

# Supplementary Materials: Integrated Agent-Based Simulation and Game Theory Decision Support Framework for Cash Flow and Payment Management in Construction Projects

Dalia H. Dorrah and Brenda McCabe

**Table S1.** Scheduling and cost details of building B4 of the CBP case study project.

No.	WBS Code	Work Item Description	Sub-contractor	Dur (days)	Direct Costs (\$)	Indirect Costs (\$)	Predecessors
1	CBP.SW.MOB.1	Mobilization	Mobilization	17	2400000.00	240000.00	-
2	CBP.B4.SUB.R.1.1	Erection of formwork for PC raft	Foundation	1	4264.00	426.40	CBP.SW.MOB.1
3	CBP.B4.SUB.R.1.2	Pouring concrete for PC raft	Foundation	1	49360.00	4936.00	CBP.B4.SUB.R.1.1
4	CBP.B4.SUB.R.1.3	Dismantling of formwork for PC raft	Foundation	1	176.00	17.60	CBP.B4.SUB.R.1.2
5	CBP.B4.SUB.R.1.4	Insulation of PC raft	Foundation	2	492192.00	49219.20	CBP.B4.SUB.R.1.3
6	CBP.B4.SUB.R.2.1.1	Erection of formwork for RC raft	Foundation	1	38552.00	3855.20	CBP.B4.SUB.R.1.2
7	CBP.B4.SUB.R.2.1.2	Installation of reinforcement for RC raft	Foundation	11	381040.00	38104.00	CBP.B4.SUB.R.2.1.1
8	CBP.B4.SUB.R.2.1.3	Pouring concrete for RC raft	Foundation	1	443840.00	44384.00	CBP.B4.SUB.R.2.1.2
9	CBP.B4.SUB.R.2.1.4	Dismantling of formwork for RC raft	Foundation	2	352.00	35.20	CBP.B4.SUB.R.2.1.3
10	CBP.B4.SUB.R.2.1.5	Insulation of RC raft	Foundation	1	71964.00	7196.40	CBP.B4.SUB.R.2.1.4, CBP.B4.SUB.R.1.4
11	CBP.B4.SUB.R.2.2.1	Erection of formwork for RC pedestals	Foundation	1	18000.00	1800.00	CBP.B4.SUB.R.2.1.3
12	CBP.B4.SUB.R.2.2.2	Installation of reinforcement for pedestals	Foundation	2	36168.00	3616.80	CBP.B4.SUB.R.2.2.1
13	CBP.B4.SUB.R.2.2.3	Pouring concrete for RC pedestals	Foundation	1	22864.00	2286.40	CBP.B4.SUB.R.2.2.2
14	CBP.B4.SUB.R.2.2.4	Dismantling of formwork for RC pedestals	Foundation	1	176.00	17.60	CBP.B4.SUB.R.2.2.3
15	CBP.B4.SUB.R.2.2.5	Insulation of RC pedestals	Foundation	1	86544.00	8654.40	CBP.B4.SUB.R.2.2.4, CBP.B4.SUB.R.2.1.5
16	CBP.B4.SUB.1.1.1.1	Erection of columns formwork for 1st level basement	Concrete	2	93120.00	9312.00	CBP.B4.SUB.R.2.2.3
17	CBP.B4.SUB.1.1.1.2	Installation of columns reinforcement for 1st level basement	Concrete	2	43788.80	4378.88	CBP.B4.SUB.1.1.1.1
18	CBP.B4.SUB.1.1.1.3	Pouring concrete columns for 1st level basement	Concrete	1	30640.00	3064.00	CBP.B4.SUB.1.1.1.2
19	CBP.B4.SUB.1.1.1.4	Dismantling of columns formwork for 1st level basement	Concrete	1	1760.00	176.00	CBP.B4.SUB.1.1.1.3
20	CBP.B4.SUB.1.1.2.1	Erection of slab and beams formwork for 1st level basement	Concrete	8	456480.00	45648.00	CBP.B4.SUB.1.1.1.3
21	CBP.B4.SUB.1.1.2.2	Installation of slab reinforcement for 1st level basement	Concrete	9	268637.69	26863.77	CBP.B4.SUB.1.1.2.1
22	CBP.B4.SUB.1.1.2.3	Pouring concrete slab for 1st level basement	Concrete	1	182160.00	18216.00	CBP.B4.SUB.1.1.2.2
23	CBP.B4.SUB.1.1.2.4	Dismantling of slab formwork for 1st level basement	Concrete	3	1760.00	176.00	CBP.B4.SUB.1.1.2.3, CBP.B4.SUB.1.1.1.4
24	CBP.B4.SUB.1.2.1.1	Installation of concrete blocks for 1st level basement	Masonry	6	13278.40	1327.84	CBP.B4.SUB.1.1.2.4
25	CBP.B4.SUB.1.2.2.2.1	Plastering ceiling of 1st level basement	Int Finishes	2	3865.60	386.56	CBP.B4.SUB.1.2.1.1, CBP.B4.SUB.1.2.4, CBP.B4.SUB.1.3.1
26	CBP.B4.SUB.1.2.2.2.2	Painting ceiling of 1st level basement	Int Finishes	1	3608.00	360.80	CBP.B4.SUB.1.2.2.1, CBP.B4.SUB.1.3.2
27	CBP.B4.SUB.1.2.2.4.1	Installation of handrail for 1st level basement	Int Finishes	1	4160.00	416.00	CBP.B4.SUB.1.2.2.4.2, CBP.B4.SUB.1.2.2.3.2
28	CBP.B4.SUB.1.2.2.4.2	Granite flooring for stairs 1st level basement	Int Finishes	1	58710.00	5871.00	CBP.B4.SUB.1.2.2.3.2, CBP.B4.SUB.1.2.2.3.3
29	CBP.B4.SUB.1.2.2.3.1	Epoxy painting of 1st level basement	Int Finishes	1	78696.00	7869.60	CBP.B4.SUB.1.2.2.4.1
30	CBP.B4.SUB.1.2.2.3.2	Marble installation for lift lobby of 1st level basement	Int Finishes	1	15840.00	1584.00	CBP.B4.SUB.1.2.2.1.4
31	CBP.B4.SUB.1.2.2.3.3	Ceramic installation for baths of 1st level basement	Int Finishes	1	2720.00	272.00	CBP.B4.SUB.1.2.2.3.2
32	CBP.B4.SUB.1.2.2.1.1	Plastering walls of 1st level basement	Int Finishes	2	4422.40	442.24	CBP.B4.SUB.1.2.2.2.2
33	CBP.B4.SUB.1.2.2.1.2	Painting walls of 1st level basement	Int Finishes	1	3564.00	356.40	CBP.B4.SUB.1.2.2.1.1

Table S1: Scheduling and cost details of building B4 of the CBP case study project (cont.)

