

PROPOSED ADDITIONS AND ALTERATIONS WORKS FOR OFFICE OF FOOTBALL ASSOCIATION OF SINGAPORE @ 100 TYRWHITT ROAD, JALAN BESAR STADIUM, SINGAPORE 207542

SCHEDULE B - SCHEDULE OF UNIT RATES FOR VARIATION (M&E)

Rates are inclusive of all overheads (including on and off-site supervisory staff, allowances, consumables, etc.) and shall remain valid until the end of the Defects Liability Period.

ELECTRICAL

Item	Description	Rate S\$						Total	
		Unit		Material		Labour/ Overheads/ Profits			
	DISTRIBUTION BOARDS								
1	Supply and installation of MCB distribution board complete with neutral and earth terminal block clamping rails, MCBs, etc.,								
	No. of Ways (10KA)	63A and below incoming with 5A, 10A, 15A or 20A Ways							
		DP	TPN	DP	TPN	DP	TPN	DP	TPN
(a)	6 Ways								
(b)	8 Ways								
(c)	10 Ways								
(d)	12 Ways								
(e)	18 Ways								
(f)	24 Ways								
(g)	36 Ways								
(h)	48 Ways								
	No. of Ways (10KA)	40A and below incoming with 5A, 10A, 15A or 20A Ways							
		DP	TPN	DP	TPN	DP	TPN	DP	TPN
(a)	6 Ways								
(b)	8 Ways								
(c)	10 Ways								
(d)	12 Ways								
(e)	18 Ways								
(f)	24 Ways								
(g)	36 Ways								
(h)	48 Ways								

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Item	Description	Rate S\$			Total
		Unit	Material	Labour/ Overheads/ Profits	
2.	MOULDED CASE CIRCUIT BREAKER/MINIATURE CIRCUIT BREAKER				
	Supply and installation of MCB/MCCB in cubicle panel complete with thermal/magnetic trip etc.				
	Breaking Capacity of MCCB-50KA rms (SYM)				
a)	415V, TPN				
	(i) 100AF,60AT- 100AT	1 No			
	(ii) 50AF,10AT- 50AT	1 No			
b)	415V, 4P				
	(i) 100AF, 60AT- 100AT	1 No			
	(ii) 50AF, 10AT- 50AT	1 No			
(c)	250V, DP				
	(i) 100AF,60AT-100AT	1 No			
	(ii) 50AF,10AT- 50AT	1 No			
	Breaking Capacity of MCCB-36KA rms (SYM)				
	415V, TPN				
	(i) 100AF,60AT-100AT	1 No			
	(ii) 50AF, 10AT-50AT	1 No			
	415V, 4P				
	(i) 100AF,60AT-100AT	1 No			
	(ii) 50AF, 10AT-50AT	1 No			
	250V, DP				
	(i) 125AF,50AT-100AT	1 No			
	(ii) 100AF,60AT-100AT	1 No			
	(iii) 50AF,10AT- 50AT	1 No			
	Breaking Capacity of MCCB-22KA rms (SYM)				
	415V, TPN				
	(i) 100AF,60AT-100AT				
	(ii) 50AF, 10AT-50AT	1 No			
	415V, 4P				

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Item	Description		Rate S\$			Total
			Unit	Material	Labour/ Overheads/ Profits	
	(i)	100AF,60AT-100AT	1 No			
	(ii)	50AF, 10AT-50AT	1 No			
	250V, DP					
	(i)	100AF,60AT-100AT	1 No			
	(ii)	50AF, 10AT-50AT	1 No			
	Breaking Capacity of MCB15KA rms (SYM)					
	(a)	415V, TPN				
	(i)	100AF, 60AT- 100AT	1 No			
	(ii)	50AF, 10AT- 50AT	1 No			
	(b)	415V, 4P				
	(i)	100AF, 60AT- 100AT	1 No			
	(ii)	50AF, 10AT- 50AT	1 No			
	(c)	250V, DP				
	(i)	100AF,60AT-100AT	1 No			
	(ii)	50AF,10AT- 50AT	1 No			
	(d)	250V, SPN				
	(i)	100AF,60AT-100AT	1 No			
	(ii)	50AF,10AT- 50AT	1 No			
	Breaking Capacity of MCB10KA rms (SYM)					
	(a)	415V, TPN				
	(i)	100A to 60A	1 No			
	(ii)	50A to 15A	1 No			
	(b)	(iii)				
	(c)	415V, 4P				
	(i)	100A to 60A	1 No			
	(ii)	50A to 15A	1 No			
	(d)	250V, DP				
	(i)	100AF,60AT-100AT	1 No			
	(ii)	50AF,10AT- 50AT	1 No			

