Alpha
Consulting Engineers Pte Ltd

PROJECT QUALITY PLAN

PROPOSED UPGRADING OF EXISTING QUEENSTOWN PRIMARY SCHOOL

For

MINISTRY OF EDUCATION

Copy No.	1

Prepared By: Kevin Kee / Chim Heng Leong

Authorised By: Andrew Loh

Date: 21 February 2012

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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	6117-PQP	21 February 2012

1.2 Revision Record

Revision	Date of Issue	Section Reference	Page(s)	Remarks
0	26 April 2010	1 to 11	28	+ 1 pg (Sect 4.1 – Overall Programme)
1	11 January 2011	1 to 11	28	+ 1 pg (Sect 4.1 – Overall Programme)
2	21 February 2012	1 to 11	28	+ 3 pgs (Sect 4.1 – Overall Programme)

SECTION 2

PROJECT INFORMATION

2.1 Project Description

Type of Development	Institutional

Statistics of Development	
Site Area, m²	18,210.5
Nett Floor Area, m²	-
Gross Floor Area, m²	5,397.56 (New) / 23,089.30 (Overall)
Covered Carpark, m²	-
No. of Covered Carpark Lots	-
No. of Apartments/Houses	-
No. of Beds (for Hospitals)	-
No. of Guestroom (for Hotels)	-
No. of Blocks / No. of Storeys	1 Block / 4-Storey Classroom Block 1 Block / 5-Storey Indoor Sports Hall cum Ancillary Facilities
No. of Phases	2

2.2 Project Cost

M&E Services Cost Plan (S$ x 1M)										
Services	EI	ACVI	LEI	FFAI	PSI	SPFI				
Estimate	0.63	0.35	0.15	0.14	0.32	-				
Awarded										

Total Project Construction Cost (S$ x1M)			
	Site Clearance	Piling Works	Main Contract
Estimate		1.16	
Awarded			

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

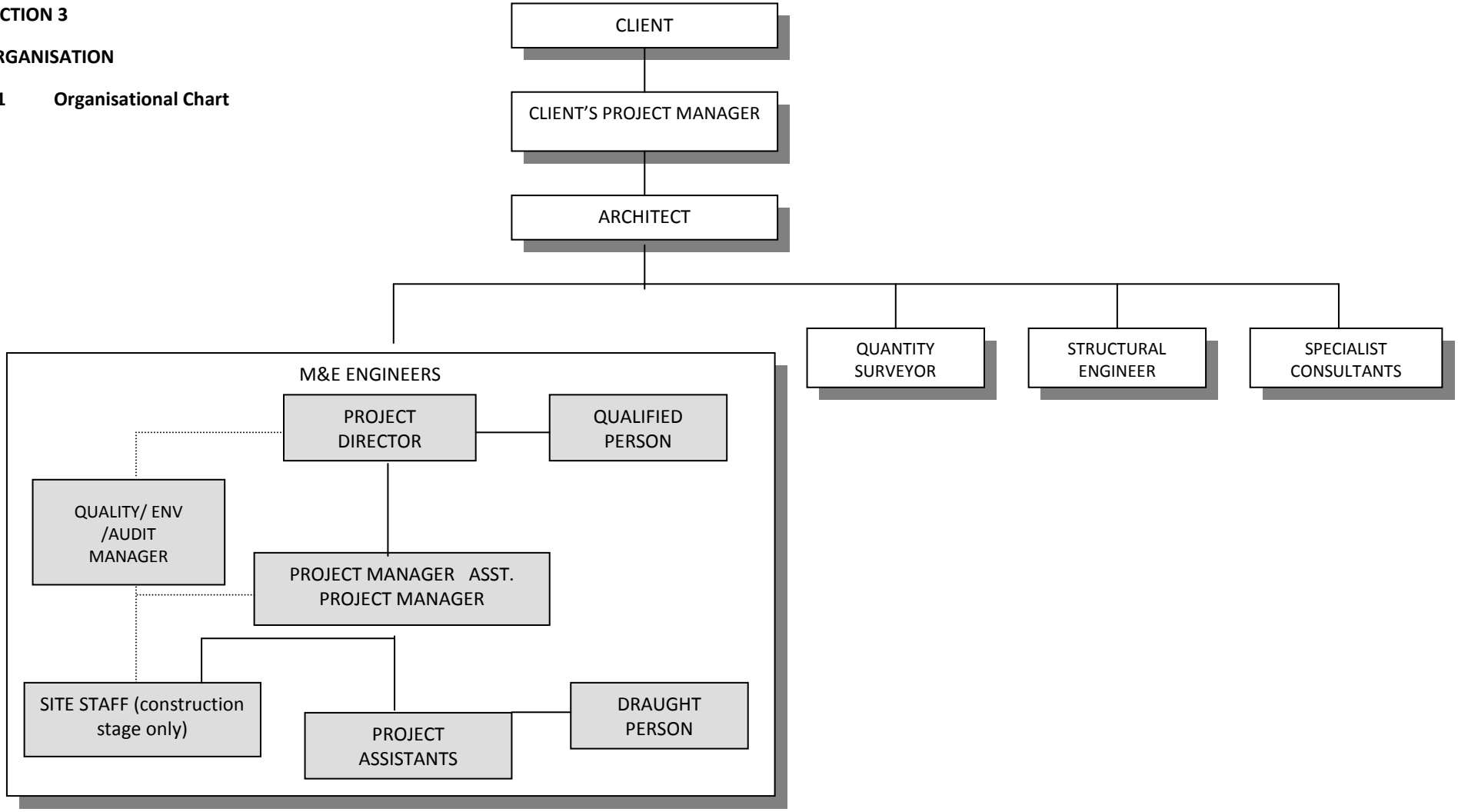
EJECTOR & DIVERTER		SUMP PUMP		FUEL OIL TANK		LIFT & ESCALATOR		PRESSURE VESSEL		HOISTS		FOAM	

(✓*where applicable*)

SECTION 3

ORGANISATION

3.1 Organisational Chart



SECTION 3

ORGANISATION

3.2 ACEPL's Project Team Member

TITLE		NAME
Project Director		Andrew Loh (LCT)
Qualified Person	Mechanical	Andrew Loh (LCT)
	Electrical	Loh Fook Yuen (LFY)
Project Manager		Chim Heng Leong (CHL)
Assistant Project Manager		Derek Ong (DO)
Project Assistant (Mech)		Kevin Kee (KK)
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: Ministry of Education

Address: Project Development & Management Branch
285 Ghim Moh Road
Block C Level 3 MOE Building
Singapore 279622

Tel: 6872 1110

Fax: 6776 3850

Client's Project Manager: PM Link Pte Ltd

Address: 70 Bendemeer Road
#03-01 Luzerne
Singapore 339940

Client's Representatives:

