

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES PRELIMINARIES & GENERAL CONDITIONS	Initial Amount	
			Preliminaries / General	
			Fixed	Time Related
1.0	1.0	PROJECT PARTICULARS NAMES OF PARTIES <u>The titles and terms used in connection with this project shall have the following.</u> The Project: A. Name: Greenhouse Park Facilities B. Nature: Construction of New Greenhouse Park Facilities C. Location: St. Vincent & the Grenadines Dandrade, St. Vincent D. Employer: Government of the Saint Vincent and the Grenadines Represented by the National Authorising Officer for EDF Operations, Ministry of Finance and Planning Saint Vincent and the Grenadines Kingstown Halifax Street E. Contractor: To be determined Design Consultants F. Project Manager: FDL Consult Inc. Goodlands, G.P.O. Box 1803 Castries, St. Lucia G. Quantity Surveyor: FDL Consult Inc. Goodlands, G.P.O. Box 1803 Castries, St. Lucia H. Structural Engineer: FDL Consult Inc. Goodlands, G.P.O. Box 1803 Castries, St. Lucia H. M & E Consultants: FDL Consult Inc. Goodlands, G.P.O. Box 1803 Castries, St. Lucia Carried to Collection	€	€
			€	

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1.0	1.0	PROJECT PARTICULARS		Fixed	Time Related
				€	€
	2.0				
	A.	1	GENERAL CLAUSE 1 : Definitions CLAUSE 2 : Interpretation CLAUSE 3 : Language and Law CLAUSE 4 : Project Manager's Decisions CLAUSE 5 : Delegation CLAUSE 6 : Communications CLAUSE 7 : Subcontracting CLAUSE 8 : Other Contractors CLAUSE 9 : Personnel and Equipment CLAUSE 10 : Employer's and Contractor's Risks CLAUSE11 : Employer's Risks CLAUSE 12 : Contractor's Risks CLAUSE 13 : Insurance CLAUSE 14 : Site Data CLAUSE 15 : Contractor to Construct the Works CLAUSE 16 : The Works to Be Completed by the Intended Completion Date CLAUSE 17 : Approval by the Project Manager CLAUSE 18 : Safety CLAUSE 19 : Discoveries CLAUSE 20 : Possession of the Site CLAUSE 21 : Access to the Site CLAUSE 22 : Instructions, Inspections and Audits CLAUSE 23 : Appointment of the Adjudicator CLAUSE 24 : Procedure for Disputes		
	B.	2	TIME CONTROL CLAUSE 25 : Program CLAUSE 26 : Extension of the Intended Completion Date CLAUSE 27 : Acceleration CLAUSE 28 : Delays Ordered by the Project Manager CLAUSE 29 : Management Meetings CLAUSE 30 : Early Warning		
	C.	3	QUALITY CONTROL CLAUSE 31 : Identifying Defects CLAUSE 32 : Tests CLAUSE 33 : Correction of Defects CLAUSE 34 : Uncorrected Defects		
			Carried to Collection	€	0.00

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				Preliminaries / General	
1.0	1.0	PROJECT PARTICULARS		Fixed	Time Related
				€	€
	3.0				
	D.	4	COST CONTROL CLAUSE 35 : Contract Price CLAUSE 36 : Changes in the Contract Price CLAUSE 37 : Variations CLAUSE 38 : Cash Flow Forecasts CLAUSE 39 : Payment Certificates CLAUSE 40 : Payments CLAUSE 41 : Compensation Events CLAUSE 42 : Tax CLAUSE 43 : Currencies CLAUSE 44 : Price Adjustment CLAUSE 45 : Retention CLAUSE 46 : Liquidated Damages CLAUSE 47 : Bonus CLAUSE 48 : Advance Payment CLAUSE 49 : Securities CLAUSE 50 : Dayworks CLAUSE 51 : Cost of Repairs		
	E.	5	FINISHING THE CONTRACT CLAUSE 52 : Completion CLAUSE 53 : Taking Over CLAUSE 54 : Final Account CLAUSE 55 : Operating and Maintenance Manuals CLAUSE 56 : Termination CLAUSE 57 : Fraud and Corruption CLAUSE 58 : Payment upon Termination CLAUSE 59 : Property CLAUSE 60 : Release from Performance CLAUSE 61 : Suspension of Bank Loan or Gran CLAUSE 62 : Eligibility		
			Carried to Collection	€	0.00

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			Preliminaries / General	
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1.0	1.0	PROJECT PARTICULARS	€	€
	4.0			
	E.	PROGRESS CHART AND REPORTS The Contractor shall prepare and submit with his tender a draft programme and progress	Item	
	A.	PROGRESS CHART AND REPORTS (Cont'd) The Contractor shall keep a permanent written record on the site of the progress of the Works. This record shall be open to the inspection of the Project Manager at all reasonable times. A copy shall be furnished to the Contract Administrator on request. This report will contain at least the following:	Item	
	B.	PROGRESS CHART AND REPORTS 1. Weather Conditions 2. Manpower on the job in each trade 3. Major items of equipment on the job. 4. A brief summary of the work accomplished that day 5. Material Equipment, or Employer furnished items arriving or leaving site. 6. Significant events, including accidents. 7. Any testing made and their results, if known. 8. Any oral instructions received. 9. Visitors on the job. 10. Possible causes of delay.		
	C.	ADVERTISING All advertising rights on the site are reserved to the Employer.		
	F.	SITE SIGNBOARD Provision of a site signboard to be used as specified schedule 109 in the Technical	Item	
	G.	TEMPORARY FENCE(S) AND HOARDING(S) Provide temporary fence and hoarding as may be necessary for the security of the site and work thereon.		
		Carried to Collection	€	0.00

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			Preliminaries / General	
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1.0	1.0	PROJECT PARTICULARS	€	€
	5.0	SITE ACCOMMODATION		
	A.	<u>The Contract Administrator in conjunction with the Contractor shall select all temporary buildings including areas for use by nominated sub-contractors as may be necessary. The Ground on which temporary buildings are sited, shall be made good after removal of these buildings.</u>		
	B.	Provide, erect and maintain suitable office accommodation and Mess-rooms for staff and workmen and remove on completion.	Item	
	C.	Provide, erect and maintain suitable sheds for storage of materials and remove on completion.	Item	
	D.	Provide temporary latrines for the use of workmen, to the satisfaction of the Project Manager and the Sanitary Authorities and empty and cleanse same as and when required and clear away on completion.	Item	
	E.	ROOM FOR MEETING: For the purposes of this Contract the Contractor shall provide suitable space within the general site office provided for the Contractor's supervisor, for a large desk with four chairs for use by the Employers consultants or representatives. The accommodation must include an adequate number of appliances, wash hand basin(s) with adequate lighting and ventilation. This work will be carried out by the Contractor.	Item	
	F.	WATER Provide water for the works including that for sub-contractors and specialists, at the various levels and positions where required including all necessary sumps temporary plumbing and storage and pay all charges for drawing water of main supply. This work would be carried out by the Plumbing Contractor.	Item	
	G.	LIGHTING AND POWER Provide all necessary artificial lighting and power, including that for sub-contractors and specialists, and pay all charges for drawing off main supply. This work will be carried by the Electrical Contractor.	Item	
	H.	SITE TELEPHONE Provide a site telephone for the duration of the Works with branch lines to the Foreman's offices and pay all charges in connection therewith. This provision will be made available by the Project Manager.		
		Carried to Collection	€	