No.	WBS Code	Work Item Description	Sub-contractor	Dur (days)	Direct Costs (\$)	Indirect Costs (\$)	Predecessors
34	CBP.B4.SUB.1.2.2.1.3	Ceramic cladding of baths for 1st level basement	Int Finishes	2	10560.00	1056.00	CBP.B4.SUB.1.2.2.1.2
35	CBP.B4.SUB.1.2.2.1.4	Marble cladding of lift lobby for 1st level basement	Int Finishes	1	31520.00	3152.00	CBP.B4.SUB.1.2.2.1.2, CBP.B4.SUB.1.2.2.1.3
36	CBP.B4.SUB.2.1.2.1	Erection of slab and beams formwork for 2nd level basement	Concrete	8	456480.00	45648.00	CBP.B4.SUB.2.1.1.3
37	CBP.B4.SUB.2.1.2.2	Installation of slab reinforcement for 2nd level basement	Concrete	9	268637.60	26863.76	CBP.B4.SUB.2.1.2.1
38	CBP.B4.SUB.2.1.2.3	Pouring concrete slab for 2nd level basement	Concrete	1	182160.00	18216.00	CBP.B4.SUB.2.1.2.2
39	CBP.B4.SUB.2.1.2.4	Dismantling of slab formwork for 2nd level basement	Concrete	3	1760.00	176.00	CBP.B4.SUB.2.1.2.3, CBP.B4.SUB.2.1.1.4
40	CBP.B4.SUB.2.1.1.1	Erection of columns formwork for 2nd level basement	Concrete	2	93120.00	9312.00	CBP.B4.SUB.1.1.2.3
41	CBP.B4.SUB.2.1.1.2	Installation of columns reinforcement for 2nd level basement	Concrete	2	43788.80	4378.88	CBP.B4.SUB.2.1.1.1
42	CBP.B4.SUB.2.1.1.3	Pouring concrete columns for 2nd level basement	Concrete	1	30640.00	3064.00	CBP.B4.SUB.2.1.1.2
43	CBP.B4.SUB.2.1.1.4	Dismantling of columns formwork for 2nd level basement	Concrete	1	1760.00	176.00	CBP.B4.SUB.2.1.1.3
44	CBP.B4.SUB.2.2.1.1	Installation of concrete blocks for 2nd level basement	Masonry	6	13278.40	1327.84	CBP.B4.SUB.2.1.2.4, CBP.B4.SUB.1.2.1.1
45	CBP.B4.SUB.2.2.2.1.1	Plastering walls of 2nd level basement	Int Finishes	2	4422.40	442.24	CBP.B4.SUB.2.2.2.2
46	CBP.B4.SUB.2.2.2.1.2	Painting walls of 2nd level basement	Int Finishes	1	3564.00	356.40	CBP.B4.SUB.2.2.2.1.1, CBP.B4.SUB.2.3.2
47	CBP.B4.SUB.2.2.2.1.3	Ceramic cladding of baths for 2nd level basement	Int Finishes	2	10560.00	1056.00	CBP.B4.SUB.2.2.2.1.2
48	CBP.B4.SUB.2.2.2.1.4	Marble cladding of lift lobby for 2nd level basement	Int Finishes	1	31520.00	3152.00	CBP.B4.SUB.2.2.2.1.2, CBP.B4.SUB.2.2.2.1.3
49	CBP.B4.SUB.2.2.2.2.1	Plastering ceiling of 2nd level basement	Int Finishes	2	3865.60	386.56	CBP.B4.SUB.2.2.2.1.1, CBP.B4.SUB.2.3.1
50	CBP.B4.SUB.2.2.2.2.2	Painting ceiling of 2nd level basement	Int Finishes	1	20240.00	2024.00	CBP.B4.SUB.2.2.2.2.1, CBP.B4.SUB.1.2.2.1.2
51	CBP.B4.SUB.2.2.2.3.1	Epoxy painting of 2nd level basement	Int Finishes	1	78696.00	7869.60	CBP.B4.SUB.2.2.2.4.1, CBP.B4.SUB.1.2.2.3.1
52	CBP.B4.SUB.2.2.2.3.2	Marble installation for lift lobby of 2nd level basement	Int Finishes	1	15840.00	1584.00	CBP.B4.SUB.2.2.2.1.4
53	CBP.B4.SUB.2.2.2.3.3	Ceramic installation for baths of 2nd level basement	Int Finishes	1	2720.00	272.00	CBP.B4.SUB.2.2.2.3.2
54	CBP.B4.SUB.2.2.2.4.1	Installation of handrail for 2nd level basement	Int Finishes	1	4160.00	416.00	CBP.B4.SUB.2.2.2.4.2, CBP.B4.SUB.1.2.2.4.1, CBP.B4.SUB.2.2.2.3.2, CBP.B4.SUB.2.2.2.3.3
55	CBP.B4.SUB.2.2.2.4.2	Granite flooring for stairs 2nd level basement	Int Finishes	1	58710.00	5871.00	CBP.B4.SUB.2.2.2.3.2
56	CBP.B4.SUP.LGF.1.1.1	Erection of columns formwork for lower ground floor	Concrete	2	75480.00	7548.00	CBP.B4.SUB.2.1.2.3
57	CBP.B4.SUP.LGF.1.1.2	Installation of columns reinforcement for lower ground floor	Concrete	1	32340.00	3234.00	CBP.B4.SUP.LGF.1.1.1
58	CBP.B4.SUP.LGF.1.1.3	Pouring concrete for lower ground floor	Concrete	1	26800.00	2680.00	CBP.B4.SUP.LGF.1.1.2
59	CBP.B4.SUP.LGF.1.1.4	Dismantling of formwork for lower ground floor	Concrete	1	176.00	17.60	CBP.B4.SUP.LGF.1.1.3
60	CBP.B4.SUP.LGF.1.2.1	Erection of slabs and beams formwork for lower ground floor	Concrete	5	282920.00	28292.00	CBP.B4.SUP.LGF.1.1.3
61	CBP.B4.SUP.LGF.1.2.2	Installation of reinforcement for lower ground floor	Concrete	5	160116.00	16011.60	CBP.B4.SUP.LGF.1.2.1
62	CBP.B4.SUP.LGF.1.2.3	Pouring concrete for lower ground floor	Concrete	1	129840.00	12984.00	CBP.B4.SUP.LGF.1.2.2
63	CBP.B4.SUP.LGF.1.2.4	Dismantling of formwork for lower ground floor	Concrete	2	352.00	35.20	CBP.B4.SUP.LGF.1.2.3, CBP.B4.SUP.LGF.1.1.4
64	CBP.B4.SUP.LGF.2.1.1	Installation of concrete blocks for lower ground floor	Masonry	5	11678.40	1167.84	CBP.B4.SUP.LGF.1.2.4, CBP.B4.SUB.2.2.1.1
65	CBP.B4.SUP.LGF.2.2.3.1	Marble installation for lift lobby and corridors of lower ground floor	Int Finishes	2	19680.00	1968.00	CBP.B4.SUP.LGF.2.2.1.4

Table S1: Scheduling and cost details of building B4 of the CBP case study project (cont.)

