

Item	Description	Unit	Quantity	Rate	Amount
	ASCA				
	<u>GENERAL - ALL BUILDINGS</u>				
	<u>MECHANICAL INSTALLATION</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>BILL NO.1 - PRELIMINARY AND GENERAL ITEMS</u>				
	Allow for all the preliminary and general items required to provide the health & safety, mechanical and electrical installation for this project, but excluding items priced elsewhere in these Bills (These amounts will be paid pro rata to the rest of the amounts claimed by the contractor, relative to the tender amount).				
	<u>CONTRACTUAL REQUIREMENTS</u>				
1	Tenderers to allow for compliance with all the conditions of the contract.	Item	1		
	<u>JOINT TRADES</u>				
2	Tenderers to allow for all costs which may be required in order to co-ordinate and liaise with the other Trade Contractors, especially with the electrical contractor.	Item	1		
	<u>SUPERVISOR</u>				
3	Tenderer to allow for a full time working supervisor during the duration of the contract, who shall have the delegated authority to receive instructions and make decisions regarding the contract.	Item	1		
	<u>SITE ESTABLISHMENT</u>				
4	Tenderers to allow for all costs which may be required in order to place the necessary facilities on site for safe storage and orderly management purposes for the duration of the contract.	Item	1		
	<u>HEALTH AND SAFETY</u>				
5	Allow for Health, Safety and Environmental in accordance with the Specification.	Months	10		
	<u>GENERAL ITEMS</u>				
	<u>Any additional, items that the Tenderer deems necessary for the successful and total completion of the portion of the work required for this Bill. Specify:</u>				
6	Protection against damage, hoisting and rigging	Item	1		R -
7	Allow for builders work, drilling and making good of holes through slabs or walls including sleeves.	Item	1		R -
8	Allow for three sets of maintenance and operation manuals, including wiring diagrams, spare part lists as specified.	Item	1		R -
9	Allow for twelve months free maintenance and guarantee.	Item	1		R -
10	Allow for instructing the clients staff in the correct operation of the installation.	Item	1		R -
11	Allow for preparation of "as installed drawings" and printing (3 sets).	No	1		R -
12	Allow for preparation of Workshop drawings and printing (3 sets).	No	1		R -

13	Allow for scaffolding.	Item	1		R	-
14	Contingency	Item	1		R	-
15	Any items not specifically listed above but required to complete the installation as per the specification and drawings (list the items)	Item	1		R	-
16	Hoisting and Rigging	Prov. Sum	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	<u>GROUND FLOOR - SOUTH</u>				
	<u>1. C-GATE ABLUTIONS</u>				
	<u>2. BAGGAGE HALL STAFF</u>				
	<u>3. DOMESTIC ARRIVAL (DA) - WOOLIES</u>				
	<u>MECHANICAL INSTALLATION</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>Bill No. 2 - AIR-CONDITIONING & VENTILATION</u>				
	<u>INSTALLATION</u>				
	<u>Ventilation equipment</u>				
	Connected to South Main extract fan EF-R2				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories.</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers,clamps,brackets,nuts and bolts,etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
17	Ø150	m	78	R	-
18	Ø200	m	2	R	-
	<u>LOBSTER BENDS</u>				
19	Ø150	No	5	R	-
	<u>Flexible Ducting Connectors</u>				
	Inclusive of duct clamps and tape joint seals where necessary				
20	Ø150	m	78	R	-
21	Ø200	m	2	R	-
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	<u>Disc valves</u>				
22	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	52	R	-
23	Diameter 200mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	1	R	-

	Dampers				
24	Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	52		R -
25	Ø200 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	1		R -
26	Leak test	hr	8		R -
27	Decommissioning and safe removal of old, redundant equipment	No	1		R -
28	Painting, patchwork, and making good of the ceiling	m2	90		R -
29	Commissioning and testing of the system	No	1		R -
	Total				R -

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	PARKADE 1 & 2				
	MECHANICAL INSTALLATION				
	AIR-CONDITIONING & VENTILATION INSTALLATION				
	Bill No. 3 - AIR-CONDITIONING & VENTILATION INSTALLATION				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
30	EF1 - Inline fan complete with speed controller at (595) l/s and 200 Pa, single phase/220V. Luft or proven equivalent.	No	1		R -
31	Matching Sound Attenuators.				
32	EF2 - Inline fan complete with speed controller at (670) l/s and 200 Pa, single phase/220V. Luft or proven equivalent.	No	1		R -
33	Matching Sound Attenuators.				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories.</u>				
	ROUND DUCTING				
	Complete with fittings including hangers,clamps,brackets,nuts and bolts,etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	STRAIGHT SECTIONS				
34	Ø150	m	30		R -
	Flexible Ducting Connectors				
	Inclusive of duct clamps and tape joint seals where necessary				
35	Ø150	m	30		R -
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	Disc valves				
36	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	20		R -

