Alpha
Consulting Engineers Pte Ltd

PROJECT QUALITY PLAN

PROPOSED A&A TO EXISTING INTERNATIONAL BUILDING INVOLVING EXTENSION OF SINGLE STOREY COMMERCIAL BLOCK AND REDEVELOPMENT OF EXISTING CARPARK BLOCK TO NEW 30 STOREY HOTEL ON LOTS 00956X, 01719L TS 25 AT 360 ORCHARD ROAD

For

YAT YUEN HONG CO. LTD

Copy No.	1

Prepared By: Ngu Kat Lung / Lee Yoke Keen

Authorised By: Choong Choon Guan

Date: 23 July 2014

TABLE OF CONTENTS

SECTION	DESCRIPTION
-	**TITLE PAGE**
-	**TABLE OF CONTENTS**
1	**QUALITY PLAN CONTROL AND DISTRIBUTION**
1.1	List of Copy Holders
1.2	Revision Record
2	**PROJECT INFORMATION**
2.1	Project Description
2.2	Project Cost
2.3	Scope of Works
3	**ORGANISATION**
3.1	Organisation Chart
3.2	ACEPL's Project Team Member
3.3	Client/Client's Representative
3.4	Other Consultants - Local - Overseas
3.5	Contractor/Sub-Contractors
3.6	Authorities
4	**PROGRAMME**
4.1	Overall Programme
4.2	Authority Submission Status for M&E Services – 1st Submission
4.3	Authority Submission Status for M&E Services (Amendment) – 2nd Submission – N.A.
5	**PROJECT RECORDS**
5.1	List of Internal Files
5.2	Filing of Drawings

TABLE OF CONTENTS

SECTION	DESCRIPTION
6	**INTERFACING**
6.1	Method of Interface
6.2	Internal Design Interface – N.A.
6.3	Circulation of Documents to External Parties
7	**WORK AUTHORISATION**
8	**DESIGN INPUT AND METHODOLOGY**
8.1	List of Client's Standards, Reference Documents or Brief – N.A.
8.2	List of Applicable Code of Practice and Regulations
8.3	List of Design Guide or Handbook Used
8.4	List of Pre-Consultation and Waiver
8.5	List of Applicable Quality System Procedures
8.6	List of Software Used for Design/Analysis
9	**ENVIRONMENTAL CONSIDERATIONS**
9.1	Sustainable Design Features / Criteria
9.2	Site PPE Requirement – N.A.
9.3	Site Emergency Preparedness – N.A.
9.4	Reporting of Environmental Non-conformances
9.5	List of Applicable Environmental Management System Procedures
10	**CLIENT'S REQUIREMENTS**
10.1	List of Output Required by Client
10.2	Specific Procedures Required by Client – N.A.
11	**LIST OF SUB-JOB**
11.1	List of Sub-Job Numbers – N.A.

SECTION 1

QUALITY PLAN CONTROL AND DISTRIBUTION

1.1 List of Copy Holders

Copy No.	Copy Holder	Date of Issue
1	6192-PQP	23 July 2014

1.2 Revision Record

Revision	Date of Issue	Section Reference	Page(s)	Remarks
0	23 January 2014	1 to 11	29	+3 pgs (Section 4.1 – Overall Programme)
1	23 July 2014	1 to 11	30	+4 pgs (Section 4.1 – Overall Programme) +1 pgs (Section 9.1 – Sustainable Design Features / Criteria)

SECTION 2

PROJECT INFORMATION

2.1 Project Description

Type of Development	Hotel and F&B Extensions

Statistics of Development	
Site Area, m²	5,056.90
Nett Floor Area, m²	N.A.
Gross Floor Area, m²	16,025.20
Covered Carpark, m²	-
No. of Covered Carpark Lots	132
No. of Apartments/Houses	N.A.
No. of Beds (for Hospitals)	N.A.
No. of Guestroom (for Hotels)	609 guestrooms
No. of Blocks / No. of Storeys	1 Block 30 Storey with single storey
Green Mark Category	Gold
No. of Phases	3

2.2 Project Cost

M&E Services Cost Plan (S$ x 1M)										
Services	EI	ACVI	LEI	FFAI	PSI	SPFI				
Estimate	9.8	8.8	2.75	2.9	6.6	0.2				
Awarded	-	-	-	-	-	-				

Total Project Construction Cost (S$ x1M)			
	Site Clearance	Piling Works	Main Contract
Estimate	-	-	-
Awarded	0.21	3.5345	-

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

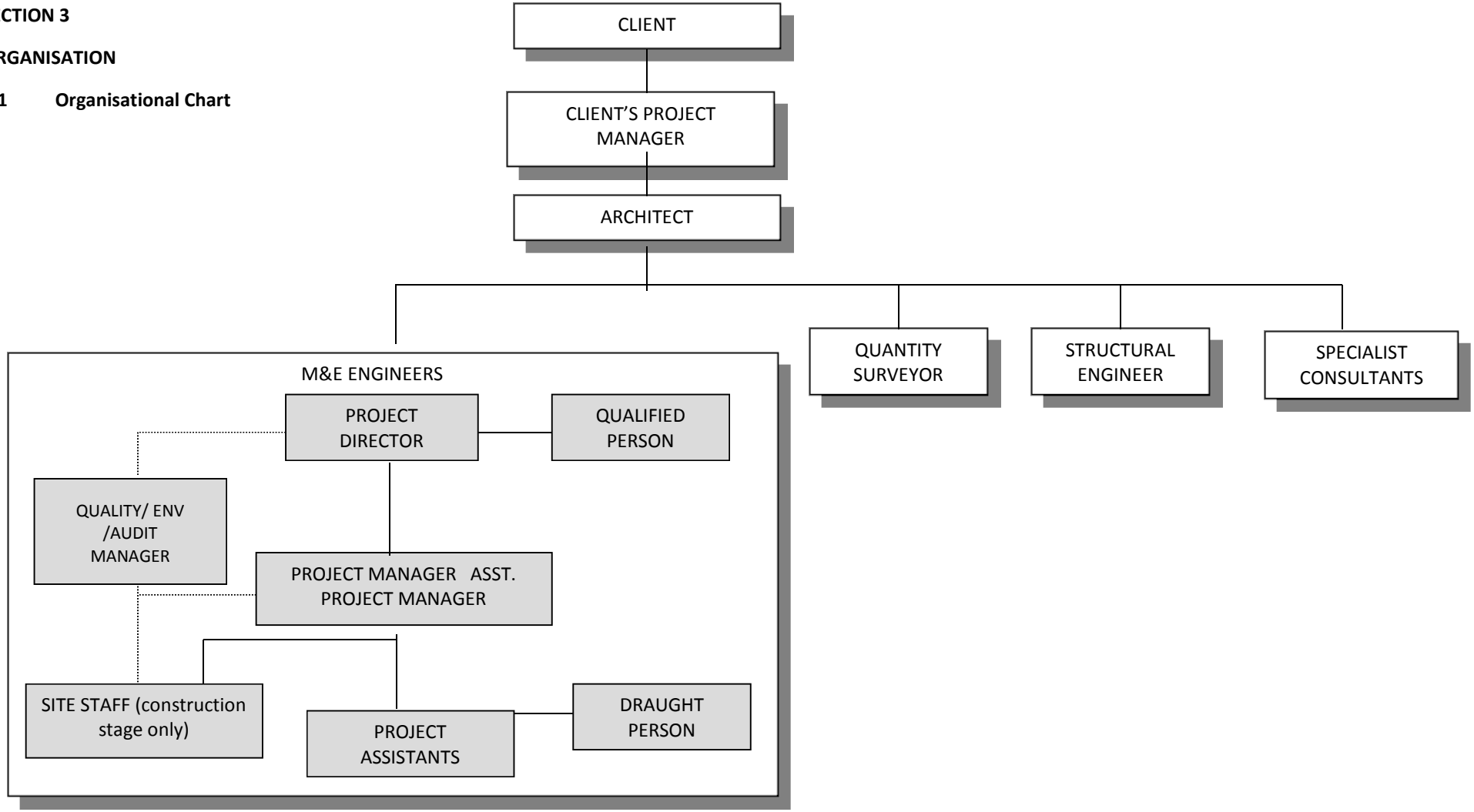
EJECTOR & DIVERTER	✓	SUMP PUMP	✓	FUEL OIL TANK	✓	LIFT	✓	PRESSURE VESSEL		HOISTS		FOAM	

