.gov.sg
	Mr Ang Nam Leng	9633 9033/ ANG_Nam_Leng@pub.gov.sg
(d) NEWater	Ms Regina Tan	6571 4087/6731 3023/ Regina_Tan@pub.gov.sg
PUB Water Reclamation (Network) Dept:		
(a) Building Plan/CBPU		
(b) M&E Plan		
(c) Diversion		
City Gas Pte Ltd:		
(a) Planning/Submission	Mr Michael Wong Yew Yin	6578 7884/michaelwong@citygas.com.sg
(b) Installation/Inspection		
PowerGas Pte Ltd		
(a) Diversion	Mr Joseph Tan Yew Kiat	6916 5950/JOSEPHTAN@spgroup.com.sg
NEA (Pollution Control)		
(a) Planning/Submission		
(b) Inspection		

SECTION 4

PROGRAMME

4.1 Overall Programme – NOT APPLICABLE

			2014												2015											
ID	TASK NAME	MONTHS	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1.	Preliminary Planning																									
2.	Planning Submission																									
3.	Detail Design																									
4.	BP Submission																									
5.	BP Submission (Amendments)																									
6.	Tender Period for Piling																									
7.	Tender Period for Sub-Structure																									
8.	Tender Period for Super-Structure																									
9.	Piling Period																									
10.	Sub-Structure Construction Period																									
11.	Super-Structure Construction Period																									
12.	TOP																									
13.	CSC																									

SECTION 4

PROGRAMME

4.2 Authority Submission Status for M&E Services – 1st Submission

Service	Authority	Original Submission		Comments/Resubmission						Approval/
		Scheduled	Actual	Comment	Resubmit	Comment	Resubmit	Comment	Resubmit	Clearance
Application for Electricity Supply	SP Group	Dec 14	31/12/14							15/1/15
Power Supply Substation	SP Group	3/3/16	3/3/16		11/3/16					30/5/16
Sanitary Installation	PUB Water Reclamation (Network) Dept	7/7/17	17/917							18/9/17
Domestic Water Supply	PUB (Water Supply) Network Dept	28/7/17	28/7/17	14/9/17	24/10/17	28/12/17	23/1/18			19/3/18
Gas Supply Installation	City Gas Pte Ltd	28/7/16	28/7/16	8/8/16	1/9/16					13/9/16
Air Conditioning & Ventilation Inst.	FSSD	12/2/18	12/2/18							19/4/18
Fire Fighting & Alarm Installation	FSSD	30/11/17	27/11/17							20/12/17
Emergency Voice Communication	FSSD	3/8/18	3/8/18							15/8/18
Telephone Installation	TFCC	5/2/16	5/2/16	11/2/16 17/2/16	1/3/16	7/3/16	8/3/16			14/3/16
Broadband Co-Axial Cable System	TFCC	5/2/16	5/2/16	11/2/16 17/2/16	1/3/16	7/3/16	8/3/16			14/3/16

SECTION 4

PROGRAMME

4.3 Authority Submission Status for M&E Services (Amendments) – 2nd Submission

Service	Authority	Original Submission		Comments/Resubmission						Approval/
		Scheduled	Actual	Comment	Resubmit	Comment	Resubmit	Comment	Resubmit	Clearance
Application for Electricity Supply	SP Services Ltd									
Power Supply Substation	SP PowerGrid Ltd									
Metering Layout	SP Services Ltd									
Sanitary Installation	PUB Water Reclamation (Network) Dept	18/09/17	18/09/17							19/09/17
Domestic Water Supply	PUB (Water Supply) Network Dept	22/07/19								19/08/19
Gas Supply Installation	City Gas Pte Ltd	01/09/16	01/09/16	13/09/16	27/07/18	01/08/18	15/07/19			19/07/19
Air Conditioning & Ventilation Inst.	FSSD	29/03/18	29/03/18							19/04/18
Fire Fighting & Alarm Installation	FSSD	27/11/17	27/11/17							20/12/17
Emergency Voice Communication	FSSD	-	29/07/19							22/8/19
Telephone Installation	TFCC									
Broadband Co-axial Cable System (BCS)	Starhub Cable Vision									
Fuel Storage	FSSD									
	NEA (Pollution Control)									

