Alpha
Consulting Engineers Pte Ltd

PROJECT QUALITY PLAN

ARCHIPELAGO

For

UNITED VENTURE DEVELOPMENT (BEDOK) PTE LTD

Copy No.	1

Prepared By: Lim Chai Hoon/Chan Shen Wei/Yip Yoke Fun

Authorised By: Loh Fook Yuen

Date: 18 September 2014

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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	6152-PQP	18 September 2014

1.2 Revision Record

Revision	Date of Issue	Section Reference	Page(s)	Remarks
0	8 March 2013	1 to 11	29	+ 8 pgs (Section 4.1 Overall Programme) + 1 pg (Section 9.1 Sustainable Design Features/Criteria)
1	4 December 2013	1 to 11	29	+ 7 pgs (Section 4.1 Overall Programme) + 1 pg (Section 9.1 Sustainable Design Features/Criteria)
2	18 September 2014	1 to 11	29	+ 7 pgs (Section 4.1 Overall Programme) + 1 pg (Section 9.1 Sustainable Design Features/Criteria)

SECTION 2

PROJECT INFORMATION

2.1 Project Description

Type of Development	Residential

Statistics of Development	
Site Area, m²	45622.90
Nett Floor Area, m²	63873
Gross Floor Area, m²	67978.58
Covered Carpark, m²	-
No. of Covered Carpark Lots	625
No. of Apartments/Houses	553 units, 24 units of 3-Storey Strata House
No. of Beds (for Hospitals)	-
No. of Guestroom (for Hotels)	-
No. of Blocks / No. of Storeys	18 Blocks of 5-Storey Residential Building & 24 units of 3-Storey Strata Housing with 2 Storey Basement Car Park
Green Mark Category	Gold
No. of Phases	1

2.2 Project Cost

M&E Services Cost Plan (S$ x 1M)										
Services	EI	ACVI	LEI	FFAI	PSI	SPFI				
Estimate	12.2	12.0	4.8	2.0	12.0	2.5				
Awarded	10.17	6.08	3.62	1.46	9.58	1.42				

Total Project Construction Cost (S$ x1M)			
	Site Clearance	Piling Works	Main Contract
Estimate			
Awarded		0.2	188.25

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

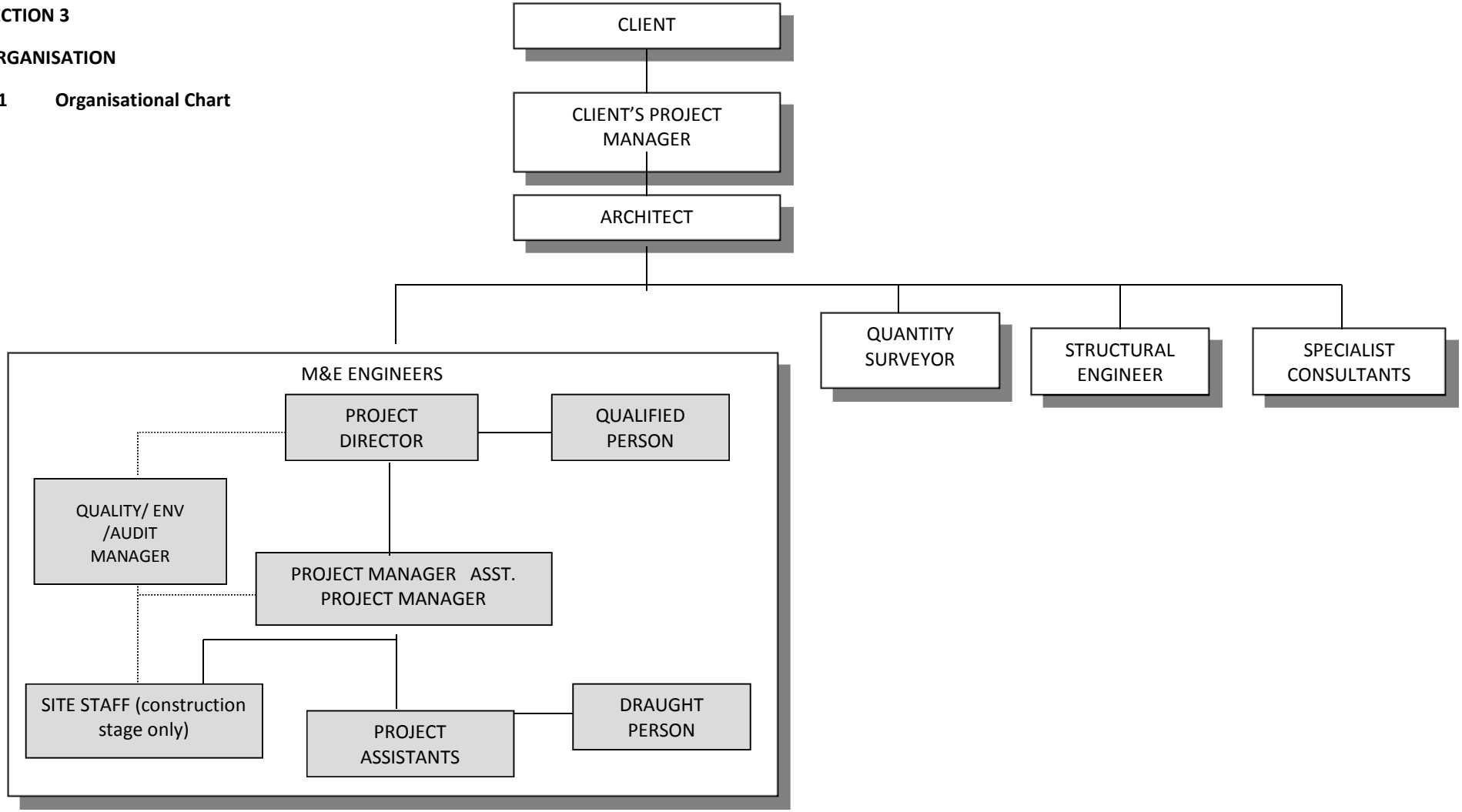
EJECTOR & DIVERTER	✓	SUMP PUMP	✓	FUEL OIL TANK		LIFT & ESCALATOR		PRESSURE VESSEL	✓	HOISTS		FOAM	

(✓*where applicable*)

SECTION 3

ORGANISATION

3.1 Organisational Chart



SECTION 3

ORGANISATION

3.2 ACEPL's Project Team Member

TITLE		NAME
Project Director		Loh Fook Yuen (LFY)
Qualified Person	Mechanical	Choong Choon Guan (CCG)
	Electrical	Loh Fook Yuen (LFY)
Project Manager		Lim Chai Hoon (LCY)
Assistant Project Manager		Yip Yoke Fun (YYF)
Project Assistant (Mech)		-
Project Assistant (Elect)		Chan Sheh Wei (CSW)
Draughtsperson		Common Pool
Resident Engineer (M&E)		-
Assistant Resident Engineer (M&E)		-
Clerk-of-Work (M&E)		Sam Ong & Sam Cheng

3.3 Client/Client's Representatives

Client:-	United Venture Development (Bedok) Pte Ltd	Tiong Seng Contractors (Pte) Ltd
Address:-	101 Thomson Road #33-00 United Square Singapore 307591	510 Thomson Road #08-00 SLF Building Singapore 529735
Tel:-	6222 9312	6356 0822
Fax:-	6224 0278	6356 0688
Client's Representatives:-	Mr Christopher Leow	Mr Colin Tan/Mr Ng Chin Sin

Name of Company	Contact Person	Contact
United Venture Development (Bedok) Pte Ltd c/o UOL Group Limited	Name: Mr Christopher Leow Position: Assistant General Manager	Tel: 6222 9312 Fax: 6224 0278 Handphone: 9479 6588 Email: christopherleow@singland.com.sg
Tiong Seng Contractors (Pte) Ltd	Name: Mr Colin Tan Position: Senior Project Manager	Tel: 6356 0822 Fax: 6356 0688 Handphone: 9800 8895 Email: colin.tan@tiongseng.com.sg
Tiong Seng Contractors (Pte) Ltd	Name: Mr Ng Chin Sin Position: Project Manager	Tel: 6242 7922 Fax: 6242 1182 Handphone: 9745 5680 Email: ng.chin.sin@tiongseng.com.sg
Tiong Seng Contractors (Pte) Ltd	Name: Mr Melvin Ang Position: Snr M&E Manager	Tel: 6242 7922 Fax: 6242 1182 Handphone: 9633 5695 Email: melvin.ang@tiongseng.com.sg

3.4 Other Consultants (Local)

Function / Name of Company	Contact Person	Contact
Architect Ong & Ong Pte Ltd	Name: Mr Fan Wyman Position: Architect	Tel: 6258 8666 Fax: 6259 8648 Handphone: 9619 4973 Email: fan.wyman@ong-ong.com
Quantity Surveyor Langdon & Seah Singapore Pte Ltd	Name: Mr Kwan Yuet Leong Position: Senior Director	Tel: 6239 8234 Fax: 6224 7089 Handphone: - Email: 6003@sg.langdonseah.com
Structural Engineer TEP Consultants Pte Ltd	Name: Mr Pok Ming Wee Position: Director	Tel: 6339 7277 Fax: 6338 8362 Handphone: - Email: pok_ming_wee@tepc.com.sg
Interior Designer -	Name: - Position: -	Tel: - Fax: - Handphone: - Email: -
Lighting Consultant -	Name: - Position: -	Tel: - Fax: - Handphone: - Email: -
Acoustic Consultant -	Name: - Position: -	Tel: - Fax: - Handphone: - Email: -
Landscape Consultant Sitetectonix Pte Ltd	Name: Mr Deric Seow Position: Landscape Architect	Tel: 6327 4452 Fax: 6327 8042 Handphone: - Email: dericseow@sitetectonix.com
_____	Name: Position:	Tel: Fax: Handphone: Email:

3.4 Other Consultants (Overseas)

Function / Name of Company	Contact Person	Contact
Architect N.A.	Name: Position:	Tel: Fax: Handphone: Email:
M&E Consultant N.A.	Name: Position:	Tel: Fax: Handphone: Email:
Quantity Surveyor N.A.	Name: Position:	Tel: Fax: Handphone: Email:
Structural Engineer N.A.	Name: Position:	Tel: Fax: Handphone: Email:
Interior Designer N.A.	Name: Position:	Tel: Fax: Handphone: Email:
Lighting Consultant N.A.	Name: Position:	Tel: Fax: Handphone: Email:
Acoustic Consultant N.A.	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 Tiong Seng Contractors (Pte) Ltd		Name: Mr Ng Chin Sin Position: Project Manager	Tel: 6242 7922 Fax: 6242 1182 Handphone: 9745 5680 Email: ng.chin.sin@tiongseng.com.sg
Air Conditioning & Ventilation Installation Sub-Contractor SAS M&E Pte Ltd	DSC	Name: Mr Teh Wei Sin Position: General Manager	Tel: 6336 0066 Fax: 6338 0518 Handphone: 9788 3556 Email: project@sasme.com.sg
Plumbing & Sanitary Installation Sub-Contractor Markpoint Engineering Pte Ltd	DSC	Name: Mr Galvin Goh Position: Managing Director	Tel: 6456 8012 Fax: 6454 8012 Handphone: 9455 8012 Email: markpoint@markpoint.com.sg
Electrical Installation Sub-Contractor Powen Electrical Engineering Pte Ltd	DSC	Name: Mr Chan Chue Position: Project Manager	Tel: 6468 6868 Fax: 6763 1908 Handphone: - Email: chanchue@powen.com.sg
Lift & Escalator Installation Sub-Contractor Mitsubishi Elevator (Singapore) Pte Ltd	DSC	Name: Mr Martin Goh Position: Manager	Tel: 6842 5678 Fax: 6748 2292 Handphone: - Email: martin.goh@mesp.meap.com
Fire Fighting & Alarm Installation Sub-Contractor Markpoint Engineering Pte Ltd	DSC	Name: Mr Alvin Tan Position: Project Manager	Tel: 6456 8012 Fax: 6454 8012 Handphone: 9783 6587 Email: markpoint@markpoint.com.sg
Swimming Pool Filtration Plant Installation Sub-Contractor Yi Wee Pools & Fountains Pte Ltd	DSC	Name: Mr Edmund Oh Position: Project Manager	Tel: 6754 8598 Fax: 6754 5210 Handphone: Email: kellysun@singnet.com.sg
Carpark System Installation Sub-Contractor -	-	Name: - Position: -	Tel: - Fax: - Handphone: - Email: -
_____		Name: Position:	Tel: Fax: Handphone: Email:

