

BILL NO. 2
BUILDERS WORKS
(BQ 2/1-BQ 2/31)

T2 TRANSFORMER UPGRADE
SLIGO UNIVERSITY HOSPITAL, THE, MALL, SLIGO
FOR
HEALTH SERVICE EXECUTIVE WEST

Description	Qty	Unit	Rate	€	c
Drawings The Contractor is referred to the Volume A Structural Engineer's & Services Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document For works measured in this element, refer specifically to C&S Engineers Drawings (125-444-000, 001, 002 & 003) and M&E Engineers Drawings (25672-ZZ-Z-ZZZ-DR-VCE-EE-0001, 0002, 0003, 0004, 0005, 0006, 0007, 0008, 0009, 0010) & Specification Document (25672-ZZ-Z-ZZZ-SP-VCE-EE-0010) all of which accompanies this Bill of Quantities, <u>The Contractor is referred to the C&S Engineers and M&E Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document. The Contractor's attention is particularly brought to phasing notes and sequence of work outlined on M&E Engineers Drawings 25672-ZZ-Z-ZZZ-DR-VCE-EE-0003, 0004, 0005, 0006, 0007, 0008 which set out the Phasing of the works and the need to maintain continual power and backup to the hospital throughout the works. No deviation has been made within the measured pricing document elements for this phased completion strategy and the Contractor is deemed to have included for all costs arising from the inherent phasing restrictions which as listed in detail within section 2.5h of BQ1 Preliminaries.</u> A The Main Contractors rates are deemed to make provision for, and have included within his rates and/or preliminaries clauses for any consequential protection, repairs, temporary surfacings & patching that may be necessary at interim phases due to damage resultant from the Contractors heavy Construction traffic. B The Contractor is deemed to have visited the site and ascertained the full extent and nature of the works involved and the location of said works within floor, envelope walls, internal walls or on roofs of a live Acute Hospital building. No claim will be entertained due to the Contractor's failure to visit the site. The Contractor is responsible for working around, protecting & maintaining existing building structure, finishes, completions & services Refer to full Appendix 3 Info pack		Note Note Note Note			

Description	Qty	Unit	Rate	€	c
(Cont'd) Drawings (Cont'd) The Contractor is referred to the C&S Engineers and M&E Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document. The Contractor's attention is particularly brought to phasing notes and sequence of work outlined on M&E Engineers Drawings 25672-ZZ-Z-ZZZ-DR-VCE-EE-0003, 0004, 0005, 0006, 0007, 0008 which set out the Phasing of the works and the need to maintain continual power and backup to the hospital throughout the works. No deviation has been made within the measured pricing document elements for this phased completion strategy and the Contractor is deemed to have included for all costs arising from the inherent phasing restrictions which as listed in detail within section 2.5h of BQ1 Preliminaries. The Main Contractor shall be responsible for ensuring the structural integrity of the existing hospital buildings and retained paved areas are not compromised during these works. A The contractor is to comply with Waste Management Acts, 1996 to 2011, the Environmental Protection Agency Acts, 1992 to 2011, The Roads Acts, 1993 to 2015 and European Communities (Waste Directive) Regulations 2011 each as amended and supplemented and in force for the duration of the Works and the Contractor shall be deemed to have provided for and allowed for all costs associated with lawfully dealing with waste material. For the avoidance of doubt the Contractor shall prepare, and comply with the provisions of, a Waste Management Plan for the project as detailed in the guidelines contained in the TII Publication GE-ENV-01101 - The Management of Waste from National Road Construction Projects. <u>General notes</u> Prices for the following shall and will be deemed to include for:- 1. Full provision for each item of taking down and for the full extent and particularities of same based on careful on site inspection of each item of taking down with reference to the Tender Documents, before pricing; 2. Temporary or permanent disconnection of all existing services as necessary and for liaison with the relevant bodies in order to have this work carried out; 3. All basketing and barrowing out, loading onto lorries / trailers, removal off site and disposal, including all fees and charges (unless otherwise stated);		Item			

Description	Qty	Unit	Rate	€	c
<u>(Cont'd) General notes</u>					
4. The term "make good around" in the following descriptions refers to the making good of the floor, wall, and ceilings structure and surfaces disturbed by the works including dubbing out as required and for forming flush edges to existing finishes.					
5. The contractors attention is drawn to the fact that the elements of the demolition works will need to be phased and the total demolitions and strips outs may not be carried out in one operation [Refer to M&E Engineers Drawings 25672-ZZ-Z-ZZZ-DR-VCE-EE-0003, 0004, 0005, 0006, 0007, 0008 which set out the Phasing of the works, and which are listed in detail within section 2.5h of BQ1 Preliminaries] The contractor shall allow for this as no claim on want of knowledge shall be entertained					
6. Careful preservation of retained elements.					
7. Allow for temporary neddling, propping and weatherproofing during the course of the works as necessary to protect structures and protect from the elements, as no claim for repairs to damaged structures or finishes shall be entertained. Allow for securing any areas where demolition has occurred and in consequence left open for unauthorised access					
A The Contractor shall comply with British Standards C.P.94 and C.P.2004, B.S.5228 and B.S.6187: 2000 in respect of demolition works. All Demolitions to comply with Architects Specification C20		Note			
B Note: The provision of temporary work areas & access routes, including all necessary health & safety works, temporary internal hoarding, protection and so forth, as well as all associated temporary signage to demarcate temporary works areas from existing live operational hospital, particularly in T2 Transformer room during these works are deemed covered in the preliminaries section of the Bill of Quantities. Refer to drawing 125-444-002 for extent of such temporary partitions		Note			
SUH Transformer Upgrade Health Service Executive	BQ 2/3		<i>To Collection €</i>		