	Dampers				
37	Ø150 Circular Volume Control Damper, (manual) (Rickard or proven equivalent).	No	20		R -
	Fire Dampers				
38	300 x 300 Fire Dampers	No	2		R -
	Electrical Works				
39	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: New fan control panel, electrical cable from existing local distribution board to feed this control panel, final sub-circuit from this control panel, general controls, contactors, relays, circuit breakers, all other necessary equipment and accessories, labelling, cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.				
	Panel 1				
	Fans				
	EF 1	No	1		R -
	Panel 2				
	Fans				
	EF 2	No	1		R -
40	Control wiring (two core non screened stranded wire)	m	30		R -
41	dia 20mm PVC Conduit saddled/fixed to cable tray or building structure.	m	60		R -
42	dia 20mm flexible Conduit for connection to equipment.	m	30		R -
43	dia 50mm PVC round box.	No	4		R -
44	Writing Control Program & Commissioning	Item	2		R -
45	Extract fans - Installation of wiring and controls	No	2		R -
46	Leak test	hr	8		R -
47	Decommissioning and safe removal of old, redundant equipment	No	1		R -
48	Painting, patchwork, and making good of the ceiling	m2	40		R -
49	Commissioning and testing of the system	No	1		R -
	Total				R -

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	POLICE STATION				
	MECHANICAL INSTALLATION				
	AIR-CONDITIONING & VENTILATION INSTALLATION				
	Bill No. 4 - AIR-CONDITIONING & VENTILATION INSTALLATION				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
50	EF3 - Inline fan complete with speed controller at (155) l/s and 200 Pa, single phase/220V. Luft or proven equivalent..	No	1		R -
51	Matching Sound Attenuators.				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories.</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers,clamps,brackets,nuts and bolts,etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
52	Ø150	m	30		R -
	<u>Flexible Ducting Connectors</u>				
	Inclusive of duct clamps and tape joint seals where necessary				
53	Ø150	m	30		R -
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	<u>Disc valves</u>				
54	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	30		R -
	<u>Dampers</u>				
55	Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	30		R -

Fire Damper					
56	300 x 300 Fire Damper	No	2		R -
Electrical Works					
57	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	1		R -
Panel 1 - Central Terminal					
Fans					
EF 3					
58	Control wiring (two core non screened stranded wire)	m	15		R -
59	dia 20mm PVC Conduit saddled/fixed to cable tray or building structure.	m	30		R -
60	dia 20mm flexible Conduit for connection to equipment.	m	15		R -
61	dia 50mm PVC round box.	No	2		R -
62	Writing Control Program & Commissioning	Item	1		R -
63	Extract fans - Installation of wiring and controls	No	1		R -
64	Leak test	hr	8		R -
65	Decommissioning and safe removal of old, redundant equipment	No	1		R -
66	Painting, patchwork, and making good of the ceiling	m2	4		R -
67	Commissioning and testing of the system	No	1		R -
Total					
					R -

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	<u>INTERNATIONAL DEPARTURES</u>				
	GATE A1-A3				
	<u>MECHANICAL INSTALLATION</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>Bill No. 5 - AIR-CONDITIONING & VENTILATION</u>				
	<u>INSTALLATION</u>				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
	<u>Notes:</u>				
	<u>Contractor to verify duty and capacity of the existing fan before replacement.</u>				
	<u>Replacement fan to match performance, size, and service conditions of existing installation.</u>				
	<u>Includes reconnection of electrical, controls, and ductwork as existing.</u>				
	<u>Commissioning and handing-over certificate required.</u>				
68	Check, test, and assess the condition of the existing main supply/return fan serving [specify section/area]. Where found defective or beyond serviceable condition, remove and replace with a new unit of equivalent type, capacity, and duty ("like-for-like"), including all necessary connections, fittings, fixings, and commissioning				
69	EF 1 - Inline fan complete with speed controller at (2700) l/s and 250 Pa, single phase/220V. Luft or proven equivalent..	No	1		R -
70	Matching Sound Attenuators.				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories.</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers,clamps,brackets,nuts and bolts,etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm				
	301dia to 800dia : 0.6mm				
	801dia to 1000dia. : 0.8mm				
	1001 to 1200dia : 1.0mm				
	Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
71	Ø150	m	69		R -
	<u>Flexible Ducting Connectors</u>				