Item	Description	Rate S\$	Total
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		Unit	Material	Labour/ Overheads/ Profits		
	(e)	250V, SPN				
		(i) 100AF,60AT-100AT				
		(ii) 50AF,10AT- 50AT				
	Breaking Capacity of MCB 6KA rms (SYM)					
	(a)	415V, TPN				
		(i) 100A to 60A	1 No			
		(ii) 50A to 15A	1 No			
	(b)	415V, 4P				
		(i) 100A to 60A	1 No			
		(ii) 50A to 15A	1 No			
	(c)	250V, DP				
		(i) 100AF,60AT-100AT	1 No			
		(ii) 50AF,10AT- 50AT	1 No			
	(d)	250V, SPN				
	(i) 100AF,60AT-100AT	1 No				
	(ii) 50AF,10AT- 50AT	1 No				
RESIDUAL CURRENT CIRCUIT BREAKERS						
3.	Supply and installation of current-operated residual current circuit breaker (RCCB)					
	(a)	100mA sensitivity				
		(i) 63A,4-pole,415V	1 No			
		(ii) 40A,4-pole,415V	1 No			
		(iii) 63A, 2-pole, 230V	1 No			
		(iv) 40A, 2-pole, 230V	1 No			
	(b)	30mA sensitivity				
		(i) 63A,2-pole,250V	1 No			
		(ii) 40A,2-pole,250V	1 No			
	(iii) 63A, 4-pole, 415V	1 No				
	(iv) 40A, 4-pole, 415V	1 No				

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Item	Description	Rate S\$			Total
		Unit	Material	Labour/ Overheads/ Profits	
	TIME SWITCHES / CONTACTORS				
4.	Supply and installation of 24 hour time switch with spring reserve and by-pass switch combination				
	(a) 10A,SP,250V,50Hz	1 No			
	(b) 16A,SP,250V,50Hz	1 No			
	PVC, PVC/PVC, PVC/SWA/PVC CABLES				
5.	Supply and installation of PVC insulated cables (copper conductor) in steel trunking /conduit (excluding trunking/ conduit)				
	(a) 1.0 sq mm/1C	1m			
	(b) 1.5 sq mm/1C	1m			
	(c) 2.5 sq mm/1C	1m			
	(d) 4.0 sq mm/1C	1m			
	(e) 6.0 sq mm/1C	1m			
	(f) 10.0 sq mm/1C	1m			
	(g) 16.0 sq mm/1C	1m			
	(h) 25.0 sq mm/1C	1m			
	(i) 35.0 sq mm/1C	1m			
	(j) 50.0 sq mm/1C	1m			
6.	Supply and installation of PVC/PVC cables (copper conductor) on cable trays (excluding cable trays)				
	(a) 1 x 10 sq mm/1C	1m			
	(b) 1 x 16 sq mm/1C	1m			
	(c) 1 x 25 sq mm/1C	1m			
	(d) 1 x 35 sq mm/1C	1m			
	(e) 1 x 50 sq mm/1C	1m			