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			Preliminaries / General	
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1.0	1.0	PROJECT PARTICULARS	€	€
	6.0			
	A.	<p>CORDINATION OF SERVICES</p> <p>The site organisation staff must incude one or more persons with appropriate knowledge and experience of mechanical and electrical engineering services to ensure compatibility between engineering services, one with another and each in relation to the Works generally. Submit to the Contract Administrator, when requested, CVs or to other documetary evidence relating to the staff concerned.</p>		
	B.	<p>SITE INSTRUCTION BOOK</p> <p>Provide and keep on the site of the Works a suitable triplicate log book in which the</p>	Item	
	C.	SITE MEETINGS		
	D.	<p>SETTING OUT AND TOLERANCES</p> <p>Check the levels and dimensions of the site against those shown on the drawigns, and record the results on a copy of the drawigns. Notify the Contract Administrator in writing of any discrepancies and obtain instructions before proceeding.</p> <p>Inform the Contract Adminstrator when overall setting out is completed and before</p>		
	E.	PLANT, TOOLS AND VEHICLES		
	F.	SCAFFOLDING	Item	
	G.	<p>SUPERVISION</p> <p>In addition to the constant management and supervision of the Works provided by the</p>		
	J.	TRANSPORT FOR WORK PEOPLE		
	K.	PROTECTION OF THE WORKS FROM ADVERSE WEATHER		
	L.	SAFETY, HEALTH AND WELFARE	Item	
		Carried to Collection	€	0.00

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			Preliminaries / General	
			Fixed	Time Related
1.0	1.0	PROJECT PARTICULARS	€	€
	7.0			
	A.	WORKMEN'S COMPESATION		
	B.	REMOVAL OF RUBBISH	Item	
	C.	PEST CONTROL		
	D.	TESTING OF MATERIALS	Item	
	E.	TEMPORARY WORKS		
	F.	TEMPORARY ROADS AND TEMPORARY WALKWAYS		
	G.	ACCESS SCAFFOLDING		
		GENERAL ATTENDANCE ON NOMINATED SUBCONTRACTOR		
	H.	Provide attendance upon, cut away for and make good after trades performed by own		
	J.	Provide general attendance on nominated sub-contractors which shall be deemed to		
	K.	SPECIAL ATTENDANCE ON NOMINATED SUBCONTRACTOR		
		Provide special attendance on nominated sub-contractors eg. Cutting chses and the like,		
	L.	WORK BY STATUTORY AUTHORITIES		
		WATER	Item	
		ELECTRICITY	Item	
		SEWERAGE MAIN CONNECTIONS		
		TELEPHONE MAIN SERVICES	Item	
		CLEANING WORKS ON COMPLETION	Item	
		Carried to Collection	€	

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES PRELIMINARIES & GENERAL CONDITIONS	Initial Amount	
			Preliminaries / General	
			Fixed	Time Related
1.0	1.0	PROJECT PARTICULARS	€	€
	8.0	COLLECTION		
		From Page 2		0.00
		From Page 3		0.00
		From Page 4		0.00
		From Page 5		0.00
		From Page 6		0.00
		From Page 7		0.00
		PRELIMINARIES / GENERAL CONDITIONS		
		TOTAL CARRIED TO LOT SUMMARY	€	0.00

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
2.0	1.0	SITE PREPARATION WORKS <u>Excavation and Earthworks</u> A Excavate vegetable topsoil, average depth 150mm deep; dispose off site not exceeding 5 Km distance. 9825 m ² B Disposal of excavated topsoil as specified. 1473 m ³ C Excavate to reduce levels as shown on site grading and levelling plan; depth not exceeding 1.00 meters 7380 m ³ D Filling to make up levels as shown on site grading and levelling plan with suitable excavated material height not exceeding 0.60 meters; including compaction as specified 7380 m ³ E Sub-base hardcore material; 150mm thick, laid and compacted as specified. 1930 m ² <u>Dewatering</u> F Keep excavation free from water 1 L.S.				
		SITE PREPARATION WORKS Carried to Bill Summary			€	-

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
2.0	1.0	SUBSTRUCTURE				
		<u>D12. Site Dewatering</u>				
	A	Allow for dewatering of ground water in excavations as required	1.00	Item		
		<u>D20. Excavation and Filling</u>				
		<u>Excavation</u>				
	B	Excavating trenches, width > 300mm; maximum depth ≤ 1.80 m to strip foundation footings.	22.36	m ³		
	C	Excavating pits (10 Nr.); maximum depth ≤ 1.80m to pad foundation footings.	6.91	m ³		
		<u>Working Space Allowance to Excavations</u>				
	D	To trench excavations.	37.26	m ²		
		To pit excavations.	7.20	m ²		
		<u>Earthwork Support</u>				
	E	Maximum depth ≤ 2.00 m; distance between opposing faces ≤ 2.00m below ground level to excavation pits and trenches.	95.64	m ²		
		<u>Disposal</u>				
	F	Disposal of excavated material off site to suitable dump site approved by Engineer not exceeding 5 kilometers away.	12.46	m ³		
		<u>Protection</u>				
	G	Protection of the works in this section.	1.00	Item		
				To Collection		

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	2.0	SUBSTRUCTURE Cont'd				
		Filling				
	A	Filling to excavations; average thickness ≤ 250mm with material arising from the excavations; around foundation walls.	16.81	m ³		
	B	Filling to make up levels; average thickness < 200mm with selected rubble hardcore; obtained off site; properly graded	14.00	m ³		
		Surface Treatment				
	C	Compacting bottoms of excavations prior to concrete blinding	24.39	m ²		
	D	Compacting hardcore in specified layers to receive concrete to floor slab.	70.22	m ²		
		Termite Treatment				
	E	Subterranean termite treatment to surface of excavations and top of finished hardcore	165.85	m ²		
				To Collection		-

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	3.0	SUBSTRUCTURE Cont'd				
		<u>E10 In Situ Concrete in Substructure</u>				
	A	In situ concrete; blinding; 20 Mpa; 50mm thick to bottom of excavation.	1.20	m ³		
		<u>In situ concrete; 35 Mpa 28 day strength; reinforced; filled into form work and well vibrated around reinforcement</u>				
	B	In situ concrete; foundations; reinforced; in foundation strip footings 250mm thick.	4.65	m ³		
	C	In site concrete; isolated foundations; reinforced; in pad footings 300mm thick.	1.75	m ³		
	D	In site concrete; foundation; reinforced; in isolated columns 300mm square.	0.35	m ³		
	E	In situ concrete; slabs; thickness ≤ 150mm; 125mm thick ground floor.	9.65	m ³		
		<u>E20 Formwork in Substructure</u>				
	F	To sides of foundations; plain vertical; height ≤ 250mm; plywood formwork to strip footings; 250mm high.	15.50	m ²		
	G	To sides of foundations; plain vertical; height 250mm - 500mm; plywood formwork to isolated pad footings; 300mm high.	5.76	m ²		
	H	To columns; isolated (10 Nr.); square shaped; height ≤1.50m; plywood formwork to sides of foundation columns.	4.30	m ²		
	I	To sides of foundations; plain vertical; height ≤ 250mm; plywood formwork to ground floor slab; 125mm high.	4.60	m ²		
				To Collection		