	Inclusive of duct clamps and tape joint seals where necessary					
72	Ø150	m	69		R	-
	<u>Air Terminals</u>					
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>					
	Disc valves					
73	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	46		R	-
	Dampers					
74	Ø150 Circular Volume Control Damper, (manual) (Trox or equal and approved).	No	46		R	-
	Electrical Works					
75	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	1		R	-
	Panel 1					
	Fans					
76	Control wiring (two core non screened stranded wire)	m	15		R	-
77	dia 20mm PVC Conduit saddled/fixed to cable tray or building structure.	m	30		R	-
78	dia 20mm flexible Conduit for connection to equipment.	m	15		R	-
79	dia 50mm PVC round box.	No	2		R	-
80	Writing Control Program & Commissioning	Item	1		R	-
81	Extract fans - Installation of wiring and controls	No	1		R	-
82	Leak test	hr	8		R	-
83	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
84	Painting, patchwork, and making good of the ceiling	m2	40		R	-
85	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	<u>DOMESTIC DEPARTURES</u>				
	GATE A5 - A12				
	<u>MECHANICAL INSTALLATION</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>Bill No. 6 - AIR-CONDITIONING & VENTILATION</u>				
	<u>INSTALLATION</u>				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
	<u>Notes:</u>				
	<u>Contractor to verify duty and capacity of the existing fan before replacement.</u>				
	<u>Replacement fan to match performance, size, and service conditions of existing installation.</u>				
	<u>Includes reconnection of electrical, controls, and ductwork as existing.</u>				
	<u>Commissioning and handing-over certificate required.</u>				
86	Check, test, and assess the condition of the existing main supply/return fan serving [specify section/area]. Where found defective or beyond serviceable condition, remove and replace with a new unit of equivalent type, capacity, and duty ("like-for-like"), including all necessary connections, fittings, fixings, and commissioning.				
87	EF 1 - Inline fan complete with speed controller at (2900) l/s and 250 Pa, single phase/220V. Luft or proven equivalent..	No	1		R -
88	Matching Sound Attenuators.				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories.</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers,clamps,brackets,nuts and bolts,etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm				
	301dia to 800dia : 0.6mm				
	801dia to 1000dia. : 0.8mm				
	1001 to 1200dia : 1.0mm				
	Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
89	Ø150	m	77		R -

	Flexible Ducting Connectors					
	Inclusive of duct clamps and tape joint seals where necessary					
90	Ø150	m	77		R	-
	Air Terminals					
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>					
	Disc valves					
91	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	51		R	-
	Dampers					
92	Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	51		R	-
	Electrical Works					
93	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	1		R	-
	Panel 1					
	Fans					
94	Control wiring (two core non screened stranded wire)	m	15		R	-
95	dia 20mm PVC Conduit saddled/fixed to cable tray or building structure.	m	30		R	-
96	dia 20mm flexible Conduit for connection to equipment.	m	15		R	-
97	dia 50mm PVC round box.	No	2		R	-
98	Writing Control Program & Commissioning	Item	1		R	-
99	Extract fans - Installation of wiring and controls	No	1		R	-
100	Leak test	hr	8		R	-
101	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
102	Painting, patchwork, and making good of the ceiling	m2	30		R	-
103	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	<u>SOUTH OFFICE BLOCK</u>				
	<u>MECHANICAL INSTALLATION</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>Bill No. 7 - AIR-CONDITIONING & VENTILATION</u>				
	<u>INSTALLATION</u>				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
104	EF3 - Inline fan complete with speed controller at (400) l/s and 250 Pa, single phase/220V. Luft or proven equivalent.	No	1		R -
105	Matching Sound Attenuators.				
106	EF4 - Inline fan complete with speed controller at (500) l/s and 250 Pa, single phase/220V. Luft or proven equivalent.	No	1		R -
107	Matching Sound Attenuators.				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories.</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers,clamps,brackets,nuts and bolts,etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
108	Ø150	m	50		R -
	<u>Flexible Ducting Connectors</u>				
	Inclusive of duct clamps and tape joint seals where necessary				
109	Ø150	m	50		R -
	<u>RECTANGULAR DUCTING</u>				
	Rectangular galvanised mild steel sheetmetal ductwork installed as per specification complete with fittings including hangers, clamps, brackets, etc.				
	Square meterage of ducting is inclusive of area over fittings.				
	The following sheetmetal thicknesses shall apply to the corresponding categories;				
	Category One: 0.6mm				
	Category Two: 0.6mm				
	Category Three: 0.8mm				
	Category Four: 1.0mm				