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Item	Description	Rate S\$			Total
		Unit	Material	Labour/ Overheads/ Profits	
	CABLE TRUNKING/CONDUITS/ TRAYS/ LADDERS				
7.	Supply and installation of heavy duty underground pipes inclusive of excavation and backfilling, etc.				
	(a) 50mm dia. uPVC	1m			
	(b) 100mm dia. uPVC	1m			
8.	Supply and installation of surface heavy gauge galvanised screwed steel conduits and fittings (including fixing accessories)				
	Size				
	(a) 20mm dia	1m			
	(b) 25mm dia	1m			
	(c) 32mm dia	1m			
	(d) 50mm dia	1m			
9.	Supply and installation of concealed heavy gauge galvanised screwed steel conduits and fittings (including fixing accessories)				
	Size				
	(a) 20mm dia	1m			
	(b) 25mm dia	1m			
	(c) 32mm dia	1m			
	(d) 50mm dia	1m			
10.	Supply and installation of galvanised steel trunking complete with joints, cover plates and M.S. bracket supports				
	Size				
	(a) 50mm x 25mm	1m			
	(b) 50mm x 50mm	1m			
	(c) 75mm x 50mm	1m			
	(d) 100mm x 50mm	1m			
	(e) 100mm x 75mm	1m			

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Item	Description		Rate S\$			Total
			Unit	Material	Labour/ Overheads/ Profits	
	(f)	150mm x 100mm	1m			
	(g)	200mm x 75mm	1m			
11.	Supply and installation of galvanised perforated steel cable trays/ladder complete with M.S. bracket supports					
	Size					
	(a)	50mm	1m			
	(b)	100mm	1m			
	(c)	150mm	1m			
	(d)	200mm	1m			
	(e)	300mm	1m			
	(f)	450mm	1m			
12.	Supply and installation of hot-dipped galvanised mild steel cable tray/ladder complete with M.S. bracket supports					
	Size					
	(a)	50mm	1m			
	(b)	100mm	1m			
	(c)	150mm	1m			
	(d)	200mm	1m			
13.	LIGHTING AND SMALL POWER					
	Supply and installation of fluorescent light fittings complete with control gears, energy saving tube of colour rendering index 85% to 95% with colour temperature 3000K to 4000K. (All luminaires sizes shall be suitable for use with METRIC modular ceiling)					
	(a)	20W COB LED surface mounted dimmable down light, 3000K or 4000K, black finish (Diameter 170mm, height 230mm or approved equivalent)	1 No			

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Item	Description	Rate S\$			Total
		Unit	Material	Labour/ Overheads/ Profits	
(b)	Eyelite 30W Led recessed dimmable down light with 1-10V dimmable LED driver c/w die cast housing aluminum trim with opal acrylic diffuser IP44 4000K 2400lm	1 No			
(c)	Eyelite 30W Led recessed non dimmable down light LED driver c/w die cast housing aluminum trim with opal acrylic diffuser IP44 4000K 2400lm	1 No			
(d)	17.1W WFL COB wall washer LED light 3500K, white colour (135mm x 135mm, height 160mm) or approved equivalent	1 No			
(e)	MARSON Tubular outdoor wall mounted with 2 x 11W LED light bulb (Bulb fitting E27) black finish IP65 (Diameter 9cm x Height 26cm).	1 No			
(f)	EDITH candy holder wooden hanging lamp with 1 x 4/6W LED light bulb (Bulb fitting E27) white colour, (Width 120mm x Height 180mm x Depth 190mm), Material : Metal, glass , wood)	1 No			
(g)	ELSA smooth metallic chic pot-lid pendant lamp with 1 x 4/6W LED light bulb (Bulb fitting E27) colour : Black/white/moss green, (Height of base 20cm, length of base 28cm) Material : Metal or approved equivalent	1 No			
(h)	Emergency UFO lighting	1 No			
(i)	Emergency "Mickey mouse" lighting	1 No			