	Description	Qty	Unit	Rate	€	c
	<u>(00) DEMOLITIONS AND ALTERATIONS</u>					
	<u>SUBSTRUCTURES</u>					
	Removing full makeup of existing reinforced concrete floor as indicated on C&S Engineers Drawings 125-444-001; Following a site visit to evaluate the extent of the works, grub up existing floor slab comprising 175mm thick reinforced concrete floor slab, c/w 8mm A252 reinforcing mesh, as well as approx 750mm deep of the granular fill as necessary to reduce levels for new recessed floor pit (EM); allow for complete grubbing up & disposal to an approved site in accordance with Health and Safety Legislation and EPA Guidelines & Requirements. Allow for passing over to ER documented evidence that materials have been removed to an approved tip; Include for all temporary envelope weathering throughout the works; All in accordance with C&S Engineers Drawings 125-444-001 & Specification Notes on 125-444-000; to the following floor areas;					
A	LHS Switchroom: 6.10m x 4.55m	28	m2			
B	RHS ESB room: 4.15m x 4.55m	19	m2			
C	RHS T2 Room (Part section of floor only): 1.95m x 1.20m	3	m2			
D	LHS MDB2 Room (Part section of floor only): 1.50m x 0.75m	2	m2			
	<u>Extra over on removing part of 175mm deep reinforced concrete floor slab for;</u>					
E	Leave flush vertical cut to exposed edge of retained concrete floor, for future dowel tie-in works	8	m			
	<u>Extra over on removing 175mm deep reinforced concrete floor slab for;</u>					
	<u>Extra over</u> on removal of floor slab to remove additional depth of reinforced concrete edge thickening, c/w A393 10mm mesh to perimeter of floor slab along abutment line of existing floor trench; as detailed on trial hole 1 section and section A 001 on drawing 125-444-000, to the following floor areas;					
F	LHS Switchroom: 950mm wide x 235mm thick reinforced concrete edge thickening	10	m			
G	RHS ESB room: 950mm wide x 235mm thick reinforced concrete edge thickening	12	m			

To Collection €

	Description	Qty	Unit	Rate	€	c
	<u>EXTERNAL WALLS</u>					
	Break out new M&E Services opening in 450mm cavity wall construction					
	Allow for forming new M&E service penetration opening in cavity wall construction comprising 220mm blockwork inner leaf, 100mm insulated cavity & 100mm blockwork; removing sections of wall structure as indicated on drawings, insert new 65mm x 100mm concrete lintels (3 Nr), cutting out suitable 200mm bearing e/s, gaps between lintel bearing and surrounding cavity wall to be infilled & packed; lintels set into formed pockets, make good insertion pockets for bearing, cut out, face up and form new heads / jambs in wall, insert new concrete cill, make good all structure/ render finishes to to match existing, vertical, horizontal and stepped damp proof courses, insert temporary supports ; carefully removing vertical cavity walls at superstructures; disposal of all debris off site; including any making good as necessary on completion, include for all temporary facade supports, protection and envelope weathering throughout the works; All in accordance with C&S Engineers Drawings 125-444-001 & Specification Notes on 125-444-000; to the following opes;					
A	450mm high x 650mm wide new M&E service penetration ope	1	Nr			
	Break out new M&E Services opening in 250mm & 400mm solid wall construction					
	Allow for forming new M&E service penetration opening in solid wall construction comprising 250mm or 400mm blockwork walls; removing sections of wall structure as indicated on drawings, insert new 65mm x 100mm concrete lintels (2-3 Nr), cutting out suitable 200mm bearing e/s, gaps between lintel bearing and surrounding cavity wall to be infilled & packed; lintels set into formed pockets, make good insertion pockets for bearing, cut out, face up and form new heads / jambs in wall, insert new concrete cill, make good all structure/ render finishes to to match existing, vertical, horizontal and stepped damp proof courses, insert temporary supports ; carefully removing vertical cavity walls at superstructures; disposal of all debris off site; including any making good as necessary on completion, include for all temporary facade supports, protection and envelope weathering throughout the works; All in accordance with C&S Engineers Drawings 125-444-001 & Specification Notes on 125-444-000; to the following opes;					
B	450mm high x 650mm wide new M&E service penetration ope (in 250mm Solid Wall)	1	Nr			
C	450mm high x 650mm wide new M&E service penetration ope (in 400mm Solid Wall)	1	Nr			