** 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	Francis Chang See Tong / Kelvin Seah Kuan Joo	6378 8555 / 6378 8636
(b) Diversion		
SP Services:		
(a) Customer Supply	Mervyn Ho / Michelle Yip Wai Leng	6671 7194 / 6671 7194 (wailengyip@singapore power.com.sg)
(b) Installation		
(c) Meter Section		
(d) Road Lighting		
TFCC:		
(a) SCV	Francis Goh / Kent Foo	6825 6429/9457 9500
(b) SingTel	Mohd Ghani / Tan Beng Hua	9735 3186/9735 3182
(c) IDA/Opennet	Rena Fong/Lee Him Huan / Wan	6595 9123/9653 1397/9765 0162
BCA:		
(a) Building Plan		
(b) Green Mark		
FSSD:		
(a) Building Plan	Lee Kok Chuen	6848 1457
(b) M&E Plan	CPT Mohamed Faizal s/o Latiff	6848 1410
PUB (Water Supply) Network Dept:		
(a) Water Conservation		
(b) Plumbing Plan	Marwin	6731 3934
(c) Diversion	Chin Soon Fah	6380 9804
PUB Water Reclamation (Network) Dept:		
(a) Building Plan/CBPU	Ler Seng Chye	6731 3264
(b) M&E Plan		
(c) Diversion		
(d) NEWater		
City Gas Pte Ltd:		
(a) Planning/Submission	Liew Khee Boon	6578 7603
(b) Installation/Inspection	Lim Teck Seng	9007 5727
PowerGas Pte Ltd		
(a) Diversion		
NEA (Pollution Control)		
(a) Planning/Submission		
(b) Inspection		

SECTION 4

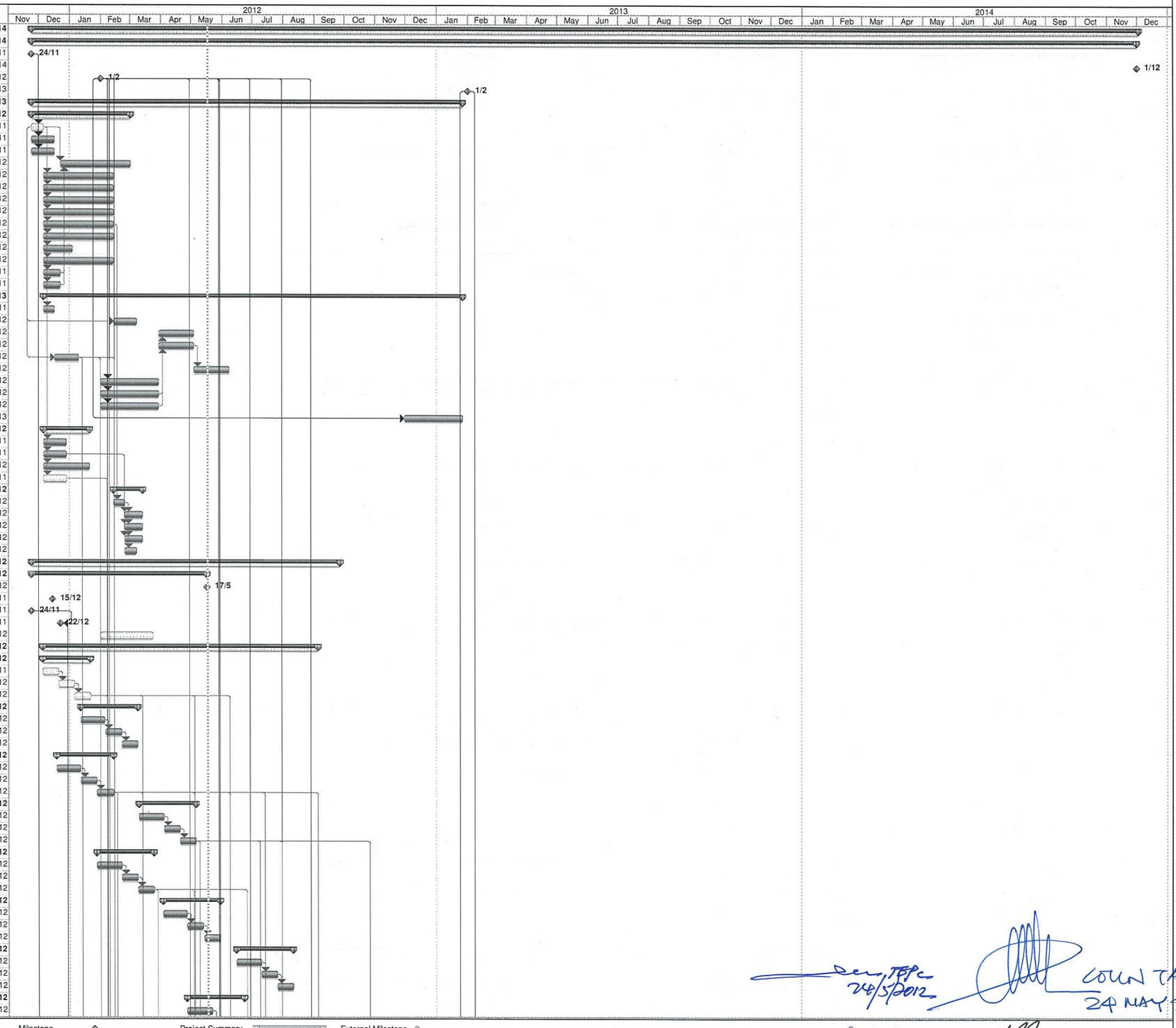
PROGRAMME

4.1 Overall Programme (Refer to attached Master 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																									

TIONG SENG CONTRACTORS PTE LTD
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PROPOSED ERECTION OF 18 BLOCKS OF 5-STOREY RESIDENTIAL CONDOMINIUM WITH ATTIC(553 UNITS) AND 24 UNITS OF 3-STOREY STRATA HOUSING WITH A 2 STOREY BASEMENT CARPARK AND COMMUNAL FACILITIES AT BEDOK RESERVOIR ROAD

ID	Task Name	Duration	Start	Finish
1	**MASTER PROGRAMME**	**947 days**	**Thu 24/11/11**	**Tue 2/12/14**
2	**MILESTONES AND CONTRACT PERIOD**	**945 days**	**Thu 24/11/11**	**Mon 1/12/14**
3	Mobilisation Start Date	0 days	Thu 24/11/11	Thu 24/11/11
4	Contract Completion Date	0 days	Mon 1/12/14	Mon 1/12/14
5	Contract Commencement Date (Stage 1)	0 days	Wed 1/2/12	Wed 1/2/12
6	Handover of Existing Showflat Area (Stage 2)	0 days	Fri 1/2/13	Fri 1/2/13
7	**PRELIMINARIES**	**369 days**	**Thu 24/11/11**	**Sat 26/1/13**
8	**Authorities Clearances (Critical Path)**	**85 days**	**Thu 24/11/11**	**Thu 1/3/12**
9	MOM (Factory Permit)	2 wks	Thu 24/11/11	Mon 5/12/11
10	MOM Safety Management	4 wks	Thu 24/11/11	Fri 16/12/11
11	MOM (Man Year Application)	4 wks	Thu 24/11/11	Fri 16/12/11
12	MOM (Tower Crane Approval)	12 wks	Fri 23/12/11	Thu 1/3/12
13	NEA (Pollution Control Department)	12 wks	Tue 6/12/11	Mon 13/2/12
14	NEA (Drainage Department)	12 wks	Tue 6/12/11	Mon 13/2/12
15	PUB (Sewage Department)	12 wks	Tue 6/12/11	Mon 13/2/12
16	PUB (Temp. Water Supply)	12 wks	Tue 6/12/11	Mon 13/2/12
17	LTA (Temporary Access)	12 wks	Tue 6/12/11	Mon 13/2/12
18	NPArk (Temporary Access)	12 wks	Tue 6/12/11	Mon 13/2/12
19	PowerGrid (Generator Permits)	5 wks	Tue 6/12/11	Tue 3/1/12
20	PowerGrid (Temp. Power Supply)	12 wks	Tue 6/12/11	Mon 13/2/12
21	CAAS (Height Clearance)	3 wks	Tue 6/12/11	Thu 22/12/11
22	RSAF (Height Clearance)	3 wks	Tue 6/12/11	Thu 22/12/11
23	**Appointment of Consultants / Negotiated & Critical Subcons**	**359 days**	**Tue 6/12/11**	**Sat 26/1/13**
24	AC/AC Geo	2 wks	Tue 6/12/11	Fri 16/12/11
25	Precast Subcon/Supplier	4 wks	Tue 14/2/12	Wed 7/3/12
26	Tile Supplier	6 wks	Fri 30/3/12	Thu 3/5/12
27	Marble/Granite Supplier	6 wks	Fri 30/3/12	Thu 3/5/12
28	M&E Subcon	4 wks	Sat 17/12/11	Mon 9/1/12
29	Kitchen Cabinet / Wardrobe	6 wks	Fri 4/5/12	Thu 7/6/12
30	Sanitary Wares	10 wks	Wed 1/2/12	Thu 29/3/12
31	Bathroom Fittings	10 wks	Wed 1/2/12	Thu 29/3/12
32	Kitchen Appliances	10 wks	Wed 1/2/12	Thu 29/3/12
33	Landscape Contractor	10 wks	Fri 30/11/12	Sat 26/1/13
34	**Preliminary Works**	**40 days**	**Tue 6/12/11**	**Fri 20/1/12**
35	Precondition Survey/Precomputation Plan	4 wks	Tue 6/12/11	Wed 28/12/11
36	Cable Detection	4 wks	Tue 6/12/11	Wed 28/12/11
37	Site Clearance	8 wks	Tue 6/12/11	Fri 20/1/12
38	Instrumentation and Monitoring	4 wks	Tue 6/12/11	Wed 28/12/11
39	**Site Amenities**	**25 days**	**Tue 14/2/12**	**Tue 13/3/12**
40	Gate Construction for Site Access	2 wks	Tue 14/2/12	Fri 24/2/12
41	Temporary Site Office	3 wks	Sat 25/2/12	Tue 13/3/12
42	Temporary Access Road	3 wks	Sat 25/2/12	Tue 13/3/12
43	Washing Bay	3 wks	Sat 25/2/12	Tue 13/3/12
44	Security Post & Hoarding Erection	2 wks	Sat 25/2/12	Wed 7/3/12
45	**ARCHITECTURAL AND STRUCTURAL DESIGN AND APPROVALS**	**264 days**	**Thu 24/11/11**	**Wed 26/9/12**
46	**Architectural Consultant Design**	**150 days**	**Thu 24/11/11**	**Thu 17/5/12**
47	**Architectural Design Freeze**	0 days	Thu 17/5/12	Thu 17/5/12
48	Issue of URA Provisional Permission & Construction Drawings	0 days	Thu 15/12/11	Thu 15/12/11
49	URA Written Permission Application & Approval	0 days	Thu 24/11/11	Thu 24/11/11
50	Building Plan Submission & Approval	0 days	Thu 22/12/11	Thu 22/12/11
51	BCA Storey Shelter & HS Submission & Approval	45 days	Wed 1/2/12	Fri 23/3/12
52	**Structural Design, Submission & Approval Period (Critical)**	**236 days**	**Mon 5/12/11**	**Tue 4/9/12**
53	**ERSS Works**	**42 days**	**Mon 5/12/11**	**Sat 21/1/12**
54	Design/Construction Drawing Preparation	14 days	Mon 5/12/11	Tue 20/12/11
55	AC Check	14 days	Wed 21/12/11	Thu 5/1/12
56	Authorities Submission/Approval	14 days	Fri 6/1/12	Sat 21/1/12
57	**Piling Works**	**49 days**	**Thu 12/1/12**	**Thu 8/3/12**
58	Design/Construction Drawing Preparation	21 days	Thu 12/1/12	Sat 4/2/12
59	AC Check	14 days	Mon 6/2/12	Tue 21/2/12
60	Authorities Submission/Approval	14 days	Wed 22/2/12	Thu 8/3/12
61	**Sub-Structure (Part-1) (BLK 519 to 529 & BLK 505 to 517)**	**49 days**	**Mon 19/12/11**	**Mon 13/2/12**
62	Design/Construction Drawing Preparation	21 days	Mon 19/12/11	Wed 11/1/12
63	AC Check	14 days	Thu 12/1/12	Fri 27/1/12
64	Authorities Submission/Approval	14 days	Sat 28/1/12	Mon 13/2/12
65	**Super-Structure (Part-1) (incl storey shelter)**	**49 days**	**Sat 10/3/12**	**Sat 5/5/12**
66	Design/Construction Drawing Preparation	21 days	Sat 10/3/12	Tue 3/4/12
67	AC Check	14 days	Wed 4/4/12	Thu 19/4/12
68	Authorities Submission/Approval	14 days	Fri 20/4/12	Sat 5/5/12
69	**Mezz Basement (Part-1)**	**49 days**	**Sat 28/1/12**	**Sat 24/3/12**
70	Design/Construction Drawing Preparation	21 days	Sat 28/1/12	Tue 21/2/12
71	AC Check	14 days	Wed 22/2/12	Thu 8/3/12
72	Authorities Submission/Approval	14 days	Fri 9/3/12	Sat 24/3/12
73	**E-Deck (Part-1)**	**49 days**	**Tue 3/4/12**	**Tue 29/5/12**
74	Design/Construction Drawing Preparation	21 days	Tue 3/4/12	Thu 26/4/12
75	AC Check	14 days	Fri 27/4/12	Sat 12/5/12
76	Authorities Submission/Approval	14 days	Mon 14/5/12	Tue 29/5/12
77	**E-Deck (Part-2)**	**49 days**	**Fri 15/6/12**	**Fri 10/8/12**
78	Design/Construction Drawing Preparation	21 days	Fri 15/6/12	Mon 9/7/12
79	AC Check	14 days	Tue 10/7/12	Wed 25/7/12
80	Authorities Submission/Approval	14 days	Thu 26/7/12	Fri 10/8/12
81	**Sub-Structure (Part-2) (BLK 501 to 503 & BLK 531 to 535)**	**49 days**	**Fri 27/4/12**	**Fri 22/6/12**
82	Design/Construction Drawing Preparation	21 days	Fri 27/4/12	Mon 21/5/12