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	4.0	SUBSTRUCTURE Cont'd				
		<u>E30 Reinforcement for In Situ Concrete</u>				
	A	High tensile steel bar reinforcement; bent; 12mm diameter; in reinforced concrete strip footings.	100.00	Kgs		
	B	High tensile steel bar reinforcement; straight; 12mm diameter; in reinforced concrete strip footings.	90.00	Kgs		
	C	High tensile steel bar reinforcement; bent; 16mm diameter; in reinforced concrete pad footings.	103.00	Kgs		
	D	High tensile steel bar reinforcement; straight; 20mm diameter; in reinforced concrete columns.	80.00	Kgs		
	E	High tensile steel bar reinforcement; bent; 10mm diameter; as stirrups to columns in foundation.	5.00	Kgs		
	F	High tensile steel bar reinforcement vertical; bent; 12mm diameter; in strip blockwalling @ 200mm crs.spacing	155.00	Kgs		
	G	High tensile steel bar reinforcement; straight; 10mm diameter; in reinforced concrete ground floor slab.; with minimum 300mm laps.	355.00	Kgs		
		<u>E42 Accessories Cast into In Situ Concrete</u>				
	H	500 grade (polythene) damp proof membrane; to top of sand blinding in ground floor slab (M/S); minimum 300mm end and side laps.	70.50	m ²		
				To Collection		

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	6.0	SUPERSTRUCTURE REINFORCED CONCRETE FRAME & SUSPENDE FLOOR <u>E10 In Situ Concrete</u> <u>In situ concrete; 35 Mpa 28 day strength; reinforced; filled into form work and well vibrated around reinforcement</u>				
	A	In reinforced concrete columns; 300mm square	1.20	m ³		
	B	In ring beams at roof level;	3.50	m ³		
	C	In reinforced concrete lintels; 150mm x 200mm	0.25	m ³		
	D	In reinforced concrete roof slabs	5.30	m ³		
	E	In reinforced concrete canopies	1	m ³		
		<u>E20 Formwork for In Situ Concrete; dressed to give a smooth finish</u>				
	F	To columns; isolated; square shaped	15.40	m ²		
	G	To ring beams at roof level;	15.40	m ²		
	H	To lintels; reinforced; 150mm x 200mm	3.25	m ²		
	I	To soffit of roof slab	32.50	m ²		
	J	To soffit and sides of canopies	7.5	m ²		
				To Collection		

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	7.0	REINFORCED CONCRETE FRAME & SUSPENDE FLOOR Cont'd				
		<u>E30 Reinforcement for In Situ Concrete</u>				
	A	High tensile steel bar reinforcement; straight; 20mm diameter; in reinforced concrete columns.	189.40	Kgs		
	B	High tensile steel bar reinforcement; straight; 12mm diameter; in reinforced concrete ring beams.	100.00	Kgs		
	C	High tensile steel bar reinforcement; straight; 12mm diameter; in reinforced concrete lintels.	29.00	Kgs		
	D	High tensile steel bar reinforcement; straight; 12mm diameter; in reinforced concrete suspended roof slab	832.00	Kgs		
	E	High tensile steel bar reinforcement; straight; 12mm diameter; in reinforced concrete canopies	37.0	Kgs		
	F	High tensile steel bar reinforcement; 10mm diameter; straight; in canopies	21.0	Kgs		
	G	High tensile steel bar reinforcement; 10mm diameter; bent; as stirrups in columns.	134.50	Kgs		
	H	High tensile steel bar reinforcement; 10mm diameter; bent; as stirrups in ring beams.	81.00	Kgs		
	I	High tensile steel bar reinforcement; 8mm diameter; bent; as stirrups in lintels.	16.50	Kgs		
				To Collection		
		COLLECTION				
		From: Page 6				
		From: Page 7				
		REINFORCED CONCRETE FRAME & SUSPENDE FLOOR				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	8.0	SUPERSTRUCTURE Cont'd				
		BLOCKWORK & MASONRY				
		F10 Brick/Block Walling				
	A	Hollow blockwalls; 150mm thick; vertical; built against concrete columns; to stretcher bond in C & S mortar 1 : 3 mix; including filling all cavities with 1:2:4 mix concrete in external and parapet walls.	104.15	m ²		
	B	Hollow blockwalls; 150mm thick; vertical; built against concrete columns; to stretcher bond in C & S mortar 1 : 3 mix; including filling all cavities with 1:2:4 mix concrete in internal walls.	24.50	m ²		
	C	Hollow blockwalls; 100mm thick; vertical; built against concrete columns; to stretcher bond in C & S mortar 1 : 3 mix; including filling all cavities with 1:2:4 mix concrete in internal walls.	27.75	m ²		
		F30 Accessories/Sundry items for brick/block/stone walling				
	D	Vent blocks; (300mm x 300mm x 150mm) in panel size 600mm x 600mm.	4.00	No.		
		E30 Reinforcement for In Situ Concrete				
	E	High tensile steel bar reinforcement; straight; vertical; 12mm diameter; in blockwalling @ 400mm crs. horizontally	360.88	Kgs		
		F30 Accessories for Blockwalling				
	F	Brickforce or equal approved heavy duty galvanized steel ladder type joint reinforcement with 150mm laps at ends and corners in 150mm thick block walls.	186.00	m		
	G	Brickforce or equal approved heavy duty galvanized steel ladder type joint reinforcement with 150mm laps at ends and corners in 100mm block walls.	70.00	m		
		E41 Worked Finishes				
	H	Hacking; surfaces of columns to form key for plaster	15.50	m ²		
	I	Hacking; exterior surfaces of beams to form key for plaster	9.50	m ²		
		M Surface Finishes				
		M20 Plastered / Rendered / Roughcast Coatings				
	J	Walls; 13mm thick plaster;1:3 mix applied in 2 coats; float finish to surfaces of blockwork .	312.80	m ²		
	K	Columns; 13mm thick plaster;1:3 mix applied in 2 coats; finish to surfaces of columns.	15.50	m ²		
	L	Beams; 13mm thick plaster;1:3 mix applied in 2 coats; float finish to exterior surfaces of perimeter beams.	9.50	m ²		
	M	Beams; cement water dressing applied to interior surfaces of beams and soffits of slabs.	10.00	m ²		
		BLOCKWORK & MASONRY				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	9.0	SUPERSTRUCTURE Cont'd				
		TIMBER FRAMED ROOF				
		<u>G20 Carpentry/ Timber Framing / First Fixing</u>				
	A	Ridge Board; 50mm x 250mm treated WPP ridge board set to roof height	0.60	m		
	B	Rafters; pitched; 50mm x 150mm WPP common rafter @ 600mm c/c fixed to Ridge Board and tied to roof beams and attic floor beams	102.90	m		
	C	Plywood sheathing; 16mm thick fixed to 50mm x 250mm common rafters	65.00	m		
	D	Laths ≤ 300mm; 25mm x 75mm laths/purlins @ 1.0m centers fixed to rafters and sheathing (m/s)	140.00	m		
	E	Fascia board; width ≤ 300mm; 50mm x 250mm treated softwood in fascia board to end of rafters.	31.60	m		
		<u>H72 Aluminium Sheet Coverings/Flashings</u>				
	F	Roof coverings; nominal pitch 12-33 degrees; 24 gauge industrial profile; colour clad; single length sheets; fixed by screws with matching cadmium plated steel washers / high quality neoprene fittings; lapped by 2nr. flute (125mm approx.); fixed to timber purlins (m/s).	65.00	m²		
	G	Ridges; 24 gauge industrial capping; 450mm wide; horizontal; fixed by screws with matching cadmium plated steel washers / high quality neoprene fittings.	0.58	m		
	H	Hips; 24 gauge industrial capping; 450mm wide; horizontal; fixed by screws with matching cadmium plated steel washers / high quality neoprene fittings.	23.0	m		
	I	Flashings; 24 gauge industrial capping; 450mm wide; sloping; fixed by screws with matching cadmium plated steel washers / high quality neoprene fittings.	14.0	m		
		<u>Hardware</u>				
	J	Simpson strong tie H16 or similar, fastened to rafter and embedded into ring beam ring beam ; in accordance with details and specifications.	42.0	Nr.		
	K	Simpson strong tie H2.5 or similar, fastened to one side of rafter along hip rafters ; in accordance with details and specifications.	42.0	Nr.		
		<u>M60 Painting/Clear finishings</u>				
	L	General surfaces of timber roof members; 3 coats emulsion paint; prepared and applied to trusses and fascia board	59.80	m²		
		TIMBER FRAMED ROOF STRUCTURE				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	10.0	TIMBER FRAMED ROOF Cont'd				
		<u>R10 Rainwater Pipework/Gutters</u>				
	A	Gutters; pvc; straight; 50mm x 100mm including outlets fixed to fascia board and connected to pvc downpipe as specified and detailed.	15.25	m		
	B	Downpipes; straight; pvc 100mm including bends; connected to pvc gutter outlets ; carried down into water storage tanks	12.50	m		
					To Collection	
		From: Page 10				
		From: Page 11				
		TIMBER FRAMED ROOF STRUCTURE				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	11.0	CARPENTRY & JOINERY <u>Built-in Furniture</u> <u>Fabrication and installation of Built-in Furniture using interior plywood with TPP support framing and finished with 1 coat wood primer and 2 coats emulsion paint; stainless steel screws and ironmongery.</u>				
	A	Bathroom vanities and counter-tops (2 No.)	1	L.S		
	B	Kitchen cabinets with concrete base and tiled countertops	1	L.S		
	C	Shelving in Office Area on Mezzanine Floor	1	L.S		
	D	Locker cabinet in in Staff locker room comprising 16 No. lockers.	1	L.S		
		CARPENTRY AND JOINERY Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	12.0	DOORS & WINDOWS <u>L11 Aluminium Windows / Rooflights / Screens / Louvres</u> <u>Supply and install U PVC fully framed casement-hung windows to masonry openings, include for mastic pointing to perimeter</u>				
	A	Size, 900mm long x 1200mm high <u>L20 Doors / Shutters / Hatches</u> <u>Supply and install timber doors including 50mm x 150mm TPP framing and 25mm x 50mm TPP jambs as per general specifications</u>	5.00	No.		
	B	Door type 2; 910mm x 2000mm 6 panel solid core timber door	2.00	No.		
	C	Door type 3; 910mm x 2000mm hollow core timber flush door	2.00	No.		
		<u>L20 Doors / Shutters / Hatches</u> <u>Supply and install metal doors</u>				
	D	Door type 1; 910mm x 2000mm 6 panel metal doors.	2.00	No.		
				To Collection		