	Description	Qty	Unit	Rate	€	c
	<u>(Cont'd) EXTERNAL WALLS</u>					
	Buildup extinguished window opening in full					
	Following the removal of the existing external window (EM); Allow for building up opening in existing ope with new 13 N/mm ² blockwork construction (400mm wide blockwork), render / plasterwork finish to external and inner face of wall to match in with existing; Vertical joints achieved using suitable Expamet or "Equivalent" SS starter plate system WS120 & WS090 fixed to existing block jambs, or alternative removing half block deep at alternate blockwork courses to facilitate structural toothing to existing blockwork leafs; leaving clean flush joint with existing head / jambs / cill in existing wall; make good all structure/finishes to to match existing; make good junctions; All in accordance with C&S Engineers Drawings 125-444-001 & Specification Notes on 125-444-000; to the following opes;					
A	450mm high x 1700mm wide redundant window ope	1	Nr			
	<u>INTERNAL WALLS</u>					
	Break out new window opening in 220mm solid wall construction					
	Allow for forming new M&E service penetration opening in solid wall construction comprising 220mm blockwork walls; removing sections of wall structure as indicated on drawings, insert new 65mm x 100mm concrete lintels (2 Nr), cutting out suitable 200mm bearing e/s, gaps between lintel bearing and surrounding cavity wall to be infilled & packed; lintels set into formed pockets, make good insertion pockets for bearing, cut out, face up and form new heads / jambs in wall, make good all structure/plaster finishes to to match existing, vertical, horizontal and stepped damp proof courses, insert temporary supports ; carefully removing internal blockwork walls at superstructures; disposal of all debris off site; including any making good as necessary on completion, include for all temporary supports, protection throughout the works; All in accordance with C&S Engineers Drawings 125-444-001 & Specification Notes on 125-444-000; to the following opes;					
B	450mm high x 650mm wide new M&E service penetration ope (in 220mm Solid Wall)	1	Nr			

To Collection €

Description	Qty	Unit	Rate	€	c
COLLECTION Page No. BQ 2/1 Page No. BQ 2/2 Page No. BQ 2/3 Page No. BQ 2/4 Page No. BQ 2/5 Page No. BQ 2/6 Page No. BQ 2/7 Page No. BQ 2/8 (00) DEMOLITIONS Carried to Summary					
SUH Transformer Upgrade Health Service Executive BQ 2/9					

Description	Qty	Unit	Rate	€	c
Drawings The Contractor is referred to the Volume A Structural Engineer's & Services Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document For works measured in this element, refer specifically to C&S Engineers Drawings (125-444-000, 001, 002 & 003) and M&E Engineers Drawings (25672-ZZ-Z-ZZZ-DR-VCE-EE-0001, 0002, 0003, 0004, 0005, 0006, 0007, 0008, 0009, 0010) & Specification Document (25672-ZZ-Z-ZZZ-SP-VCE-EE-0010) all of which accompanies this Bill of Quantities, <u>The Contractor is referred to the C&S Engineers and M&E Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document. The Contractor's attention is particularly brought to phasing notes and sequence of work outlined on M&E Engineers Drawings 25672-ZZ-Z-ZZZ-DR-VCE-EE-0003, 0004, 0005, 0006, 0007, 0008 which set out the Phasing of the works and the need to maintain continual power and backup to the hospital throughout the works. No deviation has been made within the measured pricing document elements for this phased completion strategy and the Contractor is deemed to have included for all costs arising from the inherent phasing restrictions which as listed in detail within section 2.5h of BQ1 Preliminaries.</u> A The Main Contractors rates are deemed to make provision for, and have included within his rates and/or preliminaries clauses for any consequential protection, repairs, temporary surfacings & patching that may be necessary at interim phases due to damage resultant from the Contractors heavy Construction traffic. B The Contractor is deemed to have visited the site and ascertained the full extent and nature of the works involved and the location of said works within floor, envelope walls, internal walls or on roofs of a live Acute Hospital building. No claim will be entertained due to the Contractor's failure to visit the site. The Contractor is responsible for working around, protecting & maintaining existing building structure, finishes, completions & services Refer to full Appendix 3 Info pack		Note Note Note Note			
SUH Transformer Upgrade Health Service Executive			To Collection €		

To Collection €

	Description	Qty	Unit	Rate	€	c
	<u>EXCAVATIONS & EARTHWORKS: Excavations</u>					
	<u>Filling; suitable imported unbound granular material; to comply with the physical requirements of Type A material from TII publication CC-SPW-00800, to comply with Annex E SR21: 2016 and with chemical requirements of TRRL 447 (2005), pyrite free; to IS EN 13242 and IS EN 13285; deposited, rolled and compacted in 150mm layers; compaction by mechanical means; in strict accordance with Engineers drawing 125-444-002 and Specification notes on drawing 125-444-000</u>					
	To make up levels					
A	average thickness exceeding 250 mm	27	m3			
	<u>Surface treatments</u>					
	Blinding to filling with sand					
B	horizontal; 50mm thick	53	m2			
	<u>CONCRETE WORK: In - Situ Concrete Work</u>					
	<u>In-situ concrete; grade C15 (Leanmix) to relevant clauses of BS 8500-1:2006, BS 8500-2:2006 & BS EN 206-1:2000; 20mm maximum nominal aggregate size with coarse aggregate to BS EN 12620:2002 and A1:2008; minimum cement content 250kg/m3; placed in position, compacted, vibrating, finished and cured in accordance with Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u>					
	Blinding; along edge of existing floor slab abutment (As profile detail on section E-E of drawing 125-444-002)					
C	poured on or against earth or unblinded hardcore (o/s), exceeding 150mm thick	2	m3			
	<u>Reinforced in-situ concrete; grade C28/35 to relevant clauses of BS 8500-1:2006, BS 8500-2:2006 & BS EN 206-1:2000; DS Class DS1 of BRE; 20mm maximum nominal aggregate size with coarse aggregate to BS EN 12620:2002 and A1:2008; minimum cement content 280kg/m3; placed in position, compacted, vibrating, finished and cured in accordance with the all as Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u>					
	Beds (Incl recessed sump floors & trenches)					
D	not exceeding 150mm thick (150mm beds)	3	m3			
E	exceeding 150mm thick (200mm beds)	8	m3			