Task — Split — Milestone — Project Summary — External Milestone
Task Critical — Progress — Summary — External Tasks — Deadline

Page 1

Tony TSP 24/5/2012
COLIN TAN 24 MAY 2012
Cijun (ACE) 24/5/12
TAN JINGYI (QBO) 24-05-12

Master Programme Rev-1(Dated 5th March 2012)

TIONG SENG CONTRACTORS PTE LTD
ARCHIIPELAGO
PROPOSED ERECTION OF 18 BLOCKS OF 5-STOREY RESIDENTIAL CONDOMINIUM WITH ATTIC(553 UNITS) AND 24 UNITS OF 3-STOREY STRATA HOUSING WITH A 2 STOREY BASEMENT CARPARK AND COMMUNAL FACILITIES AT BEDOK RESERVOIR ROAD

ID	Task Name	Duration	Start	Finish
83	AC Check	14 days	Tue 22/5/12	Wed 6/6/12
84	Authorities Submission/Approval	14 days	Thu 7/6/12	Fri 22/6/12
85	**Super-Structure (Part-2) (incl storey shelter)**	**49 days**	**Tue 22/5/12**	**Tue 17/7/12**
86	Design/Construction Drawing Preparation	21 days	Tue 22/5/12	Thu 14/6/12
87	AC Check	14 days	Fri 15/6/12	Sat 30/6/12
88	Authorities Submission/Approval	14 days	Mon 2/7/12	Tue 17/7/12
89	**Super-Structure (Semi-D)**	**49 days**	**Tue 10/7/12**	**Tue 4/9/12**
90	Design/Construction Drawing Preparation	21 days	Tue 10/7/12	Thu 2/8/12
91	AC Check	14 days	Fri 3/8/12	Sat 18/8/12
92	Authorities Submission/Approval	14 days	Mon 20/8/12	Tue 4/9/12
93	**M&E Design, Submission & Approval Period**	**205 days**	**Wed 1/2/12**	**Wed 26/9/12**
94	Electrical Load Application (Power Supply)	4 wks	Wed 1/2/12	Thu 23/2/12
95	PowerGrid Substation (Power Grid)	12 wks	Mon 30/4/12	Sat 7/7/12
96	Sanitary Installation (CBPU)	4 wks	Fri 29/6/12	Sat 21/7/12
97	Gas Reticulation (Power Gas)	4 wks	Fri 18/5/12	Sat 9/6/12
98	Water Reticulation (PUB)	5 wks	Tue 29/5/12	Tue 26/6/12
99	Mechanical Ventilation/Smoke Purging/Air Conditioning	5 wks	Tue 31/7/12	Tue 28/8/12
100	Fire Protection	5 wks	Wed 29/8/12	Wed 26/9/12
101	Telephone Reticulation	5 wks	Mon 30/4/12	Mon 28/5/12
102	CATV System	5 wks	Wed 30/5/12	Wed 27/6/12
103	**External Works Design, Submission & Approval Period**	**80 days**	**Wed 1/2/12**	**Thu 3/5/12**
104	**LTA Submission**	8 wks	Wed 1/2/12	Sat 17/3/12
105	**CBPU Submission (Drainage)**	4 wks	Wed 1/2/12	Thu 23/2/12
106	**Npark Submission**	4 wks	Wed 1/2/12	Thu 23/2/12
107	**BCA (External Work) Submission**	4 wks	Wed 1/2/12	Thu 23/2/12
108	**Minor Sewer**	**40 days**	**Fri 24/2/12**	**Tue 10/4/12**
109	Architect Submission & DC Approval	4 wks	Fri 24/2/12	Sat 17/3/12
110	PUB (SEW) Submission	4 wks	Mon 19/3/12	Tue 10/4/12
111	**Construction/Pipe Jacking Works (Sewer Lines)**	4 wks	Wed 11/4/12	Thu 3/5/12
112	**SHOP DRAWINGS PREPARATION (ARCHI, STRUCTURE, M&E)**	**345 days**	**Thu 24/11/11**	**Sat 29/12/12**
113	**Shop Drawings Preparation (Precast)**	**345 days**	**Thu 24/11/11**	**Sat 29/12/12**
114	Design concept for precast element	6 wks	Thu 24/11/11	Wed 28/12/11
115	Confirmation of geometry	6 wks	Thu 29/12/11	Wed 1/2/12
116	Shop Drawings Preparation (Precast)	45 wks	Thu 2/2/12	Sat 20/10/12
117	Finalising of M&E services	45 wks	Tue 20/3/12	Thu 6/12/12
118	Approval of shopdrawing	45 wks	Thu 12/4/12	Sat 29/12/12
119	**Shop Drawings Preparation (Architectural)**	**240 days**	**Fri 23/12/11**	**Thu 27/9/12**
120	Partition Wall Setting Out Plan	12 wks	Fri 23/12/11	Thu 1/3/12
121	Floor Finishes Setting out Plan	12 wks	Fri 2/3/12	Thu 10/5/12
122	Kitchen Tile setting plan	12 wks	Fri 11/5/12	Thu 19/7/12
123	Reflected Ceiling Plan	12 wks	Fri 20/7/12	Thu 27/9/12
124	**Combined Services Drawings**	**55 days**	**Fri 4/5/12**	**Fri 6/7/12**
125	Preparation & Coordination	6 wks	Fri 4/5/12	Thu 7/6/12
126	Submission & Approval	5 wks	Fri 8/6/12	Fri 6/7/12
127	**Shop Drawings Preparation (Structural)**	**111 days**	**Tue 14/2/12**	**Thu 21/6/12**
128	Basement/Mezzanine Setting Out Plan	4 wks	Tue 14/2/12	Wed 7/3/12
129	E-deck and S1 Structural Framing Plan	4 wks	Mon 26/3/12	Tue 17/4/12
130	Typical Storey Structural Framing Plan	4 wks	Mon 7/5/12	Tue 29/5/12
131	Roof / Attic Structural Framing Plan	4 wks	Wed 30/5/12	Thu 21/6/12
132	**Shop Drawings Preparation (M&E)**	**80 days**	**Wed 1/2/12**	**Thu 3/5/12**
133	Sanitary, Plumbing & Gas	12 wks	Wed 1/2/12	Tue 10/4/12
134	Electrical	16 wks	Wed 1/2/12	Thu 3/5/12
135	ACMV	12 wks	Wed 15/2/12	Tue 24/4/12
136	Fire Protection	12 wks	Wed 1/2/12	Tue 10/4/12
137	Lift Installation	12 wks	Wed 15/2/12	Tue 24/4/12
138	Swimming Pool & Water Features	12 wks	Fri 10/2/12	Thu 19/4/12
139	**CONSTRUCTION AND ARCHITECTURAL STAGE**	**907 days**	**Tue 10/1/12**	**Tue 2/12/14**
140	**PHASE 1**	**640 days**	**Tue 10/1/12**	**Fri 24/1/14**
141	**Structural Works**	**320 days**	**Wed 8/2/12**	**Thu 14/2/13**
142	**Blk 529 and 527**	**180 days**	**Wed 8/2/12**	**Tue 4/9/12**
143	Basement Excavation	30 days	Wed 8/2/12	Tue 13/3/12
144	Tower Crane Erection - TC-5	25 days	Mon 26/3/12	Mon 23/4/12
145	Basement Construction	30 days	Wed 14/3/12	Tue 17/4/12
146	Basement Wall	14 days	Wed 18/4/12	Thu 3/5/12
147	Mezzanine Construction	21 days	Fri 4/5/12	Mon 28/5/12
148	E-deck Construction	35 days	Tue 29/5/12	Sat 7/7/12
149	**Superstructure**	**50 days**	**Mon 9/7/12**	**Tue 4/9/12**
150	Typical Storey (S2 to S4)	36 days	Mon 9/7/12	Sat 18/8/12
151	Roof	14 days	Mon 20/8/12	Tue 4/9/12
152	**Blk 505, 507 and 509**	**204 days**	**Wed 14/3/12**	**Tue 6/11/12**
153	Basement Excavation	45 days	Wed 14/3/12	Fri 4/5/12
154	Tower Crane Erection - TC-6	25 days	Thu 17/5/12	Thu 14/6/12
155	Basement Construction	30 days	Sat 5/5/12	Fri 8/6/12
156	Basement Wall	14 days	Sat 9/6/12	Mon 25/6/12
157	Mezzanine Construction	30 days	Tue 26/6/12	Mon 30/7/12
158	E-deck Construction	35 days	Tue 31/7/12	Sat 8/9/12
159	**Superstructure**	**50 days**	**Mon 10/9/12**	**Tue 6/11/12**
160	Typical Storey (S2 to S4)	36 days	Mon 10/9/12	Sat 20/10/12
161	Roof	14 days	Mon 22/10/12	Tue 6/11/12
162	**Blk 511 and 525**	**189 days**	**Sat 5/5/12**	**Tue 11/12/12**
163	Basement Excavation	30 days	Sat 5/5/12	Fri 8/6/12
164	Tower Crane Erection - TC-4	25 days	Thu 21/6/12	Thu 19/7/12