No.	WBS Code	Work Item Description	Sub-contractor	Dur (days)	Direct Costs (\$)	Indirect Costs (\$)	Predecessors
66	CBP.B4.SUP.LGF.2.2.3.2	Ceramic installation for baths of lower ground floor	Int Finishes	1	2720.00	272.00	CBP.B4.SUP.LGF.2.2.3.1
67	CBP.B4.SUP.LGF.2.2.1.1	Plastering walls of lower ground floor	Int Finishes	2	5382.40	538.24	CBP.B4.SUP.LGF.2.2.2.3
68	CBP.B4.SUP.LGF.2.2.1.2	Painting walls of lower ground floor	Int Finishes	2	10200.00	1020.00	CBP.B4.SUP.LGF.2.2.1.1, CBP.B4.SUB.2.2.2.1.2
69	CBP.B4.SUP.LGF.2.2.1.3	Ceramic cladding of baths for lower ground floor	Int Finishes	2	10560.00	1056.00	CBP.B4.SUP.LGF.2.2.1.2
70	CBP.B4.SUP.LGF.2.2.1.4	Marble cladding of lift lobby for lower ground floor	Int Finishes	2	51680.00	5168.00	CBP.B4.SUP.LGF.2.2.1.3, CBP.B4.SUP.LGF.2.2.1.2
71	CBP.B4.SUP.LGF.2.2.4.1	Installation of handrail of lower ground floor	Int Finishes	1	4068.57	406.86	CBP.B4.SUP.LGF.2.2.4.2, CBP.B4.SUB.2.2.2.4.1, CBP.B4.SUP.LGF.2.2.3.1, CBP.B4.SUP.LGF.2.2.3.2
72	CBP.B4.SUP.LGF.2.2.4.2	Granite flooring for stairs lower ground floor	Int Finishes	1	45270.00	4527.00	CBP.B4.SUP.LGF.2.2.3.1
73	CBP.B4.SUP.LGF.2.2.2.1	Plastering ceiling of lower ground floor	Int Finishes	2	4121.60	412.16	CBP.B4.SUP.LGF.2.1.1, CBP.B4.SUB.2.2.2.1.1, CBP.B4.SUP.LGF.3.1
74	CBP.B4.SUP.LGF.2.2.2.2	Gypsum suspended ceiling 1st fix for lower ground floor	Int Finishes	1	416.00	41.60	CBP.B4.SUP.LGF.2.2.2.1, CBP.B4.SUP.LGF.3.2
75	CBP.B4.SUP.FF.2.1.1	Installation of concrete blocks 1st floor	Masonry	5	11678.40	1167.84	CBP.B4.SUP.FF.1.2.4, CBP.B4.SUP.GF.2.1.1
76	CBP.B4.SUP.FF.2.2.2.1	Plastering ceiling of 1st floor	Int Finishes	2	4121.60	412.16	CBP.B4.SUP.FF.2.1.1, CBP.B4.SUP.GF.2.2.1.1, CBP.B4.SUP.FF.3.1
77	CBP.B4.SUP.FF.2.2.2.2	Gypsum suspended ceiling 1st fix for 1st floor	Int Finishes	1	6552.00	655.20	CBP.B4.SUP.FF.2.2.2.1, CBP.B4.SUP.GF.2.2.2.3, CBP.B4.SUP.FF.3.2
78	CBP.B4.SUP.FF.2.2.3.1	Marble installation for lift lobby and corridors 1st floor	Int Finishes	2	19680.00	1968.00	CBP.B4.SUP.FF.2.2.1.4
79	CBP.B4.SUP.FF.2.2.3.2	Ceramic installation for baths 1st floor	Int Finishes	1	2720.00	272.00	CBP.B4.SUP.FF.2.2.3.1
80	CBP.B4.SUP.FF.2.2.1.1	Plastering walls of 1st floor	Int Finishes	2	5382.40	538.24	CBP.B4.SUP.FF.2.2.2.3
81	CBP.B4.SUP.FF.2.2.1.2	Painting walls of 1st floor	Int Finishes	2	10200.00	1020.00	CBP.B4.SUP.FF.2.2.1.1, CBP.B4.SUP.GF.2.2.1.2
82	CBP.B4.SUP.FF.2.2.1.3	Ceramic cladding of baths for 1st floor	Int Finishes	2	10560.00	1056.00	CBP.B4.SUP.FF.2.2.1.2
83	CBP.B4.SUP.FF.2.2.1.4	Marble cladding of lift lobby for 1st floor	Int Finishes	2	51680.00	5168.00	CBP.B4.SUP.FF.2.2.1.2, CBP.B4.SUP.FF.2.2.1.3
84	CBP.B4.SUP.FF.2.2.4.1	Installation of handrail for 1st floor	Int Finishes	1	4160.00	416.00	CBP.B4.SUP.FF.2.2.4.2, CBP.B4.SUP.GF.2.2.4.1, CBP.B4.SUP.FF.2.2.3.1, CBP.B4.SUP.FF.2.2.3.2
85	CBP.B4.SUP.FF.2.2.4.2	Granite flooring for stairs 1st floor	Int Finishes	1	45270.00	4527.00	CBP.B4.SUP.FF.2.2.3.1
86	CBP.B4.SUP.FF.1.1.1	Erection of columns formwork for 1st floor	Concrete	2	75480.00	7548.00	CBP.B4.SUP.GF.1.2.3
87	CBP.B4.SUP.FF.1.1.2	Installation of columns reinforcement 1st floor	Concrete	1	32340.00	3234.00	CBP.B4.SUP.FF.1.1.1
88	CBP.B4.SUP.FF.1.1.3	Pouring concrete for 1st floor	Concrete	1	26800.00	2680.00	CBP.B4.SUP.FF.1.1.2
89	CBP.B4.SUP.FF.1.1.4	Dismantling of formwork for 1st floor	Concrete	1	176.00	17.60	CBP.B4.SUP.FF.1.1.3
90	CBP.B4.SUP.FF.1.2.1	Erection of slabs and beams formwork for 1st floor	Concrete	5	282920.00	28292.00	CBP.B4.SUP.FF.1.1.3
91	CBP.B4.SUP.FF.1.2.2	Installation of reinforcement 1st floor	Concrete	5	160116.00	16011.60	CBP.B4.SUP.FF.1.2.1
92	CBP.B4.SUP.FF.1.2.3	Pouring concrete for 1st floor	Concrete	1	129840.00	12984.00	CBP.B4.SUP.FF.1.2.2
93	CBP.B4.SUP.FF.1.2.4	Dismantling of formwork for 1st floor	Concrete	2	352.00	35.20	CBP.B4.SUP.FF.1.1.4, CBP.B4.SUP.FF.1.2.3
94	CBP.B4.SUP.SXF.1.2.1	Erection of slabs and beams formwork for 6th floor	Concrete	5	282920.00	28292.00	CBP.B4.SUP.SXF.1.1.3
95	CBP.B4.SUP.SXF.1.2.2	Installation of reinforcement 6th floor	Concrete	5	160116.00	16011.60	CBP.B4.SUP.SXF.1.2.1
96	CBP.B4.SUP.SXF.1.2.3	Pouring concrete for 6th floor	Concrete	1	129840.00	12984.00	CBP.B4.SUP.SXF.1.2.2
97	CBP.B4.SUP.SXF.1.2.4	Dismantling of formwork for 6th floor	Concrete	2	352.00	35.20	CBP.B4.SUP.SXF.1.2.3, CBP.B4.SUP.SXF.1.1.4
98	CBP.B4.SUP.SXF.1.1.1	Erection of columns formwork for 6th floor	Concrete	2	75480.00	7548.00	CBP.B4.SUP.FVF.1.2.3
99	CBP.B4.SUP.SXF.1.1.2	Installation of columns reinforcement 6th floor	Concrete	1	32340.00	3234.00	CBP.B4.SUP.SXF.1.1.1
100	CBP.B4.SUP.SXF.1.1.3	Pouring concrete for 6th floor	Concrete	1	26800.00	2680.00	CBP.B4.SUP.SXF.1.1.2