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	13.0	DOORS & WINDOWS Cont'd				
		<u>Generally; Painting and Accessories</u>				
		<u>M60. Painting/Clear Finishings</u>				
A		General surfaces; frames; prepared and applied in one (1) under coat and two (2) finish coats to exposed surfaces timber doors, framing and jambs.	11.60	m²		
		<u>M21. Ironmongery & Hardware</u>				
B		Commercial mortice lock set, cylinder type, lever handle both sides; stainless steel finish for entrance doors	2	Nr.		
C		Lever set; satin aluminum with key or internal button depression and key or internal lever rotation unlocking mechanisms	2	Nr.		
D		Bathroom lever set; satin aluminum; keyed latch bolt either side with emergency release opening in outside lever	2	Nr.		
E		100mm x 75mmmm heavy duty door hinge; stainless steel	12	Nr.		
F		Floor mounted door stop; satin aluminum	6	Nr.		
G		ADA overhead door closer for mounted on the pull side of the door; satin chrome	4	Nr.		
H		150mm x 300mm aluminum push plate installed in direction of door swing	3	Nr.		
I		Male/ Female bathroom symbol 150mm x 150mm; aluminum	2	Nr.		
J		Allow a Provision Sum for 100mm double action spring hinges to be installed as directed by the Engineer.		L.S		
		<u>Master Key System</u>				
K		Allow a Provisional Sum for master key system for door locks.		L.S		
				To Collection		
		COLLECTION				
		From: Page 13				
		From: Page 14				
		DOORS AND WINDOWS				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	14.0	WALL, FLOOR & CEILING FINISHES Wall Finishes <u>M Surface Finishes</u> <u>M60 Painting/Clear Finishings</u> General surfaces of walls; 1 coat primer and 2 coats emulsion paint; prepared and applied to plastered exterior surfaces of blockwalls (m/s). General surfaces of walls; 1 coat primer and 2 coats emulsion paint; prepared and applied to plastered interior surfaces of blockwalls (m/s). General surfaces - columns; 1 coat primer and 2 coats emulsion paint; prepared and applied to plastered surfaces of columns (m/s). General surfaces - beams; 1 coat primer and 2 coats emulsion paint; prepared and applied to plastered surfaces of columns (m/s). <u>M40 Stone/Concrete/Quarry/Ceramic Tiling/Mosaic</u> Glazed ceramic tiling to walls; plain, width ≤ 300mm; pattern to plastered walls of washrooms and locker room where specified. Floor Finishes <u>M40 Stone/Concrete/Quarry/Ceramic Tiling/Mosaic</u> Slip resistant ceramic tiles to floors embedded in thinset and pointed finished with approved grout in specified rooms. Extra over cedar skirting knotted and primed with 2 No. coats wood stain ; 25mm x 100mm high; to base of walls in specified locations/rooms. Ceiling Finishes <u>M60 Painting/Clear Finishings</u> General surfaces of ceilings; 1 undercoat and 2 finish coats emulsion paint; prepared and applied to soffit of roof slabs (m/s). WALL, FLOOR & CEILING FINISHES Carried to Bill Summary	208.30	m ²		

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	15.0	PLUMBING AND WATER STORAGE <u>Sanitary Installations</u> <u>Soil, Waste and Vent Systems</u> Supply and install the soil, waste and ventilation system within the building (including floor cleanouts and drains) strictly in accordance with the plumbing specifications (NB. Sanitary Fittings measured elsewhere)				
	A	Generally <u>Sanitary Appliances/Fittings</u> Supply and install Sanitary Appliances and Fixtures in accordance with specifications and Sanitary Wares.	1.00	Item		
	B	W.C suite, low level close coupled cistern, S-trap outlet, plastic seat and cover, complete with all necessary supply and overflow fittings	2	Nr.		
	C	Vanity wash basin, set in counter top, hot and cold faucet, complete with all necessary supply, waste and overflow fittings	2	Nr.		
	D	Stainless steel; satin finish toilet roll holder in washrooms	2	Nr		
	E	Stainless steel; satin finish surface mounted paper towel dispenser	2	Nr.		
	F	Stainless steel; satin finish soap dispenser in all restrooms	2	Nr.		
				To Collection		