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Item	Description	Rate S\$			Total
		Unit	Material	Labour/ Overheads/ Profits	
14.	Supply and install the following emergency 'EXIT' light fitting:				
	(a) 'EXIT' luminaires complete with 2 Nos. 8W fluorescent tube and gears with 2 hour Nickel cadmium re-chargeable battery	1 No			
	(b) 'EXIT' luminaires with directional arrow complete with 2 Nos. 8W fluorescent tube and gears with 2 hour Nickel cadmium re-chargeable battery	1 No			
15.	Power Point Wiring				
	(a) Wiring power point circuit (concealed) using PVC cables for				
	New Circuit				
	(i) 15/20A radial circuit wired in conduit	1 pt			
	(ii) 15/20A radial circuit wired in trunking	1 pt			
	(iii) 30A radial circuit wired in conduit	1 pt			
	(iv) 30A radial circuit wired in trunking	1 pt			
	(v) 30A ring circuit wired in conduit	1 pt			
	(vi) 30A ring circuit wired in trunking	1 pt			
	Extend from Existing Circuit				
	(i) 15/20A radial circuit wired in conduit	1 pt			
	(ii) 15/20A radial circuit wired in trunking	1 pt			
	(iii) 30A radial circuit wired in conduit	1 pt			
	(iv) 30A radial circuit wired in trunking	1 pt			
	(v) 30A ring circuit wired in conduit	1 pt			

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Item	Description		Rate S\$			Total
			Unit	Material	Labour/ Overheads/ Profits	
	(vi)	30A ring circuit wired in trunking	1 pt			
	b)	Wiring power point circuit (surface) using PVC cables for				
		New Circuit				
	(i)	15/20A radial circuit wired in conduit	1 pt			
	(ii)	15/20A radial circuit wired in trunking	1 pt			
	(iii)	30A radial circuit wired in conduit	1 pt			
	(iv)	30A radial circuit wired in trunking	1 pt			
	(v)	30A ring circuit wired in conduit	1 pt			
	(vi)	30A ring circuit wired in trunking	1 pt			
		Extend from Existing Circuit				
	(i)	15/20A radial circuit wired in conduit	1 pt			
	(ii)	15/20A radial circuit wired in trunking	1 pt			
	(iii)	30A radial circuit wired in conduit	1 pt			
	(iv)	30A radial circuit wired in trunking	1 pt			
	(v)	30A ring circuit wired in conduit	1 pt			
	(vi)	30A ring circuit wired in trunking	1 pt			

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Item	Description	Rate S\$			Total	
		Unit	Material	Labour/ Overhead s/ Profits		
(c)	Wiring power point circuit(concealed) using fire resistant cables for					
	New Circuit					
	(i) 15/20A radial circuit wired in conduit	1 pt				
	(ii) 15/20A radial circuit wired in trunking	1 pt				
	(iii) 30A radial circuit wired in conduit	1 pt				
	(iv) 30A radial circuit wired in trunking	1 pt				
	(v) 30A ring circuit wired in conduit	1 pt				
	(vi) 30A ring circuit wired in trunking	1 pt				
	Extend from Existing Circuit					
	(a) 15/20A radial circuit wired in conduit	1 pt				
	(b) 15/20A radial circuit wired in trunking	1 pt				
	(c) 30A radial circuit wired in conduit	1 pt				
	(d) 30A radial circuit wired in trunking	1 pt				
	(e) 30A ring circuit wired in conduit	1 pt				
	(f) 30A ring circuit wired in trunking	1 pt				
	16.	Supply and installation of switch socket outlet complete with mounting boxes and frames, and accessories (excluding wiring)				
		(a) 13A	1 No			
(b) 13A Twin		1 No				
(c) 13A Metal-clad		1 No				
(d) 13A Twin Metal-clad		1 No				
(e) 13A Weatherproof		1 No				
(f) 20A SPN Isolator		1 No				
(g) 20A TPN Isolator	1 No					

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Item	Description		Rate S\$			Total
			Unit	Material	Labour/ Overhead s/ Profits	
	(h)	30A SPN Isolator	1 No			
	(i)	30A TPN Isolator	1 No			
17.	Lighting Point Wiring					
	(a)	Wiring lighting point circuit(concealed) in PVC cable complete with switch (new circuit) in:				
	(i)	conduit	1 pt			
	(b)	Wiring one lighting point (concealed) in PVC cable extended from existing circuit in:				
	(i)	conduit	1 pt			
	(c)	Wiring lighting point circuit(surface) in PVC cable complete with switch new circuit in:				
	(i)	Conduit	1 pt			
	(d)	Wiring one lighting point (surface) in PVC cable extended from existing circuit in:				
	(i)	conduit	1 pt			
	(e)	Wiring and installation of light fittings (internal) supplied by Owner	1 pt			
18.	Supply and installation of miscellaneous wiring accessories (excluding wiring):					
	(a)	Surface/flush switch complete with fixing accessories				
	(i)	5A 1-Way				
		1 gang	1 No			
		2 gang	1 No			
	(ii)	5A 2-Way				
		1 gang	1 No			
		2 gang	1 No			