	Description	Qty	Unit	Rate	€	c
	<u>(Cont'd) CONCRETE WORK: In - Situ Concrete Work</u> <u>(Cont'd) Reinforced in-situ concrete; grade C28/35 to relevant clauses of BS 8500-1:2006, BS 8500-2:2006 & BS EN 206-1:2000; DS Class DS1 of BRE; 20mm maximum nominal aggregate size with coarse aggregate to BS EN 12620:2002 and A1:2008; minimum cement content 280kg/m3; placed in position, compacted, vibrating, finished and cured in accordance with the all as Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u> Walls; forming recessed floor sump / floor trenches A not exceeding 150mm thick 4 m3 B exceeding 150mm thick 1 m3 <u>Isolated joints at intersection of new in-situ floor slab and existing walls through sub-floor; filled with Flexcell Bitumen impregnated fibreboard joint strip or "Equivalent", sealing top 25mm x 25mm with Arbokol or Equivalent two part polysulphide sealant, all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u> Vertical; perimeters C 25mm thick; 150mm high 20 m CONCRETE WORK: Sundries <u>Surface Finishes</u> Power Floated D level; over 300 wide; to surfaces of unset concrete (main recessed sump floors) 47 m2 Trowelling / Power Floating E level; over 300 wide; to surfaces of unset concrete (bottoms of floor trenches) 5 m2 <u>Fabric; to BS 4483; hard drawn mild steel wire to BS 4482; ; on proprietary chairs; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u> A252; minimum 300mm laps F floors 14 m2 G trench walls 7 m2					

	Description	Qty	Unit	Rate	€	c
	(Cont'd) CONCRETE WORK: In - Situ Concrete Work (Cont'd) CONCRETE WORK: Sundries <u>(Cont'd) Fabric; to BS 4483; hard drawn mild steel wire to BS 4482; ; on proprietary chairs; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u> A393; minimum 300mm laps					
A	floors	37	m2			
B	trench walls	18	m2			
	<u>CONCRETE WORK: Reinforcement</u> <u>Bar reinforcement; all in compliance with BS4449:2005 and BS 8666:2005; must be free of loose millscale and thoroughly cleaned to remove all loose rust, oil, grease or other harmful matter prior to being placed in position with and including all necessary laps, spacers, chairs and tying wire; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u> Bar; Dowels straight or bent					
C	not exceeding 16mm	0.02	t			
	<u>Labours:</u> <u>Dowelling into existing Concrete In-Situ Floor Slab; 16mm diameter high tensile steel dowels (Re-Bar E.M), 350mm-400mm long at 200mm centres, one end drilled and grouted into existing concrete with Hilti Hit HY-200A Resin, minimum embedment of 175mm, other end debonded (As profile detail on section E-E 002 on drawing 125-444-002):</u> Concrete Floor Slab					
D	150mm thick	17	Nr			
	<u>Fabric; to BS 4483; hard drawn mild steel wire to BS 4482; ; on proprietary chairs; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u> A252; minimum 300mm laps					
E	floors	14	m2			
F	trench walls	7	m2			

	Description	Qty	Unit	Rate	€	c
	<u>(Cont'd) CONCRETE WORK: Reinforcement</u> <u>(Cont'd) Fabric; to BS 4483; hard drawn mild steel wire to BS 4482; ; on proprietary chairs; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u> A393; minimum 300mm laps					
A	floors	37	m2			
B	trench walls	18	m2			
	<u>CONCRETE WORK: Formwork</u> <u>Formwork; fair finish to comply with BS 8110 Cl 6.2.7.3 (a) and/or EN 1992-1-1:2004; all in strict accordance with the Engineers Concrete Specification Notes on Drawing 125-444-000</u> Edges of Beds (bases of recessed floor sump / floor trenches)					
C	height 150 - 300mm	24	m			
	Kickers					
D	walls	47	m			
	Walls; Forming recessed floor sump / floor trenches					
E	Vertical; exceeding 300mm high	20	m2			
F	Vertical; exceeding 300mm high, one side only (other side poured against existing rising blockwork)	17	m2			
	Extra on any of the foregoing formwork categories for:					
G	50 x 50mm rebate angle to top edge of service trench walls (o/s)	37	m			