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	16.0	PLUMBING WORKS AND INSTALLATIONS Cont'd				
		<u>Sanitary Appliances/Fittings</u>				
		Supply and install Sanitary Appliances and Fixtures in accordance with specifications and Sanitary Wares Schedule.				
	A	Stainless steel sink top; 900mm long x 460mm wide set into counter top, single bowl, single drainer, hot and cold stainless steel faucet, complete with all necessary supplies, waste and overflow fittings.	1	Nr.		
	B	Stainless steel hand towel holder in kitchen	1	Nr.		
	C	Stainless steel towel roll holder in locker/change room	1	Nr.		
	D	Stainless steel shower rod in locker/change room	1	Nr.		
		<u>Piped Supply Systems</u>				
		Cold Water System				
	A	Supply and install the cold water system within the building in its entirety	1	Item		
		Hot Water System				
	B	Supply and install the hot water system within the building in its entirety	1	Item		
		Water Storage				
	C	Supply and install 2 No. 1000 gallon water tanks including all piping and fittings	1.00	Item		
	D	Supply and install water pump including connection to hot and cold water supply lines.	1.00	Item		
		<u>Builders Work in Connection with Plumbing Installations</u>				
	E	Allow for all necessary builder's work, including cutting holes, mortices, chases, and the like,....	1.00	Item		
	F	Test the Plumbing Installation on completion	1.00	Item		
		<u>Protection</u>				
	G	Protect the works in this section.	1.00	Item		
				To Collection		
		COLLECTION				
		From: Page 16				
		From: Page 17				
		PLUMBING AND WATER STORAGE				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	17.0	ELECTRICAL WORKS AND INSTALLATIONS A Supply and installation of a Solar Power electrical system for the Packing Facility in accordance with electrical layout, details and specifications as follows: B Electrical installation in accordance with electrical layout to include all conduit, wiring, boxes, switches, outlets, lighting, builders work and protection of the works. C 34 No. 1200mm x 1200mm interconnected Photovoltaic cells (panels) connected to main 15 Kw Solar Power Generation Unit. D 15 Kva Back-up Generator with 50 gallon back-up fuel storage tank. E Testing and inspection of electrical installations, approval from Regulatory Authority and commissioning.				
		ELECTRICAL WORKS AND INSTALLATIONS Carried to Bill Summary				-

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	18.0	VENTILATION AND AIR CONDITIONING SYSTEM Supply and Installation of the Split Unit Air Conditioning System on Mezzanine Floor in accordance with the drawings and specifications provided. A Allow for Main Contractor's Profit B Allow for General Attendance C Allow for Special Attendance D Unloading, storing etc. E Providing power F Protection of Installations.		L.S <		

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	19.0	COOLING AND REFRIGERATION SYSTEM				
	A	Supply and Installation of Walk-in Cooler and Freezer in accordance with manufacturers instructions.		L.S		
	B	Allow for Main Contractor's Profit		%	10%	
	C	Allow for General Attendance				
	D	Allow for Special Attendance				
		1. Unloading, storing etc.				
		2. Providing power				
		3 Protection of Installations.				
		COOLING AND REFRIGERATION SYSTEM				
		Carried to Bill Summary				-

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BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	21.0	FIRE DETECTION AND ALARM SYSTEM				
	A	Provision of a Fire Detection and Alarm System and integration with the Access Control to ensure the Building's fire readiness.		L.S		
	B	Allow for Main Contractor's Profit	1	%	10%	
	C	Allow for General Attendance	Item			
	D	Allow for Special Attendance				
		1. Unloading, storing etc.	Item			
		2. Providing power	Item			
		3 Protection of Installations.	Item			
		FIRE DETECTION AND ALARM SYSTEM				
		Carried to Bill Summary				-

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - PACKING FACILITY	QTY	UNIT	RATE	AMOUNT €
	23.0	BILL SUMMARY				
		SUBSTRUCTURE				-
		SUPERSTRUCTURE				
		Reinforced Concrete Frame and Suspended Floor				-
		Blockwork and Masonry				-
		Timber Framed Roof				-
		Carpentry and Joinery				-
		Doors and Windows				-
		Wall, Floor and Ceiling Finishes				-
		BUILDING SERVICES				
		Plumbing and Water Storage				-
		Electrical Works and Installations				-
		Ventilation and Air Conditioning				-
		Cooling and Refrigeration System				-
		Solar WaterHeating System				-
		Fire Detection & Alarm System				-
		Telecommunications System				-
		GREENHOUSE PACKING FACILITY				
		TOTAL COST OF CONSTRUCTION				
		CARRIED TO FORM OF TENDER			€	-

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - STORAGE BUILDING	QTY	UNIT	RATE	AMOUNT €
4.0	1.0	SUBSTRUCTURE <u>D20. Excavation and Filling</u> <u>Excavation</u> A Excavating trenches, width > 300mm; maximum depth ≤ 1.80 m to strip foundation footings. <u>Working Space Allowance to Excavations</u> B To trench excavations. <u>Earthwork Support</u> C Maximum depth ≤ 2.00 m; distance between opposing faces ≤ 2.00m below ground level to excavation pits and trenches. <u>Disposal</u> D Disposal of excavated material off site to suitable dump site approved by Engineer not exceeding 5 kilometers away. <u>Filling</u> E Filling to excavations; average thickness ≤ 250mm with material arising from the excavations; around foundation walls. F Filling to make up levels; average thickness ≤ 250mm with suitable backfill material obtained off site G Filling to make up levels; average thickness ≤ 250mm with suitable backfill material obtained off site H Filling to make up levels; average thickness < 200mm with selected rubble hardcore; obtained off site; properly graded <u>Surface Treatment</u> I Compacting bottoms of excavations prior to concrete blinding J Compacting hardcore in specified layers to receive concrete to floor slab. <u>Termite Treatment</u> K Subterranean termite treatment to surface of excavations and top of finished hardcore <u>Protection</u> L Protection of the works in this section.	24.0	m ³		
			24.0	m ²		
			78.0	m ²		
			8.0	m ³		
			6.0	m ³		
			6.0	m ³		
			6.0	m ³		
			10.0	m ³		
			24.0	m ²		
			48.0	m ²		
			42.0	m ²		
			1	Item		
			To Collection			

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BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - STORAGE BUILDING	QTY	UNIT	RATE	AMOUNT €
	3.0	SUBSTRUCTURE (Contd.)				
		<u>E30 Reinforcement for In Situ Concrete</u>				
	A	High tensile steel bar reinforcement; bent; 12mm diameter; in reinforced concrete strip footings.	325.0	Kgs		
	B	High tensile steel bar reinforcement; straight 12mm diameter; in reinforced concrete stiffener columns.	49.0	Kgs		
	C	High tensile steel bar reinforcement vertical; bent; 12mm diameter; in strip blockwalling @ 200mm crs.spacing	115.0	Kgs		
	D	High tensile steel bar reinforcement; bent; 10mm diameter; as stirrups to stiffener columns in foundation.	20.0	Kgs		
	E	High tensile steel bar reinforcement; straight; 10mm diameter; in reinforced concrete ground floor slab.; with minimum 400mm laps.	506	Kgs		
		<u>E42 Accessories Cast into In Situ Concrete</u>				
	F	500 grade (polythene) damp proof membrane; to top of sand blinding in ground floor slab (M/S); minimum 300mm end and side laps.	40.0	m ²		
				To Collection		