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Item	Description		Rate S\$			Total
			Unit	Material	Labour/ Overhead s/ Profits	
	(b)	Surface/flush dimmable switch complete with fixing accessories				
	(iii)	5A 1-Way				
		1 gang	1 No			
		2 gang	1 No			
	(iv)	5A 2-Way				
		1 gang	1 No			
		2 gang	1 No			
	(c)	Surface metal-clad switch complete with fixing accessories				
	(i)	5A 1-Way				
		1 gang	1 No			
		2 gang	1 No			
	(d)	Supply and install 13A connector unit at high level for :				
	i)	Toilet auto sensor	1 No			
	(e)	Supply and install 20A connector unit at high level for :				
	i)	Water Heater	1 No			
19.	Supply and installation of data/telephone complete with mounting boxes and frames, and accessories					
	(a)	Supply and installation of surface telephone steel conduits complete with fittings and twisted pair cables:				
		i)	20mm dia.	1m		
		ii)	25mm dia.	1m		
	(b)	Supply and installation of concealed telephone steel conduits complete with fittings and twisted pair cables:				
		i)	20mm dia.	1m		
		ii)	25mm dia.	1m		
	(c)	Supply and install one new telephone outlet including faceplate etc in concealed GI conduit				
	i)	One telephone point	1 No			

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Item	Description		Rate S\$			Total
			Unit	Material	Labour/ Overhead s/ Profits	
	(d)	Supply and install one new data outlet (RJ45) including faceplate etc in concealed GI conduit				
	i)	One data point	1 No			
20.	Supply and install PA speakers complete with cabling, conduits and necessary accessories etc					
	(a)	Ceiling Speaker	1 No			
	(b)	Box Speaker	1 No			
21.	Supply and install nurse call system complete with cabling, conduits and necessary accessories					
	(a)	Toilet pull cord	1 No			
	(b)	Indicating light	1 No			
22.	Others					
	Supply and install the following items c/w wiring, cables, KO boxes, concealed GI conduit accessories etc for					
	(a)	Card Access Reader	1 No			
	(b)	Push Button	1 No			
	(c)	Emergency break glass for door	1 No			
	(d)	Fax point c/w faceplate	1 No			
	(e)	MATV point c/w faceplate	1 No			
	(f)	HDMI point c/w faceplate	1 No			
	(g)	VGA point c/w faceplate	1 No			
	(h)	Wall mounted oscillating fan c/w fan regulator	1 No			
	(i)	Ceiling fan c/w fan regulator	1 No			
23.	LABOUR RATES					
	(a)	Electrician	per hr			
	(b)	Supervisor	per hr			
	(c)	Others (please specify)				
	(i)		per hr			
	(ii)		per hr			

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AIR-CONDITIONING & MECHANICAL VENTILATION						
Item	Description		Rate S\$			Total
			Unit	Material	Labour/ Overheads/ Profits	
1	Labour Rates					
	a)	Sheetmetal worker	per hr			
	b)	Pipe fitter	per hr			
	c)	Electrician	per hr			
	d)	Welder	per hr			
	e)	Supervisor	per hr			
	f)	Labourer	per hr			
	g)	Others (please specify)	per hr			
	i)		per hr			
	ii)		per hr			
	iii)		per hr			
2	Black steel pipes heavy grade (BS1387) with screwed joints, installed, of diameter:					
	a)	25mm dia.	per m			
	b)	32mm dia.	per m			
	c)	40mm dia.	per m			
	d)	50mm dia.	per m			
	e)	75mm dia.	per m			
	f)	100mm dia.	per m			
3	Preformed phenolic foam insulation, of thickness as specified in the technical specification, for chilled water pipe diameter of:					
	a)	25mm dia.	per m			
	b)	32mm dia.	per m			
	c)	40mm dia.	per m			
	d)	50mm dia.	per m			
	e)	75mm dia.	per m			
	f)	100mm dia.	per m			