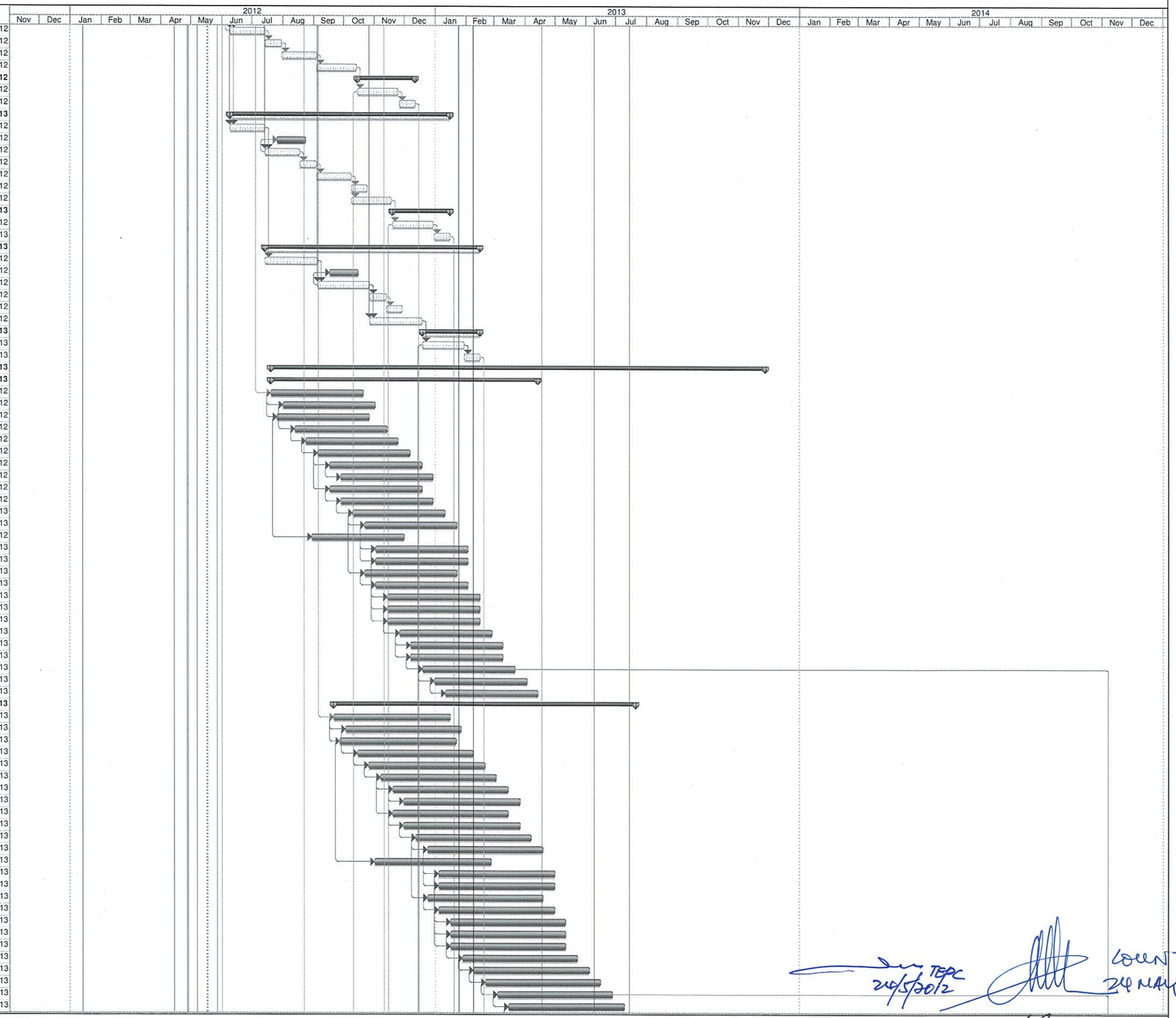


Task | Split | Milestone | Project Summary | External Milestone
Task Critical | Progress | Summary | External Tasks | Deadline

TEPC 29/5/2012
COLIN TAN 24 MAY 2012
24/5/12

TIONG SENG CONTRACTORS PTE LTD
ARCHIIPELAGO
PROPOSED ERECTION OF 18 BLOCKS OF 5-STOREY RESIDENTIAL CONDOMINIUM WITH ATTIC(553 UNITS) AND 24 UNITS OF 3-STOREY STRATA HOUSING WITH A 2 STOREY BASEMENT CARPARK AND COMMUNAL FACILITIES AT BEDOK RESERVOIR ROAD

ID	Task Name	Duration	Start	Finish
165	Basement Construction	30 days	Sat 9/6/12	Fri 13/7/12
166	Basement Wall	14 days	Sat 14/7/12	Mon 30/7/12
167	Mezzanine Construction	30 days	Tue 31/7/12	Mon 3/9/12
168	E-deck Construction	35 days	Tue 4/9/12	Sat 13/10/12
169	**Superstructure**	**50 days**	**Mon 15/10/12**	**Tue 11/12/12**
170	Typical Storey (S2 to S4)	36 days	Mon 15/10/12	Sat 24/11/12
171	Roof	14 days	Mon 26/11/12	Tue 11/12/12
172	**Blk 513 and 523**	**189 days**	**Sat 9/6/12**	**Tue 15/1/13**
173	Basement Excavation	30 days	Sat 9/6/12	Fri 13/7/12
174	Tower Crane Erection - TC-3	25 days	Thu 26/7/12	Thu 23/8/12
175	Basement Construction	30 days	Sat 14/7/12	Fri 17/8/12
176	Basement Wall	14 days	Sat 18/8/12	Mon 3/9/12
177	Mezzanine Construction	30 days	Tue 4/9/12	Mon 8/10/12
178	Piling	14 days	Tue 9/10/12	Wed 24/10/12
179	E-deck Construction	35 days	Tue 9/10/12	Sat 17/11/12
180	**Superstructure**	**50 days**	**Mon 19/11/12**	**Tue 15/1/13**
181	Typical Storey (S2 to S4)	36 days	Mon 19/11/12	Sat 29/12/12
182	Roof	14 days	Mon 31/12/12	Tue 15/1/13
183	**Blk 515,517,519 and 521**	**185 days**	**Sat 14/7/12**	**Thu 14/2/13**
184	Basement Excavation	45 days	Sat 14/7/12	Tue 4/9/12
185	Tower Crane Erection - TC-1 & 2	25 days	Mon 17/9/12	Mon 15/10/12
186	Basement Construction	45 days	Wed 5/9/12	Fri 26/10/12
187	Basement Wall	14 days	Sat 27/10/12	Mon 12/11/12
188	Piling	14 days	Tue 13/11/12	Wed 28/11/12
189	E-deck Construction	45 days	Sat 27/10/12	Tue 18/12/12
190	**Superstructure**	**50 days**	**Wed 19/12/12**	**Thu 14/2/13**
191	Typical Storey (S2 to S4)	36 days	Wed 19/12/12	Tue 29/1/13
192	Roof	14 days	Wed 30/1/13	Thu 14/2/13
193	**Architectural Works**	**425 days**	**Fri 20/7/12**	**Wed 27/11/13**
194	**Blk 527 and 529**	**230 days**	**Fri 20/7/12**	**Sat 13/4/13**
195	Construction of Kerb and Plinth	16 wks	Fri 20/7/12	Sat 20/10/12
196	Ceiling Skim Coat	16 wks	Wed 1/8/12	Thu 1/11/12
197	Alum Window Outer Frame	16 wks	Thu 26/7/12	Fri 26/10/12
198	Internal Partition wall	16 wks	Mon 13/8/12	Tue 13/11/12
199	Timber Door Sub-Frame	16 wks	Fri 24/8/12	Sat 24/11/12
200	Wall Skimming	16 wks	Wed 5/9/12	Thu 6/12/12
201	Ceiling Grid/Panel	16 wks	Mon 17/9/12	Tue 18/12/12
202	Painting (Base Coat)	16 wks	Fri 28/9/12	Sat 29/12/12
203	Waterproofing to Toilet/Kitchen	16 wks	Mon 17/9/12	Tue 18/12/12
204	Wall Tiles - Kitchen, Yard & Baths	16 wks	Fri 28/9/12	Sat 29/12/12
205	Living / Dining Floor Marble	16 wks	Wed 10/10/12	Thu 10/1/13
206	Floor Tiles - Kitchen, Yard & Baths	16 wks	Mon 22/10/12	Tue 22/1/13
207	Aluminium Window Inner Frame, Glazing	16 wks	Thu 30/8/12	Fri 30/11/12
208	Kitchen Cabinet Carcasses & panel	16 wks	Fri 2/11/12	Sat 2/2/13
209	Sanitary Wares & Fittings	16 wks	Fri 2/11/12	Sat 2/2/13
210	Timber Floor Installation	16 wks	Mon 22/10/12	Tue 22/1/13
211	Timber Floor - sanding and first coat vanish	16 wks	Fri 2/11/12	Sat 2/2/13
212	Wardrobe Carcasses & Panels	16 wks	Wed 14/11/12	Thu 14/2/13
213	Internal Timber Door Frames, Panels & Ironmongery	16 wks	Wed 14/11/12	Thu 14/2/13
214	Kitchen Hood & Hop	16 wks	Wed 14/11/12	Thu 14/2/13
215	Painting (2nd & Final Coat)	16 wks	Mon 26/11/12	Tue 26/2/13
216	M&E Final Fix	16 wks	Fri 7/12/12	Sat 9/3/13
217	Timber Floor - final coat vanish	16 wks	Fri 7/12/12	Sat 9/3/13
218	Final touch Up / Clean Up	16 wks	Wed 19/12/12	Thu 21/3/13
219	RE/RTO QA/QC Unit Inspection	16 wks	Mon 31/12/12	Tue 2/4/13
220	Preparation & Quality Mark Assessment	16 wks	Fri 11/1/13	Sat 13/4/13
221	**Blk 505, 507 adn 509**	**260 days**	**Fri 21/9/12**	**Sat 20/7/13**
222	Construction of Kerb and Plinth	20 wks	Fri 21/9/12	Tue 15/1/13
223	Ceiling Skim Coat	20 wks	Wed 3/10/12	Sat 26/1/13
224	Alum Window Outer Frame	20 wks	Thu 27/9/12	Mon 21/1/13
225	Internal Partition wall	20 wks	Mon 15/10/12	Thu 7/2/13
226	Timber Door Sub-Frame	20 wks	Fri 26/10/12	Tue 19/2/13
227	Wall Skimming	20 wks	Wed 7/11/12	Sat 2/3/13
228	Ceiling Grid/Panel	20 wks	Mon 19/11/12	Thu 14/3/13
229	Painting (Base Coat)	20 wks	Fri 30/11/12	Tue 26/3/13
230	Waterproofing to Toilet/Kitchen	20 wks	Mon 19/11/12	Thu 14/3/13
231	Wall Tiles - Kitchen, Yard & Baths	20 wks	Fri 30/11/12	Tue 26/3/13
232	Living / Dining Floor Marble	20 wks	Wed 12/12/12	Sat 6/4/13
233	Floor Tiles - Kitchen, Yard & Baths	20 wks	Mon 24/12/12	Thu 18/4/13
234	Aluminium Window Inner Frame, Glazing	20 wks	Thu 1/11/12	Mon 25/2/13
235	Kitchen Cabinet Carcasses & panel	20 wks	Fri 4/1/13	Tue 30/4/13
236	Sanitary Wares & Fittings	20 wks	Fri 4/1/13	Tue 30/4/13
237	Timber Floor Installation	20 wks	Mon 24/12/12	Thu 18/4/13
238	Timber Floor - sanding and first coat vanish	20 wks	Fri 4/1/13	Tue 30/4/13
239	Wardrobe Carcasses & Panels	20 wks	Wed 16/1/13	Sat 11/5/13
240	Internal Timber Door Frames, Panels & Ironmongery	20 wks	Wed 16/1/13	Sat 11/5/13
241	Kitchen Hood & Hop	20 wks	Wed 16/1/13	Sat 11/5/13
242	Painting (2nd & Final Coat)	20 wks	Mon 28/1/13	Thu 23/5/13
243	M&E Final Fix	20 wks	Fri 8/2/13	Tue 4/6/13
244	Timber Floor - final coat vanish	20 wks	Wed 20/2/13	Sat 15/6/13
245	Final touch Up / Clean Up	20 wks	Mon 4/3/13	Thu 27/6/13
246	RE/RTO QA/QC Unit Inspection	20 wks	Fri 15/3/13	Tue 9/7/13