(✓*where applicable*)

SECTION 3

ORGANISATION

3.1 Organisational Chart



SECTION 3

ORGANISATION

3.2 ACEPL's Project Team Member

TITLE		NAME
Project Director		Choong Choon Guan (CCG)
Qualified Person	Mechanical	Choong Choon Guan (CCG)
	Electrical	Loh Fook Yuen (LFY)
Project Manager		Goh Soon Huat (GSH)
Assistant Project Manager		Ngu Kat Lung (NKL)
Project Assistant (Mech)		Lee Yoke Keen (LYK)
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:- Yat Yuen Hong Co. Ltd

Address:- 300 Beach Road #41-00
The Concourse Singapore 199555

Tel:- 6292 8181

Fax:- 6293 8689

Client's Representatives:-

Name of Company	Contact Person	Contact
Yat Yuen Hong Co. Ltd (Owner)	Name: Ms Florence Cheong Position: Director Name: Mr Lok Nam Moon Position: Vice President (Projects) Name: Mr Jimmy Yeo Position: Vice President (Marketing) Name: Mr Darren Cheong Position: Director	Tel: 6292 8181 Fax: 6293 8689 Handphone: - Email: florencecheong@hongfok.com.sg Handphone: - Email: lnm@hongfok.com.sg Handphone: - Email: jyeo@hongfok.com.sg Handphone: - Email: sec@hongfok.com.sg
YOTEL Limited (Operator)	Name: Mr Stuart Pannell Position: Design and Construction Manager	Tel: +44 (0) 20 7160 0873 Fax: +44 (0) 20 7224 0751 Handphone: +44 (0) 7551 150 729 Email: stuart@yotel.com
RLB Consultancy Pte Ltd (Project Manager)	Name: Mr Dwight Gwee Position: Senior Project Director Name: Mr Amos Cheong Position: Project Associate Name: Ms Lim Yan Wen Position: Project Manager	Tel: 6339 1500 Fax: 6339 1521 Project Email: rlb.yotel@sg.rlb.com Handphone: 8157 4128 Email: dwight.gwee@sg.rlb.com Handphone: 9793 4123 Email: amos.cheong@sg.rlb.com Handphone: 9750 4709 Email: yw.lim@sg.rlb.com

3.4 Other Consultants (Local)

Function / Name of Company	Contact Person	Contact
Architect DP Architects Pte Ltd	Name: Angelene Chan Position: Deputy CEO Name: Allan Wang Position: Associate Name: Ian Choo Position: Project Architect	Tel: 6338 3988 Fax: 6337 9989 Project Email: YotelHotel@dpa.com.sg Handphone: - Email: AngeleneChan@dpa.com.sg Handphone: 9768 4218 Email: AllanWang@dpa.com.sg Handphone: 9159 1177 Email: IanChoo@dpa.com.sg
Quantity Surveyor Rider Levett Bucknall LLP	Name: Serene Chua Position: Senior Associate Name: Lim Ai Chia Position: Quantity Surveyor	Tel: 6339 1500 Fax: 6339 1521 Project Email: rlb.yotel@sg.rlb.com Handphone: 9738 1829 Email: serene.chua@sg.rlb.com Handphone: 9651 6159 Email: ac.lim@sg.rlb.com
Structural Engineer Meinhardt (Singapore) Pte Ltd	Name: Budi Lee Position: Director Name: Tong Woon Ing Position: Principal Engineer	Tel: 6273 5255 Fax: 6274 0788 Project Email: mscs138044@meinhardt.com.sg Handphone: 9680 4898 Email: bl@meinhardt.com.sg Handphone: 9799 5906 Email: twi@meinhardt.com.sg
Façade Consultant Meinhardt Façade Technology (S) Pte Ltd	Name: Mimi Daraphet Position: Senior Façade Consultant	Tel: 6238 9730 Fax: 6736 1542 Handphone: 9668 9555 Email: mimi.d@mfacade.com
Acoustic & Audio Visual Consultant CCW Associates Pte Ltd	Name: Cheah Beng Kin Position: Managing Director	Tel: 6278 4918 Fax: 6275 7206 Handphone: 9818 2289 Email: bengkin@ccw.com.sg
Landscape Consultant Salad Dressing – Salad Pte Ltd	Name: Tiong See Kee Position: Landscape Architect	Tel: 6223 7300 Fax: 6220 0021 Handphone: 9688 7302 Email: seekee.tiong@saladlandscape.com
Environmental Sustainability Design Consultant Kaer Pte Ltd	Name: Maartje van Roosmalen Position: Senior Engineer	Tel: 6735 5640 Fax: 6735 5420 Handphone: 8112 6023 Email: Maartje.vanroosmalen@kaer.com

3.4 Other Consultants (Local)

Function / Name of Company	Contact Person	Contact
Signage Consultant UDS Design	Name: Keith Lee Position: Director, Project Design	Tel: 6741 2828 Fax: 6741 3925 Handphone: 9827 2882 Email: keith@udsdesign.com
Security Consultant Certis CISCO Consulting Services Pte Ltd	Name: Derek Ho Position: Security Consultant – Ops	Tel: 6747 2888 Fax: 6741 7652 Handphone: 8366 7508 Email: dereksm_ho@certissecurity.com
Vehicular & Pedestrian Traffic Consultant Vertix Asia-Pacific Pte Ltd	Name: Nick Fellows Position: Managing Director	Tel: 6536 8714 Fax: 6536 8715 Handphone: 9680 4107 Email: nick.fellows@vertixap.com
Lighting Consultant Lighting Planners Associates (S) Pte Ltd	Name: Sun Young Hwang Position: Designer	Tel: 6734 3086 Fax: 6734 2786 Handphone: - Email: Sun_young_hwang@lighting.co.jp
Information Technology Consultant 3D Networks Singapore Pte Ltd	Name: Marcus Lee Position: Consultant	Tel: 6723 6888 Fax: 6382 0030 Handphone: 9671 8733 Email: Sun_young_hwang@lighting.co.jp

3.4 Other Consultants (Overseas)

Function / Name of Company	Contact Person	Contact
Interior Designer Neri & Hu Design and Research Office	Name: Zheng Jin Lin Position: Senior Architectural Designer	Tel: +86 21 6082 3777 Fax: +86 21 6082 3778 Handphone: - Email: jinlin.zheng@neriandhu.com

3.5 Contractors/Sub-Contractors

Function / Name of Company	Contract *	Contact Person	Contact
Main Contractor N.A.		Name: Position:	Tel: Fax: Handphone: Email:
M&E Nominated Sub-Contractor (Air Conditioning & Ventilation, Plumbing & Sanitary, Electrical, Fire Fighting & Alarm and Swimming Pool Filtration Plant Installation) N.A.		Name: Position:	Tel: Fax: Handphone: Email:
Lift & Escalator Installation Sub-Contractor Mitsubishi Elevator (Singapore) Pte Ltd		Name: Eric Lee Mun Fei Position: Section Manager Name: Ng Choon Wei Position: Sales Engineer	Tel: 6842 5678 Fax: 6748 2292 Handphone: 9450 9680 Email: eric.lee@mesp.meap.com Handphone: 9437 0726 Email: cw.ng@mesp.meap.com