Name of Company	Contact Person	Contact
Ministry of Education	Name: Ms June Lee Yoke Ling Position: Senior Head	Tel: 6597 6543 Fax: 6776 3850 Handphone: - Email: yoke_ling_lee@moe.gov.sg
Ministry of Education	Name: Mr Tan Chee Chuen Position: Development Executive	Tel: 6897 6537 Fax: 6776 3850 Handphone: - Email: chee_chuen_tan@moe.gov.sg
PM Link Pte Ltd	Name: Mr Parikshit Kulkarni Position: Project Manager	Tel: 6391 7017 Fax: 6391 7033 Handphone: 8222 3040 Email: Parikshit.kulkarni@pmlink.com.sg
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:

3.4 Other Consultants (Local)

Function / Name of Company	Contact Person	Contact
Architect SAA Architects Pte Ltd	Name: Mr Lee Jia Xian Position: Architectural Executive/Designer	Tel: 6514 0318 Fax: 6224 9929 Handphone: - Email: 2354a.sin.09@saaarchitects.com.sg
Quantity Surveyor CPG Consultants Pte Ltd	Name: Ms Myo Gaday Shi Position: Quantity Surveyor	Tel: 6357 4679 Fax: 6357 4668 Handphone: - Email: myo.gaday.shi@cpgcorp.com.sg
Structural Engineer DE Consultants Pte Ltd	Name: Mr Ho Yu Chee Position: Director	Tel: 6227 3900 Fax: 6227 2909 Handphone: - Email: decon@singnet.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:
_____	Name: Position:	Tel: Fax: Handphone: Email:
_____	Name: Position:	Tel: Fax: Handphone: Email:

3.4 Other Consultants (Overseas) – NOT USED

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

3.5 Contractors/Sub-Contractors

Function / Name of Company	Contract *	Contact Person	Contact
Main Contractor QXY Resources Pte Ltd	DC	Name: Mr Ramesh Kumar Position: Project Manager	Tel: 6515 0980 Fax: 6515 0981 Handphone: 8200 1757 Email: qxysitejw@gmail.com
Air Conditioning & Ventilation Installation Sub-Contractor Alstern Technologies Singapore Pte Ltd	DSC	Name: Mr Ervin Chng Position: Project Manager	Tel: 6747 1527 Fax: 6747 6547 Handphone: 8338 4672 Email: Ervin@alstern-technologies.com
Plumbing & Sanitary Installation Sub-Contractor New Asia (M&E) Pte Ltd	DSC	Name: Mr Andy Goh Position: Project Manager	Tel: 6482 0080 Fax: 6482 0030 Handphone: 8282 0228 Email: andygc@newasiame.com
Electrical Installation Sub-Contractor Dactt Engineers Pte Ltd	DSC	Name: Mr Woo Yoing Kee Position: Project Manager	Tel: 6746 0100 Fax: 6744 0782 Handphone: 9685 1001 Email: dactt@singnet.com.sg
Lift & Escalator Installation Sub-Contractor Sigma Elevator Singapore Pte Ltd	DSC	Name: Mr Anthony Tan Position: Project Manager	Tel: 6323 7361 Fax: 6323 7362 Handphone: 9455 9561 Email: anthonyYP.Tan@sigma-elevator.com.sg
Fire Fighting & Alarm Installation Sub-Contractor Dactt Engineers Pte Ltd	DSC	Name: Mr Woo Yoing Kee Position: Project Manager	Tel: 6746 0100 Fax: 6744 0782 Handphone: 9685 1001 Email: dactt@singnet.com.sg
Swimming Pool Filtration Plant Installation Sub-Contractor		Name: Position:	Tel: Fax: Handphone: Email:
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		
(b) Diversion		
SP Services:		
(a) Customer Supply		
(b) Installation		
(c) Meter Section		
(d) Road Lighting		
TFCC:		
(a) SCV		
(b) SingTel		
(c) IDA		
BCA:		
(a) Building Plan		
FSSD:		
(a) Building Plan		
(b) M&E Plan	Ms Ai Hua Nancy Ang	6848 1464
PUB (Water Supply) Network Dept:		
(a) Water Conservation		
(b) Plumbing Plan	M/s Wang Qiong/Cheng Kia Yin	6731 3975/6731 3683
(c) Diversion		
PUB Water Reclamation (Network) Dept:		
(a) Building Plan/CBPU	Mr Philip Tan	6731 9384
(b) M&E Plan		
(c) Diversion		
City Gas Pte Ltd:		
(a) Planning/Submission		
(b) Installation/Inspection		
PowerGas Pte Ltd		
(a) Diversion		
NEA (Pollution Control)		
(a) Planning/Submission		
(b) Inspection		