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BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - STORAGE BUILDING	QTY	UNIT	RATE	AMOUNT €
	5.0	SUPERSTRUCTURE				
		<u>E10 In Situ Concrete</u>				
		<u>In situ concrete; 35 Mpa 28 day strength; reinforced; filled into form work and well vibrated around reinforcement</u>				
	A	In reinforced concrete stiffener columns;	2.0	m ³		
	B	In reinforced concrete lintels; 150mm x 200mm	0.5	m ³		
	C	In reinforced concrete ring beams;	2.0	m ³		
		<u>E20 Formwork for In Situ Concrete; dressed to give a smooth finish</u>				
	D	To reinforced concrete stiffener columns;	31	m ²		
	E	To reinforced concrete lintels; 150mm x 200mm	5.6	m ²		
	F	To reinforced concrete ring beams;	23.5	m ²		
		<u>E30 Reinforcement for In Situ Concrete</u>				
	G	High tensile steel bar reinforcement; straight; 12mm diameter; in reinforced concrete stiffener columns.	125.0	Kgs		
	H	High tensile steel bar reinforcement; straight; 12mm diameter; in reinforced concrete lintels.	50.0	Kgs		
	I	High tensile steel bar reinforcement; bent; 12mm diameter; in reinforced concrete ring beam.	140.0	Kgs		
	J	High tensile steel bar reinforcement; 10mm diameter; bent; as stirrups in stiffener columns.	100.0	Kgs		
	K	High tensile steel bar reinforcement; 10mm diameter; bent; as stirrups in lintels.	30.0	Kgs		
	L	High tensile steel bar reinforcement; 10mm diameter; bent; as stirrups in ring beams.	87.0	Kgs		
		REINFORCED CONCRETE FRAME & SUSPENDED FLOOR				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - STORAGE BUILDING	QTY	UNIT	RATE	AMOUNT €
	6.0	SUPERSTRUCTURE CONT'D				
		BLOCKWORK & MASONRY				
		<u>F10 Brick/Block Walling</u>				
	A	Hollow blockwalls; 150mm thick; vertical; built against concrete columns; to stretcher bond in C & S mortar 1 : 3 mix; including filling all cavities with 1:2:4 mix concrete in external walls.	70.0	m ²		
	B	Hollow blockwalls; 150mm thick; vertical; built against concrete columns; to stretcher bond in C & S mortar 1 : 3 mix; including filling all cavities with 1:2:4 mix concrete in internal walls.	31.5	m ²		
		<u>F30 Accessories/Sundry items for brick/block/stone walling</u>				
	C	Vent blocks; (300mm x 300mm x 150mm) in panel size 1800mm x 1200mm.	7.0	No.		
		<u>E30 Reinforcement for In Situ Concrete</u>				
	D	High tensile steel bar reinforcement; straight; vertical; 12mm diameter; in blockwalling @ 400mm crs. horizontally	225.0	Kgs		
		<u>F30 Accessories for Blockwalling</u>				
	E	Brickforce or equal approved heavy duty galvanized steel ladder type joint reinforcement with 150mm laps at ends and corners in 150mm thick block walls.	101.5	m		
		<u>E41 Worked Finishes</u>				
	F	Hacking; surfaces of columns to form key for plaster	31.0	m ²		
	G	Hacking; exterior surfaces of lintls and beams to form key for plaster	29.1	m ²		
		<u>M Surface Finishes</u>				
		<u>M20 Plastered / Rendered / Roughcast Coatings</u>				
	H	Walls; 13mm thick plaster;1:3 mix applied in 2 coats; float finish to surfaces of blockwork .	203.0	m ²		
		BLOCKWORK & MASONRY				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - STORAGE BUILDING	QTY	UNIT	RATE	AMOUNT €
	7.0	TIMBER FRAMED ROOF				
		<u>G20 Carpentry/ Timber Framing / First Fixing</u>				
	A	Rafters; pitched; 50mm x 150mm WPP common rafter @ 600mm c/c fixed to Ridge Board and tied to roof beams and attic floor beams	94	m		
	B	Plywood sheathing; 16mm thick fixed to 50mm x 250mm common rafters	62	m ²		
	C	Laths ≤ 300mm ;25mm x 75mm laths/purlins @ 1.0m centers fixed to rafters and sheathing (m/s)	64	m		
	D	Fascia board; width ≤ 300mm; 50mm x 250mm treated softwood in fascia board to end of rafters.	33	m		
		<u>H72 Aluminium Sheet Coverings/Flashings</u>				
	E	Roof coverings; nominal pitch 12-33 degrees; 24 gauge industrial profile; colour clad; single length sheets; fixed by screws with matching cadmium plated steel washers / high quality neoprene fittings; lapped by 2nr. flute (125mm approx.); fixed to timber purlins (m/s).	62.0	m ²		
		<u>Hardware</u>				
	F	Simpson strong H 2.5 tie or similar, fastened to either side of rafter along ring beam ; in accordance with details and specifications.	68.0	Nr.		
		<u>M60 Painting/Clear finishings</u>				
	G	General surfaces of timber roof members; 3 coats emulsion paint; prepared and applied to trusses and fascia board	115.0	m ²		
		<u>R10 Rainwater Pipework/Gutters</u>				
	H	Gutters; seamless pvc; straight; 50mm x 150mm including outlets fixed to fascia board and connected to pvc downpipe as specified and detailed.	15.0	m		
	I	Downpipes; straight; pvc 100mm including bends; connected to pvc gutter outlets ; carried down to ground level and into perimeter drainage	5	m		
		TIMBER FRAMED ROOF STRUCTURE				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - STORAGE BUILDING	QTY	UNIT	RATE	AMOUNT €
	8.0	DOORS & WINDOWS				
		<u>L20 Doors / Shutters / Hatches</u>				
		<u>Supply and install doors including 50mm x 150mm TPP framing and 25mm x 50mm TPP jambs as per general specifications</u>				
		<u>Supply and install metal doors</u>				
	A	Door type 1; single leaf 900mm x 2000mm 6 panel coated metal doors.	1	No.		
	B	Door type 2: double leaf 900mm x 2000mm 6 panel coated metal doors	2	No.		
		<u>M21 Ironmongery & Hardware</u>				
	C	Commercial mortice lock set, cylinder type, lever handle both sides; stainless steel finish.	3	Nr.		
	D	Bore-in cylinder deadbolt; stainless steel finish; locking and unlocking mechanisms (key outside/lever inside).	3	Nr.		
		100mm x 75mmmm heavy duty door hinge; stainless steel	10	Nr.		
	E	150mm stainless steel tower bolts fastened top and bottom of anchor door.	4	Nr.		
		DOORS AND WINDOWS				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - STORAGE BUILDING	QTY	UNIT	RATE	AMOUNT €
	9.0	BUILDING FINISHES				
		Wall Finishes				
		<u>M Surface Finishes</u>				
		<u>M60 Painting/Clear Finishings</u>				
	A	General surfaces of walls; 1 coat primer and 2 coats emulsion paint; prepared and applied to plastered exterior surfaces of blockwalls (m/s).	140.0	m ²		
	B	General surfaces of walls; 1 coat primer and 2 coats emulsion paint; prepared and applied to plastered interior surfaces of blockwalls (m/s).	63.0	m ²		
		Floor Finishes				
		<u>M60 Painting/Clear Finishings</u>				
	C	General surfaces of floors; 1 coat primer and 3 coats heavy duty floor paint; prepared and applied to screeded, properly cleaned floor surfaces.	42.0	m ²		
		<u>Shelving</u>				
	D	Fabrication and installation of Shelving using interior plywood with TPP framing supported with L- shaped stainless steel brackets and finished with 1 coat wood primer and 2 coats emulsion paint; stainless steel screws.	1	L.S		
		BUILDING FINISHES				
		Carried to Bill Summary				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - STORAGE BUILDING	QTY	UNIT	RATE	AMOUNT €
	10.0	BILL SUMMARY				
		SUBSTRUCTURE				
		SUPERSTRUCTURE				
		Reinforced Concrete Frame and Suspended Floor				
		Blockwork and Masonry				
		Timber Framed Roof				
		Doors and Windows				-
		Building Finishes				-
		STORAGE BUILDING				
		Carried to Bill Summary			€	-

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - COMPOST SHED	QTY	UNIT	RATE	AMOUNT €
5.0	1.0	SUBSTRUCTURE <u>D20. Excavation and Filling</u> <u>Excavation</u> A Excavating trenches, width > 300mm; maximum depth ≤ 1.80 m to strip foundation footings. <u>Working Space Allowance to Excavations</u> B To trench excavations. <u>Disposal</u> C Disposal of excavated material off site to suitable dump site approved by Engineer not exceeding 5 kilometers away. <u>Filling</u> D Filling to excavations; average thickness ≤ 250mm with material arising from the excavations; around foundation walls. E Filling to make up levels; average thickness < 150mm with selected rubble hardcore; obtained off site; properly graded <u>Surface Treatment</u> F Compacting bottoms of excavations prior to concrete blinding G Compacting hardcore in specified layers to receive concrete to floor slab. <u>Termite Treatment</u> H Subterranean termite treatment to surface of excavations and top of finished hardcore	6.0	m ³		
			9.5	m ²		
			8.0	m ³		
			3.0	m ³		
			2.0	m ³		
			10.0	m ²		
			11.0	m ²		
			21.0	m ²		
			To Collection			-