** 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 PowerGrid:		
(a) Sub-Station	Chin Yoke Fah	6378 8556
(b) Diversion	Lin Jun You, Jack / Ganesan	6290 9107 / junyou@singaporepower.com.sg
SP Services:		
(a) Customer Supply	Ponnusamy Rajeswary	6671 7196
(b) Installation	Ting Chiong Seng	6671 7123 / contracts@singapower.com.sg
(c) Meter Section	-	-
(d) Road Lighting	-	-
TFCC:		
(a) SCV	-	-
(b) SingTel	-	-
(c) IDA	Lee Him Buan	9653 1397 / himbuan.lee@citynetlink.com.sg
BCA:		
(a) Building Plan	-	-
(b) Green Mark	Denise Kwok Hui Ying	6325 5061 / denise_kwok@bca.gov.sg
FSSD:		
(a) Building Plan	-	-
(b) M&E Plan	-	-
PUB (Water Supply) Network Dept:		
(a) Water Conservation	-	-
(b) Plumbing Plan	Mr Marwin / Ms Wang Qiong / Mr Sidek Said	6731 3934 / Marwin_SUHAIMI@pub.gov.sg 6731 3975 / Wang_Qiong@pub.gov.sg 6885 2406 / Sidek_SAID@pub.gov.sg
(c) Diversion	Mr Lau Khai Keong	6885 2541 / LAU_Khai_Keong@pub.gov.sg
(d) NEWater	Mr Ng Boon Hee	8182 3232 / NG_Boon_Hee@pub.gov.sg
PUB Water Reclamation (Network) Dept:		
(a) Building Plan/CBPU	Mr Ler Seng Chye	6731 3264 / ler_seng_chye@pub.gov.sg
(b) M&E Plan	-	-
(c) Diversion	-	-

3.6 Authorities

Authorities/Department	Contact Person	Tel/Fax Nos./E-mail
City Gas Pte Ltd:		
(a) Planning/Submission	Mr Liew Khee Boon	6578 7603 / kheeboon@citygas.com.sg
(b) Installation/Inspection	Mr Kamarulzaman B Rahman	6578 7603 / 8123 0342 / kamarulzaman@citygas.com.sg
PowerGas Pte Ltd	Mr Kong Chee Keen / Mr Poh Ee Chye / Mr Mohamed Thaufik bin Mohamed Tharik	6595 5032 / 9298 5620 / cheekeen@singaporepower.com.sg 6595 5112 / 9852 7903 / eechye@singaporepower.com.sg 6595 5109 / 8305 3728 / mohdthaufik@singaporepower.com.sg
(a) Diversion	-	-
NEA (Pollution Control)		
(a) Planning/Submission	-	-
(b) Inspection	-	-

SECTION 4

PROGRAMME

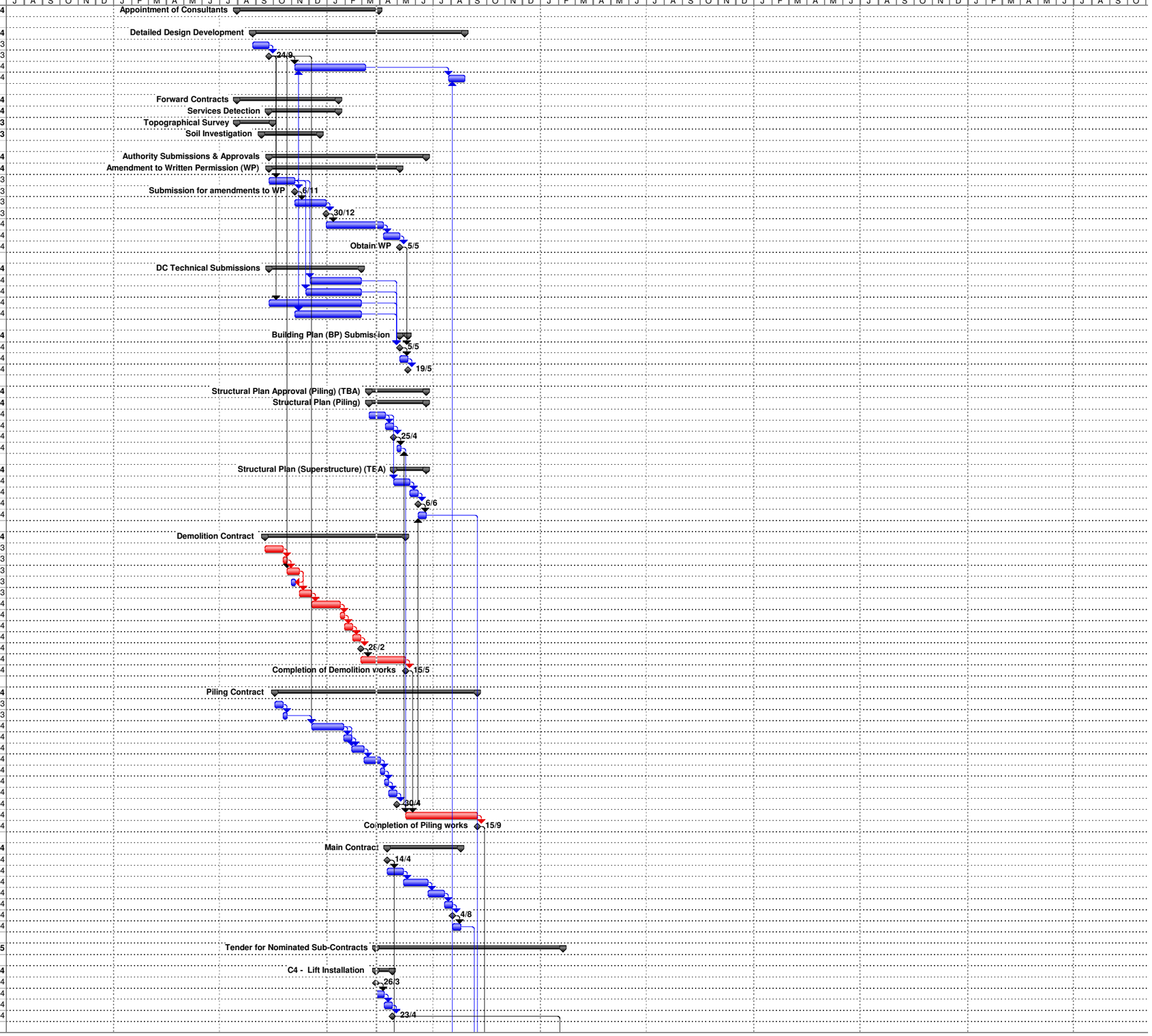
4.1 Overall Programme (Refer to attached)

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																									

YOTEL SINGAPORE PROJECT
Preliminary Master Programme Rev 6

RLB | Rider Levett Bucknall
(Draft for Discussion_25 March 2014)