SECTION 4

PROGRAMME

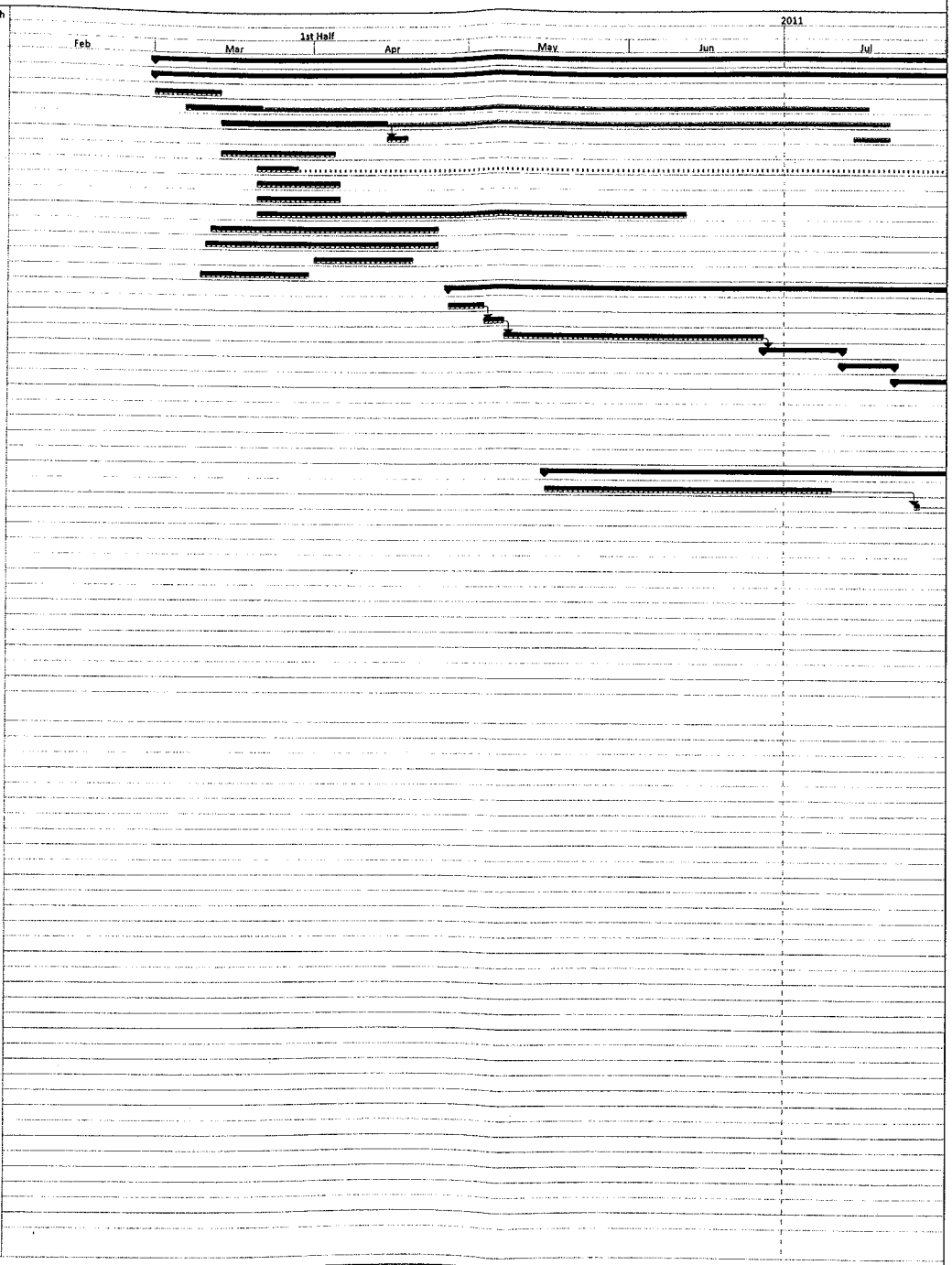
4.1 Overall Programme – Refer to attached

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																									

OXY Resources Pte Ltd

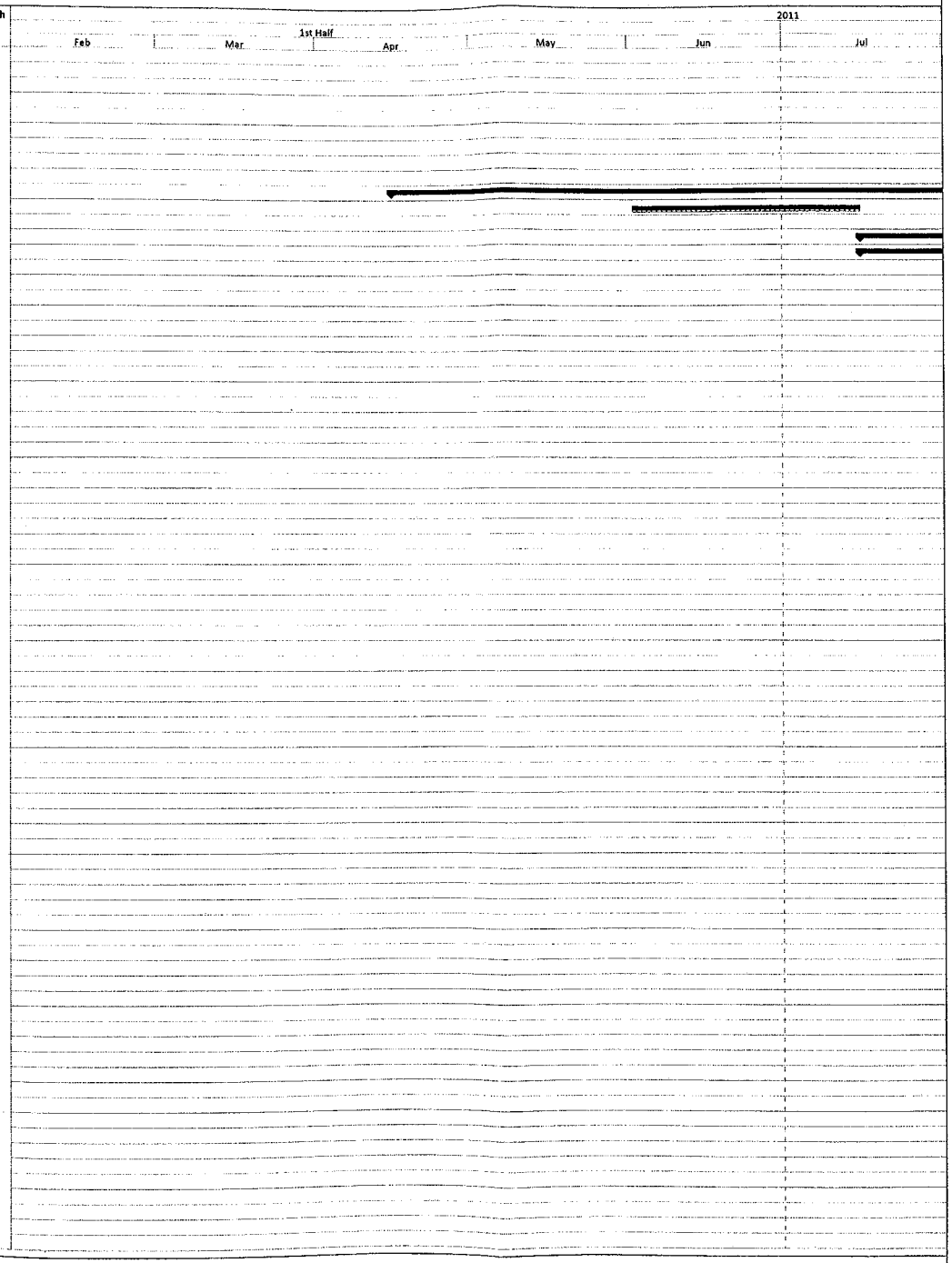
QueensTown Primary School Master Program