	Description	Qty	Unit	Rate	€	c
	<u>ROOFING, CLADDING AND WATERPROOFING: Mastic Asphalt, Waterproof & Gas Proof Non-Metal Flexible Sheet Coverings</u>					
	<u>Polyethylene Gas Retardant Damp Proofing for Radon Protection; Monarflex or Equivalent IAB certified radon resisting barrier; Thickness: 410 microns; Nominal Weight per unit area: 407 g/m2; Tensile Strength (N/50mm): Machine Direction - 600 ; Cross Direction - 740; Tear Resistance (N): Machine Direction - 475 ; Cross Direction - 425; Reinforcement: Multifilament Polyester 9mm x 12mm; Reinforcement Decitex Value : 1670, joints heat welded on site; laid on blinded hardcore; fixing and sealing min 150mm laps in accordance with manufacturers instructions; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u>					
	Damp proofing and gas proofing membrane					
A	horizontal; over 300mm wide	51	m2			
B	<u>Extra over</u> ; sealing around pipe penetrations or the like; 150mm diameter pipe; using Monarflex top hat unit with retention clip and Monobond RT 30mm radon resisting sealant tape	4	Nr			
C	vertical; not exceeding 300mm wide	33	m2			
D	<u>Extra over</u> ; monobond RT 30mm radon resisting sealant tape	72	m			
	<u>Bituthene 4000 as supplied by Grace building products or equivalent 1.5mm flexible preformed waterproof membrane combining a high performance cross laminated, HDPE carrier film with a sticky self-adhesive rubber bitumen compound; vertical surfaces to be prepared with one coat of "Primer B2" applied at a rate of approx. 10m2 per litre; installed in accordance with the manufacturer's instructions, to BS 8102 and DIN 18195; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u>					
	Horizontally					
E	width exceeding 225 mm	51	m2			
	Vertically					
F	width exceeding 225mm	33	m2			
G	<u>extra over</u> for sealing to folded vertical edge of radon barrier with "bitustik 4000" or equivalent; 150mm high	53	m			

	Description	Qty	Unit	Rate	€	c
	<u>(Cont'd) ROOFING, CLADDING AND WATERPROOFING: Mastic Asphalt, Waterproof & Gas Proof Non-Metal Flexible Sheet Coverings</u> <u>Preprufe waterproof self adhesive membrane "Preprufe 300R" by Grace Construction Products or Equivalent; pre-applied prior to formwork (vertically) or to u/side of slab (horizontally) prior to concrete pour, minimum 75mm edge and end laps, end laps staggered, all laps sealed with Preprufe tape LT, hot air gun to dry membrane & soften selvedge adhesive, including fold up's at 90 angles/corners, bituthene LM liquid membrane at penetrations; all fixed in accordance with the manufacturers instructions; to BS 8102 and DIN 18195; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u>					
A	Horizontally width exceeding 225 mm	51	m2			
B	Vertically width exceeding 225mm	33	m2			
	<u>Sheet draining membrane "Hydroduct 220" as supplied by Grace Construction Products or equivalent; mechanically fixed to face of wall with proprietary CF pins with washers into pre-drilled plugged holes (vertically) or laid loose to slab (horizontally), minimum 75mm overlaps and 150mm laps to cut edges or ends, all laps sealed with bitutape, bituthene strips at cut ends for column penetrations or the like; all fixed in accordance with the manufacturers instructions; to BS 8102 and DIN 18195; all in strict accordance in accordance with layout on Engineers drawing 125-444-002 and Reinforced Concrete Specification notes on drawing 125-444-000</u>					
C	Horizontally width exceeding 225 mm	51	m2			
D	Vertically width exceeding 225mm	33	m2			
SUH Transformer Upgrade Health Service Executive						To Collection €

	Description	Qty	Unit	Rate	€	c
	(Cont'd) ROOFING, CLADDING AND WATERPROOFING: Mastic Asphalt, Waterproof & Gas Proof Non-Metal Flexible Sheet Coverings STEELWORK: Structural <u>The steelwork sub-contractor will be required to design complete, based on the Engineers Drawings, all necessary fin plates, cleats, cover plates, gussets, intersection haunches, stiffeners, caps etc. as well as rivets, bolts and welds that are required to erect the structural steelwork framing for suspended floor as a complete finished unit in accordance with the Engineers Specification 125-444-000</u> For the complete primary steel structure					
A	Generally <u>Structural steelwork; all steelwork to be Grade S355 and manufactured in accordance with IS EN 1993, BS EN10025, BS EN10210 and shall comply with the requirements of BS 5950; all in strict accordance with the Engineers Steelwork Specification on 125-444-000; shop preparation blast clean to surface standard Sa 2.5, removing all loose rust / grit / laminations / etc before applying shop primer Epigrip C400V2 or Equivalent Zinc Phosphate finish to a dry film thickness of 125 microns as defined in BS EN ISO 12944-5; colour light grey; spot prime after erection as required; all testing, samples and Manufacturers Drawings for approval (minimum 2 weeks) by the Engineer in accordance with notes on Engineers Specification 125-444-000: (Note: all fittings are included within this item regardless of the grade of steel); painted finish</u> Fabricated members; Beams		Item			
B	not exceeding 25kg/m (203 x 102 x 22 Kg/m)	0.21	t			
C	not exceeding 25kg/m (203 x 133 x 30 Kg/m)	1.18	t			
	Fabricated members; UC Stub Posts					
D	not exceeding 25kg/m (152 x 152 x 23 UC)	0.09	Tn			
	Fabricated members; Equal Angle (150 x 150 x EA15)					
E	25 - 50kg/m, fixing at 600mm centres with M16 resin anchors 150mm long to blockwork / concrete substrate, drilling holes in substrate and EA steel; as section E-E on drawing 125-444-002	0.12	Tn			