ID	Task Name	Duration	Start	Finish
1	**Appointment of Consultants**	**173 days**	**Wed 31/7/13**	**Mon 31/3/14**
15				
16	**Detailed Design Development**	**259 days**	**Tue 27/8/13**	**Mon 25/8/14**
17	Detailed Design Submission/Presentation for Client's Approval	4 ewks	Tue 27/8/13	Tue 24/9/13
18	Detailed Design Sign-off	0 days	Tue 24/9/13	Tue 24/9/13
19	Cost Plan 1	17.3 ewks	Wed 6/11/13	Fri 7/3/14
20	Cost Plan 2	4 ewks	Mon 28/7/14	Mon 25/8/14
21				
22	**Forward Contracts**	**124 days**	**Wed 31/7/13**	**Tue 21/1/14**
23	**Services Detection**	**86 days**	**Mon 23/9/13**	**Tue 21/1/14**
31	**Topographical Survey**	**43 days**	**Wed 31/7/13**	**Mon 30/9/13**
41	**Soil Investigation**	**72 days**	**Wed 11/9/13**	**Fri 20/12/13**
49				
50	**Authority Submissions & Approvals**	**193 days**	**Tue 24/9/13**	**Fri 20/6/14**
51	**Amendment to Written Permission (WP)**	**159.78 days**	**Tue 24/9/13**	**Mon 5/5/14**
52	Preparation of WP Submission drawings	6.2 ewks	Tue 24/9/13	Wed 6/11/13
53	Submission for amendments to WP	0 days	Wed 6/11/13	Wed 6/11/13
54	Processing period	7.7 ewks	Wed 6/11/13	Mon 30/12/13
55	Provisional Perminssion	0 days	Mon 30/12/13	Mon 30/12/13
56	Compliance with Provisional Permission Written Direction	14 ewks	Mon 30/12/13	Mon 7/4/14
57	Processing period	4 ewks	Mon 7/4/14	Mon 5/5/14
58	Obtain WP	0 days	Mon 5/5/14	Mon 5/5/14
59				
60	**DC Technical Submissions**	**114 days**	**Tue 24/9/13**	**Fri 28/2/14**
61	NParks Submission	12.5 ewks	Tue 3/12/13	Fri 28/2/14
62	CBPU Submission	13.5 ewks	Tue 26/11/13	Fri 28/2/14
63	LTA Submission	22.5 ewks	Tue 24/9/13	Fri 28/2/14
64	FSSD Submission	16.3 ewks	Wed 6/11/13	Fri 28/2/14
65				
66	**Building Plan (BP) Submission**	**10 days**	**Mon 5/5/14**	**Mon 19/5/14**
67	Submission of BP	0 days	Mon 5/5/14	Mon 5/5/14
68	Processing of BP submission	2 ewks	Mon 5/5/14	Mon 19/5/14
69	Approval of BP	0 days	Mon 19/5/14	Mon 19/5/14
70				
71	**Structural Plan Approval (Piling) (TBA)**	**70 days**	**Fri 14/3/14**	**Fri 20/6/14**
72	**Structural Plan (Piling)**	**70 days**	**Fri 14/3/14**	**Fri 20/6/14**
73	Accredited Checker (AC) review (Piling)	4 ewks	Fri 14/3/14	Fri 11/4/14
74	Structural Plans (Piling) submission	2 ewks	Fri 11/4/14	Fri 25/4/14
75	Structural Plans (Piling) approval	0 days	Fri 25/4/14	Fri 25/4/14
76	Permit to commence piling works	1 ewk	Wed 30/4/14	Wed 7/5/14
77				
78	**Structural Plan (Superstructure) (TBA)**	**40 days**	**Fri 25/4/14**	**Fri 20/6/14**
79	Accredited Checker (AC) review (Superstructure)	4 ewks	Fri 25/4/14	Fri 23/5/14
80	Structural Plans (Superstructure) submission	2 ewks	Fri 23/5/14	Fri 6/6/14
81	Structual Plan (Superstructure) approval	0 days	Fri 6/6/14	Fri 6/6/14
82	Permit to commence Superstructure works	2 ewks	Fri 6/6/14	Fri 20/6/14
83				
84	**Demolition Contract**	**172.78 days**	**Tue 17/9/13**	**Thu 15/5/14**
85	Pre-Qualification Exercise	4.4 ewks	Tue 17/9/13	Fri 18/10/13
86	Report on Pre-Qualification Exercise	1 ewk	Fri 18/10/13	Fri 25/10/13
87	Tender Documentation	3 ewks	Fri 25/10/13	Fri 15/11/13
88	Shortlisting of Tenderers	1 ewk	Fri 1/11/13	Fri 8/11/13
89	Calling for Tender	3 ewks	Fri 15/11/13	Fri 6/12/13
90	Tender evaluation & report by Consultants	7 ewks	Fri 6/12/13	Fri 24/1/14
91	RLB's award recommendation	1 ewk	Fri 24/1/14	Fri 31/1/14
92	Approval of Award	2 ewks	Fri 31/1/14	Fri 14/2/14
93	Letter of Award (including 2 weeks mobilization)	2 ewks	Fri 14/2/14	Fri 28/2/14
94	Contract Award	0 days	Fri 28/2/14	Fri 28/2/14
95	Demolition Works	2.55 emons	Fri 28/2/14	Thu 15/5/14
96	Completion of Demolition works	0 days	Thu 15/5/14	Thu 15/5/14
97				
98	**Piling Contract**	**246.78 days**	**Fri 4/10/13**	**Mon 15/9/14**
99	Pre-Qualification Exercise	2 ewks	Fri 4/10/13	Fri 18/10/13
100	Report on Pre-Qualification Exercise	1 ewk	Fri 18/10/13	Fri 25/10/13
101	Tender Documentation	7.8 ewks	Fri 6/12/13	Wed 29/1/14
102	Review of Tender Documents by Client	2 ewks	Wed 29/1/14	Wed 12/2/14
103	Calling for Tender	3 ewks	Wed 12/2/14	Wed 5/3/14
104	Tender interview, evaluation & report by Consultants	4 ewks	Wed 5/3/14	Wed 2/4/14
105	RLB's award recommendation	1 ewk	Wed 2/4/14	Wed 9/4/14
106	Approval of Award	1 ewk	Wed 9/4/14	Wed 16/4/14
107	Letter of Award (including 2 weeks mobilization)	2 ewks	Wed 16/4/14	Wed 30/4/14
108	Contract Award	0 days	Wed 30/4/14	Wed 30/4/14
109	Piling Works	4.1 emons	Thu 15/5/14	Mon 15/9/14
110	Completion of Piling works	0 days	Mon 15/9/14	Mon 15/9/14
111				
112	**Main Contract**	**90 days**	**Mon 14/4/14**	**Mon 18/8/14**
113	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 14/4/14	Mon 14/4/14
114	QS tender documentation	4 ewks	Mon 14/4/14	Mon 12/5/14
115	Tender Calling	6 ewks	Mon 12/5/14	Mon 23/6/14
116	Tender evaluation & Report	4 ewks	Mon 23/6/14	Mon 21/7/14
117	Approval of Award	2 ewks	Mon 21/7/14	Mon 4/8/14
118	Award of Contract	0 days	Mon 4/8/14	Mon 4/8/14
119	Moblisation	2 ewks	Mon 4/8/14	Mon 18/8/14
120				
121	**Tender for Nominated Sub-Contracts**	**228 days**	**Wed 26/3/14**	**Mon 9/2/15**
122				
123	**C4 - Lift Installation**	**20 days**	**Wed 26/3/14**	**Wed 23/4/14**
124	Tender Questionnaire 3	0 days	Wed 26/3/14	Wed 26/3/14
125	Tender evaluation & revised report	2 ewks	Wed 26/3/14	Wed 9/4/14
126	Approval of Award	2 ewks	Wed 9/4/14	Wed 23/4/14
127	Contract Award	0 days	Wed 23/4/14	Wed 23/4/14
128				