ID	Task Name	Duration	Start	Finish	Schedule %	Actual %	Revised Duration	Revised Start	Revised Finish
1	**Proposed Upgrading of QTPS**	**460 d**	**1/3/2011**	**2/6/2012**	**76%**	**58%**			
2	**Site Preparation**	**460 d**	**1/3/2011**	**2/6/2012**	**96%**	**96%**			
3	Application of Factory liscence to MOM	13 d	1/3/2011	13/3/2011	100%	100%			
4	TOL application from SLA/LTA for working along RD outside boundary	15 d	7/3/2011	21/3/2011	100%	100%		7/3/2011	16/7/2011
5	ECM submit & approval to NEA/PUB; construct	32 d	14/3/2011	14/4/2011	100%	100%		14/3/2011	20/7/2011
6	Drain, washing bay, tanks and plant installation	4 d	15/4/2011	18/4/2011	100%	100%		14/7/2011	20/7/2011
7	Cable detection; sewer line inspection	22 d	14/3/2011	4/4/2011	100%	100%			
8	Instrumentation installation	22 d	21/3/2011	2/6/2012	36%	36%			
9	Pre-computation survey & pre-condition survey	16 d	21/3/2011	5/4/2011	100%	100%			
10	Sewer line Screening	16 d	21/3/2011	5/4/2011	100%	100%			
11	Method statement; Shop DWG; materials submit & approval	83 d	21/3/2011	11/6/2011	100%	100%			
12	Plant & Equipm. Mobilization	44 d	12/3/2011	24/4/2011	100%	100%			
13	Temorary facilities; hoarding modification works	45 d	11/3/2011	24/4/2011	100%	100%			
14	Set up of site office	19 d	1/4/2011	19/4/2011	100%	100%			
15	Ultimate Load Test	21 d	10/3/2011	30/3/2011	100%	100%			
16	**PHASE 1A-New 4 sty BLK D' & Others (8 months)**	**187 d**	**27/4/2011**	**30/10/2011**	**100%**	**98%**			
17	Access road preparation (hardcore & compaction)	7 d	27/4/2011	3/5/2011	100%	100%			
18	Hoarding erection	4 d	4/5/2011	7/5/2011	100%	100%			
19	Piling works	50 d	8/5/2011	26/6/2011	100%	100%			
20	**Substructure works**	**15 d**	**27/6/2011**	**11/7/2011**	**100%**	**100%**			
26	**1st sty beam & slab**	**10 d**	**12/7/2011**	**21/7/2011**	**100%**	**100%**			
34	**2nd sty beam & slab**	**11 d**	**22/7/2011**	**1/8/2011**	**100%**	**100%**			
44	**3rd sty beam & slab**	**11 d**	**2/8/2011**	**12/8/2011**	**100%**	**100%**			
54	**4th sty beam & slab**	**11 d**	**13/8/2011**	**23/8/2011**	**100%**	**100%**			
64	**Roof beam & slab**	**11 d**	**24/8/2011**	**3/9/2011**	**100%**	**100%**			
74	**Roof truss and tiles**	**10 d**	**6/10/2011**	**15/10/2011**	**100%**	**100%**			
77	M&E 2nd fix	70 d	2/8/2011	10/10/2011	100%	100%			
78	**Archi works**	**155 d**	**16/5/2011**	**17/10/2011**	**100%**	**100%**			
79	Shop dwg and sample submission	55 d	16/5/2011	9/7/2011	100%	100%			
80	Material presentation day	1 d	26/7/2011	26/7/2011	100%	100%			
81	**Mock up unit for classroom**	**24 d**	**16/8/2011**	**8/9/2011**	**100%**	**100%**			
94	**Ceiling, wall and floor finishing**	**30 d**	**9/9/2011**	**8/10/2011**	**100%**	**100%**			
154	**External works**	**77 d**	**2/8/2011**	**17/10/2011**	**100%**	**100%**			
155	Under ground services	15 d	2/8/2011	16/8/2011	100%	100%			
156	Drainage works	5 d	8/10/2011	12/10/2011	100%	100%			
157	Fencing and turfing	5 d	13/10/2011	17/10/2011	100%	100%			
158	**RI Inspection / TOP**	**47 d**	**14/9/2011**	**30/10/2011**	**100%**	**86%**			
159	Water and power turn on and pre-inspection	12 d	14/9/2011	25/9/2011	100%	100%			
160	RI Inspection	10 d	26/9/2011	5/10/2011	100%	100%			
161	CBPU TOP Inspection	8 d	2/10/2011	9/10/2011	100%	100%			
162	BCA TOP Inspection	14 d	10/10/2011	23/10/2011	100%	100%			
163	Obtain TOP	7 d	24/10/2011	30/10/2011	100%	0%			
164	**PHASE 1B-A&A Works to BLK F & G and external works (4 months after completion of Phase 1A)**	**130 d**	**23/10/2011**	**29/2/2012**	**45%**	**32%**			
165	Temporary Provision works at BLK D	12 d	23/10/2011	3/11/2011	100%	100%			
166	Vocate of existing rooms	7 d	4/11/2011	10/11/2011	100%	50%			
167	**Block F A&A**	**101 d**	**21/11/2011**	**29/2/2012**	**22%**	**29%**			
168	Demolition of the edge of BLK F	10 d	21/11/2011	30/11/2011	100%	50%			
169	Piling works of BLK F	8 d	1/12/2011	8/12/2011	100%	100%			
170	Pilecap of BLK F	7 d	9/12/2011	15/12/2011	100%	100%			
171	1st sty	8 d	16/12/2011	23/12/2011	100%	100%			
172	2nd sty	8 d	24/12/2011	31/12/2011	38%	100%			
173	3rd sty	8 d	1/1/2012	8/1/2012	0%	100%			
174	4th sty	8 d	9/1/2012	16/1/2012	0%	50%			
175	Archi works	60 d	1/1/2012	29/2/2012	0%	0%			
176	M&E works	50 d	1/1/2012	19/2/2012	0%	0%			
177	**Block G A&A**	**39 d**	**19/11/2011**	**27/12/2011**	**98%**	**45%**			
178	Vocate existing rooms of BLK G	7 d	19/11/2011	25/11/2011	100%	80%			
179	**Out door learning area**	**32 d**	**26/11/2011**	**27/12/2011**	**98%**	**39%**			
180	Demolition of existing floor finishes	5 d	26/11/2011	30/11/2011	100%	100%			
181	Excavation and raft foundation casting	7 d	1/12/2011	7/12/2011	100%	100%			
182	Backfilling and existing floor finishes demolitioon	3 d	8/12/2011	10/12/2011	100%	50%			
183	Ground beam RC work and concreting	7 d	11/12/2011	17/12/2011	100%	50%			
184	GMS Structure Installation	5 d	18/12/2011	22/12/2011	100%	20%			
185	Trellis with wire ties installation	5 d	23/12/2011	27/12/2011	80%	0%			
186	**Soft and Hard Landscape works**	**5 d**	**26/11/2011**	**30/11/2011**	**100%**	**0%**			
187	Grass Turfing	3 d	26/11/2011	28/11/2011	100%	0%			
188	Timber Flooring	5 d	26/11/2011	30/11/2011	100%	0%			
189	Pebble wash flooring	5 d	26/11/2011	30/11/2011	100%	0%			
190	RC slab pavement	1 d	29/11/2011	29/11/2011	100%	0%			
191	**External works (Main Entrance upgrate)**	**39 d**	**28/11/2011**	**5/1/2012**	**74%**	**26%**			
192	Excavation	3 d	28/11/2011	30/11/2011	100%	100%			
193	RC works	7 d	1/12/2011	7/12/2011	100%	80%			
194	Steel works	8 d	8/12/2011	15/12/2011	100%	20%			
195	Paving works	10 d	16/12/2011	25/12/2011	100%	0%			
196	Landscaping works	11 d	26/12/2011	5/1/2012	9%	0%			
197	TOP and hand Over	25 d	6/1/2012	30/1/2012	0%	0%			
198	**Phase 1C A&A works to BLK A&E and external works (3 months after completion of Phase 1B)**	**79 d**	**19/11/2011**	**5/2/2012**	**71%**	**35%**			