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	3.0	SUBSTRUCTURE (Contd.) <u>E30 Reinforcement for In Situ Concrete</u> A High tensile steel bar reinforcement; bent; 12mm diameter; in reinforced concrete strip footings. B High tensile steel bar reinforcement; straight 12mm diameter; in reinforced conncrete stiffener columns. C High tensile steel bar reinforcement vertical; bent; 12mm diameter; in strip blockwalling @ 200mm crs.spacing D High tensile steel bar reinforcement; bent; 10mm diameter; as stirrups to stiffener columns in foundation. E Steel mesh fabric reinforcement to BS 8666; Ref. A142 weighing 2.22Kg/m ² in floor slab. <u>E42 Accessories Cast into In Situ Concrete</u> F 500 grade (polythene) damp proof membrane; to top of sand blinding in ground floor slab (M/S); minimum 300mm end and side laps. <u>F10 Brick/Block walling</u> G Hollow blockwalls; 200mm thick; vertical; built against concrete columns; to stretcher bond in C & S mortar 1 : 3 mix; including filling all cavities with 1:2:4 mix concrete. <u>F30. Accessories for Blockwalling</u> H Brickforce or equal approved heavy duty galvanized steel ladder type joint reinforcement with 150mm laps at ends and corners in foundation wall; 200mm thick.	84.0 18.0 24.0 15.0 16 16.0 8.0 16.0	Kgs Kgs Kgs Kgs m ² m ² m ² m	To Collection	
	COLLECTION 					

	4.0	SUPERSTRUCTURE				
		<u>E10 In Situ Concrete</u>				
		<u>In situ concrete; 35 Mpa 28 day strength; reinforced; filled into form work and well vibrated around reinforcement</u>				
	A	In reinforced concrete stiffener columns;	1.0	m ³		
	B	In reinforced concrete ring beams;	1.0	m ³		
		<u>E20 Formwork for In Situ Concrete; dressed to give a smooth finish</u>				
	C	To reinforced concrete stiffener columns;	11.5	m ²		
	D	To reinforced concrete ring beams;	10.0	m ²		
		<u>E30 Reinforcement for In Situ Concrete</u>				
	E	High tensile steel bar reinforcement; straight; 12mm diameter; in reinforced concrete stiffener columns.	68.0	Kgs		
	F	High tensile steel bar reinforcement; bent; 12mm diameter; in reinforced concrete ring beam.	56.0	Kgs		
	G	High tensile steel bar reinforcement; 10mm diameter; bent; as stirrups in stiffener columns.	60.0	Kgs		
	H	High tensile steel bar reinforcement; 10mm diameter; bent; as stirrups in ring beams.	40.0	Kgs		
		REINFORCED CONCRETE FRAME & SUSPENDED FLOOR				
		Carried to Bill Summary				-

	5.0	SUPERSTRUCTURE CONT'D				
		BLOCKWORK & MASONRY				
		<u>F10 Brick/Block Walling</u>				
	A	Hollow blockwalls; 150mm thick; vertical; built against concrete columns; to stretcher bond in C & S mortar 1 : 3 mix; including filling all cavities with 1:2:4 mix concrete in external walls.	8.0	m ²		
		<u>E30 Reinforcement for In Situ Concrete</u>				
	B	High tensile steel bar reinforcement; straight; vertical; 12mm diameter; in blockwalling @ 400mm crs. horizontally	18.0	Kgs		
		<u>F30 Accessories for Blockwalling</u>				
	C	Brickforce or equal approved heavy duty galvanized steel ladder type joint reinforcement with 150mm laps at ends and corners in 150mm thick block walls.	12.0	m		
		<u>E41 Worked Finishes</u>				
	D	Hacking; surfaces of columns to form key for plaster	11.5	m ²		
	E	Hacking; exterior surfaces of beams to form key for plaster	10.0	m ²		
		<u>M Surface Finishes</u>				
		<u>M20 Plastered / Rendered / Roughcast Coatings</u>				
	F	Walls; 13mm thick plaster;1:3 mix applied in 2 coats; float finish to surfaces of blockwork .	16.0	m ²		
		BLOCKWORK & MASONRY				
		Carried to Bill Summary				

	6.0	TIMBER FRAMED ROOF				
		<u>G20 Carpentry/ Timber Framing / First Fixing</u>				
	A	Rafters; pitched; 50mm x 150mm WPP common rafter @ 600mm c/c fixed to Ridge Board and tied to roof beams and attic floor beams	28.8	m		
	B	Plywood sheathing; 16mm thick fixed to 50mm x 250mm common rafters	16	m ²		
	C	Laths ≤ 300mm ;25mm x 75mm laths/purlins @ 1.0m centers fixed to rafters and sheathing (m/s)	20	m		
	D	Fascia board; width ≤ 300mm; 50mm x 250mm treated softwood in fascia board to end of rafters.	18.2	m		
		<u>H72 Aluminium Sheet Coverings/Flashings</u>				
	E	Roof coverings; nominal pitch 12-33 degrees; 24 gauge industrial profile; colour clad; single length sheets; fixed by screws with matching cadmium plated steel washers / high quality neoprene fittings; lapped by 2nr. flute (125mm approx.); fixed to timber purlins (m/s).	16.0	m ²		
		<u>Hardware</u>				
	F	Simpson strong H 2.5 tie or similar, fastened to either side of rafter along ring beam ; in accordance with details and specifications.	40.0	Nr.		
		<u>M60 Painting/Clear finishings</u>				
	G	General surfaces of timber roof members; 3 coats emulsion paint; prepared and applied to rafters and fascia board	20.0	m ²		
		<u>R10 Rainwater Pipework/Gutters</u>				
	H	Gutters; seamless pvc; straight; 50mm x 150mm including outlets fixed to fascia board and connected to pvc downpipe as specified and detailed.	10.0	m		
	I	Downpipes; straight; pvc 100mm including bends; connected to pvc gutter outlets ; carried down to ground level and into perimeter drainage	5	m		
		TIMBER FRAMED ROOF STRUCTURE				
		Carried to Bill Summary				

	7.0	FINISHES				
		<u>L20 Doors / Shutters / Hatches</u>				
		<u>Supply and install doors including 50mm x 150mm TPP framing and 25mm x 50mm TPP jambs as per general specifications</u>				
		<u>Supply and install metal doors</u>				
	A	Door type 2: double leaf 1300mm x 1050mm timber framed barn door	2	No.		
		<u>M21 Ironmongery & Hardware</u>				
	B	150mm heavy duty hasp and staple provided with heavy duty keyed padlock	4	Nr.		
	C	100mm x 75mmmm heavy duty door hinge; stainless steel	8	Nr.		
	D	150mm stainless steel tower bolts fastened top and bottom of anchor door.	4	Nr.		
		<u>M Surface Finishes</u> <u>M60 Painting/Clear Finishings</u>				
	E	General surfaces of walls; 1 coat primer and 2 coats emulsion paint; prepared and applied to plastered exterior surfaces of blockwalls (m/s).	8.0	m ²		
		BUILDING FINISHES				
		Carried to Bill Summary				

[illegible]