	Category Five: 1.2mm				
	CATEGORY ONE				
110	Width or height not exceeding 750mm and the sum of the two adjacent sides not exceeding 1150mm	m ²	142		R -
	<u>Extra over for low pressure galvanised fittings (reducers, radius bends, transformations, spigots, tees and square-to-rounds)</u>				
111	Category one fittings other than stopends	No	24		R -
	<u>Stop ends</u>				
112	Category one Stop End fittings	No	8		R -
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	<u>Disc valves</u>				
113	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	32		R -
	<u>Dampers</u>				
114	Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	32		R -
	<u>Fire Dampers</u>				
115	150 x 200 Fire Dampers	No	5		R -
116	200 x 200 Fire Dampers	No	8		R -
117	300 x 400 Fire Dampers	No	2		R -
	<u>Weather Louvres</u>				
118	(700x400)mm Weather Louver (Trox AWG or proven equivalent) complete with wire mesh screen epoxy colour coated finish to Engineers detail	No	2		R -
	<u>Grilles (return - & extract air)</u>				
119	(150x200)mm Return air grille (Trox type PE or proven equivalent), made from aluminium, complete with OBD, spigot connection to ducting, complete with filter frame, epoxy colour coated finish to architect's detail.	No	4		R -
	<u>Electrical Works</u>				
120	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	1		R -
	Panel 1				
	Fans				
	1. Female Bathroom and Kitchen				
	2. Male Bathroom				
121	Control wiring (two core non screened stranded wire)	m	30		R -

122	dia 20mm PVC Conduit saddled/fixed to cable tray or building structure.	m	60		R	-
123	dia 20mm flexible Conduit for connection to equipment.	m	30		R	-
124	dia 50mm PVC round box.	No	2		R	-
125	Writing Control Program & Commissioning	Item	2		R	-
126	Extract fans - Installation of wiring and controls	No	2		R	-
127	Leak test	hr	8		R	-
128	Commissioning and testing of the system	No	1		R	-
129	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
130	Painting, patchwork, and making good of the ceiling	m2	75		R	-
131	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	MUGG AND BEAN				
	THIRD FLOOR - NORTH				
	MECHANICAL INSTALLATION				
	AIR-CONDITIONING & VENTILATION INSTALLATION				
	Bill No. 8 - AIR-CONDITIONING & VENTILATION INSTALLATION				
	<u>Ventilation equipment</u>				
	Connected to North Main extract fan EF-R1				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers, clamps, brackets, nuts and bolts, etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. : 0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
132	Ø150	m	14		R -
133	Ø200	m	3		R -
	<u>Flexible Ducting Connectors</u>				
	Inclusive of duct clamps and tape joint seals where necessary				
134	Ø150	m	14		R -
135	Ø200	m	3		R -
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	<u>Disc valves</u>				
136	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	9		R -
137	Diameter 200mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	2		R -
	<u>Dampers</u>				
138	Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	9		R -
139	Ø200 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	2		R -

140	Leak test	hr	8		R	-
141	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
142	Painting, patchwork, and making good of the ceiling	m2	25		R	-
143	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	CHECK-IN				
	SECOND FLOOR - SOUTH				
	MECHANICAL INSTALLATION				
	AIR-CONDITIONING & VENTILATION INSTALLATION				
	Bill No. 9 - AIR-CONDITIONING & VENTILATION				
	INSTALLATION				
	<u>Ventilation equipment</u>				
	Connected to South Main extract fan EF-R2				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers,clamps,brackets,nuts and bolts,etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
144	Ø150	m	24		R -
	<u>LOBSTER BENDS</u>				
145	Ø150	No	3		R -
	<u>Flexible Ducting Connectors</u>				
	Inclusive of duct clamps and tape joint seals where necessary				
146	Ø150	m	24		R -
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	<u>Disc valves</u>				
147	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	15		R -
	<u>Dampers</u>				
148	Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	15		R -
149	Leak test	hr	8		R -
150	Decommissioning and safe removal of old, redundant equipment	No	1		R -