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4	Condensate drain pipe, including fittings, supports, painting; installed (but less insulation, excavation and backfilling)					
	a)	Copper pipes (BS2871:Part 1 Table X) with brazed joints, installed, of diameter				
		i) 28mm	per m			
		ii) 35mm	per m			
		iii) 42mm	per m			
		iv) 54mm	per m			
5	Sheet metal ductwork including duct fittings, supports, installed bare (less painting and insulation)					
	a)	Galvanised steel ductwork, of gauge;				
		i) 26 Ga.	per m ²			
		ii) 24 Ga.	per m ²			
		iii) 22 Ga.	per m ²			
		iv) 20 Ga.	per m ²			
		v) 18 Ga.	per m ²			
		vi) 16 Ga.	per m ²			
6	Addition to .5 for ductwork insulation,					
	a)	External insulation, 32 kg/m ³ fibreglass including vapour barrier, of insulation thickness,				
		i) 25mm	per m ²			
		ii) 50mm	per m ²			
	b)	External insulation, 50mm thick polyurethane including vapour barrier, chicken wire mesh, 12mm thick cement plaster and weather resistant paint	per m ²			
	c)	Internal insulation; 60 kg/m ³ semi-rigid rockwool mat including 22 gauge perforated aluminium sheet lining of insulation thickness				
		i) 25mm	per m ²			
		ii) 50mm	per m ²			
7	Addition to .5 for painting (1 coat primer paint, 1 under coat and 1 finishing coat)		per m ²			

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8	Ceiling supply air diffuser (face size 600mm x 600mm) installed, including volume damper and adaptor to suit neck size				
	a)	150mm x 150mm	per no.		
	b)	225mm x 225mm	per no.		
	c)	300mm x 300mm	per no.		
	d)	375mm x 375mm	per no.		
	e)	450mm x 450mm	per no.		
9	Ceiling supply air diffuser (face size to suit neck size) installed including volume damper, of neck size				
	a)	150mm x 150mm	per no.		
	b)	225mm x 225mm	per no.		
	c)	300mm x 300mm	per no.		
	d)	375mm x 375mm	per no.		
	e)	450mm x 450mm	per no.		
	f)	525mm x 525mm	per no.		
	g)	600mm x 600mm	per no.		
10	External fresh air intake grille (weatherproof fixed louvre blades type) installed, including volume damper, insects screen mesh and pre-filter section, of neck area,				
	a)	area less than 0.2m ²	per m ²		
	b)	area 0.2m ² to 0.5m ²	per m ²		
	c)	area larger than 0.5m ²	per m ²		
11	External exhaust air grille (weatherproof fixed louvre blades type) installed, including insect s screen mesh, of neck area,				
	a)	area less than 0.2m ²	per m ²		
	b)	area 0.2m ² to 0.5m ²	per m ²		
	c)	area larger than 0.5m ²	per m ²		

PROPOSED ADDITIONS AND ALTERATIONS WORKS FOR OFFICE OF FOOTBALL ASSOCIATION OF SINGAPORE @ 100 TYRWHITT ROAD, JALAN BESAR STADIUM, SINGAPORE 207542

PLUMBING & SANITARY					
Item	Description	Rate S\$			Total
		Unit	Material	Labour/ Overheads/ Profits	
1	Labourers – labour	per hr			
2	Plumbers – labour	per hr			
3	Supervisor/Engineer	per hr			
4	Certified Welders	per hr			
5	Licensed Plumber	per hr			
6	Cold water pipework including fittings and supports installed (but less excavation and backfilling):				
	a) Copper pipes installed complete with capillary fittings of nominal size:				
	i) 15mm dia.	per m			
	ii) 22mm dia.	per m			
	iii) 28mm dia.	per m			
	iv) 35mm dia.	per m			
	v) 42mm dia.	per m			
	vi) 54mm dia.	per m			
	b) Additional to 6a for using compression fittings of nominal size:				
	i) 15mm dia.	per m			
	ii) 22mm dia.	per m			
	iii) 28mm dia.	per m			
	iv) 35mm dia.	per m			
	v) 42mm dia.	per m			
	vi) 54mm dia.	per m			
	c) Copper pipes installed underground complete with capillary fittings of nominal size:				
	i) 15mm dia.	per m			
	ii) 22mm dia.	per m			
	iii) 28mm dia.	per m			
	iv) 35mm dia.	per m			
	v) 42mm dia.	per m			
	vi) 54mm dia.	per m			
	ix) 108mm dia.	per m			