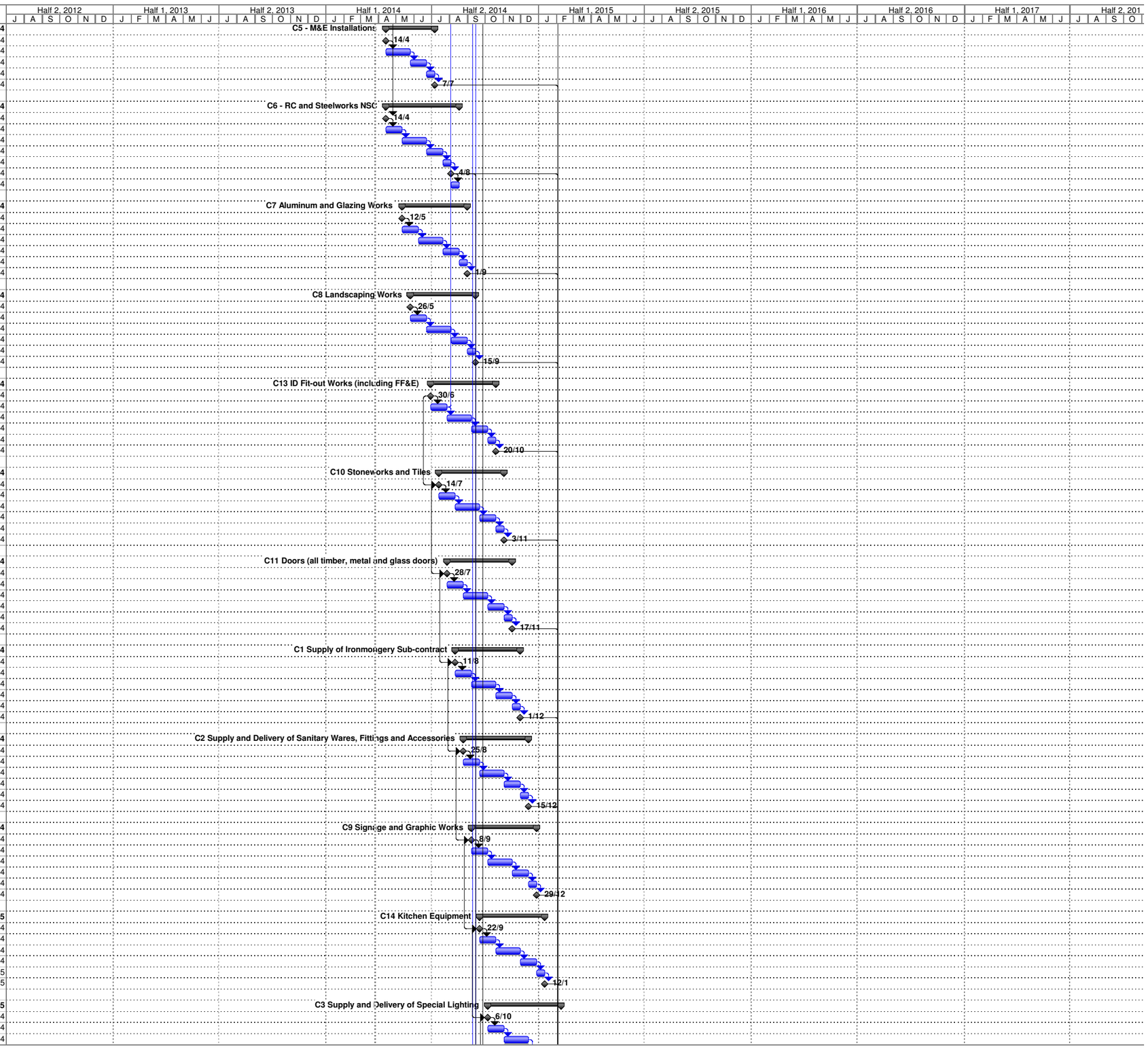


ãTask — Progress — Summary — Rolled Up Critical Task — Rolled Up Progress — External Tasks — Group By Summary
Critical Task — Milestone — Rolled Up Task — Rolled Up Milestone — Split — Project Summary — Deadline

YOTEL SINGAPORE PROJECT
Preliminary Master Programme Rev 6

RLB | Rider Levett Bucknall
(Draft for Discussion_25 March 2014)

ID	Task Name	Duration	Start	Finish
129	**C5 - M&E Installations**	**60 days**	**Mon 14/4/14**	**Mon 7/7/14**
130	Completion of Tender Documentation	0 days	Mon 14/4/14	Mon 14/4/14
131	Tender Calling	6 ewks	Mon 14/4/14	Mon 26/5/14
132	Tender evaluation & report	4 ewks	Mon 26/5/14	Mon 23/6/14
133	Approval of Award	2 ewks	Mon 23/6/14	Mon 7/7/14
134	Award of Contract	0 days	Mon 7/7/14	Mon 7/7/14
135				
136	**C6 - RC and Steelworks NSC**	**90 days**	**Mon 14/4/14**	**Mon 18/8/14**
137	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 14/4/14	Mon 14/4/14
138	QS tender documentation	4 ewks	Mon 14/4/14	Mon 12/5/14
139	Tender Calling	6 ewks	Mon 12/5/14	Mon 23/6/14
140	Tender evaluation & Report	4 ewks	Mon 23/6/14	Mon 21/7/14
141	Approval of Award	2 ewks	Mon 21/7/14	Mon 4/8/14
142	Award of Contract	0 days	Mon 4/8/14	Mon 4/8/14
143	Moblisation	2 ewks	Mon 4/8/14	Mon 18/8/14
144				
145	**C7 Aluminum and Glazing Works**	**80 days**	**Mon 12/5/14**	**Mon 1/9/14**
146	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 12/5/14	Mon 12/5/14
147	QS tender documentation	4 ewks	Mon 12/5/14	Mon 9/6/14
148	Tender Calling	6 ewks	Mon 9/6/14	Mon 21/7/14
149	Tender evaluation & Report	4 ewks	Mon 21/7/14	Mon 18/8/14
150	Approval of Award	2 ewks	Mon 18/8/14	Mon 1/9/14
151	Award of Contract	0 days	Mon 1/9/14	Mon 1/9/14
152				
153	**C8 Landscaping Works**	**80 days**	**Mon 26/5/14**	**Mon 15/9/14**
154	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 26/5/14	Mon 26/5/14
155	QS tender documentation	4 ewks	Mon 26/5/14	Mon 23/6/14
156	Tender Calling	6 ewks	Mon 23/6/14	Mon 4/8/14
157	Tender evaluation & Report	4 ewks	Mon 4/8/14	Mon 1/9/14
158	Approval of Award	2 ewks	Mon 1/9/14	Mon 15/9/14
159	Award of Contract	0 days	Mon 15/9/14	Mon 15/9/14
160				
161	**C13 ID Fit-out Works (including FF&E)**	**80 days**	**Mon 30/6/14**	**Mon 20/10/14**
162	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 30/6/14	Mon 30/6/14
163	QS tender documentation	4 ewks	Mon 30/6/14	Mon 28/7/14
164	Tender Calling	6 ewks	Mon 28/7/14	Mon 8/9/14
165	Tender evaluation & Report	4 ewks	Mon 8/9/14	Mon 6/10/14
166	Approval of Award	2 ewks	Mon 6/10/14	Mon 20/10/14
167	Award of Contract	0 days	Mon 20/10/14	Mon 20/10/14
168				
169	**C10 Stoneworks and Tiles**	**80 days**	**Mon 14/7/14**	**Mon 3/11/14**
170	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 14/7/14	Mon 14/7/14
171	QS tender documentation	4 ewks	Mon 14/7/14	Mon 11/8/14
172	Tender Calling	6 ewks	Mon 11/8/14	Mon 22/9/14
173	Tender evaluation & Report	4 ewks	Mon 22/9/14	Mon 20/10/14
174	Approval of Award	2 ewks	Mon 20/10/14	Mon 3/11/14
175	Award of Contract	0 days	Mon 3/11/14	Mon 3/11/14
176				
177	**C11 Doors (all timber, metal and glass doors)**	**80 days**	**Mon 28/7/14**	**Mon 17/11/14**
178	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 28/7/14	Mon 28/7/14
179	QS tender documentation	4 ewks	Mon 28/7/14	Mon 25/8/14
180	Tender Calling	6 ewks	Mon 25/8/14	Mon 6/10/14
181	Tender evaluation & Report	4 ewks	Mon 6/10/14	Mon 3/11/14
182	Approval of Award	2 ewks	Mon 3/11/14	Mon 17/11/14
183	Award of Contract	0 days	Mon 17/11/14	Mon 17/11/14
184				
185	**C1 Supply of Ironmongery Sub-contract**	**80 days**	**Mon 11/8/14**	**Mon 1/12/14**
186	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 11/8/14	Mon 11/8/14
187	QS tender documentation	4 ewks	Mon 11/8/14	Mon 8/9/14
188	Tender Calling	6 ewks	Mon 8/9/14	Mon 20/10/14
189	Tender evaluation & Report	4 ewks	Mon 20/10/14	Mon 17/11/14
190	Approval of Award	2 ewks	Mon 17/11/14	Mon 1/12/14
191	Award of Contract	0 days	Mon 1/12/14	Mon 1/12/14
192				
193	**C2 Supply and Delivery of Sanitary Wares, Fittings and Accessories**	**80 days**	**Mon 25/8/14**	**Mon 15/12/14**
194	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 25/8/14	Mon 25/8/14
195	QS tender documentation	4 ewks	Mon 25/8/14	Mon 22/9/14
196	Tender Calling	6 ewks	Mon 22/9/14	Mon 3/11/14
197	Tender evaluation & Report	4 ewks	Mon 3/11/14	Mon 1/12/14
198	Approval of Award	2 ewks	Mon 1/12/14	Mon 15/12/14
199	Award of Contract	0 days	Mon 15/12/14	Mon 15/12/14
200				
201	**C9 Signage and Graphic Works**	**80 days**	**Mon 8/9/14**	**Mon 29/12/14**
202	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 8/9/14	Mon 8/9/14
203	QS tender documentation	4 ewks	Mon 8/9/14	Mon 6/10/14
204	Tender Calling	6 ewks	Mon 6/10/14	Mon 17/11/14
205	Tender evaluation & Report	4 ewks	Mon 17/11/14	Mon 15/12/14
206	Approval of Award	2 ewks	Mon 15/12/14	Mon 29/12/14
207	Award of Contract	0 days	Mon 29/12/14	Mon 29/12/14
208				
209	**C14 Kitchen Equipment**	**80 days**	**Mon 22/9/14**	**Mon 12/1/15**
210	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 22/9/14	Mon 22/9/14
211	QS tender documentation	4 ewks	Mon 22/9/14	Mon 20/10/14
212	Tender Calling	6 ewks	Mon 20/10/14	Mon 1/12/14
213	Tender evaluation & Report	4 ewks	Mon 1/12/14	Mon 29/12/14
214	Approval of Award	2 ewks	Mon 29/12/14	Mon 12/1/15
215	Award of Contract	0 days	Mon 12/1/15	Mon 12/1/15
216				
217	**C3 Supply and Delivery of Special Lighting**	**90 days**	**Mon 6/10/14**	**Mon 9/2/15**
218	Prelim Set of drawings & specifications for Tender Dcoumentation	0 days	Mon 6/10/14	Mon 6/10/14
219	QS tender documentation	4 ewks	Mon 6/10/14	Mon 3/11/14
220	Tender Calling	6 ewks	Mon 3/11/14	Mon 15/12/14