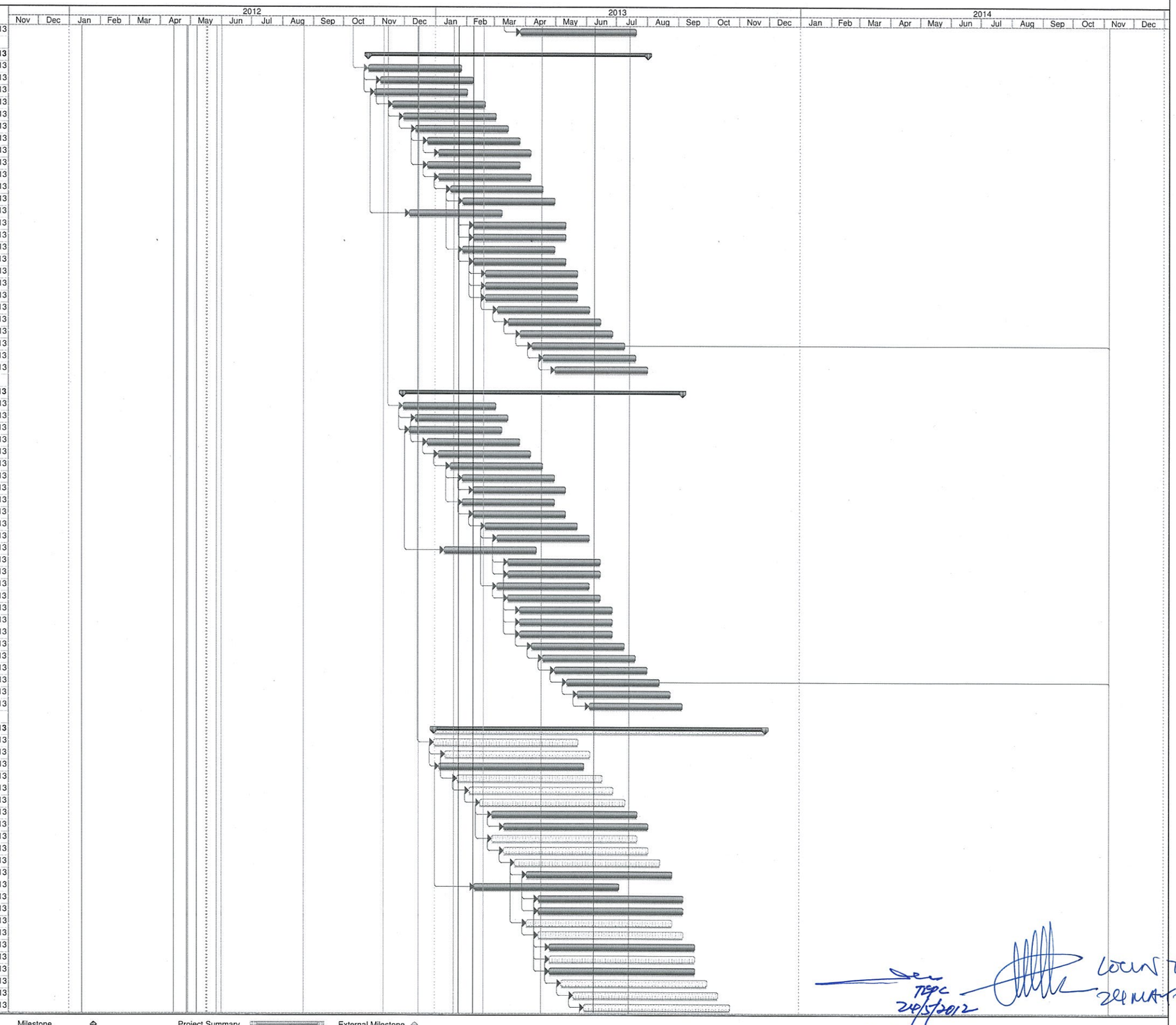


Task — Split — Milestone — Project Summary — External Milestone
Task Critical — Progress — Summary — External Tasks — Deadline

TEPC 24/5/2012
LOUIS TAN 24 MAY 2012
CAGE 24/5/12
TAN YINGYI (080) 24-05-12

TIONG SENG CONTRACTORS PTE LTD
ARCHIIPELAGO
PROPOSED ERECTION OF 18 BLOCKS OF 5-STOREY RESIDENTIAL CONDOMINIUM WITH ATTIC(553 UNITS) AND 24 UNITS OF 3-STOREY STRATA HOUSING WITH A 2 STOREY BASEMENT CARPARK AND COMMUNAL FACILITIES AT BEDOK RESERVOIR ROAD

ID	Task Name	Duration	Start	Finish
247	Preparation & Quality Mark Assessment	20 wks	Wed 27/3/13	Sat 20/7/13
248				
249	**Blk 511 and 525**	**240 days**	**Fri 26/10/12**	**Thu 1/8/13**
250	Construction of Kerb and Plinth	16 wks	Fri 26/10/12	Sat 26/1/13
251	Ceiling Skim Coat	16 wks	Wed 7/11/12	Thu 7/2/13
252	Alum Window Outer Frame	16 wks	Thu 1/11/12	Fri 1/2/13
253	Internal Partition wall	16 wks	Mon 19/11/12	Tue 19/2/13
254	Timber Door Sub-Frame	16 wks	Fri 30/11/12	Sat 2/3/13
255	Wall Skimming	16 wks	Wed 12/12/12	Thu 14/3/13
256	Ceiling Grid/Panel	16 wks	Mon 24/12/12	Tue 26/3/13
257	Painting (Base Coat)	16 wks	Fri 4/1/13	Sat 6/4/13
258	Waterproofing to Toilet/Kitchen	16 wks	Mon 24/12/12	Tue 26/3/13
259	Wall Tiles - Kitchen, Yard & Baths	16 wks	Fri 4/1/13	Sat 6/4/13
260	Living / Dining Floor Marble	16 wks	Wed 16/1/13	Thu 18/4/13
261	Floor Tiles - Kitchen, Yard & Baths	16 wks	Mon 28/1/13	Tue 30/4/13
262	Aluminium Window Inner Frame, Glazing	16 wks	Thu 6/12/12	Fri 8/3/13
263	Kitchen Cabinet Carcasses & panel	16 wks	Fri 8/2/13	Sat 11/5/13
264	Sanitary Wares & Fittings	16 wks	Fri 8/2/13	Sat 11/5/13
265	Timber Floor Installation	16 wks	Mon 28/1/13	Tue 30/4/13
266	Timber Floor - sanding and first coat vanish	16 wks	Fri 8/2/13	Sat 11/5/13
267	Wardrobe Carcasses & Panels	16 wks	Wed 20/2/13	Thu 23/5/13
268	Internal Timber Door Frames, Panels & Ironmongery	16 wks	Wed 20/2/13	Thu 23/5/13
269	Kitchen Hood & Hop	16 wks	Wed 20/2/13	Thu 23/5/13
270	Painting (2nd & Final Coat)	16 wks	Mon 4/3/13	Tue 4/6/13
271	M&E Final Fix	16 wks	Fri 15/3/13	Sat 15/6/13
272	Timber Floor - final coat vanish	16 wks	Wed 27/3/13	Thu 27/6/13
273	Final touch Up / Clean Up	16 wks	Mon 8/4/13	Tue 9/7/13
274	RE/RTO QA/QC Unit Inspection	16 wks	Fri 19/4/13	Sat 20/7/13
275	Preparation & Quality Mark Assessment	16 wks	Wed 1/5/13	Thu 1/8/13
276				
277	**Blk 513 and 523**	**240 days**	**Fri 30/11/12**	**Thu 5/9/13**
278	Construction of Kerb and Plinth	16 wks	Fri 30/11/12	Sat 2/3/13
279	Ceiling Skim Coat	16 wks	Wed 12/12/12	Thu 14/3/13
280	Alum Window Outer Frame	16 wks	Thu 6/12/12	Fri 8/3/13
281	Internal Partition wall	16 wks	Mon 24/12/12	Tue 26/3/13
282	Timber Door Sub-Frame	16 wks	Fri 4/1/13	Sat 6/4/13
283	Wall Skimming	16 wks	Wed 16/1/13	Thu 18/4/13
284	Ceiling Grid/Panel	16 wks	Mon 28/1/13	Tue 30/4/13
285	Painting (Base Coat)	16 wks	Fri 8/2/13	Sat 11/5/13
286	Waterproofing to Toilet/Kitchen	16 wks	Mon 28/1/13	Tue 30/4/13
287	Wall Tiles - Kitchen, Yard & Baths	16 wks	Fri 8/2/13	Sat 11/5/13
288	Living / Dining Floor Marble	16 wks	Wed 20/2/13	Thu 23/5/13
289	Floor Tiles - Kitchen, Yard & Baths	16 wks	Mon 4/3/13	Tue 4/6/13
290	Aluminium Window Inner Frame, Glazing	16 wks	Thu 10/1/13	Fri 12/4/13
291	Kitchen Cabinet Carcasses & panel	16 wks	Fri 15/3/13	Sat 15/6/13
292	Sanitary Wares & Fittings	16 wks	Fri 15/3/13	Sat 15/6/13
293	Timber Floor Installation	16 wks	Mon 4/3/13	Tue 4/6/13
294	Timber Floor - sanding and first coat vanish	16 wks	Fri 15/3/13	Sat 15/6/13
295	Wardrobe Carcasses & Panels	16 wks	Wed 27/3/13	Thu 27/6/13
296	Internal Timber Door Frames, Panels & Ironmongery	16 wks	Wed 27/3/13	Thu 27/6/13
297	Kitchen Hood & Hop	16 wks	Wed 27/3/13	Thu 27/6/13
298	Painting (2nd & Final Coat)	16 wks	Mon 8/4/13	Tue 9/7/13
299	M&E Final Fix	16 wks	Fri 19/4/13	Sat 20/7/13
300	Timber Floor - final coat vanish	16 wks	Wed 1/5/13	Thu 1/8/13
301	Final touch Up / Clean Up	16 wks	Mon 13/5/13	Tue 13/8/13
302	RE/RTO QA/QC Unit Inspection	16 wks	Fri 24/5/13	Sat 24/8/13
303	Preparation & Quality Mark Assessment	16 wks	Wed 5/6/13	Thu 5/9/13
304				
305	**Blk 515, 517, 519 and 521**	**285 days**	**Mon 31/12/12**	**Wed 27/11/13**
306	Construction of Kerb and Plinth	25 wks	Mon 31/12/12	Fri 24/5/13
307	Ceiling Skim Coat	25 wks	Fri 11/1/13	Wed 5/6/13
308	Alum Window Outer Frame	25 wks	Sat 5/1/13	Thu 30/5/13
309	Internal Partition wall	25 wks	Wed 23/1/13	Mon 17/6/13
310	Timber Door Sub-Frame	25 wks	Mon 4/2/13	Fri 28/6/13
311	Wall Skimming	25 wks	Fri 15/2/13	Wed 10/7/13
312	Ceiling Grid/Panel	25 wks	Wed 27/2/13	Mon 22/7/13
313	Painting (Base Coat)	25 wks	Mon 11/3/13	Fri 2/8/13
314	Waterproofing to Toilet/Kitchen	25 wks	Wed 27/2/13	Mon 22/7/13
315	Wall Tiles - Kitchen, Yard & Baths	25 wks	Mon 11/3/13	Fri 2/8/13
316	Living / Dining Floor Marble	25 wks	Fri 22/3/13	Wed 14/8/13
317	Floor Tiles - Kitchen, Yard & Baths	25 wks	Wed 3/4/13	Mon 26/8/13
318	Aluminium Window Inner Frame, Glazing	25 wks	Sat 9/2/13	Thu 4/7/13
319	Kitchen Cabinet Carcasses & panel	25 wks	Mon 15/4/13	Fri 6/9/13
320	Sanitary Wares & Fittings	25 wks	Mon 15/4/13	Fri 6/9/13
321	Timber Floor Installation	25 wks	Wed 3/4/13	Mon 26/8/13
322	Timber Floor - sanding and first coat vanish	25 wks	Mon 15/4/13	Fri 6/9/13
323	Wardrobe Carcasses & Panels	25 wks	Fri 26/4/13	Wed 18/9/13
324	Internal Timber Door Frames, Panels & Ironmongery	25 wks	Fri 26/4/13	Wed 18/9/13
325	Kitchen Hood & Hop	25 wks	Fri 26/4/13	Wed 18/9/13
326	Painting (2nd & Final Coat)	25 wks	Wed 8/5/13	Mon 30/9/13
327	M&E Final Fix	25 wks	Mon 20/5/13	Fri 11/10/13
328	Timber Floor - final coat vanish	25 wks	Fri 31/5/13	Wed 23/10/13



Task | Split | Milestone | Project Summary | External Milestone
Task Critical | Progress | Summary | External Tasks | Deadline