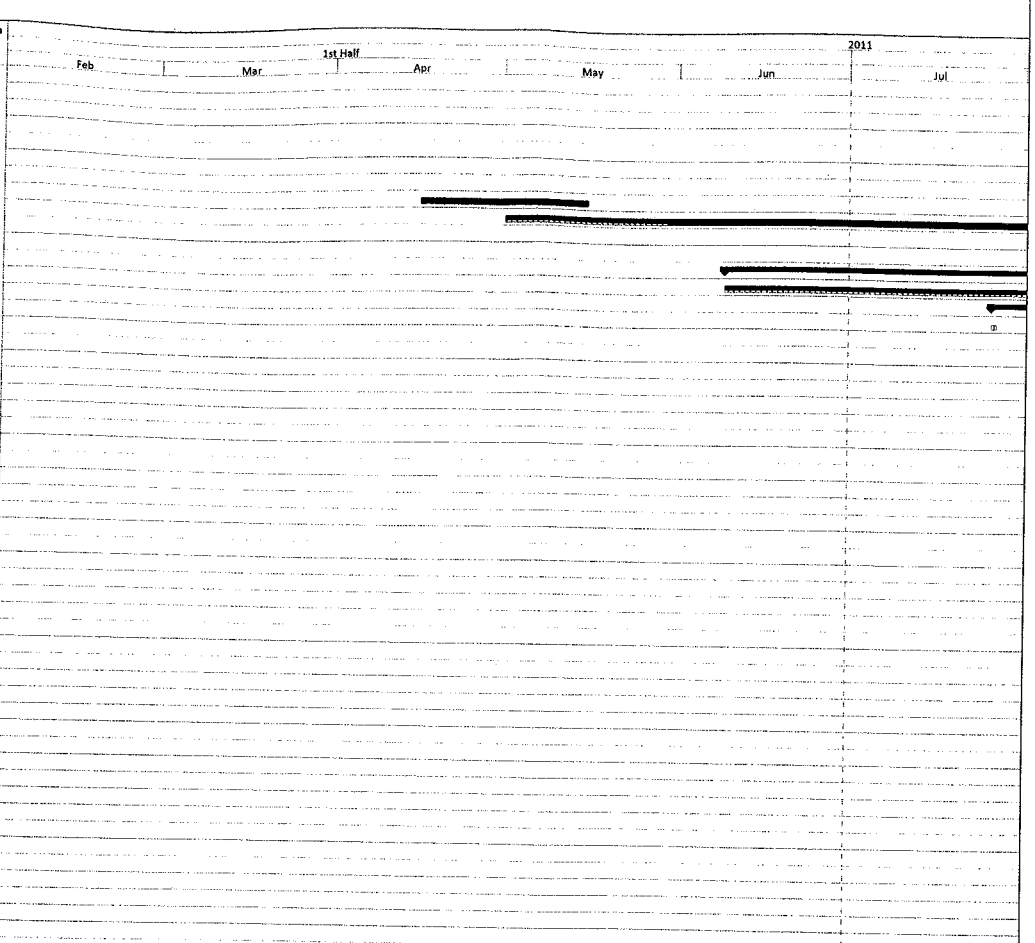
QueensTown Primary School Master Program