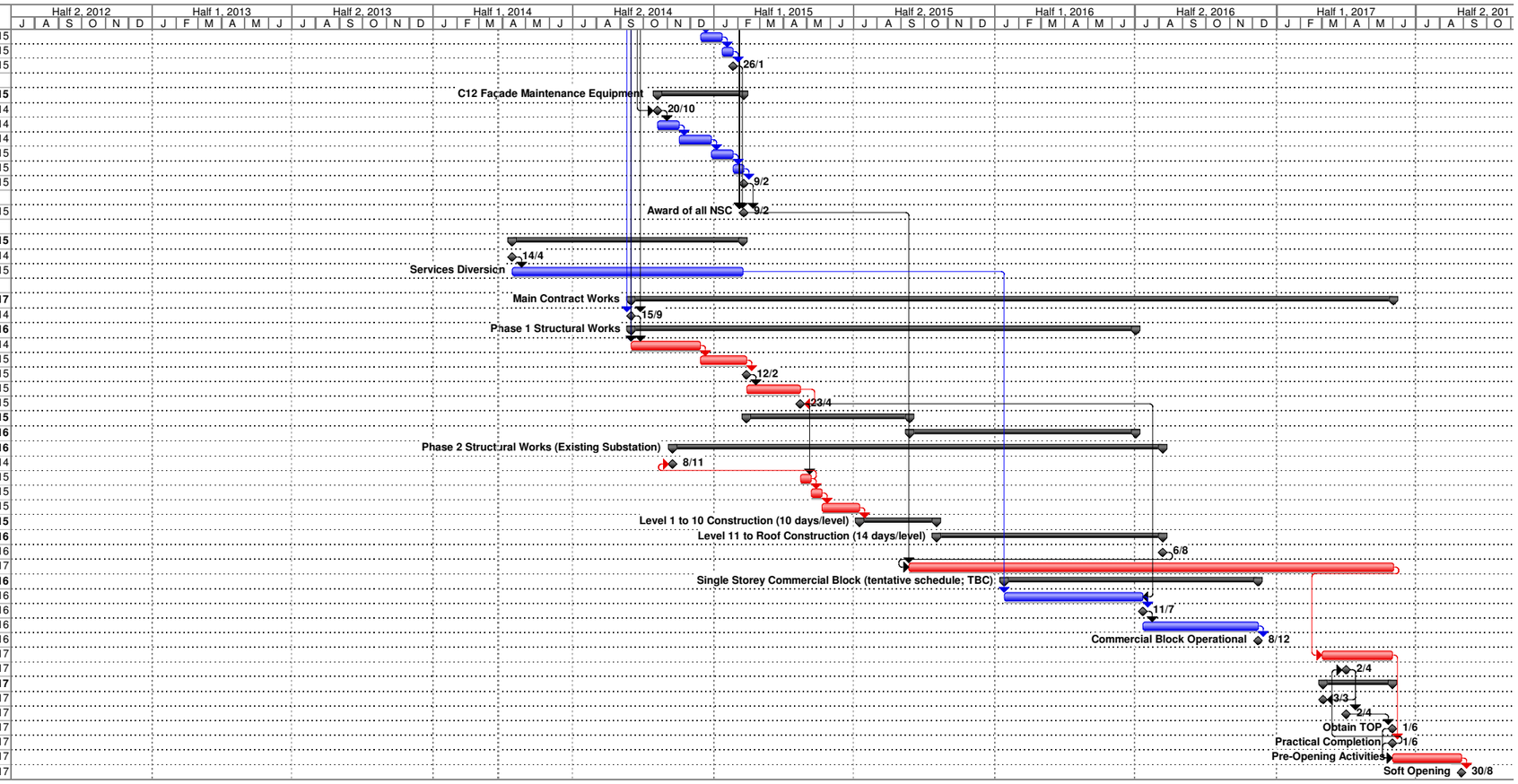


āTask	Progress	Summary	Rolled Up Critical Task	Rolled Up Progress	External Tasks	Group By Summary
Critical Task	Milestone	Rolled Up Task	Rolled Up Milestone	Split	Project Summary	Deadline

YOTEL SINGAPORE PROJECT
Preliminary Master Programme Rev 6

RLB | Rider Levett Bucknall
(Draft for Discussion_25 March 2014)