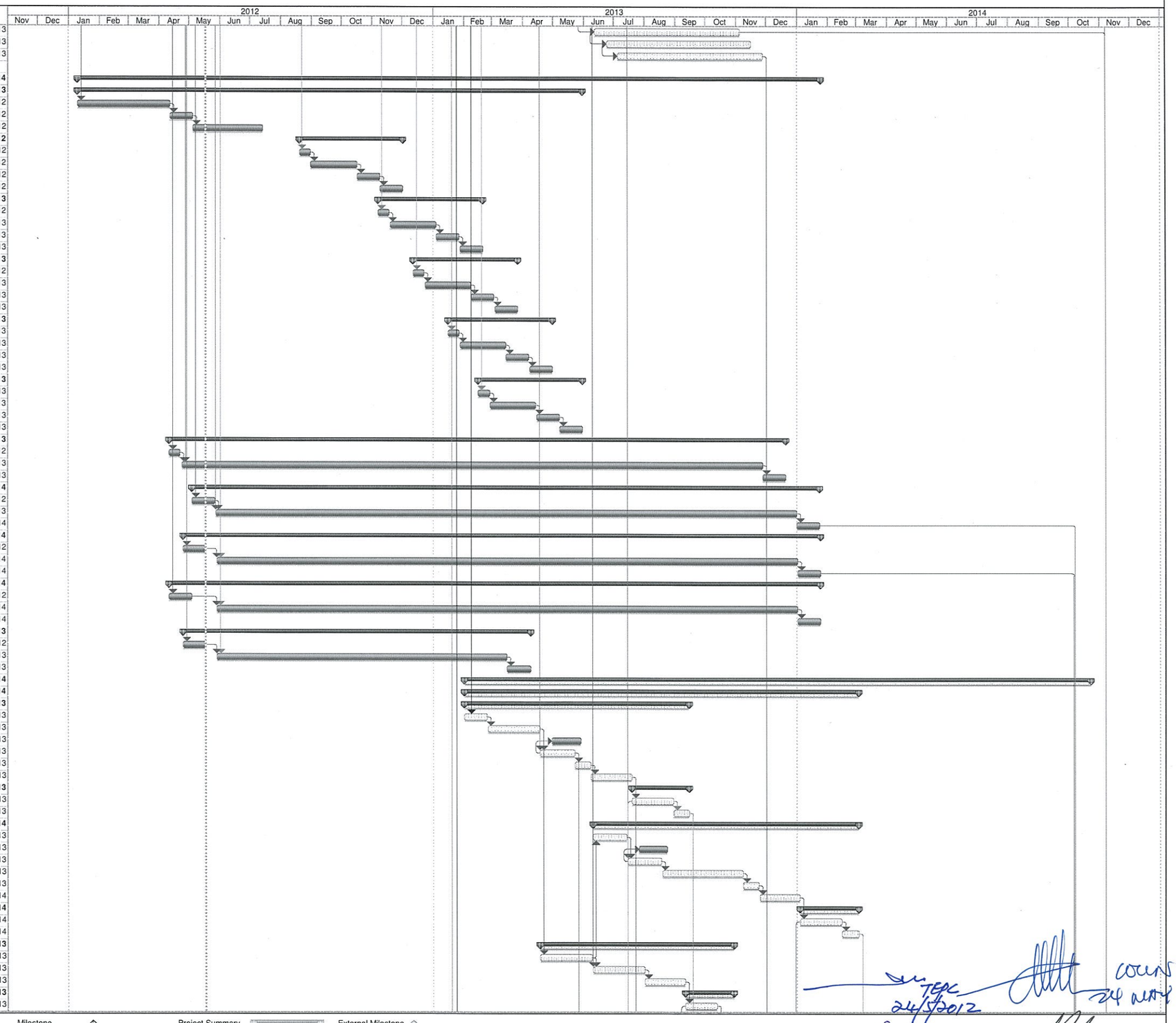
TSPC 20/5/2012

LOCUS TAN 24 MAY 2012

(CASE) 24/5/12

TIONG SENG CONTRACTORS PTE LTD
ARCHIIPELAGO
PROPOSED ERECTION OF 18 BLOCKS OF 5-STOREY RESIDENTIAL CONDOMINIUM WITH ATTIC(553 UNITS) AND 24 UNITS OF 3-STOREY STRATA HOUSING WITH A 2 STOREY BASEMENT CARPARK AND COMMUNAL FACILITIES AT BEDOK RESERVOIR ROAD

ID	Task Name	Duration	Start	Finish
329	Final touch Up / Clean Up	25 wks	Wed 12/6/13	Mon 4/11/13
330	RE/RTO QA/QC Unit Inspection	25 wks	Mon 24/6/13	Fri 15/11/13
331	Preparation & Quality Mark Assessment	25 wks	Fri 5/7/13	Wed 27/11/13
332				
333	**M&E Works**	**640 days**	**Tue 10/1/12**	**Fri 24/1/14**
334	**Lift Installation**	**435 days**	**Tue 10/1/12**	**Thu 30/5/13**
335	Preparation of Shopdrawing	16 wks	Tue 10/1/12	Wed 11/4/12
336	Submission & Approval	4 wks	Thu 12/4/12	Fri 4/5/12
337	Lift Car Procurement & Delivery	12 wks	Sat 5/5/12	Fri 13/7/12
338	**Blk 527 and 529**	**90 days**	**Mon 20/8/12**	**Sat 1/12/12**
339	Handing Over Lift Shaft	2 wks	Mon 20/8/12	Thu 30/8/12
340	Installation	8 wks	Fri 31/8/12	Tue 16/10/12
341	T&C	4 wks	Wed 17/10/12	Thu 8/11/12
342	Interior Finishes	4 wks	Fri 9/11/12	Sat 1/12/12
343	**Blk 505, 507 adn 509**	**90 days**	**Wed 7/11/12**	**Tue 19/2/13**
344	Handing Over Lift Shaft	2 wks	Wed 7/11/12	Sat 17/11/12
345	Installation	8 wks	Mon 19/11/12	Thu 3/1/13
346	T&C	4 wks	Fri 4/1/13	Sat 26/1/13
347	Interior Finishes	4 wks	Mon 28/1/13	Tue 19/2/13
348	**Blk 511 and 525**	**90 days**	**Wed 12/12/12**	**Tue 26/3/13**
349	Handing Over Lift Shaft	2 wks	Wed 12/12/12	Sat 22/12/12
350	Installation	8 wks	Mon 24/12/12	Thu 7/2/13
351	T&C	4 wks	Fri 8/2/13	Sat 2/3/13
352	Interior Finishes	4 wks	Mon 4/3/13	Tue 26/3/13
353	**Blk 513 and 523**	**90 days**	**Wed 16/1/13**	**Tue 30/4/13**
354	Handing Over Lift Shaft	2 wks	Wed 16/1/13	Sat 26/1/13
355	Installation	8 wks	Mon 28/1/13	Thu 14/3/13
356	T&C	4 wks	Fri 15/3/13	Sat 6/4/13
357	Interior Finishes	4 wks	Mon 8/4/13	Tue 30/4/13
358	**Blk 515, 517, 519 and 521**	**90 days**	**Fri 15/2/13**	**Thu 30/5/13**
359	Handing Over Lift Shaft	2 wks	Fri 15/2/13	Tue 26/2/13
360	Installation	8 wks	Wed 27/2/13	Sat 13/4/13
361	T&C	4 wks	Mon 15/4/13	Tue 7/5/13
362	Interior Finishes	4 wks	Wed 8/5/13	Thu 30/5/13
363	**Sanitary & Plumbing**	**531 days**	**Wed 11/4/12**	**Fri 20/12/13**
364	Sample Submission & Approval	2 wks	Wed 11/4/12	Sat 21/4/12
365	Site Installation	100 wks	Tue 24/4/12	Wed 27/11/13
366	T&C	4 wks	Thu 28/11/13	Fri 20/12/13
367	**Electrical Services**	**540 days**	**Fri 4/5/12**	**Thu 23/1/14**
368	Sample Submission & Approval	4 wks	Fri 4/5/12	Sat 26/5/12
369	Site Installation	100 wks	Mon 28/5/12	Tue 31/12/13
370	T&C	4 wks	Wed 1/1/14	Thu 23/1/14
371	**AC/MV**	**549 days**	**Wed 25/4/12**	**Fri 24/1/14**
372	Sample Submission & Approval	4 wks	Wed 25/4/12	Thu 17/5/12
373	Site Installation	100 wks	Tue 29/5/12	Wed 1/1/14
374	T&C	4 wks	Thu 2/1/14	Fri 24/1/14
375	**Fire Porotection**	**561 days**	**Wed 11/4/12**	**Fri 24/1/14**
376	Sample Submission & Approval	4 wks	Wed 11/4/12	Thu 3/5/12
377	Site Installation	100 wks	Tue 29/5/12	Wed 1/1/14
378	T&C	4 wks	Thu 2/1/14	Fri 24/1/14
379	**Swimming pool & Water feature**	**299 days**	**Wed 25/4/12**	**Mon 8/4/13**
380	Sample Submission & Approval	4 wks	Wed 25/4/12	Thu 17/5/12
381	Site Installation	50 wks	Tue 29/5/12	Fri 15/3/13
382	T&C	4 wks	Sat 16/3/13	Mon 8/4/13
383	**PHASE 2 (SHOWFLAT AREA)**	**539 days**	**Fri 1/2/13**	**Wed 22/10/14**
384	**Structural Works**	**339 days**	**Fri 1/2/13**	**Mon 3/3/14**
385	**Blk 531, 533 & 535**	**194 days**	**Fri 1/2/13**	**Sat 14/9/13**
386	Demolition of Show Flat	4 wks	Fri 1/2/13	Sat 23/2/13
387	Basement Excavation	45 days	Mon 25/2/13	Wed 17/4/13
388	Tower Crane Erection - TC-7 & TC-8	25 days	Tue 30/4/13	Tue 28/5/13
389	Basement Slab	30 days	Thu 18/4/13	Wed 22/5/13
390	Basement Wall	14 days	Thu 23/5/13	Fri 7/6/13
391	E-deck Construction	35 days	Sat 8/6/13	Thu 18/7/13
392	**Superstructure**	**50 days**	**Fri 19/7/13**	**Sat 14/9/13**
393	Typical Storey (S2 to S4)	36 days	Fri 19/7/13	Thu 29/8/13
394	Roof	14 days	Fri 30/8/13	Sat 14/9/13
395	**Blk 501 and 503**	**229 days**	**Mon 10/6/13**	**Mon 3/3/14**
396	Basement Excavation	30 days	Mon 10/6/13	Sat 13/7/13
397	Tower Crane Erection - TC-9	25 days	Fri 26/7/13	Fri 23/8/13
398	Basement Construction	30 days	Mon 15/7/13	Sat 17/8/13
399	Basement Wall	14 wks	Mon 19/8/13	Thu 7/11/13
400	Piling	14 days	Fri 8/11/13	Sat 23/11/13
401	E-deck Construction	35 days	Mon 25/11/13	Fri 3/1/14
402	**Superstructure**	**50 days**	**Sat 4/1/14**	**Mon 3/3/14**
403	Typical Storey (S2 to S4)	36 days	Sat 4/1/14	Fri 14/2/14
404	Roof	14 days	Sat 15/2/14	Mon 3/3/14
405	**Semi-D Houses**	**167 days**	**Thu 18/4/13**	**Tue 29/10/13**
406	Basement Excavation	45 days	Thu 18/4/13	Sat 8/6/13
407	Basement Construction	45 days	Mon 10/6/13	Wed 31/7/13
408	E-deck Construction	35 days	Thu 1/8/13	Tue 10/9/13
409	**Superstructure**	**42 days**	**Wed 11/9/13**	**Tue 29/10/13**
410	Typical Storey (S2 to S3)	28 days	Wed 11/9/13	Sat 12/10/13



Task — Split — Milestone — Project Summary — External Milestone
Task Critical — Progress — Summary — External Tasks — Deadline

TEPL 24/5/2012
COLIN TAN 24 MAY 2012
(C&S) 24/5/12
TAN JINGYI (C&S) 24-05-12

TIONG SENG CONTRACTORS PTE LTD
ARCHIIPELAGO
PROPOSED ERECTION OF 18 BLOCKS OF 5-STOREY RESIDENTIAL CONDOMINIUM WITH ATTIC(553 UNITS) AND 24 UNITS OF 3-STOREY STRATA HOUSING WITH A 2 STOREY BASEMENT CARPARK AND COMMUNAL FACILITIES AT BEDOK RESERVOIR ROAD