ID	Task Name	Duration	Start	Finish	Schedule %	Actual %	Revised Duration	Revised Start	Revised Finish
199	Temporary provision works at BLK F	12 d	19/11/2011	30/11/2011	100%	100%			
200	**BlockA - A&A**	**44 d**	**19/11/2011**	**1/1/2012**	**86%**	**64%**			
201	Existing General office Additional System furniture	12 d	19/11/2011	30/11/2011	100%	100%			
202	Existing Vice Principal Room-2 additional timber door & partition	12 d	1/12/2011	12/12/2011	100%	0%			
203	Existing HOD Room extension & system furniture	10 d	13/12/2011	22/12/2011	100%	80%			
204	New staff meeting room converted from pastoral room	10 d	23/12/2011	1/1/2012	40%	80%			
205	Block E - A&A (Classroom, linkway and corridor)	43 d	19/11/2011	31/12/2011	88%	50%			
206	External works (Jogging track marking at existing parade square)	43 d	19/11/2011	31/12/2011	88%	0%			
207	TOP & Handover	36 d	1/1/2012	5/2/2012	0%	0%			
208	**Phase 2 - Construction of New 5 sty ISH,BLK H & Others (15 Months)**	**412 d**	**16/4/2011**	**31/5/2012**	**69%**	**42%**			
209	Piling works	44 d	2/6/2011	15/7/2011	100%	100%			
210	Demolition of existing linkway at L3	7 d	28/11/2011	4/12/2011	100%	100%			
211	**Substructure works**	**179 d**	**16/7/2011**	**10/1/2012**	**93%**	**49%**	**119 d**	**1/10/2011**	**27/1/2012**
212	**Pile cap**	**25 d**	**16/7/2011**	**9/8/2011**	**100%**	**100%**			
230	**1st sty beam & Slab**	**11 d**	**10/8/2011**	**20/8/2011**	**100%**	**100%**			
254	**1st sty column & wall**	**9 d**	**21/8/2011**	**29/8/2011**	**100%**	**100%**			
268	**2nd sty beam & slab**	**11 d**	**30/8/2011**	**9/9/2011**	**100%**	**95%**			
269	**Zone 1**	**11 d**	**30/8/2011**	**9/9/2011**	**100%**	**100%**	**8 d**	**23/10/2011**	**30/10/2011**
277	**Zone 2**	**10 d**	**31/8/2011**	**9/9/2011**	**100%**	**90%**	**7 d**	**27/11/2011**	**3/12/2011**
278	Erection of scaffolding	1 d	31/8/2011	31/8/2011	100%	100%	1 d	27/11/2011	27/11/2011
279	Soffit FMK of beam & slab	1 d	1/9/2011	1/9/2011	100%	100%	1 d	28/11/2011	28/11/2011
280	Rebar fixing for beam & slab	2 d	2/9/2011	3/9/2011	100%	100%	1 d	29/11/2011	29/11/2011
281	Ducts strands & tendon installation	2 d	4/9/2011	5/9/2011	100%	100%	2 d	30/11/2011	1/12/2011
282	Side FWK erection and box out opening	1 d	6/9/2011	6/9/2011	100%	100%	1 d	2/12/2011	2/12/2011
283	M & E 1st fix	2 d	7/9/2011	8/9/2011	100%	100%	1 d	2/12/2011	2/12/2011
284	Inspection & concreting	1 d	9/9/2011	9/9/2011	100%	0%	1 d	27/12/2011	27/12/2011
285	**2nd sty column & wall**	**7 d**	**13/9/2011**	**19/9/2011**	**100%**	**50%**	**39 d**	**31/10/2011**	**8/12/2011**
286	Zone 1	**7 d**	**13/9/2011**	**19/9/2011**	**100%**	**100%**	**5 d**	**31/10/2011**	**4/11/2011**
293	Zone 2	**7 d**	**13/9/2011**	**19/9/2011**	**100%**	**0%**	**5 d**	**4/12/2011**	**8/12/2011**
294	Column Rebar and formworks	2 d	13/9/2011	14/9/2011	100%	0%	1 d	28/12/2011	29/12/2011
295	RC Wall rebar and formwork	2 d	15/9/2011	16/9/2011	100%	0%	2 d	28/12/2011	29/12/2011
296	Inspection and concreting	1 d	17/9/2011	17/9/2011	100%	0%	1 d	30/12/2011	30/12/2011
297	Precast H1 Installation	1 d	18/9/2011	18/9/2011	100%	0%	1 d	3/1/2012	3/1/2012
298	Mid Landing casting	1 d	19/9/2011	19/9/2011	100%	0%	1 d	5/1/2012	5/1/2012
299	**3rd sty beam & slab**	**14 d**	**20/9/2011**	**3/10/2011**	**100%**	**26%**	**8 d**	**9/12/2011**	**16/12/2011**
300	Erection of scaffolding	2 d	20/9/2011	21/9/2011	100%	80%	1 d	31/12/2011	1/1/2012
301	Soffit FMK of beam & slab	3 d	22/9/2011	24/9/2011	100%	70%	1 d	31/12/2011	3/1/2012
302	Rebar fixing for beam & slab	1 d	25/9/2011	25/9/2011	100%	0%	2 d	2/1/2012	4/1/2012
303	Ducts strands & tendon installation	3 d	26/9/2011	28/9/2011	100%	0%	2 d	4/1/2012	5/1/2012
304	Side FWK erection and box out opening	2 d	29/9/2011	30/9/2011	100%	0%	1 d	6/1/2012	7/1/2012
305	M & E 1st fix	2 d	1/10/2011	2/10/2011	100%	0%	1 d	6/1/2012	6/1/2012
306	Inspection & concreting	1 d	3/10/2011	3/10/2011	100%	0%	1 d	7/1/2012	7/1/2012
307	**3rd sty column & wall**	**6 d**	**4/10/2011**	**9/10/2011**	**100%**	**0%**	**7 d**	**17/12/2011**	**23/12/2011**
308	Column Rebar and formworks	1 d	4/10/2011	4/10/2011	100%	0%	2 d	8/1/2012	9/1/2012
309	RC Wall rebar and formwork	1 d	5/10/2011	5/10/2011	100%	0%	3 d	8/1/2012	9/1/2012
310	Inspection and concreting	1 d	6/10/2011	6/10/2011	100%	0%	1 d	10/1/2012	10/1/2012
311	Precast H2 Installation	1 d	7/10/2011	7/10/2011	100%	0%	1 d	11/1/2012	11/1/2012
312	Precast H3 Installation	1 d	8/10/2011	8/10/2011	100%	0%	1 d	11/1/2012	11/1/2012
313	Mid Landing casting	1 d	9/10/2011	9/10/2011	100%	0%	1 d	10/1/2012	10/1/2012
314	**4th sty beam & slab**	**14 d**	**11/10/2011**	**24/10/2011**	**100%**	**0%**	**8 d**	**23/12/2011**	**30/12/2011**
315	Erection of scaffolding	2 d	11/10/2011	12/10/2011	100%	0%	1 d	12/1/2012	14/1/2012
316	Soffit FMK of beam & slab	2 d	13/10/2011	14/10/2011	100%	0%	1 d	13/1/2012	15/1/2012
317	Rebar fixing for beam & slab	2 d	15/10/2011	16/10/2011	100%	0%	2 d	14/1/2012	17/1/2012
318	Ducts strands & tendon installation	3 d	17/10/2011	19/10/2011	100%	0%	2 d	15/1/2012	17/1/2012
319	Side FWK erection and box out opening	2 d	20/10/2011	21/10/2011	100%	0%	1 d	18/1/2012	18/1/2012
320	M & E 1st fix	2 d	22/10/2011	23/10/2011	100%	0%	1 d	18/1/2012	18/1/2012
321	Inspection & concreting	1 d	24/10/2011	24/10/2011	100%	0%	1 d	19/1/2012	19/1/2012
322	**4th sty column & wall(double volume)**	**6 d**	**25/10/2011**	**30/10/2011**	**100%**	**0%**	**8 d**	**31/12/2011**	**7/1/2012**
323	Column Rebar and formworks	1 d	25/10/2011	25/10/2011	100%	0%	2 d	20/1/2012	21/1/2012
324	RC Wall rebar and formwork	1 d	26/10/2011	26/10/2011	100%	0%	3 d	25/1/2012	27/1/2012
325	Inspection and concreting	1 d	27/10/2011	27/10/2011	100%	0%	1 d	28/1/2012	28/1/2012
326	Precast H2 Installation	1 d	28/10/2011	28/10/2011	100%	0%	1 d	26/1/2012	26/1/2012
327	Precast H3 Installation	1 d	29/10/2011	29/10/2011	100%	0%	1 d	27/1/2012	27/1/2012
328	Mid Landing casting	1 d	30/10/2011	30/10/2011	100%	0%	1 d	20/1/2012	20/1/2012
329	**Lower roof beam & slab**	**14 d**	**1/11/2011**	**14/11/2011**	**100%**	**0%**	**8 d**	**7/1/2012**	**14/1/2012**
330	Erection of scaffolding	2 d	1/11/2011	2/11/2011	100%	0%	1 d	10/2/2012	11/2/2012
331	Soffit FMK of beam & slab	3 d	3/11/2011	5/11/2011	100%	0%	2 d	11/2/2012	12/2/2012
332	Rebar fixing for beam & slab	3 d	6/11/2011	8/11/2011	100%	0%	1 d	11/2/2012	13/2/2012
333	Ducts strands & tendon installation	3 d	9/11/2011	11/11/2011	100%	0%	2 d	11/2/2012	13/2/2012
334	Side FWK erection and box out opening	1 d	12/11/2011	12/11/2011	100%	0%	1 d	13/2/2012	13/2/2012
335	M & E 1st fix	1 d	13/11/2011	13/11/2011	100%	0%	1 d	13/2/2012	13/2/2012
336	Inspection & concreting	1 d	14/11/2011	14/11/2011	100%	0%	1 d	14/2/2012	14/2/2012
337	**5th sty beam & slab**	**14 d**	**15/11/2011**	**28/11/2011**	**100%**	**0%**	**8 d**	**15/1/2012**	**22/1/2012**
338	Erection of scaffolding	2 d	15/11/2011	16/11/2011	100%	0%	1 d	29/1/2012	31/1/2012
339	Soffit FMK of beam & slab	2 d	17/11/2011	18/11/2011	100%	0%	1 d	30/1/2012	1/2/2012
340	Rebar fixing for beam & slab	3 d	19/11/2011	21/11/2011	100%	0%	2 d	31/1/2012	3/3/2012
341	Ducts strands & tendon installation	3 d	22/11/2011	24/11/2011	100%	0%	2 d	1/2/2012	3/2/2012
342	Side FWK erection and box out opening	2 d	25/11/2011	26/11/2011	100%	0%	1 d	3/2/2012	3/2/2012
343	M & E 1st fix	1 d	27/11/2011	27/11/2011	100%	0%	1 d	3/2/2012	3/2/2012