Table S1: Scheduling and cost details of building B4 of the CBP case study project (cont.)

No.	WBS Code	Work Item Description	Sub-contractor	Dur (days)	Direct Costs (\$)	Indirect Costs (\$)	Predecessors
101	CBP.B4.SUP.SXF.1.1.4	Dismantling of formwork for 6th floor	Concrete	1	176.00	17.60	CBP.B4.SUP.SXF.1.1.3
102	CBP.B4.SUP.SXF.2.1.1	Installation of concrete blocks 6th floor	Masonry	5	11678.40	1167.84	CBP.B4.SUP.SXF.1.2.4, CBP.B4.SUP.FVF.2.1.1
103	CBP.B4.SUP.SXF.2.2.1.1	Plastering walls of 6th floor	Int Finishes	2	5382.40	538.24	CBP.B4.SUP.SXF.2.2.2.3
104	CBP.B4.SUP.SXF.2.2.1.2	Painting walls of 6th floor	Int Finishes	2	10200.00	1020.00	CBP.B4.SUP.SXF.2.2.1.1, CBP.B4.SUP.FVF.2.2.1.2
105	CBP.B4.SUP.SXF.2.2.1.3	Ceramic cladding of baths for 6th floor	Int Finishes	2	10560.00	1056.00	CBP.B4.SUP.SXF.2.2.1.2
106	CBP.B4.SUP.SXF.2.2.1.4	Marble cladding of lift lobby for 6th floor	Int Finishes	2	51680.00	5168.00	CBP.B4.SUP.SXF.2.2.1.2, CBP.B4.SUP.SXF.2.2.1.3
107	CBP.B4.SUP.SXF.2.2.4.1	Installation of handrail for 6th floor	Int Finishes	1	4160.00	416.00	CBP.B4.SUP.SXF.2.2.4.2, CBP.B4.SUP.FVF.2.2.4.1, CBP.B4.SUP.SXF.2.2.3.1, CBP.B4.SUP.SXF.2.2.3.2
108	CBP.B4.SUP.SXF.2.2.4.2	Granite flooring for stairs 6th floor	Int Finishes	1	45270.00	4527.00	CBP.B4.SUP.SXF.2.2.3.1
109	CBP.B4.SUP.SXF.2.2.2.1	Plastering ceiling of 6th floor	Int Finishes	2	4121.60	412.16	CBP.B4.SUP.SXF.2.1.1, CBP.B4.SUP.FVF.2.2.1.1, CBP.B4.SUP.SXF.3.1
110	CBP.B4.SUP.SXF.2.2.2.2	Gypsum suspended ceiling 1st fix for 6th floor	Int Finishes	1	6552.00	655.20	CBP.B4.SUP.SXF.2.2.2.1, CBP.B4.SUP.FVF.2.2.2.3, CBP.B4.SUP.SXF.3.3
111	CBP.B4.SUP.SXF.2.2.2.3	Gypsum suspended ceiling 2nd fix for 6th floor	Int Finishes	1	0.00	0.00	CBP.B4.SUP.SXF.2.2.2.2
112	CBP.B4.SUP.SXF.2.2.3.1	Marble installation for lift lobby and corridors 6th floor	Int Finishes	2	15840.00	1584.00	CBP.B4.SUP.SXF.2.2.1.4
113	CBP.B4.SUP.SXF.2.2.3.2	Ceramic installation for baths 6th floor	Int Finishes	1	2720.00	272.00	CBP.B4.SUP.SXF.2.2.3.1
114	CBP.B4.SUP.GF.1.2.1	Erection of slabs and beams formwork for ground floor	Concrete	5	282920.00	28292.00	CBP.B4.SUP.GF.1.1.3
115	CBP.B4.SUP.GF.1.2.2	Installation of reinforcement ground floor	Concrete	5	160116.00	16011.60	CBP.B4.SUP.GF.1.2.1
116	CBP.B4.SUP.GF.1.2.3	Pouring concrete for ground floor	Concrete	1	129840.00	12984.00	CBP.B4.SUP.GF.1.2.2
117	CBP.B4.SUP.GF.1.2.4	Dismantling of formwork for ground floor	Concrete	2	352.00	35.20	CBP.B4.SUP.GF.1.2.3, CBP.B4.SUP.GF.1.1.4
118	CBP.B4.SUP.GF.1.1.1	Erection of columns formwork for ground floor	Concrete	2	75480.00	7548.00	CBP.B4.SUP.LGF.1.2.3
119	CBP.B4.SUP.GF.1.1.2	Installation of columns reinforcement ground floor	Concrete	1	32340.00	3234.00	CBP.B4.SUP.GF.1.1.1
120	CBP.B4.SUP.GF.1.1.3	Pouring concrete for ground floor	Concrete	1	26800.00	2680.00	CBP.B4.SUP.GF.1.1.2
121	CBP.B4.SUP.GF.1.1.4	Dismantling of formwork for ground floor	Concrete	1	176.00	17.60	CBP.B4.SUP.GF.1.1.3
122	CBP.B4.SUP.GF.2.1.1	Installation of concrete blocks ground floor	Masonry	5	11678.40	1167.84	CBP.B4.SUP.GF.1.2.4, CBP.B4.SUP.LGF.2.1.1
123	CBP.B4.SUP.GF.2.2.1.1	Plastering walls of ground floor	Int Finishes	2	5382.40	538.24	CBP.B4.SUP.GF.2.2.2.3
124	CBP.B4.SUP.GF.2.2.1.2	Painting walls of ground floor	Int Finishes	2	10200.00	1020.00	CBP.B4.SUP.GF.2.2.1.1, CBP.B4.SUP.LGF.2.2.1.2
125	CBP.B4.SUP.GF.2.2.1.3	Ceramic cladding of baths for ground floor	Int Finishes	2	10560.00	1056.00	CBP.B4.SUP.GF.2.2.1.2
126	CBP.B4.SUP.GF.2.2.1.4	Marble cladding of lift lobby for ground floor	Int Finishes	2	51680.00	5168.00	CBP.B4.SUP.GF.2.2.1.3, CBP.B4.SUP.GF.2.2.1.2
127	CBP.B4.SUP.GF.2.2.4.1	Installation of handrail for ground floor	Int Finishes	1	4160.00	416.00	CBP.B4.SUP.GF.2.2.4.2, CBP.B4.SUP.LGF.2.2.4.1, CBP.B4.SUP.GF.2.2.3.1, CBP.B4.SUP.GF.2.2.3.2
128	CBP.B4.SUP.GF.2.2.4.2	Granite flooring for stairs ground floor	Int Finishes	1	45270.00	4527.00	CBP.B4.SUP.GF.2.2.3.1
129	CBP.B4.SUP.GF.2.2.2.1	Plastering ceiling of ground floor	Int Finishes	2	4121.60	412.16	CBP.B4.SUP.GF.2.1.1, CBP.B4.SUP.LGF.2.2.1.1, CBP.B4.SUP.GF.3.1
130	CBP.B4.SUP.GF.2.2.2.2	Gypsum suspended ceiling 1st fix for ground floor	Int Finishes	1	416.00	41.60	CBP.B4.SUP.GF.2.2.2.1, CBP.B4.SUP.LGF.2.2.2.3, CBP.B4.SUP.GF.3.2
131	CBP.B4.SUP.GF.2.2.3.2	Ceramic intallation for baths ground floor	Int Finishes	1	2720.00	272.00	CBP.B4.SUP.GF.2.2.3.1
132	CBP.B4.SUP.GF.2.2.3.1	Marble installation for lift lobby and corridors ground floor	Int Finishes	2	19680.00	1968.00	CBP.B4.SUP.GF.2.2.1.4
133	CBP.B4.SUP.SF.1.2.1	Erection of slabs and beams formwork for 2nd floor	Concrete	5	282920.00	28292.00	CBP.B4.SUP.SF.1.1.3