151	Painting, patchwork, and making good of the ceiling	m2	25		R	-
152	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	KFC				
	THIRD FLOOR - SOUTH				
	MECHANICAL INSTALLATION				
	AIR-CONDITIONING & VENTILATION INSTALLATION				
	Bill No. 10 - AIR-CONDITIONING & VENTILATION INSTALLATION				
	<u>Ventilation equipment</u>				
	Connected to South Main extract fan EF-R2				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers, clamps, brackets, nuts and bolts, etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. : 0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
153	Ø150	m	18		R -
154	Ø200	m	3		R -
	<u>LOBSTER BENDS</u>				
155	Ø200	No	1		R -
	<u>Flexible Ducting Connectors</u>				
	Inclusive of duct clamps and tape joint seals where necessary				
156	Ø150	m	18		R -
157	Ø200	m	2		R -
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	<u>Disc valves</u>				
158	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	11		R -
159	Diameter 200mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	1		R -
	<u>Dampers</u>				

160	Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	11		R	-
161	Ø200 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	1		R	-
162	Leak test	hr	8		R	-
163	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
164	Painting, patchwork, and making good of the ceiling	m2	25		R	-
165	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	AIRLINE OFFICES				
	FIRST FLOOR - NORTH AND CENTRAL				
	MECHANICAL INSTALLATON				
	AIR-CONDITIONING & VENTILATION INSTALLATION				
	Bill No. 11 - AIR-CONDITIONING & VENTILATION INSTALLATION				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
	<u>Notes:</u>				
	<u>Contractor to verify duty and capacity of the existing fan before replacement.</u>				
	<u>Replacement fan to match performance, size, and service conditions of existing installation.</u>				
	<u>Includes reconnection of electrical, controls, and ductwork as existing.</u>				
	<u>Commissioning and handing-over certificate required.</u>				
166	Check, test, and assess the condition of the existing main supply/return fan serving [specify section/area]. Where found defective or beyond serviceable condition, remove and replace with a new unit of equivalent type, capacity, and duty ("like-for-like"), including all necessary connections, fittings, fixings, and commissioning				
	EF-1.3 - Inline fan complete with speed controller at (1500) l/s and 293 Pa, single phase/220V. Luft or proven equivalent.	No	1		R -
167	Matching Sound Attenuators.				
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	Disc valves				
168	Diameter 200mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	10		R -
	Dampers				
169	Ø200 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	10		R -
	Electrical Works				

170	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	1		R	-
	Panel 1					
	Fans					
171	Control wiring (two core non screened stranded wire)	m	15		R	-
172	dia 20mm PVC Conduit saddled/fixd to cable tray or building structure.	m	30		R	-
173	dia 20mm flexible Conduit for connection to equipment.	m	15		R	-
174	dia 50mm PVC round box.	No	2		R	-
175	Writing Control Program & Commissioning	Item	1		R	-
176	Extract fans - Installation of wiring and controls	No	1		R	-
177	Leak test	hr	8		R	-
178	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
179	Painting, patchwork, and making good of the ceiling	m2	10		R	-
180	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	CHECK-IN				
	SECOND FLOOR - NORTH				
	MECHANICAL INSTALLATION				
	AIR-CONDITIONING & VENTILATION INSTALLATION				
	Bill No. 12 - AIR-CONDITIONING & VENTILATION INSTALLATION				
	<u>Ventilation equipment</u>				
	Connected to North Main extract fan EF-R1				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers,clamps,brackets,nuts and bolts,etc.				
	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	<u>STRAIGHT SECTIONS</u>				
181	Ø150	m	24		R -
	<u>LOBSTER BENDS</u>				
182	Ø150	No	3		R -
	<u>Flexible Ducting Connectors</u>				
	Inclusive of duct clamps and tape joint seals where necessary				
183	Ø150	m	24		R -
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	<u>Disc valves</u>				
184	Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	15		R -
	<u>Dampers</u>				
185	Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	15		R -
186	Leak test	hr	8		R -
187	Decommissioning and safe removal of old, redundant equipment	No	1		R -