	Description	Qty	Unit	Rate	€	c
	(Cont'd) ROOFING, CLADDING AND WATERPROOFING: Mastic Asphalt, Waterproof & Gas Proof Non-Metal Flexible Sheet Coverings (Cont'd) STEELWORK: Structural (Cont'd) Structural steelwork; all steelwork to be Grade S355 and manufactured in accordance with IS EN 1993, BS EN10025, BS EN10210 and shall comply with the requirements of BS 5950; all in strict accordance with the Engineers Steelwork Specification on 125-444-000; shop preparation blast clean to surface standard Sa 2.5, removing all loose rust / grit / laminations / etc before applying shop primer Epigrip C400V2 or Equivalent Zinc Phosphate finish to a dry film thickness of 125 microns as defined in BS EN ISO 12944-5; colour light grey; spot prime after erection as required; all testing, samples and Manufacturers Drawings for approval (minimum 2 weeks) by the Engineer in accordance with notes on Engineers Specification 125-444-000: (Note: all fittings are included within this item regardless of the grade of steel); painted finish Fabricated members; fittings A Generally; including all necessary caps, bases, end plates, splice plates, fin plates, haunches, cleats, brackets, stiffeners, distance pieces and the like <u>Extra over</u> on fabricated members for; B Bearing plate connection to top of UC stub posts (EM); consisting of 250mm long x 152mm wide x 10mm thick bearing plate; with and including 4 Nr M12 GR 8.8 bolt fixing to bottom flange of 203 x 102 UB; all as Engineers connection detail 02 on drawing 125-444-002 C Fin plate connection at beam intersections; consisting of 110mm notched web and flange to end of UB, c/w 76mm x 152mm x 13mm "L" profile steel connection plate to each side of web, with 6mm fillet weld to primary supporting UB, with and including 2 Nr M16 GR 8.8 fixing bolts through incoming UB; all as Engineers connection details 01 / 02 on drawing 125-444-002 <u>Sundries:</u> Holding down bolts complete with nuts and washer; Hilti or equivalent, grade 8.8 HD, galvanised; to BS 7419:2012; temporary plywood template for fixing, setting in position before concrete pour, D M16 diameter x 125 long	0.16	Tn			
		7	Nr			
		32	Nr			
		28	Nr			

	Description	Qty	Unit	Rate	€	c
	(Cont'd) ROOFING, CLADDING AND WATERPROOFING: Mastic Asphalt, Waterproof & Gas Proof Non-Metal Flexible Sheet Coverings (Cont'd) STEELWORK: Structural (Cont'd) Sundries: Forming mortices in reinforced concrete; drilling A to suit 16mm diameter bolt; 125 long Grouting after bolt insertion; high strength non shrink grout; as Engineers specification and drawings B to 16mm diameter x 150mm long holding down bolts Grouting under stanchion base; high strength non shrink grout, levelling wedges, forming triangular fillets at edges; as Engineers specification 125-444-000 and drawing 125-444-002, particularly connection detail 2 C under 250 x 250mm base plate; 12mm thick FLOOR, WALL & CEILING FINISHES: Raised Access Floors <u>COBA or "Equivalent" GRP Open Grating Floor System; rectangular pattern flooring 50mm deep horizontal grating to form 50mm x 50mm non-slip safety grating; fixed to structural steel framing (EM); slip resistant with a tough grit surface bonded with quartz crystals, ASTM E1645-01-compliant pigment to minimise lead exposure risks; slip tested to EN 16165:2021 Annex B, made from Orthophthalic Polyester (Type O) resin with bi-directional strength for versatile applications, compatible with M-type, C-type and L-type clips for fast, safe edge fixing, conforms to EN 16165:2021 Annex B, EN 13501-1:2018; Colour option in grey, yellow or green; all in accordance with the manufacturers instructions; including all necessary fixing clips, channels and fixing anchorages for attachment to primary support steel; as per layout configuration illustrated on C&S Engineers drawing 125-444-002</u> GRP Floor Grating; 50mm thick D exceeding 300mm wide (New Suspended Floors & New Floor Trenches) E exceeding 300mm wide (Existing Retained Floor Trenches)	28	Nr			
		28	Nr			
		7	Nr			
		32	m2			
		4	m2			