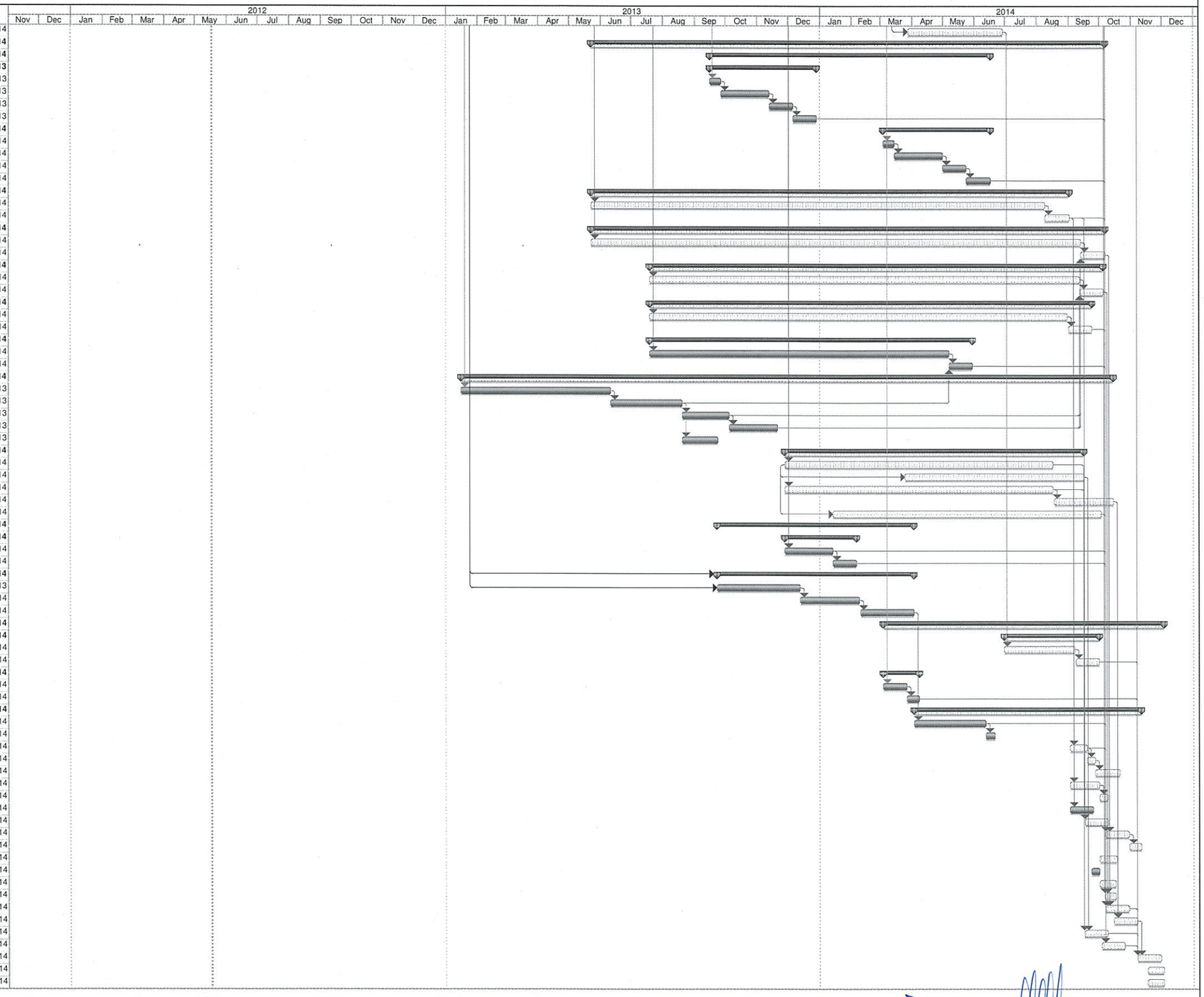
ID	Task Name	Duration	Start	Finish
411	Roof	14 days	Mon 14/10/13	Tue 29/10/13
412	**Architectural Works**	**385 days**	**Wed 31/7/13**	**Wed 22/10/14**
413	**Blk 531, 533 & 535**	**260 days**	**Wed 31/7/13**	**Thu 29/5/14**
414	Construction of Kerb and Plinth	20 wks	Wed 31/7/13	Sat 23/11/13
415	Ceiling Skim Coat	20 wks	Mon 12/8/13	Thu 5/12/13
416	Alum Window Outer Frame	20 wks	Tue 6/8/13	Fri 29/11/13
417	Internal Partition wall	20 wks	Fri 23/8/13	Tue 17/12/13
418	Timber Door Sub-Frame	20 wks	Wed 4/9/13	Sat 28/12/13
419	Wall Skimming	20 wks	Mon 16/9/13	Thu 9/1/14
420	Ceiling Grid/Panel	20 wks	Fri 27/9/13	Tue 21/1/14
421	Painting (Base Coat)	20 wks	Wed 9/10/13	Sat 1/2/14
422	Waterproofing to Toilet/Kitchen	20 wks	Fri 27/9/13	Tue 21/1/14
423	Wall Tiles - Kitchen, Yard & Baths	20 wks	Wed 9/10/13	Sat 1/2/14
424	Living / Dining Floor Marble	20 wks	Mon 21/10/13	Thu 13/2/14
425	Floor Tiles - Kitchen, Yard & Baths	20 wks	Fri 1/11/13	Tue 25/2/14
426	Aluminium Window Inner Frame, Glazing	20 wks	Tue 10/9/13	Fri 3/1/14
427	Kitchen Cabinet Carcasses & panel	20 wks	Wed 13/11/13	Sat 8/3/14
428	Sanitary Wares & Fittings	20 wks	Wed 13/11/13	Sat 8/3/14
429	Timber Floor Installation	20 wks	Fri 1/11/13	Tue 25/2/14
430	Timber Floor - sanding and first coat vanish	20 wks	Wed 13/11/13	Sat 8/3/14
431	Wardrobe Carcasses & Panels	20 wks	Mon 25/11/13	Thu 20/3/14
432	Internal Timber Door Frames, Panels & Ironmongery	20 wks	Mon 25/11/13	Thu 20/3/14
433	Kitchen Hood & Hop	20 wks	Mon 25/11/13	Thu 20/3/14
434	Painting (2nd & Final Coat)	20 wks	Fri 6/12/13	Tue 1/4/14
435	M&E Final Fix	20 wks	Wed 18/12/13	Sat 12/4/14
436	Timber Floor - final coat vanish	20 wks	Mon 30/12/13	Thu 24/4/14
437	Final touch Up / Clean Up	20 wks	Fri 10/1/14	Tue 6/5/14
438	RE/RTO QA/QC Unit Inspection	20 wks	Wed 22/1/14	Sat 17/5/14
439	Preparation & Quality Mark Assessment	20 wks	Mon 3/2/14	Thu 29/5/14
440	**Blk 501 and 503**	**240 days**	**Thu 16/1/14**	**Wed 22/10/14**
441	Construction of Kerb and Plinth	16 wks	Thu 16/1/14	Fri 18/4/14
442	Ceiling Skim Coat	16 wks	Tue 28/1/14	Wed 30/4/14
443	Alum Window Outer Frame	16 wks	Wed 22/1/14	Thu 24/4/14
444	Internal Partition wall	16 wks	Sat 8/2/14	Mon 12/5/14
445	Timber Door Sub-Frame	16 wks	Thu 20/2/14	Fri 23/5/14
446	Wall Skimming	16 wks	Tue 4/3/14	Wed 4/6/14
447	Ceiling Grid/Panel	16 wks	Sat 15/3/14	Mon 16/6/14
448	Painting (Base Coat)	16 wks	Thu 27/3/14	Fri 27/6/14
449	Waterproofing to Toilet/Kitchen	16 wks	Sat 15/3/14	Mon 16/6/14
450	Wall Tiles - Kitchen, Yard & Baths	16 wks	Thu 27/3/14	Fri 27/6/14
451	Living / Dining Floor Marble	16 wks	Tue 8/4/14	Wed 9/7/14
452	Floor Tiles - Kitchen, Yard & Baths	16 wks	Sat 19/4/14	Mon 21/7/14
453	Aluminium Window Inner Frame, Glazing	16 wks	Wed 26/2/14	Thu 29/5/14
454	Kitchen Cabinet Carcasses & panel	16 wks	Thu 1/5/14	Fri 1/8/14
455	Sanitary Wares & Fittings	16 wks	Thu 1/5/14	Fri 1/8/14
456	Timber Floor Installation	16 wks	Sat 19/4/14	Mon 21/7/14
457	Timber Floor - sanding and first coat vanish	16 wks	Thu 1/5/14	Fri 1/8/14
458	Wardrobe Carcasses & Panels	16 wks	Tue 13/5/14	Wed 13/8/14
459	Internal Timber Door Frames, Panels & Ironmongery	16 wks	Tue 13/5/14	Wed 13/8/14
460	Kitchen Hood & Hop	16 wks	Tue 13/5/14	Wed 13/8/14
461	Painting (2nd & Final Coat)	16 wks	Sat 24/5/14	Mon 25/8/14
462	M&E Final Fix	16 wks	Thu 5/6/14	Fri 5/9/14
463	Timber Floor - final coat vanish	16 wks	Tue 17/6/14	Wed 17/9/14
464	Final touch Up / Clean Up	16 wks	Sat 28/6/14	Mon 29/9/14
465	RE/RTO QA/QC Unit Inspection	16 wks	Thu 10/7/14	Fri 10/10/14
466	Preparation & Quality Mark Assessment	16 wks	Tue 22/7/14	Wed 22/10/14
467	**Semi-D Houses**	**240 days**	**Mon 23/9/13**	**Sat 28/6/14**
468	Construction of Kerb and Plinth	16 wks	Mon 23/9/13	Tue 24/12/13
469	Ceiling Skim Coat	16 wks	Fri 4/10/13	Sat 4/1/14
470	Alum Window Outer Frame	16 wks	Sat 28/9/13	Mon 30/12/13
471	Internal Partition wall	16 wks	Wed 16/10/13	Thu 16/1/14
472	Timber Door Sub-Frame	16 wks	Mon 28/10/13	Tue 28/1/14
473	Wall Skimming	16 wks	Fri 8/11/13	Sat 8/2/14
474	Ceiling Grid/Panel	16 wks	Wed 20/11/13	Thu 20/2/14
475	Painting (Base Coat)	16 wks	Mon 2/12/13	Tue 4/3/14
476	Waterproofing to Toilet/Kitchen	16 wks	Wed 20/11/13	Thu 20/2/14
477	Wall Tiles - Kitchen, Yard & Baths	16 wks	Mon 2/12/13	Tue 4/3/14
478	Living / Dining Floor Marble	16 wks	Fri 13/12/13	Sat 15/3/14
479	Floor Tiles - Kitchen, Yard & Baths	16 wks	Wed 25/12/13	Thu 27/3/14
480	Aluminium Window Inner Frame, Glazing	16 wks	Sat 2/11/13	Mon 3/2/14
481	Kitchen Cabinet Carcasses & panel	16 wks	Mon 6/1/14	Tue 8/4/14
482	Sanitary Wares & Fittings	16 wks	Mon 6/1/14	Tue 8/4/14
483	Timber Floor Installation	16 wks	Wed 25/12/13	Thu 27/3/14
484	Timber Floor - sanding and first coat vanish	16 wks	Mon 6/1/14	Tue 8/4/14
485	Wardrobe Carcasses & Panels	16 wks	Fri 17/1/14	Sat 19/4/14
486	Internal Timber Door Frames, Panels & Ironmongery	16 wks	Fri 17/1/14	Sat 19/4/14
487	Kitchen Hood & Hop	16 wks	Fri 17/1/14	Sat 19/4/14
488	Painting (2nd & Final Coat)	16 wks	Wed 29/1/14	Thu 1/5/14
489	M&E Final Fix	16 wks	Mon 10/2/14	Tue 13/5/14
490	Timber Floor - final coat vanish	16 wks	Fri 21/2/14	Sat 24/5/14
491	Final touch Up / Clean Up	16 wks	Wed 5/3/14	Thu 5/6/14
492	RE/RTO QA/QC Unit Inspection	16 wks	Mon 17/3/14	Tue 17/6/14



Task | Split | Milestone | Project Summary | External Milestone
Task Critical | Progress | Summary | External Tasks | Deadline

TIONG SENG CONTRACTORS PTE LTD
ARCHIIPELAGO
PROPOSED ERECTION OF 18 BLOCKS OF 5-STOREY RESIDENTIAL CONDOMINIUM WITH ATTIC(553 UNITS) AND 24 UNITS OF 3-STOREY STRATA HOUSING WITH A 2 STOREY BASEMENT CARPARK AND COMMUNAL FACILITIES AT BEDOK RESERVOIR ROAD