188	Painting, patchwork, and making good of the ceiling	m2	30		R	-
189	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	<u>DOMESTIC BAGGAGE RECLAIM</u>				
	<u>GROUND FLOOR - SOUTH</u>				
	<u>MECHANICAL INSTALLATION</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>Bill No. 13 - AIR-CONDITIONING & VENTILATION</u>				
	<u>INSTALLATION</u>				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
	<u>Notes:</u>				
	<u>Contractor to verify duty and capacity of the existing fan before replacement.</u>				
	<u>Replacement fan to match performance, size, and service conditions of existing installation.</u>				
	<u>Includes reconnection of electrical, controls, and ductwork as existing.</u>				
	<u>Commissioning and handing-over certificate required.</u>				
190	Check, test, and assess the condition of the existing main supply/return fan serving [specify section/area]. Where found defective or beyond serviceable condition, remove and replace with a new unit of equivalent type, capacity, and duty ("like-for-like"), including all necessary connections, fittings, fixings, and commissioning Provisional Existing Size 1400 l/s @ 250 Pa	Item	1		R -
191	Matching Sound Attenuators.				
	<u>Provisional Fan Size Until after inspection</u>				
192	EF 1 (Male ablution) - Inline fan complete with speed controller at (682) l/s and 250 Pa, single phase/220V. Luft or proven equivalent.	No	1		R -
193	Matching Sound Attenuators.				
194	EF 2 (Female and Paraplegic) - Inline fan complete with speed controller at (622) l/s and 250 Pa, single phase/220V. Luft or proven equivalent.	No	1		R -
195	Matching Sound Attenuators.				
	<u>Ductwork and fittings</u>				
	<u>Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories.</u>				
	<u>ROUND DUCTING</u>				
	Complete with fittings including hangers, clamps, brackets, nuts and bolts, etc.				

	Sheetmetal Thickness for round ducting unless otherwise indicated up to 300mm dia. :0.5mm 301dia to 800dia : 0.6mm 801dia to 1000dia. : 0.8mm 1001 to 1200dia : 1.0mm Jointing shall be beaded				
	STRAIGHT SECTIONS				
196	Ø150	m	33		R -
	Flexible Ducting Connectors Inclusive of duct clamps and tape joint seals where necessary				
197	Ø150	m	33		R -
	RECTANGULAR DUCTING Rectangular galvanised mild steel sheetmetal ductwork installed as per specification complete with fittings including hangers, clamps, brackets, etc. Square meterage of ducting is inclusive of area over fittings. The following sheetmetal thicknesses shall apply to the corresponding categories;				
	Category One: 0.6mm Category Two: 0.6mm Category Three: 0.8mm Category Four: 1.0mm Category Five: 1.2mm				
	CATEGORY ONE Width or height not exceeding 750mm and the sum of the two adjacent sides not exceeding 1150mm	m ²	35		R -
	<u>Extra over for low pressure galvanised fittings (reducers, radius bends, transformations, spigots, tees and square-to-rounds)</u>				
199	Category one fittings other than stopends	No	16		R -
	Stop ends				
200	Category one Stop End fittings	No	2		R -
	<u>Air Terminals</u> <u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	Disc valves Diameter 150mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	33		R -
	Dampers Ø150 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	33		R -
	Weather Louvres (1000x400)mm Weather Louver (Trox AWG or proven equivalent) complete with wire mesh screen epoxy colour coated finish to Engineers detail	No	2		R -

204	Electrical Works				
	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	1		R -
	Panel 1				
	Fans				
	Price for 2 fans on panel, can amend during construction				
205	Control wiring (two core non screened stranded wire)	m	15		R -
206	dia 20mm PVC Conduit saddled/fixd to cable tray or building structure.	m	30		R -
207	dia 20mm flexible Conduit for connection to equipment.	m	15		R -
208	dia 50mm PVC round box.	No	2		R -
209	Writing Control Program & Commissioning	Item	1		R -
210	Extract fans - Installation of wiring and controls	No	1		R -
211	Leak test	hr	8		R -
212	Decommissioning and safe removal of old, redundant equipment	No	1		R -
213	Painting, patchwork, and making good of the ceiling	m2	45		R -
214	Commissioning and testing of the system	No	1		R -
	Total				R -