Table S1: Scheduling and cost details of building B4 of the CBP case study project (cont.)

No.	WBS Code	Work Item Description	Sub-contractor	Dur (days)	Direct Costs (\$)	Indirect Costs (\$)	Predecessors
134	CBP.B4.SUP.SF.1.2.2	Installation of reinforcement 2nd floor	Concrete	5	160116.00	16011.60	CBP.B4.SUP.SF.1.2.1
135	CBP.B4.SUP.SF.1.2.3	Pouring concrete for 2nd floor	Concrete	1	129840.00	12984.00	CBP.B4.SUP.SF.1.2.2
136	CBP.B4.SUP.SF.1.2.4	Dismantling of formwork for 2nd floor	Concrete	2	352.00	35.20	CBP.B4.SUP.SF.1.2.3, CBP.B4.SUP.SF.1.1.4
137	CBP.B4.SUP.SF.1.1.1	Erection of columns formwork for 2nd floor	Concrete	2	75480.00	7548.00	CBP.B4.SUP.FF.1.2.3
138	CBP.B4.SUP.SF.1.1.2	Installation of columns reinforcement 2nd floor	Concrete	1	32340.00	3234.00	CBP.B4.SUP.SF.1.1.1
139	CBP.B4.SUP.SF.1.1.3	Pouring Concrete for 2nd floor	Concrete	1	26800.00	2680.00	CBP.B4.SUP.SF.1.1.2
140	CBP.B4.SUP.SF.1.1.4	Dismantling of formwork for 2nd floor	Concrete	1	176.00	17.60	CBP.B4.SUP.SF.1.1.3
141	CBP.B4.SUP.SF.2.1.1	Installation of concrete blocks 2nd floor	Masonry	5	11678.40	1167.84	CBP.B4.SUP.SF.1.2.4, CBP.B4.SUP.FF.2.1.1
142	CBP.B4.SUP.SF.2.2.1.1	Plastering walls of 2nd floor	Int Finishes	2	5382.40	538.24	CBP.B4.SUP.SF.2.2.2.3
143	CBP.B4.SUP.SF.2.2.1.2	Painting walls of 2nd floor	Int Finishes	2	10200.00	1020.00	CBP.B4.SUP.SF.2.2.1.1, CBP.B4.SUP.FF.2.2.1.2
144	CBP.B4.SUP.SF.2.2.1.3	Ceramic cladding of baths for 2nd floor	Int Finishes	2	10560.00	1056.00	CBP.B4.SUP.SF.2.2.1.2
145	CBP.B4.SUP.SF.2.2.1.4	Marble cladding of lift lobby for 2nd floor	Int Finishes	2	51680.00	5168.00	CBP.B4.SUP.SF.2.2.1.2, CBP.B4.SUP.SF.2.2.1.3
146	CBP.B4.SUP.SF.2.2.4.1	Installation of handrail for 2nd floor	Int Finishes	1	4068.57	406.86	CBP.B4.SUP.SF.2.2.4.2, CBP.B4.SUP.FF.2.2.4.1, CBP.B4.SUP.SF.2.2.3.1, CBP.B4.SUP.SF.2.2.3.2
147	CBP.B4.SUP.SF.2.2.4.2	Granite flooring for stairs 2nd floor	Int Finishes	1	45270.00	4527.00	CBP.B4.SUP.SF.2.2.3.1
148	CBP.B4.SUP.SF.2.2.2.1	Plastering ceiling of 2nd floor	Int Finishes	2	4121.60	412.16	CBP.B4.SUP.SF.2.1.1, CBP.B4.SUP.FF.2.2.1.1, CBP.B4.SUP.SF.3.1, CBP.B4.SUP.TF.3.1
149	CBP.B4.SUP.SF.2.2.2.2	Gypsum suspended ceiling 1st fix for 2nd floor	Int Finishes	1	6552.00	655.20	CBP.B4.SUP.SF.2.2.2.1, CBP.B4.SUP.FF.2.2.2.3, CBP.B4.SUP.SF.3.2, CBP.B4.SUP.TF.3.2
150	CBP.B4.SUP.SF.2.2.2.3	Gypsum suspended ceiling 2nd fix for 2nd floor	Int Finishes	1	0.00	0.00	CBP.B4.SUP.SF.2.2.2.2
151	CBP.B4.SUP.SF.2.2.3.1	Marble installation for lift lobby and corridors 2nd floor	Int Finishes	2	19680.00	1968.00	CBP.B4.SUP.SF.2.2.1.4
152	CBP.B4.SUP.SF.2.2.3.2	Ceramic installation for baths 2nd floor	Int Finishes	1	2720.00	272.00	CBP.B4.SUP.SF.2.2.3.1
153	CBP.B4.SUP.TF.1.2.1	Erection of slabs and beams formwork for 3rd floor	Concrete	5	282920.00	28292.00	CBP.B4.SUP.TF.1.1.3
154	CBP.B4.SUP.TF.1.2.2	Installation of reinforcement 3rd floor	Concrete	5	160116.00	16011.60	CBP.B4.SUP.TF.1.2.1
155	CBP.B4.SUP.TF.1.2.3	Pouring concrete for 3rd floor	Concrete	1	129840.00	12984.00	CBP.B4.SUP.TF.1.2.2
156	CBP.B4.SUP.TF.1.2.4	Dismantling of formwork for 3rd floor	Concrete	2	352.00	35.20	CBP.B4.SUP.TF.1.2.3, CBP.B4.SUP.TF.1.1.4
157	CBP.B4.SUP.TF.1.1.1	Erection of columns formwork for 3rd floor	Concrete	2	75480.00	7548.00	CBP.B4.SUP.SF.1.2.3
158	CBP.B4.SUP.TF.1.1.2	Installation of columns reinforcement 3rd floor	Concrete	1	32340.00	3234.00	CBP.B4.SUP.TF.1.1.1
159	CBP.B4.SUP.TF.1.1.3	Pouring concrete for 3rd floor	Concrete	1	26800.00	2680.00	CBP.B4.SUP.TF.1.1.2
160	CBP.B4.SUP.TF.1.1.4	Dismantling of formwork for 3rd floor	Concrete	1	176.00	17.60	CBP.B4.SUP.TF.1.1.3
161	CBP.B4.SUP.TF.2.1.1	Installation of concrete blocks 3rd floor	Masonry	5	11678.40	1167.84	CBP.B4.SUP.TF.1.2.4, CBP.B4.SUP.SF.2.1.1
162	CBP.B4.SUP.TF.2.2.1.1	Plastering walls of 3rd floor	Int Finishes	2	5382.40	538.24	CBP.B4.SUP.TF.2.2.2.3
163	CBP.B4.SUP.TF.2.2.1.2	Painting walls of 3rd floor	Int Finishes	2	10200.00	1020.00	CBP.B4.SUP.TF.2.2.1.1, CBP.B4.SUP.SF.2.2.1.2
164	CBP.B4.SUP.TF.2.2.1.3	Ceramic cladding of baths for 3rd floor	Int Finishes	2	10560.00	1056.00	CBP.B4.SUP.TF.2.2.1.2
165	CBP.B4.SUP.TF.2.2.1.4	Marble cladding of lift lobby for 3rd floor	Int Finishes	2	51680.00	5168.00	CBP.B4.SUP.TF.2.2.1.2, CBP.B4.SUP.TF.2.2.1.3
166	CBP.B4.SUP.TF.2.2.4.1	Installation of handrail for 3rd floor	Int Finishes	1	4160.00	416.00	CBP.B4.SUP.TF.2.2.4.2, CBP.B4.SUP.SF.2.2.4.1, CBP.B4.SUP.TF.2.2.3.1, CBP.B4.SUP.TF.2.2.3.2
167	CBP.B4.SUP.TF.2.2.4.2	Granite flooring for stairs 3rd floor	Int Finishes	1	45270.00	4527.00	CBP.B4.SUP.TF.2.2.3.1
168	CBP.B4.SUP.TF.2.2.2.1	Plastering ceiling of 3rd floor	Int Finishes	2	4121.60	412.16	CBP.B4.SUP.TF.2.1.1, CBP.B4.SUP.SF.2.2.1.1
169	CBP.B4.SUP.TF.2.2.2.2	Gypsum suspended ceiling 1st fix for 3rd floor	Int Finishes	1	6552.00	655.20	CBP.B4.SUP.TF.2.2.2.1, CBP.B4.SUP.SF.2.2.2.3

Table S1: Scheduling and cost details of building B4 of the CBP case study project (cont.)