ID	Task Name	Duration	Start	Finish
493	Preparation & Quality Mark Assessment	16 wks	Fri 28/3/14	Sat 28/6/14
494	**M & E Works**	**430 days**	**Thu 23/5/13**	**Mon 6/10/14**
495	**Lift Installation**	**235 days**	**Mon 16/9/13**	**Mon 16/6/14**
496	**Blk 531, 533 & 535**	**90 days**	**Mon 16/9/13**	**Sat 28/12/13**
497	Handing Over Lift Shaft	2 wks	Mon 16/9/13	Thu 26/9/13
498	Installation	8 wks	Fri 27/9/13	Tue 12/11/13
499	T&C	4 wks	Wed 13/11/13	Thu 5/12/13
500	Interior Finishes	4 wks	Fri 6/12/13	Sat 28/12/13
501	**Blk 501 and 503**	**90 days**	**Tue 4/3/14**	**Mon 16/6/14**
502	Handing Over Lift Shaft	2 wks	Tue 4/3/14	Fri 14/3/14
503	Installation	8 wks	Sat 15/3/14	Wed 30/4/14
504	T&C	4 wks	Thu 1/5/14	Fri 23/5/14
505	Interior Finishes	4 wks	Sat 24/5/14	Mon 16/6/14
506	**Sanitary & Plumbing**	**400 days**	**Thu 23/5/13**	**Mon 1/9/14**
507	Site Installation	76 wks	Thu 23/5/13	Fri 8/8/14
508	T&C	4 wks	Sat 9/8/14	Mon 1/9/14
509	**Electrical Services**	**430 days**	**Thu 23/5/13**	**Mon 6/10/14**
510	Site Installation	82 wks	Thu 23/5/13	Fri 12/9/14
511	T&C	4 wks	Sat 13/9/14	Mon 6/10/14
512	**AC/MV**	**380 days**	**Fri 19/7/13**	**Sat 4/10/14**
513	Site Installation	72 wks	Fri 19/7/13	Thu 11/9/14
514	T&C	4 wks	Fri 12/9/14	Sat 4/10/14
515	**Fire Porotection**	**370 days**	**Fri 19/7/13**	**Tue 23/9/14**
516	Site Installation	70 wks	Fri 19/7/13	Sat 30/8/14
517	T&C	4 wks	Mon 1/9/14	Tue 23/9/14
518	**Swimming pool & Water feature**	**270 days**	**Fri 19/7/13**	**Thu 29/5/14**
519	Site Installation	50 wks	Fri 19/7/13	Tue 6/5/14
520	T&C	4 wks	Wed 7/5/14	Thu 29/5/14
521	**External Works**	**546 days**	**Wed 16/1/13**	**Tue 14/10/14**
522	SWimming Pool (structural work)	25 wks	Wed 16/1/13	Mon 10/6/13
523	Swimming Pool (Finishing work)	12 wks	Tue 11/6/13	Mon 19/8/13
524	Communal Facilities	8 wks	Tue 20/8/13	Fri 4/10/13
525	Club Houses	8 wks	Sat 5/10/13	Wed 20/11/13
526	Play area, Fitness Corner	6 wks	Tue 20/8/13	Mon 23/9/13
527	**Drainage System**	**250 days**	**Thu 28/11/13**	**Mon 15/9/14**
528	External Drain	45 wks	Thu 28/11/13	Sat 16/8/14
529	Internal Drain	30 wks	Tue 25/3/14	Mon 15/9/14
530	Boundary Wall / Planter Box	45 wks	Thu 28/11/13	Sat 16/8/14
531	Entrance Driveway / Walkway	10 wks	Mon 18/8/14	Tue 14/10/14
532	Landscaping (incl turfing) and water features	45 wks	Tue 14/1/14	Thu 2/10/14
533	**Stage 5: PowerGrid Substation / Bin Centre**	**165 days**	**Mon 23/9/13**	**Wed 2/4/14**
534	**CDR/ MDF Room**	**60 days**	**Thu 28/11/13**	**Wed 5/2/14**
535	Internal Architectural Works & M&E Services	8 wks	Thu 28/11/13	Mon 13/1/14
536	Handover of CDR/ MDF Room	4 wks	Tue 14/1/14	Wed 5/2/14
537	**PowerGrid SubStation**	**165 days**	**Mon 23/9/13**	**Wed 2/4/14**
538	Internal Architectural Works & M&E Services	14 wks	Mon 23/9/13	Thu 12/12/13
539	External Architectural Works & M&E Works	10 wks	Fri 13/12/13	Sat 8/2/14
540	Sub-Station Handover	9 wks	Mon 10/2/14	Wed 2/4/14
541	**Stage 6: Authorities Inspection, Submission & Turn On**	**235 days**	**Tue 4/3/14**	**Tue 2/12/14**
542	**BCA Inspection for HouseHold Shelter**	**80 days**	**Mon 30/6/14**	**Tue 30/9/14**
543	Preparation & In-house Testing	12 wks	Mon 30/6/14	Sat 6/9/14
544	Inspection & Obtain Clearance	4 wks	Mon 8/9/14	Tue 30/9/14
545	**URA/DSTA (As-Built Building Height Plan)**	**30 days**	**Tue 4/3/14**	**Mon 7/4/14**
546	Preparation by Registered Surveyor	4 wks	Tue 4/3/14	Wed 26/3/14
547	Submission to QP	2 wks	Thu 27/3/14	Mon 7/4/14
548	**Turn-On Dates & Authorities Inspection**	**190 days**	**Thu 3/4/14**	**Mon 10/11/14**
549	PowerGrid - Electrical Supply (By SP Powergrid)	12 wks	Thu 3/4/14	Wed 11/6/14
550	Consumer switchroom turn on	8 days	Thu 12/6/14	Fri 20/6/14
551	PUB - Water Supply	3 wks	Tue 2/9/14	Thu 18/9/14
552	PUB - Water turn on (For project)	7 days	Fri 19/9/14	Fri 26/9/14
553	PUB - Submeter installation (Units)	4 wks	Sat 27/9/14	Mon 20/10/14
554	Power Gas	5 wks	Tue 2/9/14	Tue 30/9/14
555	Power Gas turn on (For project)	7 days	Wed 1/10/14	Wed 8/10/14
556	PUB (Minor Sewer)	4 wks	Tue 2/9/14	Wed 24/9/14
557	PUB (CBPU)	4 wks	Tue 16/9/14	Thu 9/10/14
558	SCV & Tel Inspection	4 wks	Tue 7/10/14	Wed 29/10/14
559	SCV cable readiness certificate	10 days	Thu 30/10/14	Mon 10/11/14
560	CBPU (Ambient noise monitoring submission to NEA)	3 wks	Wed 1/10/14	Fri 17/10/14
561	Decam line	7 days	Tue 23/9/14	Tue 30/9/14
562	SP electrical sub meter installation (Units)	14 days	Wed 1/10/14	Thu 16/10/14
563	FSSD (Ductless MV RI)	2 wks	Mon 6/10/14	Thu 16/10/14
564	FSSD - RI (Arch), RI (M&E)	4 wks	Tue 7/10/14	Wed 29/10/14
565	LTA (Road)	4 wks	Wed 15/10/14	Thu 6/11/14
566	CBPU (Drainage)	4 wks	Tue 16/9/14	Wed 8/10/14
567	Nparks	4 wks	Fri 3/10/14	Sat 25/10/14
568	BCA/TOP Inspection	4 wks	Fri 7/11/14	Sat 29/11/14
569	Lift Operation License (Just before TOP)	14 days	Mon 17/11/14	Tue 2/12/14
570	Swimming Pool License (Just before TOP)	14 days	Mon 17/11/14	Tue 2/12/14



Task — Split — Milestone — Project Summary — External Milestone
Task Critical — Progress — Summary — External Tasks — Deadline

TEPL 24/5/2012
Engrs (ACE) 24/5/12
TANJINGTI 24-05-12
COWTAN 24th MAY 2012
(COES)

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	-								
Power Supply Substation	SP PowerGrid Ltd	30/7/12	16/7/12	1/8/12	8/11/12	3/12/12	11/1/13			29/1/13
Metering Layout	SP Services Ltd									
Sanitary Installation	PUB Water Reclamation (Network) Dept	17/1/14	20/3/14							24/3/14
Domestic Water Supply	PUB (Water Supply) Network Dept	6/12/13	20/9/13	25/10/13	9/12/13	3/1/14	10/1/14			27/1/14
Gas Supply Installation	City Gas Pte Ltd	30/4/13	30/4/13	21/5/13	3/6/13	5/6/13	11/6/13			11/7/14
Air Conditioning & Ventilation Inst.	FSSD	6/1/14	23/1/14							20/2/14
Fire Fighting & Alarm Installation	FSSD	31/3/14	16/3/14							1/8/14
Telephone Installation	TFCC	30/5/12								12/6/12
Broadband Co-axial Cable System (BCS)	TFCC	30/5/12								12/6/12
Fuel Storage	FSSD									
	NEA (Pollution Control)									

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		18/2/14	17/3/14	17/4/14					7/5/14
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									
Fire Fighting & Alarm Installation	FSSD									
Telephone Installation	TFCC									
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:	
EC/MC	✓				

(✓*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	Common Pool
Incoming Architectural Sketches/Details	Common Pool
Incoming Structural Drawings	Common Pool
M&E Drawings	
- Electrical Installation	CSW
- Lift & Escalator Installation	CSW
- Air Conditioning & Ventilation Installation	YYF
- Fire Fighting & Alarm Installation	YYF
- Plumbing & Sanitary Installation	YYF
- Swimming Pool & Filtration Installation	YYF
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

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	A	C	I	
b.	Project Administration	A	A	C	C	I	
c.	Project Cost Estimate/Contract Cost	A	A	C	I	I	
2.	**Drawings**						
a.	Outline Design Drgs.	A	A	A	C	I	
b.	Sketch Design Drgs.	A	A	A	C	I	
c.	Final Design Drgs.	A	A	A	C	I	
d.	Shop Drawings	I	I	A	C	-	
e.	As Built Drgs.	I	I	I	I	I	
3.	**Other Document**						
a.	Specification	A	A	I	I	I	
b.	Tender Document	A	A	I	I	I	
c.	Tender Evaluation Report	A	A	C	I	I	
d.	Design Report	A	A	C	-	-	
e.	Progress Report	A	A	A	I	I	
f.	Financial Report	-	-	-	-	-	
g.	Minutes of Meeting	I	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 Questionaires	✓	✓			
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
Lightning Protection System	SS 555
Emergency Voice Communication System	-
Air Conditioning & Ventilation Installation	CP 553
Lift & Escalator Installation	SS 550
Sprinkler System	CP 52
Wet Riser System	CP 29
Automatic Fire Alarm System	CP 10
Sanitary System	Code of Practice on Sewerage & Sanitary Works
Plumbing System	SS CP 48
Town Gas/LPG Supply System	SS CP 51
Boiler and Steam Supply System	-
Mechanical Smoke Control System	-

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	*Clause number in Code of Practice for (Services) which require clarification or waiver. Consultation Ref No. Waiver Ref. No.	N.A.		
2	*Clause number in Code of Practice for (Services) which require clarification or waiver. Consultation Ref No. Waiver Ref. No.	N.A.		
3	*Clause number in Code of Practice for (Services) which require clarification or waiver. Consultation Ref No. Waiver Ref. No.	N.A.		

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

8.6 List of Software Used For Design/Analysis – N.A.

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
Green Design Features	Refer to attached list

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	-
Ear Protection	-
Safety Harness / Belt	-
Others:	-

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	✓

LIST OF GREEN FEATURES

List of green features
• TS light fittings are used in basement car park • Natural ventilation to lift lobbies, corridors • Inverter and environmentally friendly air conditioner split units with 4 NEA 'ticks' green label is used in all apartment units • Variable frequency variable voltage (VVF) drive lifts. The lights and fans in the lifts will be switched off after a predeterminded time delay when there are no hall calls • Basement car-park is provided with 2.5% openings as natural ventilation intake • CO sensor is used at basement car-park to control ductless exhaust system
• 2 ticks for water efficient fittings • Private sub-meter to monitor common usage
• Building users guide • Provision of hybrid/electric vehicle refueling/recharge stations • Provision of bicycles parking for 10% of dwelling units • Provision of recycling bins at each block of the development for collection and storage of different recyclable waste such as paper, glass, plastic, etc • Provision of natural ventilation and day lighting in kitchen, bathrooms and toilets

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	A
Tender Report	A
Payment Valuation for QS	A
Certificates of Supervision for TOP/CSC	I

* *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.	