PROPOSED ADDITIONS AND ALTERATIONS WORKS FOR OFFICE OF FOOTBALL ASSOCIATION OF SINGAPORE @ 100 TYRWHITT ROAD, JALAN BESAR STADIUM, SINGAPORE 207542

7	Hot water piping including fittings, insulation and supports installed:						
	a)	Pipework - rates are to be the same as for items .6(a)					
	b)	Insulation - 25mm thick for the following nominal pipe size:					
		i)	15mm dia.	per m			
		ii)	22mm dia.	per m			
iii)	28mm dia.	per m					
8	Cold water valves installed,						
	a)	Stop Valves of nominal size,					
	i)	15mm dia.	each				
	ii)	22mm dia.	each				
	iii)	25mm dia.	each				
	iv)	32mm dia.	each				
	v)	40mm dia.	each				
	vi)	50mm dia.	each				
	b)	Sluice Valves/Gate Valves of nominal size,					
	i)	15mm dia.	each				
	ii)	22mm dia.	each				
	iii)	25mm dia.	each				
	iv)	32mm dia.	each				
	v)	40mm dia.	each				
	vi)	50mm dia.	each				
	c)	Check Valves installed of nominal size,					
	i)	15mm dia.	each				
	ii)	22mm dia.	each				
	iii)	25mm dia.	each				
	iv)	32mm dia.	each				
	v)	40mm dia.	each				
vi)	50mm dia.	each					

PROPOSED ADDITIONS AND ALTERATIONS WORKS FOR OFFICE OF FOOTBALL ASSOCIATION OF SINGAPORE @ 100 TYRWHITT ROAD, JALAN BESAR STADIUM, SINGAPORE 207542

9	Sanitary pipework including fittings and supports installed (but less excavation and backfilling):					
	a)	Hubless cast iron pipes, installed, of nominal size,				
		i) 80mm dia.	per m			
		ii) 100mm dia.	per m			
		iii) 150mm dia.	per m			
	b)	Ductile iron pipes for belowground use, installed, for nominal size,				
		i) 80mm dia.	per m			
		ii) 100mm dia.	per m			
		iii) 150mm dia.	per m			
	c)	uPVC pipes for aboveground use, installed, for nominal size,				
		i) 32mm dia.	per m			
		ii) 40mm dia.	per m			
		iii) 50mm dia.	per m			
		iv) 80mm dia.	per m			
		v) 100mm dia.	per m			
		vi) 150mm dia.	per m			
	d)	uPVC pipes for underground use, installed, for nominal size,				
		i) 100mm dia.	per m			
		ii) 150mm dia.	per m			
	e)	Vitrified clay (stoneware) pipes for belowground use, installed, for nominal size,				
		i) 150mm dia.	per m			
		ii) 225mm dia.	per m			
10	Inspection Chamber/Manhole to Sewerage Department Drawing No. PUB/SEW/STD/002), without cover, of depth (to invert level),					
	a)	0.75m	each			
	b)	1.0m	each			
	c)	1.5m	each			
	d)	2.0m	each			
	e)	2.5m	each			

PROPOSED ADDITIONS AND ALTERATIONS WORKS FOR OFFICE OF FOOTBALL ASSOCIATION OF SINGAPORE @ 100 TYRWHITT ROAD, JALAN BESAR STADIUM, SINGAPORE 207542