No.	WBS Code	Work Item Description	Sub-contractor	Dur (days)	Direct Costs (\$)	Indirect Costs (\$)	Predecessors
170	CBP.B4.SUP.TF.2.2.2.3	Gypsum suspended ceiling 2nd fix for 3rd floor	Int Finishes	1	0.00	0.00	CBP.B4.SUP.TF.2.2.2.2
171	CBP.B4.SUP.TF.2.2.3.1	Marble installation for lift lobby and corridors 3rd floor	Int Finishes	2	19680.00	1968.00	CBP.B4.SUP.TF.2.2.1.4
172	CBP.B4.SUP.TF.2.2.3.2	Ceramic installation for baths 3rd floor	Int Finishes	1	2720.00	272.00	CBP.B4.SUP.TF.2.2.3.1
173	CBP.B4.SUP.FRF.1.2.1	Erection of slabs and beams formwork for 4th floor	Concrete	5	282920.00	28292.00	CBP.B4.SUP.FRF.1.1.3
174	CBP.B4.SUP.FRF.1.2.2	Installation of reinforcement 4th floor	Concrete	5	160116.00	16011.60	CBP.B4.SUP.FRF.1.2.1
175	CBP.B4.SUP.FRF.1.2.3	Pouring concrete for 4th floor	Concrete	1	129840.00	12984.00	CBP.B4.SUP.FRF.1.2.2
176	CBP.B4.SUP.FRF.1.2.4	Dismantling of formwork for 4th floor	Concrete	2	352.00	35.20	CBP.B4.SUP.FRF.1.2.3, CBP.B4.SUP.FRF.1.1.4
177	CBP.B4.SUP.FRF.1.1.1	Erection of columns formwork for 4th floor	Concrete	2	75480.00	7548.00	CBP.B4.SUP.TF.1.2.3
178	CBP.B4.SUP.FRF.1.1.2	Installation of columns reinforcement 4th floor	Concrete	1	32340.00	3234.00	CBP.B4.SUP.FRF.1.1.1
179	CBP.B4.SUP.FRF.1.1.3	Pouring concrete for 4th floor	Concrete	1	26800.00	2680.00	CBP.B4.SUP.FRF.1.1.2
180	CBP.B4.SUP.FRF.1.1.4	Dismantling of formwork for 4th floor	Concrete	1	176.00	17.60	CBP.B4.SUP.FRF.1.1.3
181	CBP.B4.SUP.FRF.2.1.1	Installation of concrete blocks 4th floor	Masonry	5	11678.40	1167.84	CBP.B4.SUP.FRF.1.2.4, CBP.B4.SUP.TF.2.1.1
182	CBP.B4.SUP.FRF.2.2.1.1	Plastering walls of 4th floor	Int Finishes	2	5382.40	538.24	CBP.B4.SUP.FRF.2.2.2.3
183	CBP.B4.SUP.FRF.2.2.1.2	Painting walls of 4th floor	Int Finishes	2	10200.00	1020.00	CBP.B4.SUP.FRF.2.2.1.1, CBP.B4.SUP.TF.2.2.1.2
184	CBP.B4.SUP.FRF.2.2.1.3	Ceramic cladding of baths for 4th floor	Int Finishes	2	10560.00	1056.00	CBP.B4.SUP.FRF.2.2.1.2
185	CBP.B4.SUP.FRF.2.2.1.4	Marble cladding of lift lobby for 4th floor	Int Finishes	2	51680.00	5168.00	CBP.B4.SUP.FRF.2.2.1.3
186	CBP.B4.SUP.FRF.2.2.4.1	Installation of handrail for 4th floor	Int Finishes	1	4160.00	416.00	CBP.B4.SUP.FRF.2.2.4.2, CBP.B4.SUP.TF.2.2.4.1, CBP.B4.SUP.FRF.2.2.3.1, CBP.B4.SUP.FRF.2.2.3.2
187	CBP.B4.SUP.FRF.2.2.4.2	Granite flooring for stairs 4th floor	Int Finishes	1	45270.00	4527.00	CBP.B4.SUP.FRF.2.2.3.1
188	CBP.B4.SUP.FRF.2.2.2.1	Plastering ceiling of 4th floor	Int Finishes	2	4121.60	412.16	CBP.B4.SUP.FRF.2.2.1.1, CBP.B4.SUP.TF.2.2.1.1, CBP.B4.SUP.FRF.3.1