ID	Task Name	Duration	Start	Finish
221	Tender evaluation & Report	4 ewks	Mon 15/12/14	Mon 12/1/15
222	Approval of Award	2 ewks	Mon 12/1/15	Mon 26/1/15
223	Award of Contract	0 days	Mon 26/1/15	Mon 26/1/15
224				
225	**C12 Façade Maintenance Equipment**	**80 days**	**Mon 20/10/14**	**Mon 9/2/15**
226	Prelim Set of drawings & specifications for Tender Dcoumenta	0 days	Mon 20/10/14	Mon 20/10/14
227	QS tender documentation	4 ewks	Mon 20/10/14	Mon 17/11/14
228	Tender Calling	6 ewks	Mon 17/11/14	Mon 29/12/14
229	Tender evaluation & Report	4 ewks	Mon 29/12/14	Mon 26/1/15
230	Approval of Award	2 ewks	Mon 26/1/15	Mon 9/2/15
231	Award of Contract	0 days	Mon 9/2/15	Mon 9/2/15
232				
233	Award of all NSC	0 days	Mon 9/2/15	Mon 9/2/15
234				
235	**Services Diversion Work**	**215 days**	**Mon 14/4/14**	**Sun 8/2/15**
236	YYH's payment for Diversion works by Utility Agencies	0 days	Mon 14/4/14	Mon 14/4/14
237	Services Diversion	10 emons	Mon 14/4/14	Sun 8/2/15
238				
239	**Main Contract Works**	**709 days**	**Mon 15/9/14**	**Fri 2/6/17**
240	Site possession	0 days	Mon 15/9/14	Mon 15/9/14
241	**Phase 1 Structural Works**	**469.23 days**	**Mon 15/9/14**	**Sat 2/7/16**
242	Level 1 Construction	3 emons	Mon 15/9/14	Sun 14/12/14
243	Level 2 Construction	2 emons	Sun 14/12/14	Thu 12/2/15
244	Substation handover to PowerGrid	0 days	Thu 12/2/15	Thu 12/2/15
245	PowerGrid works at Substation	10 ewks	Thu 12/2/15	Thu 23/4/15
246	Energize Substation	0 days	Thu 23/4/15	Thu 23/4/15
247	**Level 3 to 10 Construction (appr 26 days/level)**	**151.23 days**	**Thu 12/2/15**	**Sat 12/9/15**
256	**Level 11 to Roof Construction (14 days/level)**	**210 days**	**Sat 12/9/15**	**Sat 2/7/16**
278	**Phase 2 Structural Works (Existing Substation)**	**455 days**	**Sat 8/11/14**	**Sat 6/8/16**
279	Notification to PUB on decommissioning of existing Substation	0 days	Sat 8/11/14	Sat 8/11/14
280	Decommission of existing Substation	2 ewks	Thu 23/4/15	Thu 7/5/15
281	Demolition of existing Substation	2 ewks	Thu 7/5/15	Thu 21/5/15
282	Piling at existing Substation	7 ewks	Thu 21/5/15	Thu 9/7/15
283	**Level 1 to 10 Construction (10 days/level)**	**71.22 days**	**Thu 9/7/15**	**Sat 17/10/15**
294	**Level 11 to Roof Construction (14 days/level)**	**210 days**	**Sat 17/10/15**	**Sat 6/8/16**
316	Topping out of Roof	0 edays	Sat 6/8/16	Sat 6/8/16
317	Builders Works (Archi and M&E)	21 emons	Fri 11/9/15	Fri 2/6/17
318	**Single Storey Commercial Block (tentative schedule; TBC)**	**236 days**	**Wed 13/1/16**	**Thu 8/12/16**
319	Single Storey Commercial Block Construction	6 emons	Wed 13/1/16	Mon 11/7/16
320	Partial TOP for Commerical Block (Subject to BCA approval)	0 days	Mon 11/7/16	Mon 11/7/16
321	Tenacy Fit-out for Commerical Block	5 emons	Mon 11/7/16	Thu 8/12/16
322	Commercial Block Operational	0 days	Thu 8/12/16	Thu 8/12/16
323	Testing and Commissioning for M&E Services	3.05 emons	Wed 1/3/17	Thu 1/6/17
324	TOP ready	0 days	Sun 2/4/17	Sun 2/4/17
325	**Temporary Occupation Permit (TOP)**	**64 days**	**Fri 3/3/17**	**Thu 1/6/17**
326	RI Inspection	0 edays	Fri 3/3/17	Fri 3/3/17
327	TOP Inspection by BCA	0 edays	Sun 2/4/17	Sun 2/4/17
328	Obtain TOP	0 edays	Thu 1/6/17	Thu 1/6/17
329	Practical Completion	0 edays	Thu 1/6/17	Thu 1/6/17
330	Pre-Opening Activities	3 emons	Thu 1/6/17	Wed 30/8/17
331	Soft Opening	0 edays	Wed 30/8/17	Wed 30/8/17

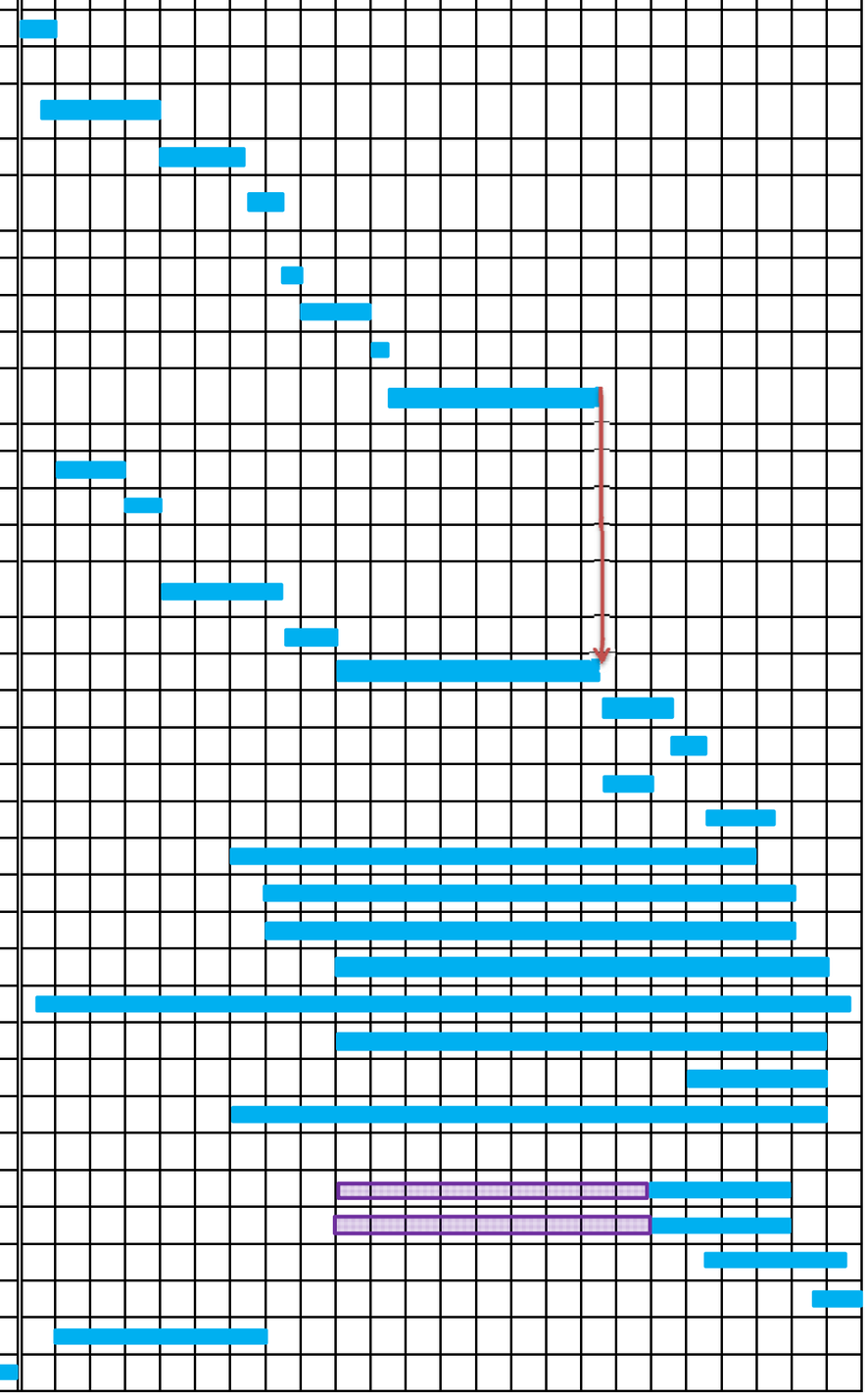


PROPOSED CONSTRUCTION OF HOTEL AT ORCHARD ROAD (YOTEL SINGAPORE)