QueensTown Primary School Master Program

ID	Task Name	Duration	Start	Finish	Schedule %	Actual %	Revised Duration	Revised Start	Revised Finish
344	Inspection & concreting	1 d	28/11/2011	28/11/2011	100%	0%	1 d	4/2/2012	4/2/2012
345	**5th sty column & wall**	**43 d**	**29/11/2011**	**10/1/2012**	**65%**	**0%**	**5 d**	**23/1/2012**	**27/1/2012**
346	Column Rebar and formworks	2 d	29/11/2011	30/11/2011	100%	0%	3 d	5/2/2012	7/2/2012
347	RC Wall rebar and formwork	3 d	1/12/2011	3/12/2011	100%	0%	4 d	5/2/2012	7/2/2012
348	Inspection and concreting	4 d	4/12/2011	7/12/2011	100%	0%	1 d	8/2/2012	9/2/2012
349	Lift Core defect clearance and handover	34 d	8/12/2011	10/1/2012	56%	0%	7 d	10/2/2012	10/2/2012
350	M & E 2nd fix	140 d	13/9/2011	30/1/2012	75%	0%	90 d	17/12/2011	15/3/2012
351	Lift shop drawing submission	30 d	16/4/2011	15/5/2011	100%	100%	30 d	16/4/2011	15/5/2011
352	Lift Fabrication in factory	214 d	1/5/2011	30/11/2011	100%	100%	200 d	30/5/2011	31/12/2011
353	Delivery of lift to site	1 d	1/12/2011	1/12/2011	100%	0%	1 d	13/2/2012	13/2/2012
354	Install,testing and commissioning of lift	90 d	2/12/2011	29/2/2012	28%	0%	75 d	13/2/2012	11/4/2012
355	**Archi works**	**323 d**	**9/6/2011**	**26/4/2012**	**48%**	**24%**	**208 d**	**1/10/2011**	**25/4/2012**
356	Shop dwg and sample submission	93 d	9/6/2011	9/9/2011	100%	100%	90 d	1/10/2011	29/12/2011
357	**Mock up unit**	**147 d**	**26/7/2011**	**19/12/2011**	**100%**	**0%**	**120 d**	**1/10/2011**	**28/1/2012**
358	Material presentation day	1 d	26/7/2011	26/7/2011	100%	0%	1 d		
359	1 storey staircase	9 d	4/10/2011	12/10/2011	100%	0%	1 d		
360	4th sty toilet	14 d	6/12/2011	19/12/2011	100%	0%	1 d		
361	**Ceiling, wall and floor finishing**	**134 d**	**4/10/2011**	**14/2/2012**	**63%**	**7%**	**103 d**	**17/12/2011**	**28/3/2012**
362	**1st sty**	**29 d**	**4/10/2011**	**1/11/2011**	**100%**	**6%**	**28 d**	**17/12/2011**	**13/1/2012**
363	Blockwork laying	3 d	4/10/2011	6/10/2011	100%	60%	4 d	17/12/2011	20/12/2011
364	Window and door installation	3 d	7/10/2011	9/10/2011	100%	0%	5 d	22/12/2011	26/12/2011
365	Plastering and painting	3 d	10/10/2011	12/10/2011	100%	0%	3 d	27/12/2011	29/12/2011
366	Skimming and painting to ceiling	2 d	13/10/2011	14/10/2011	100%	0%	5 d	30/12/2011	3/1/2012
367	ACT Ceiling installation	3 d	15/10/2011	17/10/2011	100%	0%	5 d	4/1/2012	8/1/2012
368	Homogenous floor tile installation	3 d	18/10/2011	20/10/2011	100%	0%	5 d	9/1/2012	13/1/2012
369	Vinyl tiles installation	4 d	21/10/2011	24/10/2011	100%	0%	5 d	9/1/2012	13/1/2012
370	Timber strip flooring installation	5 d	25/10/2011	29/10/2011	100%	0%	5 d	9/1/2012	13/1/2012
371	Floor Screeding	3 d	30/10/2011	1/11/2011	100%	0%	3 d	9/1/2012	11/1/2012
372	**2nd sty**	**26 d**	**2/11/2011**	**27/11/2011**	**100%**	**9%**	**20 d**	**9/1/2012**	**28/1/2012**
373	Blockwork laying	5 d	2/11/2011	6/11/2011	100%	47%	5 d	9/1/2012	13/1/2012
374	Plastering and painting	5 d	7/11/2011	11/11/2011	100%	0%	5 d	14/1/2012	18/1/2012
375	Skimming and painting to ceiling	5 d	12/11/2011	16/11/2011	100%	0%	5 d	19/1/2012	23/1/2012
376	Homogenous floor tile installation	6 d	17/11/2011	22/11/2011	100%	0%	5 d	24/1/2012	28/1/2012
377	Floor Screeding	5 d	23/11/2011	27/11/2011	100%	0%	3 d	24/1/2012	26/1/2012
378	3rd sty	22 d	28/11/2011	19/12/2011	100%	9%	20 d	29/1/2012	17/2/2012
379	4th sty	35 d	20/12/2011	23/1/2012	20%	9%	20 d	18/2/2012	8/3/2012
380	5th sty	22 d	24/1/2012	14/2/2012	0%	0%	20 d	9/3/2012	28/3/2012
381	**External works**	**70 d**	**17/2/2012**	**26/4/2012**	**0%**	**0%**	**208 d**	**1/10/2011**	**25/4/2012**
382	Under ground services	21 d	17/2/2012	8/3/2012	0%	0%	90 d	1/10/2011	29/12/2011
383	Drainage works	21 d	9/3/2012	29/3/2012	0%	0%	14 d	29/3/2012	11/4/2012
384	Fencing	14 d	30/3/2012	12/4/2012	0%	0%	14 d	12/4/2012	25/4/2012
385	Soft landscaping and fitment	14 d	13/4/2012	26/4/2012	0%	0%	14 d	12/4/2012	25/4/2012
386	**Fitment works**	**55 d**	**15/2/2012**	**9/4/2012**	**0%**	**0%**	**25 d**	**16/3/2012**	**9/4/2012**
387	Architectural fitment works	55 d	15/2/2012	9/4/2012	0%	0%	21 d	16/3/2012	5/4/2012
388	M & E final fix	42 d	28/2/2012	9/4/2012	0%	0%	14 d	27/3/2012	9/4/2012
389	**Pre-RI & RI inspection and TOP**	**52 d**	**10/4/2012**	**31/5/2012**	**0%**	**0%**	**52 d**	**10/4/2012**	**31/5/2012**
390	Water and power turn on & Pre inspection	4 d	10/4/2012	13/4/2012	0%	0%	4 d	10/4/2012	13/4/2012
391	Sanitary Completion inspection	2 d	14/4/2012	15/4/2012	0%	0%	2 d	14/4/2012	15/4/2012
392	Pre inspection	2 d	18/4/2012	19/4/2012	0%	0%	2 d	18/4/2012	19/4/2012
393	RI inspection	14 d	20/4/2012	3/5/2012	0%	0%	14 d	20/4/2012	3/5/2012
394	CBPU Top Inspection	14 d	4/5/2012	17/5/2012	0%	0%	14 d	4/5/2012	17/5/2012
395	BCA TOP Inspection	14 d	18/5/2012	31/5/2012	0%	0%	14 d	18/5/2012	31/5/2012