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - EXTERNAL WORKS	QTY	UNIT	RATE	AMOUNT €
6.0	1.0	EXTERNAL WORKS				
		<u>Concrete Walkways & Paved Areas</u>				
	C	125mm thick gravel (20mm aggregate) pavement lightly compacted around Packing Facility and along Greenhouse Park	1930	m ²		
	B	Insitu concrete walkway; 1200mm wide x 125mm thick; 35 Mpa at 28 day strength concrete, well consolidated; A142 BRC mesh reinforcement; laid to falls with textured finish; rate to include excavation, levelling and formwork	30	m ²		
		<u>Wheel and Footbath</u>				
	D	Insitu concrete wheel and foot bath at entrance gate for bio-security; 35 Mpa at 28 day strength concrete, well consolidated into formwork; fibermesh reinforcement; laid to falls with textured finish; rate to include excavation, levelling and formwork	1	L.S		
		<u>Site Drainage</u>				
	E	Earthen swale drains; 500mm wide x 300mm deep where specified; rate to include excavation, disposal, shaping and sloping; see detail 03/C-01	310	m		
	F	Earthen swale drains; 600mm wide x 300mm deep where specified; rate to include excavation, disposal, shaping and sloping; see detail 02/C-01	207	m		
	G	Reinforced concrete swale drain; 150mm thick; A142 BRC mesh reinforcement; 50mm thick concrete blinding; rate to include excavation, disposal and formwork; refer to detail 06/C-01	5	m		
		<u>Septic Tank & Soakaway</u>				
	H	Septic tank; overall size 3600mm x 2400mm x 2400mm deep complete including all piping, excavation and backfilling.	1	L.S		
	I	Soakaway; 1.2m x 1.2m x 2m deep, comprising graded rock fill stone and polythene sheet cover; include for excavation and backfilling.	1	L.S		
				To Collection		-

	2.0	EXTERNAL WORKS & DRAINAGE cont'd				
		<u>Fencing and Gates</u>				
	A	1800mm high galvanized chain link fence; 9 gauge with 50mm diameter intermediate at 3000mm centers and 75mm corner galvanized fence posts set in concrete pits with 150mm x 150mm concrete at base of fence; include braces, top rail, barb arms and barbed wire along with all accessories installed in accordance with drawings and specifications.	520	m		
		<u>Gates to match chainlink fencing, rates to include for galvanize steel gate posts, hinges, locking bars and accessories.</u>				
	B	4.88m wide x 2.44m high double leaf gate	1	No.		
	C	0.90m x 2.44m high single leaf pedestrian gate	1	No.		
	D	Holes for fence posts and gates, rate to include for excavation and concrete Grade 25 Mpa.	175	No.		
		<u>Landscaping</u>				
	E	Provide 150mm topsoil landscaping and grassing around Packing Facility including rolling, watering, fertilizing and cutting until Practical Completion.	1	L.S		
		<u>Security Booth</u>				
	F	Cconstruction of a reinforced concrete and masonry security booth with timber roof, doors, windows and other finishes in accordance with drawings and specifications.	1	L.S		-
		<u>Protection</u>				
	G	Protect the works in this section.	1	L.S		
			To Collection			-
		COLLECTION				
		From: Page 1				-
		From: Page 2				-
		EXTERNAL WORKS				
		Carried to Bill Summary			€	-

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - GREENHOUSE PARK	QTY	UNIT	RATE	AMOUNT €
7.0	1.0	GREENHOUSES				
		<u>Greenhouse Structures</u>				
	A	9.60 m x 20.0m single arch tunnel greenhouses designed for 130km/h windloads and 30kg/m ² crop loads; supplied as per design details and specifications and installed in accordance with manufacturer's instructions; greenhouse to include: Galvanized steel tubing for framing for uprights in central spans every 4.00m (80 x 40 x 1.5mm) and uprights on longsides every 4.00m (80 x 40m x 1.5mm) Peak height: 7.12 m Crop support bar: 4.96 m high (32mm x 9.60m x 1.5mm) at every 4.00 meters Gutter height: 5.03 m Fixed continuous insect-proof netting Concrete base blocks as specified Celloclim 200 µm diffusing flim cover One access door (3.20m x 3.00m)	16	No.		
		<u>Rainwater Harvesting</u>				
	B	Supply and installation of galvanized water storage tank for water harvesting; connection to transmission line and ground and/or overhead piping from greenhouse gutter system; sited within the greenhouse park as per drawings for supply to irrigation system.	1	L.S		
	C	Construction of reinforced concrete tank base in accordance with drawings and specifications.	1	L.S		
	D	Supply and install overhead and buried piping including down pipes and sumps from greenhouse guttering to galvanize water tank as per rainwater harvesting and irrigation system layout and details.	1	L.S		
	E	Supply and install UV sterilizer for UV disinfection using ultra violet rays for physical water treatment; with a maximum 254 nanometer intensity.	1	L.S		
		<u>Ancillary Works</u>				
	F	Grading and cambering of ground within greenhouse; 2% fall from center line of greenhouse.	3872	m ²		
		GREENHOUSES				
		Carried to Bill Summary			€	

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - IRRIGATION SYSTEM	QTY	UNIT	RATE	AMOUNT €
8.0	1.0	IRRIGATION SYSTEM				
		<u>Water Intake</u>				
	A	Construction of reinforced concrete intake structure for collection of source water for irrigation to include chamber with washout valve and sluice valve.	1	L.S		
		<u>Transmission Line</u>				
	B	Supply and install (50mm) diameter polyethylene transmission line from intake to Greenhouse Park site including fittings, valves and any required excavation and backfilling.	1	L.S		
		<u>Distribution Network</u>				
	C	Supply and install (20mm) diameter polyethylene distribution lines from transmission line to individual greenhouses including fittings, valves and any required excavation and backfilling.	1	L.S		
		<u>Equipment</u>				
		All a Provisional Sum for the supply and installation of equipment for irrigation/fertigation of greenhouses as per specifications.	1	L.S		-
		96 No. inline dripper lines 192 No. open/close minivalves 8 No. self powered controllers 16 No. proportional dosing pums with mixing tanks 8No. electric valves 1 No. water pump 1 No. water filter				

BILL NO.	PAGE	GREENHOUSE PARK FACILITIES MEASURED WORKS - IRRIGATION SYSTEM	QTY	UNIT	RATE	AMOUNT €
	D	<u>Programmer</u> Supply and installation of irrigation equipment as per the functions specified below: 40 watering groups Control of 6 to 94 valves Control of 2 to 18 motors Control of 2 stations (fertilization and clean water) Simultaneous or sequential valve control Control of mixing tank Watering by time or by volume EC and pH control Alarm management; starting at fixed times, cyclically or by date Starting according to the watering flow meter Forced operation switches on every output Balance module with saving every 4 weeks Drainage and pre-mixing options	1	L.S		-
	C	<u>Utility Building</u> Construction of reinforced concrete and masonry Utility Building to house pump, filter and control equipment for fertigation and irrigation system; comprising shallow strip footing, masonry walls, vent blocks, metal door and lean-to roof along with other other finishes in accordance with drawings and specifications.	1	L.S		
		IRRIGATION SYSTEM Carried to Bill Summary			€	-

GREENHOUSE PARK FACILITIES
GRAND SUMMARY

BILL NO.	DESCRIPTION	AMOUNT EURO
1	Preliminaries	€ -
2	Site Preparation Works	€ -
3	Packing Facility	€ -
4	Storage Building	€ -
5	Compost Shed	€ -
6	External Works	€ -
7	Greenhouses	€ -
8	Irrigation System	€ -
	Sub Total Main Summary	€ -
	VAT - 15%	€ -
	TOTAL TO BID	€ -