189	CBP.B4.SUP.FRF.2.2.2.2	Gypsum suspended ceiling 1st fix for 4th floor	Int Finishes	1	6552.00	655.20	CBP.B4.SUP.FRF.2.2.2.1, CBP.B4.SUP.TF.2.2.2.3
190	CBP.B4.SUP.FRF.2.2.2.3	Gypsum suspended ceiling 2nd fix for 4th floor	Int Finishes	1	0.00	0.00	CBP.B4.SUP.FRF.2.2.2.2
191	CBP.B4.SUP.FRF.2.2.3.1	Marble installation for lift lobby and corridors 4th floor	Int Finishes	2	19680.00	1968.00	CBP.B4.SUP.FRF.2.2.1.4
192	CBP.B4.SUP.FRF.2.2.3.2	Ceramic installation for baths 4th floor	Int Finishes	1	2720.00	272.00	CBP.B4.SUP.FRF.2.2.3.1
193	CBP.B4.SUP.FVF.1.2.1	Erection of slabs and beams formwork for 5th floor	Concrete	5	282920.00	28292.00	CBP.B4.SUP.FVF.1.1.3
194	CBP.B4.SUP.FVF.1.2.2	Installation of reinforcement 5th floor	Concrete	5	160116.00	16011.60	CBP.B4.SUP.FVF.1.2.1
195	CBP.B4.SUP.FVF.1.2.3	Pouring concrete for 5th floor	Concrete	1	129840.00	12984.00	CBP.B4.SUP.FVF.1.2.2
196	CBP.B4.SUP.FVF.1.2.4	Dismantling of formwork for 5th floor	Concrete	2	352.00	35.20	CBP.B4.SUP.FVF.1.2.3, CBP.B4.SUP.FVF.1.1.4
197	CBP.B4.SUP.FVF.1.1.1	Erection of columns formwork for 5th floor	Concrete	2	75480.00	7548.00	CBP.B4.SUP.FRF.1.2.3
198	CBP.B4.SUP.FVF.1.1.2	Installation of columns reinforcement 5th floor	Concrete	1	32340.00	3234.00	CBP.B4.SUP.FVF.1.1.1
199	CBP.B4.SUP.FVF.1.1.3	Pouring concrete for 5th floor	Concrete	1	26800.00	2680.00	CBP.B4.SUP.FVF.1.1.2
200	CBP.B4.SUP.FVF.1.1.4	Dismantling of formwork for 5th floor	Concrete	1	176.00	17.60	CBP.B4.SUP.FVF.1.1.3
201	CBP.B4.SUP.FVF.2.1.1	Installation of concrete blocks 5th floor	Masonry	5	11678.40	1167.84	CBP.B4.SUP.FVF.1.2.4, CBP.B4.SUP.FRF.2.1.1
202	CBP.B4.SUP.FVF.2.2.1.1	Plastering walls of 5th floor	Int Finishes	2	5382.40	538.24	CBP.B4.SUP.FVF.2.2.2.3
203	CBP.B4.SUP.FVF.2.2.1.2	Painting walls of 5th floor	Int Finishes	2	10200.00	1020.00	CBP.B4.SUP.FVF.2.2.1.1, CBP.B4.SUP.FRF.2.2.1.2
204	CBP.B4.SUP.FVF.2.2.1.3	Ceramic cladding of baths for 5th floor	Int Finishes	2	10560.00	1056.00	CBP.B4.SUP.FVF.2.2.1.2
205	CBP.B4.SUP.FVF.2.2.1.4	Marble cladding of lift lobby for 5th floor	Int Finishes	2	51680.00	5168.00	CBP.B4.SUP.FVF.2.2.1.3
206	CBP.B4.SUP.FVF.2.2.4.1	Installation of handrail for 5th floor	Int Finishes	1	4160.00	416.00	CBP.B4.SUP.FVF.2.2.4.2, CBP.B4.SUP.FRF.2.2.4.1, CBP.B4.SUP.FVF.2.2.3.1, CBP.B4.SUP.FVF.2.2.3.2
207	CBP.B4.SUP.FVF.2.2.4.2	Granite flooring for stairs 5th floor	Int Finishes	1	45270.00	4527.00	CBP.B4.SUP.FVF.2.2.3.1

Table S1: Scheduling and cost details of building B4 of the CBP case study project (cont.)