SECTION 4

PROGRAMME

4.4 Authority Submission Status for M&E Services (Amendments) – 3rd Submission

Service	Authority	Original Submission		Comments/Resubmission						Approval/
		Scheduled	Actual	Comment	Resubmit	Comment	Resubmit	Comment	Resubmit	Clearance
Application for Electricity Supply	SP Services Ltd									
Power Supply Substation	SP PowerGrid Ltd									
Metering Layout	SP Services Ltd									
Sanitary Installation	PUB Water Reclamation (Network) Dept									
Domestic Water Supply	PUB (Water Supply) Network Dept									
Gas Supply Installation	City Gas Pte Ltd									
Air Conditioning & Ventilation Inst.	FSSD	Jan 2021	19 Jan 21							17 Feb 21
Fire Fighting & Alarm Installation	FSSD	Jan 2021	19 Jan 21							18 Feb 21
Telephone Installation	TFCC									
Emergency Voice Communication	FSSD	Jan 2021	19 Jan 21							18 Feb 21
Broadband Co-axial Cable System (BCS)	Starhub Cable Vision									
Fuel Storage	FSSD									
	NEA (Pollution Control)									

SECTION 5

PROJECT RECORDS

5.1 List of Internal Files

Standard Files

File Ref:		File Ref:	
- Owner	✓	- Architect	✓
- Authorities	✓	- Other Consultants	✓
- Contractors	✓	- CC	✓
- CF	✓	- PQP/QSP	✓

Project Files to be initiated by PM as and when required

File Ref:		File Ref:		File Ref:	
MC/EC	✓				

(✓*where applicable*)

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	All project drawings in softcopy to be saved in server
Incoming Architectural Sketches/Details	
Incoming Structural Drawings	
M&E Drawings - Electrical Installation - Lift & Escalator Installation - Air Conditioning & Ventilation Installation - Fire Fighting & Alarm Installation - Plumbing & Sanitary Installation - Swimming Pool & Filtration Installation	
Other Drawings	

SECTION 6

INTERFACING

6.1 Method of Interface

Description	Method of Interface	
Client's Review & Approval	M&E Design Report	✓
	Pre-planned meeting at fixed intervals	✓
	Telefax, letter and telephone	✓
	Email	✓
Interface With External Design Teams	M&E Design Report	✓
	Pre-planned meeting at fixed intervals	✓
	Telefax, letter and telephone	✓
	Email	✓
Interface Between Internal Design Teams	Telephone	✓
	Email	✓
	Internal Project Team Meeting	✓
	Circulation of Information	✓

(✓ *where applicable*)

SECTION 6

INTERFACING

6.2 Internal Design Interface – NOT APPLICABLE

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

*Note: Applicable only, if the client engaged a Project Manager.

SECTION 7

WORK AUTHORISATION

Activity \ Authorised Signatories	PD	QP	PM	AE	SS
General Correspondences with Client			√	√	
General Correspondences with Other Consultants			√	√	
M&E Cost Estimate Report	√	√	√		
M&E Design Report	√	√	√		
Check Prints		√			
Tender Drawing Approval	√	√	√		
Tender Specification Approval	√	√	√		
List of Tenderers	√	√	√		
Tender Questionnaires	√	√	√		
Tender Reports	√	√	√		
Draft Letter of Award	√	√	√		
Review of Contractor's Shop Drawing			√	√	
Review of Contractor's Technical Submittal			√	√	
Review of Contractor's Sample Submittal			√	√	
Contractor's Request for Deviation		√	√		
Progress Payment Valuation Form	√		√		
Final Account Valuation	√		√		
Draft Variation Order	√		√		
Engineer/Architect's Instruction/Direction	√		√		
Site Instruction/Direction			√		
Correspondence/Submission to Authorities	√	√			

(✓*where authorised*)

Key to abbreviations:-

PD : Project Director
QP : Qualified Person
PM : Project Manager/Assistant Project Manager
AE : Assistant Engineer
SS : ACEPL Site Staff

SECTION 8

DESIGN INPUT & METHODOLOGY

8.1 List of Client's Standards, Reference Documents or Brief – NOT APPLICABLE

ITEM	KEPT BY

8.2 List of Applicable Code of Practice and Regulations

Services	Title of Code of Practice/Standard
Electrical Wiring	CP 5: 1998
Lightning Protection System	SS 555: 2010
Emergency Voice Communication System	SS 546: 2009
Air Conditioning & Ventilation Installation	SS 553: 2016
Lift & Escalator Installation	SS 550: 2009
Sprinkler System	CP 52: 2004
Wet Riser System	SS 575: 2012
Automatic Fire Alarm System	CP 10: 2005
Sanitary System	Code of Practice on Sewerage & Sanitary Works
Plumbing System	CP 48: 2005
Town Gas/LPG Supply System	SS 608: 2015 (Formerly CP 51)
Boiler and Steam Supply System	N.A.
Mechanical Smoke Control System	N.A.