Description		Qty	Unit	Rate	€	c
<u>(Cont'd) FLOOR, WALL & CEILING FINISHES: Raised Access Floors</u>						
FLOOR, WALL & CEILING FINISHES: Electrostatically Conductive Resin Flooring						
<u>Electrostatically conductive, smooth, two-part epoxy floor covering, such as Sikafloor 262 AS N with Sikafloor Filler 1 or "Equivalent" 2-part self-smoothing, coloured epoxy resin coating; 1.5mm - 2mm thick slip resistant surface; Part A & B mixed by weight to 84:16 Ratio; Density to EN ISO 2811-1; Consumption Min. 2.25 kg binder & 0.25 kg Sikafloor Filler1 Consumption Max. 2.00 kg binder & 0.50 kg Sikafloor Filler1; Abrasion Resistance 100mg to EN ISO 5470-1. Compressive Strength 80 N/mm2 to EN ISO 604, Flexural Strength 40 N/mm2 to ISO 178, Tensile adhesion strength exceeding 1.5 N/mm2 to EN 1542, Electrostatic Behaviour to requirements of ATEX 137 and IEC 61340-4-1; Preparation and application in strict accordance with the manufacturer's printed instructions; as per floor / trench layout configuration illustrated on C&S Engineers drawing 125-444-002</u>						
Electrical Rooms: Resin Floors						
A	exceeding 300mm wide; horizontal	51	m2			
B	exceeding 300mm wide; vertical	28	m2			

Description	Qty	Unit	Rate	€	c
COLLECTION					
Page No. BQ 2/10					
Page No. BQ 2/11					
Page No. BQ 2/12					
Page No. BQ 2/13					
Page No. BQ 2/14					
Page No. BQ 2/15					
Page No. BQ 2/16					
Page No. BQ 2/17					
Page No. BQ 2/18					
Page No. BQ 2/19					
Page No. BQ 2/20					
Page No. BQ 2/21					
(19) SUBSTRUCTURES					
Carried to Summary					
SUH Transformer Upgrade					
Health Service Executive					
BQ 2/22					

Description	Qty	Unit	Rate	€	c
Drawings The Contractor is referred to the Volume A Structural Engineer's & Services Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document For works measured in this element, refer specifically to C&S Engineers Drawings (125-444-000, 001, 002 & 003) and M&E Engineers Drawings (25672-ZZ-Z-ZZZ-DR-VCE-EE-0001, 0002, 0003, 0004, 0005, 0006, 0007, 0008, 0009, 0010) & Specification Document (25672-ZZ-Z-ZZZ-SP-VCE-EE-0010) all of which accompanies this Bill of Quantities, <u>The Contractor is referred to the C&S Engineers and M&E Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document. The Contractor's attention is particularly brought to phasing notes and sequence of work outlined on M&E Engineers Drawings 25672-ZZ-Z-ZZZ-DR-VCE-EE-0003, 0004, 0005, 0006, 0007, 0008 which set out the Phasing of the works and the need to maintain continual power and backup to the hospital throughout the works. No deviation has been made within the measured pricing document elements for this phased completion strategy and the Contractor is deemed to have included for all costs arising from the inherent phasing restrictions which as listed in detail within section 2.5h of BQ1 Preliminaries.</u> A The Main Contractors rates are deemed to make provision for, and have included within his rates and/or preliminaries clauses for any consequential protection, repairs, temporary surfacings & patching that may be necessary at interim phases due to damage resultant from the Contractors heavy Construction traffic. B The Contractor is deemed to have visited the site and ascertained the full extent and nature of the works involved and the location of said works within floor, envelope walls, internal walls or on roofs of a live Acute Hospital building. No claim will be entertained due to the Contractor's failure to visit the site. The Contractor is responsible for working around, protecting & maintaining existing building structure, finishes, completions & services Refer to full Appendix 3 Info pack		Note Note Note Note			

Description		Qty	Unit	Rate	€	c
(Cont'd) Drawings (Cont'd) The Contractor is referred to the C&S Engineers and M&E Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document. The Contractor's attention is particularly brought to phasing notes and sequence of work outlined on M&E Engineers Drawings 25672-ZZ-Z-ZZZ-DR-VCE-EE-0003, 0004, 0005, 0006, 0007, 0008 which set out the Phasing of the works and the need to maintain continual power and backup to the hospital throughout the works. No deviation has been made within the measured pricing document elements for this phased completion strategy and the Contractor is deemed to have included for all costs arising from the inherent phasing restrictions which as listed in detail within section 2.5h of BQ1 Preliminaries. The Main Contractor shall be responsible for ensuring the structural integrity of the existing hospital buildings and retained paved areas are not compromised during these works. <u>(60) SITE SERVICES (MAINLY ELECTRICAL)</u> <u>ELECTRICAL AND LIGHTING INSTALLATION</u> ELECTRICAL INSTALLATIONS: Sundries and Builders Work SUNDRIES AND BUILDERS WORK <u>Excavating Earth Rod Pits:</u> A Excavation; off site disposal of surplus excavated material; backfilling with selected excavated material; necessary working space excavation and backfilling B earth pit to facilitate insertion of LV earth rod installation; Typically 2500mm x 300mm x 300mm <u>Extra over</u> excavating trenches irrespective of depth for C Breaking out sections of existing 150mm thick concrete paving, typically 1000mm x 1000mm square section of concrete paving directly adjacent building periphery; breaking out concrete; allow for insertion into ground of earth rod, making good & reinstate concrete paving upon completion; flush clean joint between new and existing concrete <u>Sand to Table 5/4 of N.R.A. Specification for Road Works; compacted to the satisfaction of the Engineer</u> Beds and surrounds D 300 x 300 mm with 150 mm thick surround, 125 mm diameter pipe (1 Nr Duct)		19	Nr			
		19	Nr			
		19	m			