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	N.A								
Power Supply Substation	SP PowerGrid Ltd	N.A								
Metering Layout	SP Services Ltd	N.A								
Sanitary Installation	PUB Water Reclamation (Network) Dept	1/9/10	30/11/10							1/12/10
Domestic Water Supply	PUB (Water Supply) Network Dept	4/4/11	31/5/11	9/6/11	24/6/11					12/7/11
Gas Supply Installation	City Gas Pte Ltd	N.A								
Air Conditioning & Ventilation Inst.	FSSD	N.A								
Fire Fighting & Alarm Installation	FSSD	4/7/11	23/9/11							3/10/11
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 4

PROGRAMME

4.3 Authority Submission Status for M&E Services (Amendments) - 2nd Submission – NOT USED

Service	Authority	Original Submission		Comments/Resubmission						Approval/
		Scheduled	Actual	Comment	Resubmit	Comment	Resubmit	Comment	Resubmit	Clearance
Application for Electricity Supply	SP Services Ltd									
Power Supply Substation	SP PowerGrid Ltd									
Metering Layout	SP Services Ltd									
Sanitary Installation	PUB Water Reclamation (Network) Dept									
Domestic Water Supply	PUB (Water Supply) Network Dept									
Gas Supply Installation	City Gas Pte Ltd									
Air Conditioning & Ventilation Inst.	FSSD									
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 / Other Consultants	✓	- 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	✓				
PP	✓				

(✓*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	Soft Copy – Server Hard Copy – Kevin Kee
Incoming Architectural Sketches/Details	
Incoming Structural Drawings	
M&E Drawings	
- Electrical Installation	Derek Ong
- Lift & Escalator Installation	Derek Ong
- Air Conditioning & Ventilation Installation	Kevin Kee
- Fire Fighting & Alarm Installation	Kevin Kee
- Plumbing & Sanitary Installation	Kevin Kee
- Swimming Pool & Filtration Installation	-
Other Drawings	-

SECTION 6

INTERFACING

6.1 Method of Interface

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

(✓*where applicable*)

SECTION 6

INTERFACING

6.2 Internal Design Interface – NOT USED

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

** Information required by INTERNAL DESIGN TEAM MEMBERS*

SECTION 6

INTERFACING

6.3 Circulation of Documents to External Parties

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

8.2 List of Applicable Code of Practice and Regulations

Electrical Wiring	BS	SS	IEE	~~NFPA~~	
Lightning Protection System	~~BS~~	SS			
~~Emergency Voice Communication System~~	~~BS~~	~~SS~~	~~NFPA~~		
Air Conditioning & Ventilation Installation	~~BS~~	~~AS~~	~~NFPA~~	SS	~~MS~~
Lift ~~& Escalator~~ Installation	~~BS~~	SS			
~~Sprinkler System~~	~~BS~~	~~SS~~	~~NFPA~~	~~AS~~	~~LPC~~
~~Wet Riser System~~	~~BS~~	~~SS~~	~~NFPA~~	~~AS~~	~~MS~~
Automatic Fire Alarm System	~~BS~~	SS	~~NFPA~~	~~AS~~	~~MS~~
Sanitary System	~~BS~~	SS	~~NFPA~~	~~AS~~	~~MS~~
Plumbing System	~~BS~~	SS	~~NFPA~~	~~AS~~	~~MS~~
~~Town Gas/LPG Supply System~~	~~BS~~	~~SS~~	~~NFPA~~	~~AS~~	
~~Boiler and Steam Supply System~~	~~ASME~~	~~BS~~	~~AS~~		
~~Mechanical Smoke Control System~~	~~BS~~	~~NFPA~~	~~AS~~		

(Delete where necessary)

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 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	✓

8.5 List of Software Used For Design/Analysis

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

(✓*where applicable*)

SECTION 9

ENVIRONMENTAL CONSIDERATIONS

9.1 Sustainable Design Features / Criteria

Item	Remarks
Green Mark criteria	✓
Green Design Features	N.A

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	✓

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	I, A
Pre-Qualification of Tenderers	-
Tender Documents	A
Tender Report	A
Payment Valuation for QS	I
Certificates of Supervision for TOP/CSC	Re

* *Remarks*

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

Other purposes and for action: please specify.

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

NOT USED

SECTION 11

LIST OF SUB-JOB

11.1 List of Sub-Job Numbers – NOT USED

Sub Job No	Description	Allocation Details