PRELIMINARY SCHEDULE FOR CONSTRUCTION WORKS

Prepared by: D. MANI
Date: 30-Jun-2014
Revision: 0

ITEM NO.	ITEM DESCRIPTION	DURATION IN MONTHS
1	Mobilisation & Setup Temporary facilities	2
2	**New sub-station: Phase 1**	
	a) Construction of sub-station and related areas (From pile cap to 3rd sty ramp)	3.5
	b) M&E installation in sub-station & Energizing	2.5
	c) Switchover supply to new substation & remove M&E items from the existing sub-station	1
3	**Construction at Existing sub-station: Phase 2**	
	a) Demolition of the existing sub-station	0.5
	b) Piling at existing sub-station	2
	c) Pilecap and ground beams & Slab	0.5
	d) Structure work at existing sub-station area Phase 2 (2nd storey to 26th storey - 7.2 days / floor)	6.0
4	**Remaining area (except New sub-station & Ph 2 areas)**	
	a) Pile cap & Below ground works	2
	b) 1st storey to 2nd storey	1
5	**Construction other areas except existing sub-station area:**	
	a) 3rd storey to 9th storey (Except existing sub station area)-(15 days / floor)	3.50
	b) 10th storey & Swimming pool	1.5
	c) 11th storey to 26th storey (14 days / floor)	7.5
	d) 27th storey to 30th storey (15 days / floor)	2
	e) Roof work	1
	f) Lift Motor Room	1.5
6	Delivery and installtion of BMU	2
7	Internal & External wall (Including Brick/Block walls)	15
8	Internal finishes (Including floor, wall & Ceiling)	15
9	External finishes (Including floor, wall)	15
10	Fitout works	14
11	M&E works (Including Testing and Commissioning)	23
12	Painting - Internal	14
13	Painting - External	4
14	Façade works (Installation)	17
15	Lift Installation	
	a) Construction lift - 3 lifts (Production 9 months)	4
	b) Other lifts -6 lifts (Production 9 months)	4
16	External works and Landscaping	4
17	Final RI Inspections & comment rectifications	1.5
18	Single storey F&B outlet construction and Partial TOP	6
19	Diversion of existing sevices in the F&B outlet areas	4.5



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 Services Ltd	10/10/13	17/10/13	-	-	-	-	-	-	28/11/13
Power Supply Substation	SP PowerGrid Ltd	17/03/14	25/03/14	30/04/14	02/06/14	-	-	-	-	27/06/14
Metering Layout	SP Services Ltd	01/12/14								
Sanitary Installation	PUB Water Reclamation (Network) Dept	05/05/14								
Domestic Water Supply	PUB (Water Supply) Network Dept	07/05/14	23/05/14	16/06/14	22/07/14					
Gas Supply Installation	City Gas Pte Ltd	09/05/14	17/04/14	28/04/14	23/05/14	28/05/14	03/06/14	-	-	09/06/14
Air Conditioning & Ventilation Inst.	FSSD	15/05/14								
Fire Fighting & Alarm Installation	FSSD	15/05/14								
Telephone Installation	TFCC	01/08/14								
Broadband Co-axial Cable System (BCS)	Starhub Cable Vision	01/12/15								
Fuel Storage	FSSD	01/12/15								
	NEA (Pollution Control)	N.A.								

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	N.A.								
Power Supply Substation	SP PowerGrid Ltd	N.A.								
Metering Layout	SP Services Ltd	N.A.								
Sanitary Installation	PUB Water Reclamation (Network) Dept	N.A.								
Domestic Water Supply	PUB (Water Supply) Network Dept	N.A.								
Gas Supply Installation	City Gas Pte Ltd	N.A.								
Air Conditioning & Ventilation Inst.	FSSD	N.A.								
Fire Fighting & Alarm Installation	FSSD	N.A.								
Telephone Installation	TFCC	N.A.								
Broadband Co-axial Cable System (BCS)	Starhub Cable Vision	N.A.								
Fuel Storage	FSSD	N.A.								
	NEA (Pollution Control)	N.A.								

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:	

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

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

** 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	C	C	-	
b.	Project Administration	-	-	-	-	-	
c.	Project Cost Estimate/Contract Cost	A	A	I	-	C	
2.	**Drawings**						
a.	Outline Design Drawings	A	A	C	C	-	
b.	Sketch Design Drawings	A	A	C	C	-	
c.	Final Design Drawings	A	A	C	C	-	
d.	Shop Drawings	-	-	C	C	-	
e.	As Built Drawings	I	I	I	I	I	
3.	**Other Document**						
a.	Specification	A	A	C	C	C	
b.	Tender Document	A	A	C	-	C	
c.	Tender Evaluation Report	A	A	C	-	C	
d.	Design Report	A	A	C	C	C	
e.	Progress Report	-	-	-	-	-	
f.	Financial Report	-	-	-	-	-	
g.	Minutes of Meeting	I	I	I	I	-	
h.	Inspection Report	I	I	I	-	-	
i.	Testing & Comm. Report	I	I	I	-	-	
j.	O & M Manual	I	I	I	-	-	

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

ITEM	KEPT BY
N.A.	

8.2 List of Applicable Code of Practice and Regulations

Services	Title of Code of Practice/Standard
Electrical Wiring	CP5:1998 COP for Electrical Installation
Lightning Protection System	SS 555:2010 COP for Protection against Lightning
Emergency Voice Communication System	SS 546:2009 COP for Emergency Voice Communication Systems in Building
Air Conditioning & Ventilation Installation	SS 553:2009 COP for Air Conditioning and Mechanical Ventilation in Buildings
Lift & Escalator Installation	SS 550:2009 COP for Installation, Operation and Maintenance of Electric Passenger and Goods Lifts
Sprinkler System	SS CP 52:2004 COP for Automation Fire Sprinkler System
Wet Riser System	SS 575:2012 COP for Fire Hydrant, Rising Mains and Hosereel System
Automatic Fire Alarm System	SS CP 10:2005 COP for Installation and Servicing of Electrical Fire Alarm Systems
Sanitary System	Code of Practice on Sewerage and Sanitary Works
Plumbing System	SS CP 48:2005 COP for Water Services
Town Gas Supply System	SS CP 51:2004 COP for Manufactured Gas Pipe Installation
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

S/N	Description	Date of Application	Date of Approval	Remarks
1	Pre-Consultation to PUB(WRN) Sewer connection for Code of Practice on Sewerage and Sanitary Works. To permit three points of connection via existing manholes. Consultation Ref No. 7004	18/12/2013	30/12/2013	
2	Waiver from FSSD Clauses 2.2.1.3 and 5.1.4 for SS 575. To permit the use of multistage, multi-outlet centrifugal pump for wet riser system. Waiver Ref No. WVR/04872/13	17/12/2013	08/01/2014	
3	Waiver from FSSD Clause 5.6 for SS CP 52. To permit the use of multistage, multi-outlet centrifugal pump for the sprinkler system. Waiver Ref No. WVR/00121/14	15/01/2014	04/02/2014	

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	
QE1	Quality & Environmental System Audit	✓
QE2	Feedback Reporting	✓
QE3	Clients Feedback	✓
QE4	Management Review	✓

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	-	Elevate	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
Green Design Features	Refer to attached

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	N.A.
Safety Shoes	N.A.
Eye Protection	N.A.
Ear Protection	N.A.
Safety Harness / Belt	N.A.
Others:	N.A.

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	N.A.
Emergency Exit	N.A.
Assembly Point	N.A.
Emergency Contact List / Person	N.A.
Alarm system / methods	N.A.






Green Mark Score Summary

kaer

SUMMARY

- Total Green Mark points of 77.5
- ETTV of 41 W/m2 or better
- Operating cooling plant design efficiency is 0.85 kW/Rton or better
- Air system operating efficiency is 0.31 W/cmh (11% saving)
- Artificial lighting saving of at least 30% better than code
- Energy efficient features: heat pump
- Motion sensor control to reduce demand
- 100% NV car park ventilation
- CUI of 0.54 m^3/m^2
- Use of RCA and WCS
- Extensive use of Environmental Friendly product (SGLS/ SGBCP)
- GnPR of 5.58

© Kaer Pte Ltd 2014 The contents of this presentation are copyright protected. Unauthorised duplication or publication is prohibited. All Rights Reserved.

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	A
Tender Documents	A
Tender Report	A
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)* – N.A.

SECTION 11

LIST OF SUB-JOB

11.1 List of Sub-Job Numbers

Sub Job No	Description	Allocation Details
N.A.		