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	OCC				
	FIRST FLOOR - NORTH				
	MECHANICAL INSTALLATION				
	AIR-CONDITIONING & VENTILATION INSTALLATION				
	Bill No. 14 - AIR-CONDITIONING & VENTILATION INSTALLATION				
	<u>Ventilation equipment</u>				
	Connected to North Main extract fan EF-R1				
	<u>Air Terminals</u>				
	<u>For the Supply (including delivery), installation (including testing, commissioning and handing over of the following grilles, weather louvers, disc valves, diffusers, filters, dampers and associated items including all necessary accessories and fittings.</u>				
	Disc valves				
215	Diameter 200mm Ceiling mounted disc valve for extract air (Rickard Type CRD or proven equivalent) epoxy colour coated to architect's detail. Various air flow rate.	No	5		R -
	Dampers				
216	Ø200 Circular Volume Control Damper, (manual) (Trox or proven equivalent).	No	5		R -
217	Leak test	hr	8		R -
218	Decommissioning and safe removal of old, redundant equipment	No	1		R -
219	Painting, patchwork, and making good of the ceiling	m2	20		R -
220	Commissioning and testing of the system	No	1		R -
	Total				R -

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	<u>INTERNATIONAL AIR BRIDGE & BAGGAGE</u>				
	<u>GROUND FLOOR - NORTH</u>				
	<u>MECHANICAL INSTALLATION</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>Bill No. 15 - AIR-CONDITIONING & VENTILATION</u>				
	<u>INSTALLATION</u>				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
	<u>Notes:</u>				
	<u>Contractor to verify duty and capacity of the existing fan before replacement.</u>				
	<u>Replacement fan to match performance, size, and service conditions of existing installation.</u>				
	<u>Includes reconnection of electrical, controls, and ductwork as existing.</u>				
	<u>Commissioning and handing-over certificate required.</u>				
	Check, test, and assess the condition of the existing main supply/return fan serving [specify section/area]. Where found defective or beyond serviceable condition, remove and replace with a new unit of equivalent type, capacity, and duty ("like-for-like"), including all necessary connections, fittings, fixings, and commissioning				
	EXISTING FAN DETAILS:				
221	EF 1 - EXTRACT FAN (AIR BRIDGE) 1400 l/s @ 200 Pa	Item	1		R -
222	Matching Sound Attenuators.				
223	EF 2 - EXTRACT FAN (BAGGAGE RECLAIM) 1500 l/s @ 200 Pa	Item	1		R -
224	Matching Sound Attenuators.				
	<u>Electrical Works</u>				
225	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	2		R -
	Panel 1				
	1. Air Bridge				
	Panel 2				

	2. Baggage Reclaim					
226	Control wiring (two core non screened stranded wire)	m	30		R	-
227	dia 20mm PVC Conduit saddled/fixed to cable tray or building structure.	m	60		R	-
228	dia 20mm flexible Conduit for connection to equipment.	m	30		R	-
229	dia 50mm PVC round box.	No	4		R	-
230	Writing Control Program & Commissioning	Item	2		R	-
231	Extract fans - Installation of wiring and controls	No	2		R	-
232	Leak test	hr	8		R	-
233	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
234	Painting, patchwork, and making good of the ceiling	m2	12		R	-
235	Commissioning and testing of the system	No	2		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	<u>INTERNATIONAL ARRIVALS CONCOURSE</u>				
	<u>GROUND FLOOR - NORTH</u>				
	<u>MECHANICAL INSTALLATON</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>Bill No. 16 - AIR-CONDITIONING & VENTILATION</u>				
	<u>INSTALLATION</u>				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
	<u>Notes:</u>				
	<u>Contractor to verify duty and capacity of the existing fan before replacement.</u>				
	<u>Replacement fan to match performance, size, and service conditions of existing installation.</u>				
	<u>Includes reconnection of electrical, controls, and ductwork as existing.</u>				
	<u>Commissioning and handing-over certificate required.</u>				
	Check, test, and assess the condition of the existing main supply/return fan serving [specify section/area]. Where found defective or beyond serviceable condition, remove and replace with a new unit of equivalent type, capacity, and duty ("like-for-like"), including all necessary connections, fittings, fixings, and commissioning				
	EXISITNG FAN DETAILS:				
236	EF 1 - EXTRACT FAN (INT ARRIVALS CONCOURSE) 1050 l/s @ 250 Pa	Item	1		R -
237	Matching Sound Attenuators.				
	<u>Electrical Works</u>				
238	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	1		R -
	Panel 1				
	Fans				
239	Control wiring (two core non screened stranded wire)	m	15		R -
240	dia 20mm PVC Conduit saddled/fixed to cable tray or building structure.	m	30		R -
241	dia 20mm flexible Conduit for connection to equipment.	m	15		R -
242	dia 50mm PVC round box.	No	2		R -
243	Writing Control Program & Commissioning	Item	1		R -