SECTION 8

DESIGN INPUT & METHODOLOGY

8.3 List of Design Guide or Handbook Used

Carrier's Handbook of Air Conditioning System Design

ASHRAE Handbooks

Institute of Plumbing's Plumbing Services Design Guide

8.4 List of Pre-Consultation and Waiver – NOT APPLICABLE

S/N	Description	Date of Application	Date of Approval	Remarks
1	*Clause number in Code of Practice for (Services) which require clarification or waiver. Consultation Ref No. Waiver Ref. No.			
2	*Clause number in Code of Practice for (Services) which require clarification or waiver. Consultation Ref No. Waiver Ref. No.			
3	*Clause number in Code of Practice for (Services) which require clarification or waiver. Consultation Ref No. Waiver Ref. No.			

*To fill in actual information

8.5 List of Applicable Quality System Procedures

Alpha Consulting Engineers Pte Ltd's Quality Management System Procedures

Section	Title	✓ where applicable
M1	Preparation of Consultancy Offer	✓
M2	Project Commissioning and Service Agreement	✓
M3	Design Control	✓
M4	Design Change Control	✓
M5	Tender Process and Evaluation	✓
M6	Authority Submission	✓
M7	Construction Process Control	✓
M8	Testing and Commissioning	✓
S1	Document Control	✓
S2	Documentation of Quality & Environmental Management System Procedure	✓
S3	Documentation of Project Quality Plan	✓
S4	Specification Control	✓
S5	Library Control	✓
S6	Archive Control	✓
S7	Filing Control	✓
S8	Drawing Control	✓
S9	Administration Control	✓
S10	Purchasing Control	
S11	Training Control	
S12	Computer Control	
S13	Non-Conformity and Corrective Action Procedures	✓
S14	Quality & Environmental System Audit	✓
S15	Feedback Reporting	✓
S16	Clients Feedback	✓
S17	Management Review	✓
S18	Risk Identification, Assessment & Control	✓

8.6 List of Software Used For Design/Analysis

DESCRIPTION/ PACKAGE NAME	VERSION	SUPPLIER/ SOURCE	PURPOSE	
Calculux	2.30	Philips	Lighting design	
Cophos	3.31	Zumtobel	Lighting design	
Carrier E20-II	3.21	Carrier	Programme for determination of heat load, duct size and its losses, etc.	✓
Gensize 2	2.1	Onan	Generator sizing	
Lift Traffic	-	Alpha Consulting Engineers Pte Ltd	Lift traffic calculation	✓
Econdial	2.5	Merlin Gerlin	Design for low voltage network	
Hyena	4.00.1	ACADS-BSG	Fire Sprinkler & Hydrant Analysis	
Fault Level Calculation	-	Alpha Consulting Engineers Pte Ltd	Calculation of voltage drop and fault level	

(✓*where applicable*)

SECTION 9

ENVIRONMENTAL CONSIDERATIONS

9.1 Sustainable Design Features/Criteria

Item	Remarks
Green Mark criteria	Gold Plus
Green Design Features	-

9.2 Site PPE Requirement

The necessary Personal Protective Equipment (detailed below) shall be provided by the main contractor/Company in accordance to the site EHS requirements prior to the site monitoring.

PPE	✓ where applicable
Safety Helmet	✓
Safety Shoes	✓
Eye Protection	NA
Ear Protection	NA
Safety Harness / Belt	NA
Others:	NA

9.3 Site Emergency Preparedness

Site staff shall comply with the site emergency preparedness and response procedure, established by the main contractor/owner, which shall include the following details.

Items	✓ where applicable
Evacuation Route	✓
Emergency Exit	✓
Assembly Point	✓
Emergency Contact List / Person	✓
Alarm system / methods	✓

SECTION 9

ENVIRONMENTAL CONSIDERATIONS

9.4 Reporting of Environmental Non-conformances

When encountering environmental non-conformances, Site Staff shall be responsible to feedback to the main contractor.

9.5 List of Applicable Environmental management system Procedures

Alpha Consulting Engineers Pte Ltd's Environmental Management System Procedures

Section	Title	✓ where applicable
E1	Aspect / Impact Identification, Risk Assessment & Risk Control	✓
E2	Identifying Legal & Other Requirements	✓
E3	Objectives, Targets & Programmes	✓
E4	Communication	✓
E5	Emergency Preparedness & Response	✓
E6	Monitoring & Measurement	✓
E7	Control of Air & Noise Pollution	✓
E8	Management of Wastes	✓

SECTION 10

CLIENT'S REQUIREMENTS

10.1 List of Output Required by Client:

Item	* Remarks
M&E Design Report	A
M&E Cost Estimate Report	A
Pre-Qualification of Tenderers	-
Tender Documents	-
Tender Report	-
Payment Valuation for QS	-
Certificates of Supervision for TOP/CSC	Re

* *Remarks*

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

Other purposes and for action: please specify.

10.2 Specific Procedures Required By Client *(If applicable)* **– NOT APPLICABLE**

SECTION 11

LIST OF SUB-JOB

11.1 List of Sub-Job Numbers – NOT APPLICABLE

Sub Job No	Description	Allocation Details