To Collection €

Description	Qty	Unit	Rate	€	c
COLLECTION Page No. BQ 2/23 Page No. BQ 2/24 Page No. BQ 2/25 (60) SITE SERVICES (MAINLY ELECTRICAL) Carried to Summary					
SUH Transformer Upgrade Health Service Executive					

Description	Qty	Unit	Rate	€	c
Drawings The Contractor is referred to the Volume A Structural Engineer's & Services Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document For works measured in this element, refer specifically to C&S Engineers Drawings (125-444-000, 001, 002 & 003) and M&E Engineers Drawings (25672-ZZ-Z-ZZZ-DR-VCE-EE-0001, 0002, 0003, 0004, 0005, 0006, 0007, 0008, 0009, 0010) & Specification Document (25672-ZZ-Z-ZZZ-SP-VCE-EE-0010) all of which accompanies this Bill of Quantities, <u>The Contractor is referred to the C&S Engineers and M&E Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document. The Contractor's attention is particularly brought to phasing notes and sequence of work outlined on M&E Engineers Drawings 25672-ZZ-Z-ZZZ-DR-VCE-EE-0003, 0004, 0005, 0006, 0007, 0008 which set out the Phasing of the works and the need to maintain continual power and backup to the hospital throughout the works. No deviation has been made within the measured pricing document elements for this phased completion strategy and the Contractor is deemed to have included for all costs arising from the inherent phasing restrictions which as listed in detail within section 2.5h of BQ1 Preliminaries.</u> A The Main Contractors rates are deemed to make provision for, and have included within his rates and/or preliminaries clauses for any consequential protection, repairs, temporary surfacings & patching that may be necessary at interim phases due to damage resultant from the Contractors heavy Construction traffic. B The Contractor is deemed to have visited the site and ascertained the full extent and nature of the works involved and the location of said works within floor, envelope walls, internal walls or on roofs of a live Acute Hospital building. No claim will be entertained due to the Contractor's failure to visit the site. The Contractor is responsible for working around, protecting & maintaining existing building structure, finishes, completions & services Refer to full Appendix 3 Info pack		Note Note Note Note			

Description	Qty	Unit	Rate	€	c
(Cont'd) Drawings (Cont'd) The Contractor is referred to the C&S Engineers and M&E Engineer's Drawings and Specifications which are to be read in conjunction with this Pricing Document. The Contractor's attention is particularly brought to phasing notes and sequence of work outlined on M&E Engineers Drawings 25672-ZZ-Z-ZZZ-DR-VCE-EE-0003, 0004, 0005, 0006, 0007, 0008 which set out the Phasing of the works and the need to maintain continual power and backup to the hospital throughout the works. No deviation has been made within the measured pricing document elements for this phased completion strategy and the Contractor is deemed to have included for all costs arising from the inherent phasing restrictions which as listed in detail within section 2.5h of BQ1 Preliminaries. The Main Contractor shall be responsible for ensuring the structural integrity of the existing hospital buildings and retained paved areas are not compromised during these works. <u>(59 & 69) BUILDING SERVICES (BUILDERS WORKS)</u> M&E INSTALLATIONS: Sundries and Builders Work <u>Underfloor Services</u> HDPE Ducts to IS 135 Class B, Jointing to IS EN 61386-24; "Uponor" or equivalent ESB approved "Red" Electric Cable Duct; watertight; couplers in the running length; complete with a strong continuous 10mm polypropylene draw rope free of knots securely anchored at each end; 150 mm wide polythene hazard identification tape laid in formed concrete floor trenches (EM); As Specification Document 25672-ZZ-Z-ZZZ-SP-VCE-EE-0010 - Appendix 8)					
A 125mm nominal diameter; in trenches	90	m			
<u>Extra over cable ducts on which they occur for fittings</u> Bends					
B nominal diameter 125mm; short radius bend	27	Nr			
C nominal diameter 125mm; long radius bend	9	Nr			

To Collection €

To Collection €

Description	Qty	Unit	Rate	€	c
COLLECTION Page No. BQ 2/27 Page No. BQ 2/28 Page No. BQ 2/29 Page No. BQ 2/30 (69) M&E BUILDERS WORKS Carried to Summary					
SUH Transformer Upgrade					
Health Service Executive					

Description	Qty	Unit	Rate	€	c
BQ2 BUILDERS WORKS SUMMARY	Page No.				
(00) DEMOLITIONS	BQ 2/9				
(19) SUBSTRUCTURES	BQ 2/22				
(60) SITE SERVICES (MAINLY ELECTRICAL)	BQ 2/26				
(69) M&E BUILDERS WORKS	BQ 2/31				
BUILDERS WORKS TO SUMMARY					
This Bill of Quantities section contains pages numbered BQ 2/1 - BQ 2/31.					
SUH Transformer Upgrade					
Health Service Executive					