11	Inspection chamber covers, additional to item .12				
	a)	Medium duty cast iron double seal flat type cover with frame including bedding and painting of size 600mm x 450mm	each		
	b)	Heavy duty cast iron double seal flat type cover with frame including bedding and painting of size 600mm x 600mm	each		
	c)	Heavy duty recessed cover with frame including bedding of size 600mm x 450mm (tiling by others)	each		
12	Taking delivery and installation of sanitary appliances (including final connections from roughed-in pipes)				
	a)	Squatting WC	each		
	b)	Pedestal WC	each		
	c)	Wash hand basin with taps	each		
	d)	Slab urinal	each		
	e)	Bowl urinal	each		
	f)	Bowl urinal devices	each		
	h)	Double bowl sink with taps (for kitchen)	each		
	i)	Bidet	each		
13	Floor waste trap installed, (excludes grating)		each		
	a)	uPVC, of nominal size			
		i)	100mm x 100mm	each	
		ii)	100mm x 80mm	each	
	b)	Cast iron, of nominal size			
		i)	100mm x 100mm	each	
		ii)	100mm x 80mm	each	
	c)	Floor drain (heavy duty) for car park area,:			
i)		100mm x 100mm	each		
ii)		80mm dia.	each		
14	Grating (hinged type) for .20 above, installed,				
	a)	Stainless steel, of nominal size,			
		i)	100mm x 100mm	each	
		ii)	80mm dia.	each	
	b)	uPVC, of nominal size			
		i)	100mm x 100mm	each	
ii)		80mm dia.	each		

PROPOSED ADDITIONS AND ALTERATIONS WORKS FOR OFFICE OF FOOTBALL ASSOCIATION OF SINGAPORE @ 100 TYRWHITT ROAD, JALAN BESAR STADIUM, SINGAPORE 207542

FIRE PROTECTION						
Item	Description		Rate S\$			Total
			Unit	Material	Labour/ Overheads/ Profits	
1	Supervisors /Engineers		per hr			
2	Pipe fitters		per hr			
3	Pipe welders		per hr			
4	Alarm system electricians		per hr			
5	Sprinkler distribution pipework - BS1387 Black Steel medium grade (inclusive of fittings, supports, painting and installation)					
	(a)	32mm dia.	per m			
	(b)	40mm dia.	per m			
	(c)	50mm dia.	per m			
	(d)	65mm dia.	per m			
	(e)	80mm dia.				
6	Sprinkler distribution pipework - API Schedule 40 Std 5L Black Steel (inclusive of fittings, supports, painting and installation)					
	a)	100mm dia.	per no.			
	b)	150mm dia.	per no.			
	c)	200mm dia.	per no.			
	d)	250mm dia.	per no.			
	e)	300mm dia.	per no.			
7	Fire hose reel (inclusive of 30m x 25mm rubber hose, reel, installation but less cabinet)		per set			
11	Fire hose reel cabinet extinguisher (steel type)		per no.			
12	Fire extinguishers c/w mounting bracket (w/o cabinet)					
	a)	1.15 kg CO2	per no.			
	b)	2.3 kg CO2	per no.			
	c)	4.5 kg CO2	per no.			
	d)	4.5 kg CO2 Dry Chemical	per no.			
	e)	9 kg CO2 Dry Chemical	per no.			
13	Fire extinguisher cabinet (steel type)		per no.			

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14	Fire alarm detectors and accessories					
	a)	Breakglass call point	per no.			
	b)	150mm alarm bell	per no.			
	c)	Siren	per no.			
	d)	Flashing beacon light	per no.			
	e)	Rate-of-rise and fixed temperature heat detector, addressable type	per no.			
	f)	Ionization, smoke detector, addressable type	per no.			
	g)	Photo-electric smoke detector, addressable type	per no.			
	h)	Linear smoke detector (receiver and transmitter)	per no.			
15	Supply and installation of PVC insulated cables (copper conductor) in surface conduit (excluding conduit) UL Class A wiring					
	a)	1.0mm ² /1C	per m			
	b)	1.5mm ² /1C	per m			
	c)	2.5mm ² /1C	per m			
	d)	4.0mm ² /1C	per m			
	e)	6.0mm ² /1C	per m			
	f)	10.0mm ² /1C	per m			