No.	WBS Code	Work Item Description	Sub-contractor	Dur (days)	Direct Costs (\$)	Indirect Costs (\$)	Predecessors
208	CBP.B4.SUP.FVF.2.2.2.1	Plastering ceiling of 5th floor	Int Finishes	2	4121.60	412.16	CBP.B4.SUP.FVF.2.1.1, CBP.B4.SUP.FRF.2.2.1.1, CBP.B4.SUP.FVF.3.1
209	CBP.B4.SUP.FVF.2.2.2.2	Gypsum suspended ceiling 1st fix for 5th floor	Int Finishes	1	6552.00	655.20	CBP.B4.SUP.FVF.2.2.2.1, CBP.B4.SUP.FRF.2.2.2.3, CBP.B4.SUP.FRF.3.2, CBP.B4.SUP.FVF.3.2
210	CBP.B4.SUP.FVF.2.2.2.3	Gypsum suspended ceiling 2nd fix for 5th floor	Int Finishes	1	0.00	0.00	CBP.B4.SUP.FVF.2.2.2.2
211	CBP.B4.SUP.FVF.2.2.3.1	Marble installation for lift lobby and corridors 5th floor	Int Finishes	2	19680.00	1968.00	CBP.B4.SUP.FVF.2.2.1.4
212	CBP.B4.SUP.FVF.2.2.3.2	Ceramic installation for baths 5th floor	Int Finishes	1	2720.00	272.00	CBP.B4.SUP.FVF.2.2.3.1
213	CBP.B4.SUP.LGF.2.2.2.3	Gypsum suspended ceiling 2nd fix for lower ground floor	Int Finishes	1	0.00	0.00	CBP.B4.SUP.LGF.2.2.2.2
214	CBP.B4.SUP.GF.2.2.2.3	Gypsum suspended ceiling 2nd fix for ground floor	Int Finishes	1	0.00	0.00	CBP.B4.SUP.GF.2.2.2.2
215	CBP.B4.SUP.FF.2.2.2.3	Gypsum suspended ceiling 2nd fix for 1st floor	Int Finishes	1	0.00	0.00	CBP.B4.SUP.FF.2.2.2.2
216	CBP.B4.SUP.EXT.1	Installation of Aluminium / Glass / Mullions sheets	Ext Finishes	4	2080000.00	208000.00	CBP.B4.SUP.SXF.2.1.1
217	CBP.B4.SUP.EXT.2	Installation of Steel shades	Ext Finishes	1	1680.00	168.00	CBP.B4.SUP.EXT.1
218	CBP.B4.SUP.LGF.3.1	Rough work for lower ground floor	MEP	5	1029604.00	102960.40	CBP.B4.SUP.LGF.1.2.2, CBP.B4.SUB.2.3.1
219	CBP.B4.SUP.LGF.3.2	Installation of accessories and fixtures for lower ground floor	MEP	5	450452.00	45045.20	CBP.B4.SUP.LGF.3.1, CBP.B4.SUB.2.3.2
220	CBP.B4.SUP.GF.3.1	Rough work for ground floor	MEP	5	1029604.00	102960.40	CBP.B4.SUP.GF.1.2.2, CBP.B4.SUP.LGF.3.1
221	CBP.B4.SUP.GF.3.2	Installation of accessories and fixtures for lower ground floor	MEP	5	450452.00	45045.20	CBP.B4.SUP.GF.3.1, CBP.B4.SUP.LGF.3.2
222	CBP.B4.SUP.FF.3.1	Rough work for 1st floor	MEP	5	1029604.00	102960.40	CBP.B4.SUP.FF.1.2.2, CBP.B4.SUP.GF.3.1
223	CBP.B4.SUP.FF.3.2	Installation of accessories and fixtures for 1st floor	MEP	5	450452.00	45045.20	CBP.B4.SUP.FF.3.1, CBP.B4.SUP.GF.3.2
224	CBP.B4.SUP.SF.3.1	Rough work for 2nd floor	MEP	5	1029604.00	102960.40	CBP.B4.SUP.SF.1.2.2, CBP.B4.SUP.FF.3.1
225	CBP.B4.SUP.SF.3.2	Installation of accessories and fixtures for 2nd floor	MEP	5	450452.00	45045.20	CBP.B4.SUP.SF.3.1, CBP.B4.SUP.FF.3.2
226	CBP.B4.SUP.TF.3.1	Rough work for 3rd floor	MEP	5	1029604.00	102960.40	CBP.B4.SUP.TF.1.2.2, CBP.B4.SUP.SF.3.1
227	CBP.B4.SUP.TF.3.2	Installation of accessories and fixtures for 3rd floor	MEP	5	450452.00	45045.20	CBP.B4.SUP.TF.3.1, CBP.B4.SUP.SF.3.2
228	CBP.B4.SUP.FRF.3.1	Rough work for 4th floor	MEP	5	1029604.00	102960.40	CBP.B4.SUP.FRF.1.2.2, CBP.B4.SUP.TF.3.1
229	CBP.B4.SUP.FRF.3.2	Installation of accessories and fixtures for 4th floor	MEP	5	450452.00	45045.20	CBP.B4.SUP.FRF.3.1, CBP.B4.SUP.TF.3.2
230	CBP.B4.SUP.FVF.3.1	Rough work for 5th floor	MEP	5	1029604.00	102960.40	CBP.B4.SUP.FVF.1.2.2, CBP.B4.SUP.FRF.3.1
231	CBP.B4.SUP.FVF.3.2	Installation of accessories and fixtures for 5th floor	MEP	5	450452.00	45045.20	CBP.B4.SUP.FVF.3.1, CBP.B4.SUP.FRF.3.2
232	CBP.B4.SUP.SXF.3.1	Rough work for 6th floor	MEP	5	1029604.00	102960.40	CBP.B4.SUP.SXF.1.2.2, CBP.B4.SUP.FVF.3.1
233	CBP.B4.SUP.SXF.3.2	Installation of equipment for 6th floor	MEP	5	5791520.00	579152.00	CBP.B4.SUP.SXF.1.2.4
234	CBP.B4.SUP.SXF.3.3	Installation of accessories and fixtures for 6th floor	MEP	5	450452.00	45045.20	CBP.B4.SUP.SXF.3.1, CBP.B4.SUP.SXF.3.2, CBP.B4.SUP.FVF.3.2
235	CBP.B4.SUB.1.3.1	Rough work for 1st level basement	MEP	5	1029604.00	102960.40	CBP.B4.SUB.1.1.2.2
236	CBP.B4.SUB.1.3.2	Installation of accessories and fixtures for 1st level basement	MEP	5	450452.00	45045.20	CBP.B4.SUB.1.3.1
237	CBP.B4.SUB.2.3.1	Rough work for 2nd level basement	MEP	5	1029604.00	102960.40	CBP.B4.SUB.2.1.2.2, CBP.B4.SUB.1.3.1
238	CBP.B4.SUB.2.3.2	Installation of accessories and fixtures for 2nd level basement	MEP	5	450452.00	45045.20	CBP.B4.SUB.2.3.1, CBP.B4.SUB.1.3.2