244	Extract fans - Installation of wiring and controls	No	1		R	-
245	Leak test	hr	8		R	-
246	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
247	Painting, patchwork, and making good of the ceiling	m2	12		R	-
248	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	ACSA				
	<u>MAIN EXTRACT FANS EF-R1 & EF-R2</u>				
	<u>ROOF - NORTH & SOUTH</u>				
	<u>MECHANICAL INSTALLATION</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>Bill No. 17 - AIR-CONDITIONING & VENTILATION</u>				
	<u>INSTALLATION</u>				
	<u>Ventilation equipment</u>				
	<u>Supply, deliver and install the following ventilation fans complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories.</u>				
	<u>Notes:</u>				
	<u>Contractor to verify duty and capacity of the existing fan before replacement.</u>				
	<u>Replacement fan to match performance, size, and service conditions of existing installation.</u>				
	<u>Includes reconnection of electrical, controls, and ductwork as existing.</u>				
	<u>Commissioning and handing-over certificate required.</u>				
	Check, test, and assess the condition of the existing main supply/return fan serving [specify section/area]. Where found defective or beyond serviceable condition, remove and replace with a new unit of equivalent type, capacity, and duty ("like-for-like"), including all necessary connections, fittings, fixings, and commissioning				
	EXISTING FAN DETAILS:				
249	EF-R1 - EXTRACT FAN (North) 2522 l/s @ 250 Pa	Item	1		R -
250	Matching Sound Attenuators.				
251	EF-R2 - EXTRACT FAN (South) 5400 l/s @ 293 Pa	Item	1		R -
252	Matching Sound Attenuators.				
	<u>Electrical Works</u>				
253	Supply, install, connect, test and commission all electrical works for bathroom extract fans, including: final sub-circuit from designated DB; circuit breaker and labelling; cabling and containment; local lockable isolator adjacent to fan; control wiring and interfaces (to light circuit/BMS/timer as specified); earthing/bonding; terminations; identification; functional testing; issuing of CoC per SANS 10142-1; as-built updates and O&M documentation.	No	2		R -
	Panel 1				
	Fans - EF-R1				
	Panel 2				
	Fans - EF-R2				

254	Control wiring (two core non screened stranded wire)	m	60		R	-
255	dia 25mm PVC Conduit saddled/fixed to cable tray or building structure.	m	120		R	-
256	dia 25mm flexible Conduit for connection to equipment.	m	60		R	-
257	dia 50mm PVC round box.	No	4		R	-
258	Writing Control Program & Commissioning	Item	2		R	-
259	Extract fans - Installation of wiring and controls	No	2		R	-
260	Leak test	hr	8		R	-
261	Decommissioning and safe removal of old, redundant equipment	No	1		R	-
262	Painting, patchwork, and making good of the ceiling	m2	20		R	-
263	Commissioning and testing of the system	No	1		R	-
	Total				R	-

Item	Description	Unit	Quantity	Rate	Amount
	<u>ACSA</u>				
	<u>GENERAL - ALL BUILDINGS</u>				
	<u>MECHANICAL INSTALLATON</u>				
	<u>AIR-CONDITIONING & VENTILATION INSTALLATION</u>				
	<u>SUMMARY PAGE</u>				
262	Bill 1 - Preliminaries				R -
263	Bill 2 - Central Terminal				R -
264	Bill 3 - Parkade 1&2				R -
265	Bill 4 - Police Station				R -
266	Bill 5 - International Departures Gate A1-A3				R -
267	Bill 6 - Domestic Departures Gate A5-A12				R -
268	Bill 7 - SOB				R -
269	Bill 8 - Mugg & Bean				R -
270	Bill 9 - Check-In - South				R -
271	Bill 10 - KFC				R -
272	Bill 11 - Airline - North and Central				R -
273	Bill 12 - Check-In - North				R -
274	Bill 13 - Domestic Baggage Reclaim				R -
275	Bill 14 - OCC				R -
276	Bill 15 - Internation Arrivals and Immigration				R -
277	Bill 16 - International Arrivals Concourse				R -
278	Bill 17 - Roof EF-R1 & EF-R2				R -
279	Total for the Air conditioning and Ventilation Installation (excluding VAT)				R -
280	add 15% VAT				R -
281	Total for the Air conditioning and Ventilation Installation (including VAT)				R -